evolution 2014

FULL PROGRAM

Raleigh Convention Center, June 20 – 24, 2014

Society of Systematic Biologists

American Society of Naturalists

An annual meeting presented by the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB), and the American Society of Naturalists (ASN)

WELCOME

Welcome to Evolution 2014, the joint annual meeting of the Society for the Study of Evolution (SSE), the Society of Systematic Biologists (SSB), and the American Society of Naturalists (ASN).

This meeting is the premier annual opportunity for sharing scientific research related to evolution. This year, we have close to 2000 attendees from 38 countries, almost 1200 talks, and 450 posters. We also welcome those who are attending the Evolution meeting for the first time, including many of our 800+ graduate and undergraduate students. A special welcome to evolutionary biologists in the making, our K-12 attendees, who will also be presenting posters on Saturday night – be sure to visit their posters. We also have a number of sponsors who through their support have helped make this meeting a success. Our sponsors and other exhibitors will be displaying a variety of products that we are certain you will find interesting and useful.

Social activities will include an opening reception, mixers with each evening poster session, and a Super Social at the North Carolina Museum of Natural Sciences on the last night of the conference. When you are at the Museum, check out the artwork on display by former NESCent artist-in-residence, Lynn Fellman. At the conference, look out for the NESCent/HHMI Evolution Film Festival on Saturday night -- all of these mixers and receptions are included with registration.

Evolution 2014 will meet jointly with the iEvoBio conference, which brings together biologists interested in evolution, systematics, biodiversity, software, and mathematics.

We hope you have a great conference, you meet lots of people, and you learn a great deal of interesting science. On behalf of the Evolution 2014 Organizing Committee, again WELCOME!

Allen Rodrigo

The Evolution 2014 Organizing Committee is comprised of members from the following institutions:

SPONSORS & EXHIBITORS

We thank our sponsors and exhibitors who have helped make Evolution 2014 possible. We encourage you to visit their booths and learn about the publications, products, and services they have to share.

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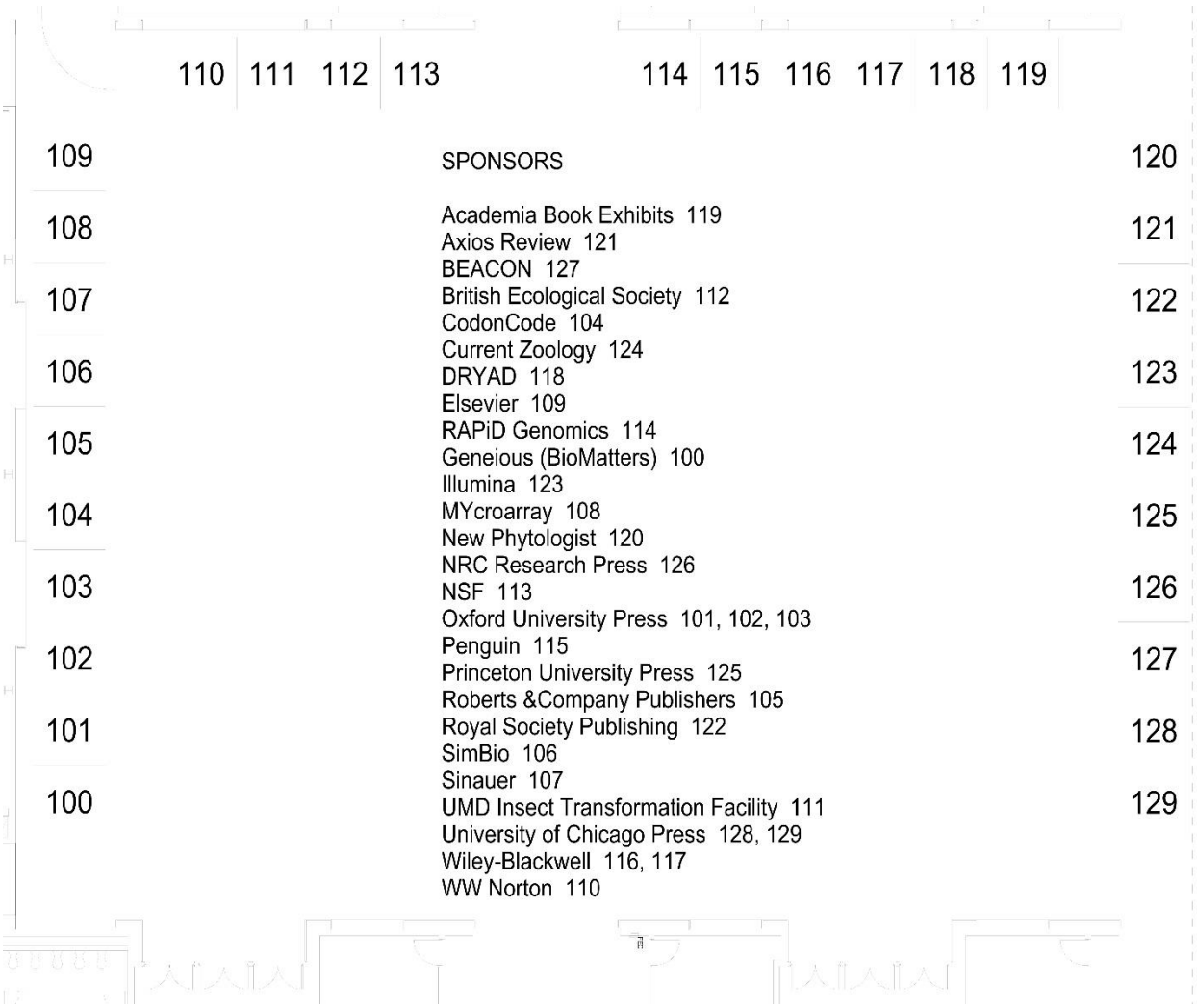
EXHIBITOR BOOTH LAYOUT



The Exhibitor Booths are in Ballroom A and B. The morning and afternoon refreshments will be in Ballroom A and B, as will the poster sessions.

Exhibitor Hours

Friday, June 20	2:00 p.m. – 7:00 p.m. (Setup)
Saturday, June 21	8:00 a.m. – 9:00 p.m.
Sunday, June 22	8:00 a.m. – 9:00 p.m.
Monday, June 23	8:00 a.m. – 9:00 p.m.
Tuesday, June 24	8:00 a.m. – 3:15 p.m.; 3:15 p.m. – 5:15 p.m. (Tear down)

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PROGRAM IN BRIEF

Here are key details of the Evolution 2014 conference.

- The conference runs from Friday to Tuesday, 20 – 24 June 2014.
- Registration for the conference begins on Friday, June 20, from 3 – 9pm. Attendees can also register on Saturday from 7:30am, and on subsequent days from 8am.
- On the first day of the conference – Friday, June 20, 2014 – the three societies hold their council meetings. In addition, an Education Symposium runs for the whole day.
- The scientific program of the conference begins on Friday night, with the Stephen Jay Gould Award Lecture from 5:30pm – 6:30pm. This lecture is open to the public. From 7–9pm, the conference opens with an Opening Reception for the conference attendees.
- The last day of the conference – Tuesday, June 24 – overlaps with iEvoBio which also continues on Wednesday, June 25. Whereas iEvoBio and Evolution 2014 have many common themes, iEvoBio is a separate conference, and participants should check the iEvoBio website (http://www.ievobio.org/) for details.
- NESCent, the North Carolina Museum of Natural Sciences and the SSE Education Committee are collaborating to run Evo101: A Workshop for High School Educators from Wednesday, June 18 through Friday, June 20.
- This year, a Phylogenomics Symposium and Software School will run on Thursday 19 – 20 June. This symposium and workshop is co-sponsored by the Society of Systematic Biologists (SSB) and the National Science Foundation through grant DEB 0733029 to the University of Texas.
- From Saturday, June 21, to Tuesday, June 24, the main part of the program gets underway. There will be 14 – 15 parallel sessions of contributed talks and 1 – 2 special symposia each day. Contributed talks will run from 8:30 – 9:45, 10:15 – 11:30, 1:30 – 2:45, and 3:15 – 4:30. Special symposia follow a slightly different schedule: **8:15** – 9:45, 10:15 – **11:45**, **1:15** – 2:45 and 3:15 – **4:45**.
- The three poster sessions are on Saturday, Sunday and Monday (21 – 23 June) nights from 7 – 9pm. Poster presenters will present on only one night.
- From Saturday to Tuesday, refreshments will be provided at the morning (9:45 – 10:15) and afternoon (2:45 – 3:15) breaks. In addition, light hors d'oeuvres will be provided during the evening poster sessions. **Lunch is not provided.**
- Each attendee will be provided with 5 drink tickets, one for each of the 5 nights of the conference. Attendees can exchange each drink ticket for one complimentary glass of wine, beer or soda. Attendees will be able to purchase additional drinks.
- On the last night (Tuesday, June 24), there will be Super Social at the NC Museum of Natural Sciences from 6:30 – 10pm. Additional drink tickets can be purchased onsite.
- From Saturday to Tuesday, there are a variety of social and informational events. These have been scheduled from 4:30 – 5:30, or during lunch.
- For attendees staying at the Wolf Ridge Apartments at the Centennial Campus, buses will run in a loop to the RCC from 19 – 25 June. See schedule below.

Scientific Program-In-Brief

Wednesday 18 June 2014 – Special Workshop

Room Numbers	8:15 - 9:45AM	10:15 - 11:45AM	1:15 - 2:45PM	3:15 - 4:45PM
NC Museum of Natural Sciences	Evo101: A Workshop for High School Educators			

Thursday 19 June 2014 – Special Workshops

Room Numbers	8:15 - 9:45AM	10:15 - 11:45AM	1:15 - 2:45PM	3:15 - 4:45PM
305A 305B	Phylogenomics Symposium			
NC Museum of Natural Sciences	Evo101: A Workshop for High School Educators			

Friday 20 June 2014 – Special Workshops

Room Numbers	8:30 - 9:45AM	10:15 - 11:30AM	1:30 - 2:45PM	3:15 - 4:30PM
304 301 A 301 B	**Experiencing Evolution: A Professional Development Workshop for Undergraduate Educators**			
302 A 302 B 302 C	Phylogenomics Software School			
NC Museum of Natural Sciences	Evo101: A Workshop for High School Educators			

Ballroom C, and 402, Friday, 20 June, 5:30 – 6:30PM, Stephen Jay Gould Lecture. Snails in Art and the Art of Snails: An Evolutionist's Journey Through Science and the Arts. Professor Steven Jones, University College London.

Saturday 21 June 2014 – Contributed Sessions

Room Numbers	8:30 - 9:45AM	10:15 - 11:30AM	1:30 - 2:45PM	3:15 - 4:30PM
201	Morphology	Morphology	Morphology	Behavior/Cognition
206	Avian Evolution	Honey Bee Evolution	Population Structure and Genetics	Modes of Reproduction
303	Life History	Life History	Plasticity	Sex determination/Sex chromosomes
304	Symbiosis	Host-Parasite/Pathogen Interactions	Microbiomes and Microbial Symbionts	Viral Evolution
301 A	Genetics of Traits	Genetics of Traits	Genetics of Traits	Evolution and Physiology
301 B	Molecular Evolution and Evolutionary Genetics	Molecular Evolution and Evolutionary Genetics	Molecular Evolution and Evolutionary Genetics	Molecular Evolution and Evolutionary Genetics
302 A	Adaptation	Adaptation in Stressful Environments	Genetics of Adaptation	Local Adaptation
302 B	Sexual selection	Sexual selection	Sexual selection	Sexual selection
302 C	Antagonistic coevolution	Coevolution of mutualists/hosts/parasties	Local Adaptation, Ecotypes and Diversity	Demography
305 A	Toxins	Local/ecotype adaptation in plants	Invasion and evolution	Mutation in evolution
305 B	Plant mating systems	Pollination	Reproductive isolation	Hybridization
306 A	Biodiversity	Biodiversity	Characterizing Biodiversity	Biodiversity and Niches
306 B	Divergence	Divergence and Speciation	Diversity and Diversification	Speciation and Diversification
306 C	Hybridization and Speciation	Hybridization and Speciation	Hybridization and Speciation	Hybridization and Speciation

Symposia	8:15 – 9:45	10:15 -11:45	1:15 – 4:45
402	SSB Symposium: The “dark side” of phylogenetic comparative methods		Ernst Mayr Symposium
Ballroom C		Women in Science: Post Tenure Workshop (immediately followed by Networking Lunch)	

Ballroom C, and 402, 6:00 – 7:00PM, SSB Presidential Address: Phylogenomics and Next-Generation Inferences: the Future of Phylogenetics in an Era of Big Data. Lacey Knowles

Ballroom A&B, 7:00 – 9:00PM Poster Session 1

Sunday 22 June 2014 – Contributed Sessions

Room Numbers	8:30 - 9:45AM	10:15 - 11:30AM	1:30 - 2:45PM	3:15 - 4:30PM
201	Venom	Evolution of Signaling	Experimental Evolution	Fitness and Selection
206	Island Biogeograhy	Migratory Behavior	Phylogenetics and Phylogeography	Deep Time
303	Macroevolution	Macroevolution	Macroevolution	Speciation and Divergence
304	Microbial Evolution	Microbial Evolution	Insect Evolution	Insect Evolution
301 A	Coevolution	Coevolution	Disease and Resistance	Viral/Microbial Evolution
301 B	Adaptation	Adaptation	Adaptation	Convergent Evolution
302 A	Plant Evolution	Plant Evolution	Plant Evolution	Plant Evolution
302 B	Trait Evolution	Trait Evolution	Trait Evolution	Trait Evolution
302 C	Sexual Selection	Sexual Selection	Sexual Selection	Sexual Selection
305 A	Molecular Evolution	Molecular Evolution	Mutation	Evolution of Regulatory Systems
305 B	Gene Expression	Gene Expression	Genomics	Genomics
306 A	Methods for migration	Phylogenies and Phylogenetics	Phylogenies and Phylogenetics	Phylogenies and Phylogenetics
306 B	Methodology	Methodology	Methodology	Methodology
306 C	Phylogenetic Systematics	Phylogenetic Systematics	Phylogenetic Systematics	Methodology

Symposia	8:15 – 11:45AM	1:15 – 3:45	3:45 – 4:15
402	SSE Education Symposium (8:30 – 11:30): Assessing Undergraduate Student Understanding of Evolutionary Biology		
Ballroom C	SSE Symposium: Reuniting fossil and extant approaches to macroevolution	ASN Jasper Loftus-Hill Young Investigator	Symposium/Dobzhansky Prize Address SSE

Ballroom C, and 402, 6:00 – 7:00PM, SSE Presidential Address: Recombination suppression helps hybridizing species persist, and perils of a career in evolutionary biology. Mohamed Noor

Ballroom A&B, 7:00 – 9:00PM Poster Session 2

Monday 23 June 2014 – Contributed Sessions

Room Numbers	8:30 - 9:45AM	10:15 - 11:30AM	1:30 - 2:45PM	3:15 - 4:30PM
201	Population Genetics	Evolution of Complexity	Pollination	Reproductive Strategies
402	Symbiosis	Symbiosis		
206	Genetic Architecture	Evolution on Islands	Plant Organelles	Evolution in Human-altered Environments
303	Phylogenomics	Gene Expression	Hybridization	Hybridization
304			Symbiosis	MHC Evolution
301 A	Phylogenetic Methods		Phylogenetic Methods	Phylogenetic Methods
301 B	Methodology	Methodology	Phylogenetics and Systematics	Phylogenies and Phenotypic Diversification
302 A	Selection and Fitness	Speciation	Speciation	Speciation
302 B	Avian Evolution	Phylogeography	Molecular Evolution / Genetics of Adaptation	Microevolution
302 C	Evolutionary Transitions	Phylogenetics and Population Genetics	Sociality	Diversification
305 A	Climate and Evolutionary Change	Understanding Genomes	Venom Evolution	Behavior
305 B	Invasion and Evolution	Experimental Evolution	Phylogeny and Community Assembly	Life History
306 A	Trait Evolution	Selfing and Outcrossing	Pathogen Evolution	Hosts, Pathogens, and Diseases
306 B	Sexual Selection	Climate and Evolution	Plasticity	Speciation and Cryptic Species
306 C	Transcriptomes and Adaptation	Genetics of Adaptation	Visual Signaling	Reproductive Traits

Symposia	8:15 – 9:45AM	10:15 -- 11:45AM	1:15 – 2:45PM	3:15 – 4:45PM
Ballroom C	ASN Solicited Symposium: Beyond reproductive isolation		SSB Symposium: Phylogenomics, transcriptomics, and the evolution of gene expression	
402			ASN Vice Presidential Symposium: Modern approaches to local adaptation	
304	Lightning Talks			

Ballroom C, and 402, 6:00 – 7:00PM ASN Presidential Address: Social selection and the evolution of color patterns. Trevor Price

Ballroom A&B, 7:00 – 9:00PM Poster Session 3

Tuesday 24 June 2014 – Contributed Sessions

Room Numbers	8:30 - 9:45AM	10:15 - 11:30AM	1:30 - 2:45PM	3:15 - 4:30PM
303	Education	Education	Experimental Evolution	Evolution on Environmental Gradients
301 A	Gene Expression	Genome Evolution	Genome Evolution	Genome Evolution
301 B	Trait Evolution	Trait Evolution	Trait Evolution	Trait Evolution
302 A	Macroevolution	Speciation	Speciation and Hybridization	Reproductive Isolation and Hybridization
302 B	Social Behavior	Sexual Dimorphism	Sexual Selection	Recombination
302 C	Plant Evolution	Adaptation	Host-Parasite Evolution	Host-Parasite Evolution
305 A	Phylogenetics and Diversification	Phylogenetics and Diversification	Phylogenetics and Diversification	Phylogenetic Methods
305 B	Phylogeography	Divergence and Biogeography in the Tropics	Diversification and Phylogeography	Divergence
306 A	Sex and Evolution	Sex and Evolution	Sex and Evolution	Reproductive Strategies
306 B	Evolution and Development	Molecular/Protein Evolution	Phenotypic Plasticity	Evolutionary Innovations

Symposia	8:15 – 9:45AM	10:15 -- 11:45AM	1:15 – 2:45PM	3:15 – 4:45PM
Ballroom C	SSE Symposium: The role of sexual selection in speciation: an integration of theoretical and empirical perspectives		SSE Symposium: Seeing the forest for the trees: the contributions of synthesis to evolutionary science	
402	iEvoBio			
304	Lightning Talks			

Social Program-In-Brief

Friday 20 June

Room Numbers	8:30 - 9:45AM	10:15 - 11:30AM	11:30 - 2:45PM	3:15 - 4:30PM
306 A			SSE Lunch/Council Meeting	SSE Council Meeting
306 B			ASN Lunch/Council Meeting	ASN Council Meeting
306 C	ASN/SSE/SSB Joint Council Meeting/Breakfast	ASN/SSE/SSB Joint Council Meeting/Breakfast	SSB Lunch/ Council Meeting	SSB Council Meeting

Room Numbers	5:30 - 6:30PM	7:00 - 9:00PM
Ballrooms A&B		Opening Reception: Evolution's Just Desserts
Ballroom C	S.J. Gould Award Lecture	

Saturday 21 June

Room Numbers	11:30AM - 1:30PM	4:30 - 5:30PM	7:00 - 8:00PM	8:00 - 10:00PM
Marriott Chancellor Room	Evolution Editorial Meeting Lunch			
Ballroom C	Women in Science: Early Career Networking Event & Lunch		SSB Membership Meeting	
Hallway South		SSB Mixer		
Hallway North		EvoLat Mixer		
Marriott University C Room		Undergraduate Diversity Ice Cream Social		
Room 402				Evolution Film Festival

Sunday 22 June

Room Numbers	11:30AM - 1:30PM	4:30 - 5:30PM	7:00 - 8:00PM
Marriott Chancellor Room A	American Naturalist Editorial Board Lunch		
Marriott Congressional Ballroom A	SSE Education Committee Meeting		
Marriott Congressional Ballroom B	Ecology and Evolution Editorial Board Meeting		
Marriott University C Room		Organization of Tropical Studies Tropical Mixer for Alumni and Friends	
Ballroom C			SSE Membership Meeting
Hallway South		SSE Student Mixer	
Room 303		Undergraduate Futures Lecture and Discussion	
Room 304		Biomatters Workshop	

Monday 23 June

Room Numbers	11:30AM - 1:30PM	4:30 - 5:30PM	7:00 - 8:00PM
Hallway South		ASN Student-Mentor Mixer **(begins at 4:45pm)**	ASN Membership Meeting
Hallway North		Royal Society Mixer	
Room 304	NSF Funding Opportunities **(12 – 1pm)**	anyFish Workshop	

Tuesday 24 June

Room Numbers	11:30AM - 1:30PM	4:30 - 5:30PM	7:00 - 9:00PM
Room 202		ASN Council Exit Meeting	
Room 203		SSE Council Exit Meeting	
Room 204		SSB Council Exit Meeting	
Room 304	Genealogy of Life **(12 – 1pm)**		
Room 306 C	ASN/SSB/SSE Joint Council Exit Meeting		
NC Museum of Natural Sciences			Super Social

USEFUL INFORMATION

Registration

Registration for the conference begins on Friday, June 20, from 3 – 9pm. Attendees can also register on Saturday from 7:30am, and on subsequent days from 8am.

Internet Access and Social Media

The RCC is equipped with wireless Internet throughout the center. Free WiFi is provided to all conference attendees. The SSID is **Evolution2014** and the password is **Darwin1859.**

We encourage attendees who use Twitter to follow the handle @Evol2014 and tweet using the keyword #Evol2014.

Please mute all electronic devices during concurrent sessions.

Bus Schedule to/from Wolf Ridge Apartments

Dedicated route bus service will be offered at no charge from the Wolf Ridge Apartments at Centennial Campus to the Raleigh Convention Center.

THURSDAY, JUNE 19, 2014		
time	**buses**	**route**
7:00am - 11:00am	2 buses running a continuous loop	Wolf Ridge to RCC
4:00am - 8:00pm	2 buses running a continuous loop	RCC to Wolf Ridge
FRIDAY, JUNE 20, 2014		
7:00am - 4:00pm	1 bus running a continuous loop	Wolf Ridge to RCC
4:00pm - 10:00pm	3 buses running a continuous loop	RCC to Wolf Ridge
10:00pm - 1:00am	1 bus running a continuous loop	RCC to Wolf Ridge
SATURDAY, JUNE 21, 2014 – MONDAY, JUNE 23, 2014		
7:00am - 11:00am	4 buses running a continuous loop	Wolf Ridge to RCC
11:00am - 5:00pm	1 bus running a continuous loop	RCC to Wolf Ridge
5:00pm - 1:00am	2 buses running a continuous loop	RCC to Wolf Ridge
TUESDAY, JUNE 24, 2014		
7:00am - 11:00am	4 buses running a continuous loop	Wolf Ridge to RCC
11:00am - 6:00pm	1 bus running a continuous loop	RCC to Wolf Ridge
5:00pm - 1:00am	2 buses running a continuous loop	Museum to Wolf Ridge
WEDNESDAY, JUNE 25, 2014		
7:00am - 6:00pm	1 bus running a continuous loop	Wolf Ridge to RCC

Refreshments

From Saturday to Tuesday, refreshments will be provided at the morning (9:45 – 10:15) and afternoon (2:45 – 3:15) breaks. These will be available in Ballroom A&B where the posters and exhibitor booths are located. In addition, light hors d'oeuvres will be provided during the evening poster sessions. Attendees can also purchase coffee and pastries from a food cart which will be located in the lobby from 7am – 11am. **Lunch is not provided.**

Each attendee will be provided with 5 drink tickets, one for each of the 5 nights of the conference. Attendees can exchange each drink ticket for one complimentary glass of wine, beer or soda. Attendees will be able to purchase additional drinks with cash.

On the last night (Tuesday, 24 June), there will be Super Social mixer at the North Carolina Museum of Natural Sciences from 6:30 – 10pm.

From Saturday to Tuesday, there are a variety of social and informational events. These have been scheduled from 4:30 – 5:30, or during lunch.

Social mixers for ASN, SSB and SSE, as well as other organizations, have also been arranged. These may include limited free drink tickets and snacks. Please refer to the social information below, to confirm this.

Childcare

Onsite childcare services for Evolution 2014 will be provided by KiddieCorp. KiddieCorp is a professional organization that provides childcare for over 175 events each year.

All arrangements and payments will be handled directly by KiddieCorp. KiddieCorp will set up their childcare center in the Marriott University Rooms A and B. They will provide childcare from 8 a.m.-1 p.m. and from 12-5p.m. Saturday 21 June – Tuesday 24 June.

Nursing stations will also be available. There are several locations in the Raleigh Convention Center that can be used for nursing. On the main level of the RCC, there is a small office behind the registration desk that will be available Thursday, June 18 – Tuesday, June 24. On the third and fourth floors of the RCC, there are single stall, family restrooms available. At the Marriott Hotel, there is a single stall, family restroom right outside the University Ballroom next to the other restrooms. This restroom is located just outside of the area where onsite childcare is provided for the conference.

Message Board

There will be three message boards in the lobby on level 3 of the Raleigh Convention Center (where the registration desks are). One will be for program changes, including cancellations; another will be for general announcements; and a third will be for

participants to use. Organizers reserve the right to move or remove posts on these boards.

Transportation & Parking

Detailed and interactive transportation information is available on the Evolution 2014 website: http://evolution2014.org/travel-information/getting-to-raleigh/

Getting to Raleigh

 **Air:** http://www.rdu.com/

The city of Raleigh and the surrounding areas are served by the Raleigh-Durham International (RDU) airport. The Raleigh Convention Center is located approximately 18 miles from the airport.

 **Train:** www.amtrak.com

Raleigh is accessible by Amtrak. The Amtrak station is located at 320 W. Cabarrus St., Raleigh 27601 and is 0.4 miles from the Raleigh Convention Center.

 **Bus:** http://www.greyhound.com/

Greyhound Bus Service offers a station in Raleigh. The Greyhound station is located at 314 W. Jones St., Raleigh 27603 and is approximately 1 mile from the Raleigh Convention Center.

 **Car**

The Raleigh Convention Center is easily accessible by car. It is located at 500 South Salisbury Street, Raleigh, NC 27601

There are three public parking garages available, which charge $7/day

- Lenoir Street between Salisbury and McDowell Street
- McDowell Street between Cabarrus and Davie Street
- Salisbury Street between Cabarrus and Davie Street
- Accessible Parking: 1st level of each garage

Airport Shuttles

Airport shuttles may be arranged through S & H Transportation (info@sandhtransportation.com) up to 48 hours prior to arrival. The round-trip, pre-paid price is $65 per person. Walk-ups are accepted on a space-available basis at the S & H Transportation desk located in the baggage claim area near the Information Desk of

the Raleigh-Durham International Airport. Cancellations received within 48 hours of arrival are non-refundable.
For more information on travel to and from Raleigh-Durham Airport, visit http://rdu.com/groundtrans/groundtrans.html.

Getting around Raleigh

It's easy to get around in downtown Raleigh – just hop on the Raleigh R-Line! The R-Line is a FREE, eco-friendly, hybrid electric bus service that runs every 10-15 minutes.

Check out a map of the R-Line route: http://www.godowntownraleigh.com/get-around/r-line/r-line-stop-locations

For a map of downtown Raleigh: http://www.visitraleigh.com/visitors/maps/

These maps are also available at the back of the program book.

SPECIAL LECTURES AND AWARDS

The Stephen Jay Gould Prize

The Stephen Jay Gould Prize is awarded annually by the Society for the Study of Evolution to recognize individuals whose sustained and exemplary efforts have advanced public understanding of evolutionary science and its importance in biology, education, and everyday life in the spirit of Stephen Jay Gould.

The winner of the 2014 Stephen Jay Gould Prize is **Prof. Steve Jones** of University College London. Professor J. Stephen Jones is well known in Britain and worldwide as an eloquent spokesperson for promoting the public understanding of science, particularly with regard to evolution. He has authored 11 books that have been translated into 12 languages. Among his best known popular works are *The Language of Genes* (1993), which won the 1994 Rhone-Poulenc Science Book Prize, *Darwin's Ghost: The Origin of Species Updated* (2000), which reviews Darwin's great ideas in the light of modern science, and his most recent *The Serpent's Promise: The Bible Retold as Science* (2013). Professor Jones is a regular contributor to radio, television and newspapers on a variety of scientific subjects, and recently appeared in a Radio 4 series on the legacy of Darwin. He has written extensively in the press on scientific issues and has a regular column in The Daily Telegraph, *View from the Lab,* which has appeared on more than 400 occasions since 1993. With a strong commitment to education, he has spoken directly to more than 200,000 school children, and at educational conferences. Additional awards for his writing and public outreach include the Royal Society Faraday Medal for public understanding of science in 1997, the Institute of Biology Charter Medal in 2007, the Linnaean Society Tercentenary Medal in 2008 (with Sir David Attenborough and Professor E. O. Wilson), and the Zoological Society of London Book Prize in 2009.

Professor Jones' scientific research interests overlap those of Stephen Jay Gould, with a focus on the evolutionary genetics of snail shell polymorphism. He was Head of the Department of Genetics and Biometry, UCL from 1990-1994, and again from 2008 to mid-2010. He has been Vice President of the UK Genetics Society and was President of the Galton Institute from 2001-2007. Prof Jones is a Trustee and Board Member of the UK Stem Cell Foundation, the Charles Darwin Foundation, and the Society of Authors, and was President of the Association for Science Education in 2011. For these and many other contributions to the understanding of evolutionary science, it is fitting that Prof. Steve Jones receive the Gould Prize. The title of Prof. Jones' talk is "Snails in Art and the Art of Snails: An Evolutionist's Journey Through Science and the Arts". It will be delivered in Ballroom C on Friday, 20 June, from 5:30 – 6:30pm, with overflow seating in Room 402. The talk is open to the public.

The Theodosius Dobzhansky Prize

The Theodosius Dobzhansky Prize is awarded annually by the Society for the Study of Evolution to recognize the accomplishments and future promise of an outstanding young evolutionary biologist. The prize was established in memory of Professor Dobzhansky by his friends and colleagues, and reflects his lifelong commitment to fostering the research careers of young scientists.

The winner of the 2014 award is **Dr. Daniel Matute** who hails from Colombia and received his PhD from the University of Chicago in 2011. He is currently a postdoc at the University of Chicago with Dr. Molly Przeworski and will begin as an assistant professor at the University of North Carolina Chapel Hill in the fall of 2014. Dr. Matute has an incredibly productive research record studying genetic changes associated with speciation in Drosophila. His research program has been both thoughtful and interdisciplinary, incorporating genetics and molecular biology as well as physiological assays, all geared at testing "big" questions such as the pace of accumulation of genetic incompatibilities. As of January 2014, he had 19 papers that appeared in such outstanding outlets as Evolution, Cell, Science, PNAS, and PLoS Biology. He previously received the University of Chicago award for Best Dissertation in the Biological Sciences and various other distinctions. The title of Dr. Matute's talk is **"**Drosophila, reproductive isolation, and speciation", and it will be presented in Ballroom C on Sunday, June 22, from 3:45 – 4:15pm.

ASN Jasper Loftus-Hills Young Investigators Award Symposium

The Jasper Loftus-Hills Young Investigators Award was established in 1984 to recognize outstanding and promising work by investigators who received their doctorates in the three years preceding the application deadline or who are in their final year of graduate school. Jasper Loftus-Hills (1946-1974) was an Australian biologist of exceptional promise, who had published 16 articles in the three years after receiving his degree. He was killed by a hit-and-run driver while tape-recording frog calls along a Texas highway. After his death, a frog was named in his honor, *Eleutherodactylus jasperi*. The award includes presentation of a research paper at the annual meeting of the American Society of Naturalists, an award of $500, a travel allowance of $700, the cost of registration at the meetings, and a supplement of $500 in case of intercontinental travel. **Travis Ingram, Romain Libbrecht, Malin Pinsky,** and **Michael Sheehan** are this year's recipients and will speak at Evolution 2014 at a special ASN Young Investigators' Symposium, which will be held in Ballroom C on Sunday, 22 June, from 1:15 – 3:45pm.

Awards to be Given at the Conference

The Ernst Mayr Award

The Ernst Mayr Award is given to the presenter of the outstanding student talk in the field of systematics at the annual meetings of the Society of Systematic Biologists (SSB). This is SSB's premier award, and is judged by the quality and creativity of the research completed over the course of the student's Ph.D. program. The award consists of $1000, a certificate of distinction, and a two-year subscription to the journal *Systematic Biology*. Shortlisted candidates will present their research at the Ernst Mayr Award Symposium on Saturday from 1:15 – 4:45pm in Room 402.

The W. D. Hamilton Award

The Hamilton Award will be given to a student who has presented an outstanding talk at the annual meeting, as judged by a committee of SSE members. Short-listed applicants will present their papers during regular sessions of the meeting, appropriate for their topic. The most competitive talks will be those that can convey a complete story. Such talks are most likely to be given by students who are close to completing their dissertations or by former students who wish to present results from a dissertation defended within the past year. The winner of the award will receive $1,000 and a one year membership to the Society for the Study of Evolution, which includes a one year subscription to the journal *Evolution*. Up to two Honorable Mentions will each receive a one-year membership to the Society for the Study of Evolution, including a subscription to ***Evolution***.

The Ruth Patrick Student Poster Award

The Ruth Patrick Student Poster Award was established in 2012 to recognize a student who has presented an outstanding poster at the annual meeting of the American Society of Naturalists. Ruth Patrick was a renowned limnologist, past president of the American Society of Naturalists (1975), and Lifetime Honorary Member of the ASN.

The winner of the award receives $1,000 and a one year membership to the ASN, which includes a one year subscription to the *American Naturalist*. The senior author and presenter of the poster must be enrolled as an undergraduate or graduate student at the time of the annual meeting or have received her or his degree within twelve months and must be a member of the ASN. The Ruth Patrick Student applicants will present their posters on the first poster session on Saturday, 21 June, from 7 – 9pm in Ballroom A&B.

The Sewall Wright Award, The EO Wilson Award and The ASN President's Award.

These awards will be announced prior to the ASN Presidential Address on Monday June 23, at 6pm, in Ballroom C.

Presidential Addresses

NOTE: All Presidential Addresses will be held in Ballroom C, with overflow seating in Room 402.

Saturday, June 21, 6-7 p.m., SSB Presidential Address by Dr. Lacey Knowles, University of Michigan.
Title: Phylogenomics and Next-Generation Inferences: The Future of Phylogenetics in an Era of Big Data.
Abstract: Rapid shifts in taxonomic scope and numbers of loci are transforming phylogenetics. However, the awe of the scale of Big Data itself stands in the way of the field taking full ownership of this revolution, with opportunities currently being overshadowed by a number of challenges. These new challenges include a consideration of the tradeoffs surrounding data capture (especially, sampling of loci relative to taxa) and this impact on phylogenetic analyses, as well as an emphasis on broad objectives and future interoperability (as opposed to ease of data capture) as phylogenomic priorities. Because of the myriad of compromises researchers make in response to new data types, more data is not equal to better inference. I discuss how next-generation inferences – with reference to both examples of estimating evolutionary relationships and addressing biological questions in phylogenetic frameworks – are key to the future of phylogenetics in an era of big data.

Sunday, June 22, 6-7 p.m., SSE Presidential Address by Dr. Mohamed Noor, Duke University.
Title: Recombination suppression helps hybridizing species persist, and perils of a career in evolutionary biology
Abstract: Many species retain their overall distinction despite hybridizing with a congener for long periods of time. This research examines the potential impact of recombination suppression in hybrids (as by chromosomal inversions) in allowing distinct "types" to persist, using Drosophila pseudoobscura and D. persimilis as a model system. Both sequence divergence and genetic mapping of species differences support this conclusion. Since this is a late talk and immediately preceding the poster session, it will be aimed light and general, and some parts are intended as humorous (always a risky maneuver).

Monday, June 23, 6-7 p.m., ASN Presidential Address by Dr. Trevor Price, University of Chicago.
NOTE: The Sewall Wright Award, The EO Wilson Award and The ASN President's Award will be given at the beginning of this session at 6pm.
Title: Social selection and the evolution of color patterns
Abstract: The reasons why animals vary so much in color are only understood at the broadest level. Why is one bird species blue and a close relative of the species red, one sexually dimorphic and its close relative monomorphic? Models of sexual selection suggest that such differences could be arbitrary, whereas other investigations relate differences to features of the environment. Focusing on our work on birds (Old World

and New World warblers) which differ in color in striking ways both within and between groups, I will specifically (1) expand sexual selection to consider a role for mate stimulation in the evolution of color patterns, (2) describe mechanistic approaches towards understanding how species differ in perception of color, and (3) consider how condition dependence of sexually selected traits impacts their evolution.

SPECIAL SYMPOSIA AND WORKSHOPS

Evo101: A Workshop for High School Educators
Wednesday, June 18 – Friday, June 20, 9AM – 5PM, North Carolina Museum of Natural Sciences
Organizer: Jory Weintraub

This workshop is sponsored by NESCent, the NC Museum of Natural Sciences and the SSE Education Committee.

Why do we study evolution? Why do we teach it? How can we teach it more effectively and engagingly? How can we draw on cutting edge research in evolution to make it more relevant and exciting to our students? How can we overcome some of the common obstacles and pitfalls to make teaching and learning evolution more successful and rewarding?

Aimed at instructors at the high school level, this workshop is designed to address all of those questions by providing an overview of key evolutionary concepts and mechanisms, and exploring cutting-edge topics in evolutionary science. Evolutionary biologists and educators from NESCent, the NC Museum of Natural Sciences and the Howard Hughes Medical Institute (HHMI) will present topics with an emphasis on recent developments and practical applications. The scientific content will be supported by hands on classroom activities, pedagogy demonstrations and information about teaching resources. All participants will receive a collection of evolution teaching resources and Continuing Education credits.

This workshop is only open to those participants who have registered to attend.

Phylogenomics Symposium and Software School (Organizer: Tandy Warnow)
Thursday, June 19, 8:15-11:45 a.m., 1:15 – 4:45pm, Room 305A&B; June 20, 8:30-11:30am, 1:30 – 4:30pm. Rooms 302A, B, C.
Organizer: Tandy Warnow

This symposium and workshop is co-sponsored by the Society for Systematic Biologists (SSB) and the National Science Foundation through grant DEB 0733029 to the University of Texas, see http://www.cs.utexas.edu/~tandy/ATOL-MSA.html.

The Symposium (June 19) will feature talks on new methods for estimating very large multiple sequence alignments and trees with up to 1,000,000 sequences, new methods for estimating species trees in the presence of gene tree incongruence due to incomplete lineage sorting, and new methods for estimating phylogenetic networks in the presence of gene tree incongruence due to horizontal gene transfer, hybrid speciation, and incomplete lineage sorting. There will also be talks on the Thousand Transcriptome Project, and the Avian Phylogenomics Project.

The afternoon session for the symposium will have basic tutorials in Phylonet (phylogenetic network estimation), SATé and PASTA (co-estimating alignments and trees on large datasets), and ASTRAL (estimating species trees from gene trees in the presence of incomplete lineage sorting).

The Software School on June 20, 2014, will provide hands-on training in many new software tools, including tutorials from the symposium. The current list of software includes SATé, PASTA, BAli-Phy, and UPP, MulRF, Phylonet, PhylDOG, and ASTRAL, HMMER and GARLI, amongst many others.

This symposium is only open to those participants who have registered to attend during the registration period.

Experiencing Evolution: A Professional Development Workshop for Undergraduate Educators
Friday, June 20, 8:30 – 11:45am, 12:45 – 4:30pm, Room 304, 301A, 301B.
Organizers: Kristin Jenkins and Louise Mead

Evolution is a key biological concept, but generating education materials that allow students to observe evolution in action can be daunting. Join us for a day focused on effective methods and tools for teaching evolution using labs, model organisms, and simulations. This workshop is designed for future and current faculty interested in improving undergraduate biology education and gaining resources to help students learn evolutionary concepts. The workshop includes lunch and instructional materials and is sponsored by the SSE Education Committee, BEACON, and NESCent.

This symposium is only open to those participants who have registered to attend during the registration period.

Tri-Society Women in Science event at Evolution 2014
Saturday, June 21, Post-tenure Workshop, 10:15 – 11:30am; Lunchtime Networking Event 11:45 – 1:30pm. Ballroom C.
Organizers: Michele Dudash and Jenny Boughman

The Tri-Society Women in Science Event is sponsored by ASN, SSB and SSE. The focus of this year's Women in Science event is on implicit bias and how it affects the advancement of women in evolutionary biology. Implicit bias affects women at all stages of their career from the early decision to enter STEM fields, to whether they stay in the sciences, and whether they become leaders in their fields and institutions. The issues faced by women are faced by other underrepresented groups as well and we invite participation by all interested parties, irrespective of gender, race, or sexual orientation.

The issues that arise from implicit bias are shared but also distinct at early and later career stages, thus the event has two components. To start, a workshop for post tenure

women and immediately following, a networking discussion that invites participation by all career stages. There is no cost for either event but box lunches can be pre-purchased here, and paid for when you check out. Those who have pre-purchased lunches will be able to pick these up at the venue for the lunchtime event.

SSB Symposium: The "dark side" of phylogenetic comparative methods
Saturday, June 21, 8:15-11:45 a.m. Room 402.
Organizer: Natalie Cooper

Phylogenetic comparative methods (PCMs) were initially developed in the 1980s to deal with the statistical nonindependence of species in comparative analyses. Since then PCMs have been extended to investigate evolutionary pattern and process, and include methods for investigating drivers of diversification, rates of trait evolution, and modes of evolution for morphological and ecological traits. Phylogenetic comparative methods have become hugely popular over recent years and are now regularly used across biology. However, PCMs have a "dark side". They make numerous assumptions and suffer from biases in the same way as any statistical method, but these issues are often inadequately assessed in empirical studies. Such issues are the responsibility of end users but also of methods developers: the tools and approaches used to fit models are often far more user-friendly and better documented than the methods used to assess whether that model fit is reasonable. This symposium will address these issues, discussing both classical and recent PCMs, along with new research on detecting for these issues and accounting for them. We hope that this will both increase awareness of these problems and encourage further research and careful thought in the area, along with better dialogue between method developers and method users.

SSE Education Symposium: Assessing Undergraduate Student Understanding of Evolutionary Biology
Sunday, June 22, 8:30-11:30 a.m. Room 402.
Organizers: Louise Mead, Kristin Jenkins, Thomas Meagher

Assessing student understanding of learning is a key component of teaching. Identifying useful instruments, and evaluating how to use them in the classroom, is not always clear. The recent publication of new instruments focused on measuring student understanding of evolutionary concepts along with research on contextual competency, literacy, and evolution acceptance, provide a timely opportunity to learn about these new instruments and how to use these types of instruments in evaluating instruction.

SSE Symposium: Reuniting fossil and extant approaches to macroevolution
Sunday, June 22, 8:15-11:45 a.m. Ballroom C.
Organizers: Graham Slater, Samantha Price, & Lars Schmitz

Macroevolutionary researchers are increasingly realizing that only by synthesizing data from the fossil record with phylogenetic comparative methods can we gain a complete understanding of tempo and mode in evolution. This symposium will feature talks from

a group of paleontologists and comparative evolutionary biologists on a range of topics, from major questions in macroevolutionary science to new methodological approaches for integrating fossil and extant data when estimating rates of diversification. Despite differences in taxonomic focus and geological scale of study, all speakers are united in a commitment to integrating paleontological and biological approaches to address common problems in macroevolution.

ASN Solicited Symposium: Beyond reproductive isolation: Microevolutionary controls on macroevolutionary speciation dynamics
Monday, June 23, 8:15-11:45 a.m. Ballroom C.
Organizers: Daniel L. Rabosky & Daniel R. Matute

Rates of species diversification vary widely in the natural world, leading to profound differences in species richness among different kinds of organisms. In recent years, we have made great progress in characterizing the tempo and mode of species diversification using both phylogenetic and paleontological data. At the same time, we have developed an increasingly sophisticated understanding of the genetic and ecological basis of reproductive isolation between populations. However, we have yet to develop an integrated theory for speciation that accounts for macroevolutionary-scale dynamics in terms of population-level mechanisms. This symposium brings together a range of perspectives on the manner by which population-level processes that are studied on generational timescales “scale up” to explain speciation dynamics that play out over millions of years.

ASN Vice Presidential Symposium: Modern approaches to local adaptation
Monday, June 23, 1:15-4:45 p.m. Room 402.
Organizer: Michael Whitlock

Local adaptation is a classic topic in ecology and evolution, but it has recently experienced a renaissance from new ideas and new technology. This symposium brings together researchers with a broad set of skills and interests, from theory to statistical genetics to field work. In particular, we are now much better able to study the genetics of local adaptation, and patterns of local adaptation can be quite different from adaptation to homogenous environments.

SSB Symposium: Phylogenomics, transcriptomics, and the evolution of gene expression
Monday, June 23 1:15-4:45 p.m. Ballroom C.
Organizers: J. Chris Pires & Casey Dunn

Gene expression analyses, particularly those mediated by technical advances in mRNA-sequence, are providing entirely new approaches to understanding the relationships between genes and phenotypes in many different species. Most such studies, though, still focus on one species at a time. Phylogenetic comparative analyses of gene expression will be critical for synthesizing information across organisms, investigating

the evolution of gene expression, and for using the diversity of phenotypes within clades to understand gene function. In this symposium, we propose to explore how transcriptomic data are being used to make phylogenies and other evolutionary inferences (detect polyploidy and hybridization, assess function, metagenomics, etc.); and how phylogenies are being used to make inferences about gene expression evolution. The intersection of phylogenomics, transcriptomics, and the evolution of gene expression also offers the systematic biology community a rich area to develop new approaches and statistical methods. To address these issues, we have assembled a diverse set of junior and senior investigators who use transcriptomic and hylogenomic approaches in various lineages of life.

SSE Symposium: The role of sexual selection in speciation: an integration of theoretical and empirical perspectives
Tuesday, June 24, 8:15-11:45 a.m. Ballroom C
Organizers: Rebecca Safran & Maria Servedio

As evidenced by a growing number of publications and funded studies, the role that sexual selection can play in the process of speciation has gained widespread attention. It is rapidly emerging that this role is more complex than has been previously thought. While it is intuitive that sexual selection may play an important role in speciation, the evidence from both empirical and theoretical studies is mixed. For example, a growing number of theoretical studies are finding that sexual selection can also inhibit speciation in many scenarios of speciation with gene flow, and empirical studies are finding mixed support for the premise that sexual selection and speciation are associated. In this symposium we propose to pair conceptual and theoretical advances in the study of the interplay between sexual selection and speciation with empirical syntheses to highlight the complex role of sexual selection in speciation and to propose ways in which it can be further explored.

SSE Symposium: Seeing the forest for the trees: the contributions of synthesis to evolutionary science Tuesday, June 24, 1:15-4:45 p.m. Ballroom C.
Organizers: Todd Vision & Maria Servedio

Synthetic research, which generates new knowledge through the integration of existing data, methods, results and concepts, has had a hand in many of the watershed events in the history of evolutionary biology and has been the focus of the National Evolutionary Synthesis Center (NESCent) for the past decade. This symposium examines case studies that explore different aspects of synthetic evolutionary research arising from NESCent-sponsored science. Speakers will reflect both in their presentations and through a panel discussion on lessons learned about the role of synthesis in evolutionary research and the challenges and opportunities for synthetic evolutionary research looking forward.

INSTRUCTIONS FOR PRESENTERS AND SESSION CHAIRS

Talks

Contributed Full-Length Presentations

Regular presentations will last 15 minutes; 12 minutes for the talk and three minutes for questions.

Lightning Talks

Lightning presentations will last 5 minutes; 4 minutes for the talk and one minute for questions.

Symposia talks and Special Lectures

The times of these talks will vary from symposium to symposium; in general, symposia speakers will speak for 30mins, but there are exceptions. Special lectures, including the Stephen Jay Gould Lecture and presidential addresses, will last for an hour.

All presenters are expected to adhere to time. The Convention Center will broadcast chimes every 15 minutes beginning at 8:45am. Presenters are expected to end their presentation (including Q&A) at that time. Session Chairs have been asked to be vigilant about sticking to the schedule.

Uploading your talks

All presenters who are giving talks (contributed full-length, lightning, symposia and special talks) **must upload their presentations on the presentation submission website**. Your talk should be loaded no later than 24-hours before the day of your presentation on this website:
https://www.xcdsystem.com/evolution2014/abstract/index.cfm?ID=81DnkjM

The Speaker Ready Room is Room 307, and it will be available to test or run-through your presentation from 8am – 5:00pm, Friday, 20 June – Tuesday, 24 June. You will be able to make modifications to your presentation and resubmit as often as you like, until 24 hours before the day of your talk. **Presenters are STRONGLY ADVISED to check their presentations using the laptops at the Speaker Ready Room.** These laptops will have the same software and configurations as those in the presentation rooms.

Please note that every conference room will have a computer projector and **an Apple Macbook Pro 15-inch laptop, core i7 2.66Ghz, 8GB Ram.** The presentation laptops will have Microsoft Office 2011, Keynote version 6.X, and the latest versions of Adobe Reader, Adobe Flash and Firefox.

Presenters should be at the room where they will be presenting 5 minutes before the session begins. Please introduce yourself to the Session Chair.

Posters

Dimensions for poster display panels are 1.2 m by 1.2 m (4 feet by 4 feet). Poster presenters will be assigned to one of three poster sessions below. Pushpins will be provided on site for each poster session. Poster boards will be numbered from 1 – 151. Poster presenters should use the board that is numbered according to their poster's position in the program. All three poster sessions will be held in the evening in conjunction with social mixers that include food, beer, wine and non-alcoholic beverages.

Poster presenters can begin displaying their posters from 12 p.m. (noon) on the day they have been assigned. Please remove your poster the day after your session before 12 p.m.

Poster Schedule

01E_BalAB Saturday Poster Session – Saturday 12 PM – 9:00 PM (Poster Reception begins at 7:00 PM)

02E_BalAB Sunday Poster Session – Sunday 8:00 AM – 9:00 PM (Poster Reception begins at 7:00 PM)

03E_BalAB Monday Poster Session – Monday 8:00 AM – 9:00 PM (Poster Reception begins at 7:00 PM)

Session Chairs

Session chairs have been drawn from attendees who have volunteered during registration. The principal duty of the Session Chair is to ensure that all presenters complete their presentations (including Q&A) in the allotted time.

Sessions chairs should be in the room at least 10 minutes before the session begins. The Chair will open the folder on the podium computer that contains the talks for that session. Each speaker will introduce him/herself to the Chair, and confirm that his/her talk is loaded. The Session Chair will indicate to the presenters how he/she intends to inform them of their times. Typically, the Session Chair will tell a speaker when he/she has 5 minutes left of his/her time.

Genetic Ancestry

WE ARE ALL CONNECTED

DNA portraits and stories of a diverse community by Lynn Fellman. This special exhibit for the Evolution 2014 Conference is on display at the North Carolina Museum of Natural Sciences. Look for it on the 2nd floor bridge connecting the Museum to the Natural Research Center.

Shown above is "Crossing Beringia", a DNA portrait of a Native American Ojibwe man from Minnesota. Mitochondrial DNA, Y chromosome, and haplogroup data are from the Genographic Project. Support for the exhibit was provided by NESCent and the North Carolina Museum of Natural Sciences. See more of Lynn Fellman's work at www.FellmanStudio.com.

UNDERGRADUATE DIVERSITY

For the 12th consecutive year the Undergraduate Diversity at Evolution program is bringing talented and diverse undergraduates from across the US to the annual meetings of the Society for the Study of Evolution, the Society for Systematic Biologists and the American Society of Naturalists (SSE/SSB/ASN). The program is funded this year by The National Evolutionary Synthesis Center (NESCent). This program is organized by **Jory Weintraub** (NESCent), **Richard Kliman** (Cedar Crest College, NJ) and **Scott Edwards** (Harvard University).

The program covers the costs of travel to the meetings, registration and lodging for 25 undergraduates from US institutions. Students present a poster on their research in a designated area of the Saturday poster session. In addition, the students receive mentoring by a diverse and enthusiastic group of graduate students, postdocs and faculty from across the country and from many different subdisciplines within evolutionary biology.

Celebrate this diverse and talented group of students at Evolution 2014 events including an Undergraduate Diversity poster session, Ice Cream Social, and Undergraduate Futures Talk.

Everyone is welcome to attend these events (including ALL undergraduates attending this year's conference, even if they are not supported by the *Undergraduate Diversity* program), and they are a great way to meet the next generation of evolutionary biologists and to share your experiences and advice with this talented group.

For further information about this and next year's program, go to:
http://www.oeb.harvard.edu/faculty/edwards/community/application.html


Ready for some REEL science?
Join us for the NESCent/HHMI Evolution Film Festival
Saturday, June 21, 8-10 pm
Raleigh Convention Center, Room 402
Free popcorn and drinks!
We'll kick off with a short film produced by HHMI's BioInteractive team, followed by the 3-minute-video finalists in the Evolution Video Contest. Vote on your favorite entries, produced by students and scientists like you. Winners will be announced at the Super Social in the North Carolina Museum of Natural Sciences on June 24.
HHMI
HOWARD HUGHES MEDICAL INSTITUTE
National Evolutionary Synthesis Center
NESCent
BioInteractive
Free Resources for Science Teachers and Students

SOCIAL AND INFORMATIONAL EVENTS

IMPORTANT: Please note that in the USA, the legal age for the consumption of alcohol is 21. Bartenders may request proof of age before serving alcoholic drinks.

Evolution's Just Desserts Opening Reception, Friday, June 20, 7-9 p.m., Ballrooms A & B. A time to catch up with old and new friends, over drinks and desserts. Each attendee and registered companions will receive one complimentary drink ticket; additional drinks can be purchased. Ice cream and Carolina confections will be the desserts of choice.

SSB Mixer sponsored by Oxford University Press, Saturday, June 21, 4:30-5:45 p.m., Hallway South. Come meet other members of the Society for Systematic Biology. One complimentary drink ticket for SSB members, and snacks. SSB members can use their membership information that is printed on the sheet with their name badges, as complimentary drink tickets. Additional drinks may also be purchased.

Undergraduate Ice Cream Social, Saturday, June 21, 4:30-5:30 p.m., Marriott University C Room. This event is being organized as part of the Undergraduate Diversity at Evolution program, but is open to all undergraduates attending the Evolution 2014 conference, as well as their advisers and mentors. Please attend to meet and mingle with other undergrads, expand your network, and eat free ice cream!

EvoLat, Saturday, June 21, 4:30-5:30 p.m., Hallway North. A recently created group of interest within the SSE, EvoLat will have its first official meeting event during Evolution 2014. We invite researchers working on evolution topics with focus on Latin America to join us, share ideas, and create opportunities to maintain and reinforce the study of evolution in the region. EvoLat is open to everyone; the only condition is to be interested in the study of evolution in South and Central America and/or the Caribbean.

Saturday Poster Session, Saturday, June 21, 7 – 9pm, Ballroom A & B. The best mix of science and entertainment. Grab a drink, some food, and peruse the research of fellow attendees. This year, we have K-12 attendees presenting posters on Saturday night, so make them feel welcome and motivated to join the ranks of evolutionary biologists. A complimentary drink ticket is provided to every registered attendee and registered companions. Additional drinks may also be purchased.

Evolution Film Festival (sponsored by NESCent/HHMI), Saturday, June 21, 8-10 p.m., Room 402. Ready for some REEL science? Join us for a two-part screening of evolution-themed films. We'll kick off with a preview of the latest short film on evolution produced by HHMI's BioInteractive team. Ideal for use in the classroom, the HHMI film and accompanying resources will be available for download at BioInteractive.org. In the second half of our show, we'll show a series of 3-minute evolution-themed videos

produced by students and scientists like you. View and vote on your favorite videos at the 4th annual NESCent/HHMI Evolution Film Festival. Your vote will determine the winners, who will be announced at the 'Super Social' at the North Carolina Museum of Natural Sciences on Tuesday June 24. To find out more, visit http://filmfestival.nescent.org/. Popcorn and drinks provided!

SSE Student Mixer, Sunday, June 22, 4:30-5:30 p.m., Hallway South. The name says it all. SSE members are welcome, and one complimentary drink ticket will be provided for SSE student members. A limited number of drink tickets will be handed out at the event. Drinks can also be purchased at the bar.

Tropical Mixer for Alumni and Friends of the Organization of Tropical Studies, Sunday, June 22, 4:30-5:30pm, Marriott University C Room. If you are a present or past associate of the Organization of Tropical Studies, please drop by for a visit.

Undergraduate Futures Lecture and Discussion, Sunday, June 22, 4:30-5:30, Room 303. This event is being organized as part of the Undergraduate Diversity at Evolution program, but is open to all undergraduates attending the Evolution 2014 conference. The session will include an inspirational talk by a keynote speaker, Dr. Michele "Nish" Nishiguchi, New Mexico State University, as well as a panel discussion featuring Dr. Nishiguchi, a postdoctoral fellow, and a graduate student. Plan to attend to learn more about how to get in to and succeed in graduate programs in evolution, as well as the rewards and challenges of a career in evolutionary science. Come prepared to ask lots of questions

Biomatters Workshop, Sunday, June 22, 4:30-5:30, Room 304. Learn about the Geneious bioinformatics platform.

Sunday Poster Session, Sunday, June 22, 7 – 9pm, Ballroom A & B. The best mix of science and entertainment. Grab a drink, some food, and peruse the research of fellow attendees. A complimentary drink ticket is provided to every registered attendee and registered companions. Additional drinks may also be purchased.

NSF Funding Opportunities (Organizers: Sam Scheiner and Scott Edwards), Monday, June 23, 12 – 1pm, Room 304. An opportunity to hear the latest news from NSF and to discuss your concerns with NSF program officers

ASN Student-Mentor Mixer, Monday, June 23, 4:45-5:45, Hallway South. All ASN members are welcome; one complimentary drink ticket will be provided for graduate and undergraduate members. Attendees can use the ASN membership information printed with their name badges as complimentary drink tickets. Additional drinks may be purchased.

Royal Society Mixer, Monday, June 23, 4:30-5:30, Hallway North. Sponsored by Royal Society Publishing, this event offers the opportunity to meet the editors of *Proceedings B*. You'll learn what journal editors look for in a submissions and how you can increase

your next paper's chance of being published. Drink tickets can be picked up at the Royal Society Publishing Exhibitor Booth (#122).

anyFish Workshop, Monday, June 23, 4:30-5:30, Room 304. anyFish is a free, user-friendly software platform for creating and modifying realistic fish animations for use in behavioral studies. During this demonstration/workshop, we will provide a brief overview of the capabilities of anyFish, demonstrate the process of creating an animation in anyFish, and provide suggestions for troubleshooting common concerns associated with the process. No prior experience with anyFish or other programs used in the process is necessary. For more information on anyFish we refer you to the anyFish wiki: http://swordtail.tamu.edu/anyfish/Main_Page

Monday Poster Session, Monday, June 23, 7 – 9pm, Ballroom A & B. The best mix of science and entertainment. Grab a drink, some food, and peruse the research of fellow attendees. A complimentary drink ticket is provided to every registered attendee and registered companions. Additional drinks may also be purchased.

NSF Information on Genealogy of Life Program, Tuesday, June 24, 12 – 1pm, Room 304. All of comparative biology depends on knowledge of the evolutionary relationships (phylogeny) of living and extinct organisms. In addition, understanding biodiversity and how it changes over time is only possible when Earth's diversity is organized into a phylogenetic framework. The goals of the Genealogy of Life (GoLife) program are to resolve the phylogenetic history of life and to integrate this genealogical architecture with underlying organismal data. The ultimate vision of this program is an open access, universal Genealogy of Life that will provide the comparative framework necessary for testing questions in systematics, evolutionary biology, ecology, and other fields. Come and learn more at this informational session.

The Evolution 2014 Super Social, Tuesday, June 24, 6:30 – 10pm, North Carolina Museum of Natural Sciences (see Map at back of book for location and directions). It has been 4 days of exciting talks, posters, networking, and information. It's time to kick back at North Carolina's pride and joy – the Museum of Natural Sciences and its new wing, the Nature Research Center. Make sure to check out the artwork of NESCent's former artist-in-residence Lynn Fellman. Also, you will have the chance to participate in a citizen science project to study the evolution and biodiversity of *Demodex* face mites: **"**Meet your Mites" (Organizers: Drs. Rob Dunn and Holly Menninger of the Your Wild Life public science project at NC State University) will invite you to **s**crape your face for science. The Super Social will also feature the various Society Awards. All attendees and registered companions will receive one complimentary drink tickets. Additional drink tickets can be purchased on site. Hors d'ouevres will also be served.

FIELD TRIPS

Green Swamp/Lake Waccamaw/Singletary Lake

Friday, June 20, 2014

This full-day trip includes three unique stops in the Southeastern Coastal Plain—an unexpected hotspot of biodiversity that is home to 6,170 native plant species and 1,133 vertebrates. Lunch and dinner at a local restaurants (not included). Enrollment limit: 18.

- We'll hike in the Nature Conservancy's Green Swamp Preserve. This 17,424- acre preserve protects one of the country's most endangered ecosystems: the longleaf pine savanna. The preserve is home to at least 13 species of insectivorous plants; it is one of the few places in the world to see Venus flytraps in the wild. We may also spot rare animals including Hessel's hairstreak butterfly, mimic glass lizard, red-cockaded woodpecker, and more.
- We'll visit Lake Waccamaw, which is one of the few natural lakes in the Southeastern Coastal Plain. This clear lake rests atop limestone and is rich in endemic species of fish and bivalves.
- Our last stop will be Singletary Lake— one of the thousands of coastal depressions, known as Carolina Bays, that fill the region. While the origin of Carolina Bays remains a mystery, this clear lake is rich in biodiversity, including some endangered species.

What to bring: Comfortable walking (field) shoes, long pants, insect repellent, water bottle, snack, hat, sunscreen, binoculars, and camera.

Details (Lunch and Dinner)

- Both are on your own and estimated at $7- $12 for each meal
- Departure from Raleigh Convention Center: 6:30 a.m. **Meet at the statue of Sir Walter Raleigh outside the main entrance of the RCC at 6:15 a.m.**
- Return to Raleigh Convention Center: Approximately 9:30 p.m. – 10 p.m.

* All participants will be required to pre-sign a waiver for this trip. Waivers will be made available several weeks prior to the trip.

Thank you to the North Carolina Museum of Natural Sciences and the University of North Carolina for sponsoring this trip.

Sylvan Heights Bird Park

Friday, June 20, 2014

This day trip offers up-close interaction with more than 2,000 ducks, geese, swans, and other exotic birds from around the world. Lunch at a local restaurant (not included). Enrollment limit: 22.

- Species from around the world are featured, most of which are housed in walk-through aviaries organized by continent. Highlights include the world's largest captive population of white-winged wood duck, flightless Hawaiian geese, and ruff sandpipers.
- Children will have the opportunity to feed birds, dig for shark tooth fossils in gravel from a local quarry, and explore the on-site playground.
- Owners Mike and Alison Lubbock have won international awards for avian husbandry and continue to work with ongoing conservation projects in Africa, Asia, and South America. The onsite breeding center trains foreign interns in avian husbandry so they can establish captive breeding programs in their home countries.

  What to bring: Comfortable walking shoes, light clothing, water bottle, snack, hat, sunscreen and camera.

  Details (Lunch: On your own; estimated at $7- $12)

- Departure from Raleigh Convention Center: 7:30 a.m. **Meet at the statue of Sir Walter Raleigh outside the main entrance of the RCC at <u>7:15 a.m.</u>**
- Return to Raleigh Convention Center: Approximately 4 p.m.

  * All participants will be required to pre-sign a waiver for this trip. Waivers will be made available several weeks prior to the trip.

  Thank you to East Carolina University for sponsoring this trip.

Walking With Lemurs

Wednesday, June 25, 2014

This half-day morning tour will take you behind the scenes at the Duke Lemur Center in Durham, the largest facility to house lemurs outside Madagascar. There will be no barriers between you and the lemurs, so be sure to bring your cameras. Pre-ordered lunch at the center. Enrollment limit: 40.

- An experienced staff member will take you in groups of 10 around the enclosures and into the wooded habitat where the lemurs roam. You will learn about their habits, and also the research that is presently going on.
- After the morning tour, participants will picnic with a boxed lunch.
- What to bring: Comfortable walking (closed-toe field) shoes, long pants, insect repellent, water bottle, hat, sunscreen, binoculars, and camera.
- All participants will be required to pre-sign a waiver for this trip. Waivers will be made available several weeks prior to the trip.

Details (Program is for ages 10 and up)

- Lunch: Participants can pre-order (and pre-pay for) box lunches delivered to the Lemur Center. Menu and ordering information will be provided later.
- Departure from Raleigh Convention Center: 9:45 a.m. **Meet at the statue of Sir Walter Raleigh outside the main entrance of the RCC at 9:15 a.m.**
- Return to Raleigh Convention Center: Approximately 2 p.m.

Weymouth Woods

Wednesday, June 25, 2014

During this ¾ day visit to the Sandhills region of North Carolina, we'll explore a longleaf pine forest—a once wide-reaching ecosystem that is now preserved using prescribed fire. Lunch at a local restaurant (not included). Enrollment limit: 21.

- A park ranger will take us on a roughly 90-minute walking tour where we can explore fire-related adaptations of native plants and animals. We'll also learn about the preserve's fire management program and the challenges of managing burns and beaver populations in a landscape of housing developments. Unusual and charismatic inhabitants of Weymouth Woods include red-cockaded woodpeckers, pine barrens tree frogs, fox squirrels, and bog spicebush.
- Following the walk, we can watch an educational video or visit the small museum that details the past uses of longleaf pines as timber or resin sources. The museum also contains a special section for children.
- The trip will conclude with lunch at a local Weymouth Woods restaurant before returning to Raleigh.

What to bring: Comfortable walking shoes, water bottle, snack, hat, sunscreen, insect repellent, binoculars, and camera. Paths are open and fairly wide, so shorts should be fine. Trip coordinators can provide some sunscreen and insect repellent, in case they are needed, and one bottle of water per person.

Details

- Lunch: On your own and estimated at $7- $12
- Departure from Raleigh Convention Center: 7:30 a.m. **Meet at the statue of Sir Walter Raleigh outside the main entrance of the RCC at 7:15 a.m.**
- Return top Raleigh Convention Center: Approximately 2:30 p.m. – 3 p.m.

* All participants will be required to pre-sign a waiver for this trip. Waivers will be made available several weeks prior to the trip.

Thank you to the North Carolina Museum of Natural Sciences and the University of North Carolina- Greensboro for sponsoring this trip.

Other Trip Options To Do On Your Own

Durham Museum of Life and Science http://lifeandscience.org/

The Durham Museum of Life and Science is located in Durham, North Carolina. Situated on 84-acres, our interactive science park includes a science center, a butterfly conservatory-which is one of the largest in the world-and beautifully-landscaped outdoor exhibits which are safe havens for rescued black bears, lemurs, and endangered red wolves and 60 other species. With a Dinosaur Trail, Farmyard, train and three stories of indoor exhibits, Museum of Life and Science is one of North Carolina's top attractions! Conference attendees receive a discount when they show their conference badge.

Duke Lemur Center http://lemur.duke.edu

If you want to visit on your own, please call (919) 489-3364 ext.0 or (919) 401-7240 to make your reservation. All Duke Lemur Center and Duke Lemurs Live tours are by **appointment only**. Tours are paid for the day of by cash, check or any major credit card. We look forward to hosting your visit. If you leave a voice message, please give staff up to 48 hours to return your call.

Evolution 2014 Duke Lemur Center Tours

- Self-guided experience at the Duke Lemur Center. Duke Lemur Center staff and volunteers will be stationed in front of different enclosures to interpret and answer visitors' questions.
- Saturday–Tuesday, 4 p.m.-6 p.m.
- Cost: $7 (for participants with an Evolution 2014 badge)
- Please contact the Duke Lemur Center directly to make your reservation (919) 489-3364.
- 60 participants maximum

Evolution 2014 Duke Lemurs Live Tours

- Daily guided tours of the Duke Lemur Center by appointment only.
- An ideal tour for families and friends, learn about the similarities and differences between lemur species and what makes lemurs some of the most fascinating animals in the world.
- Visitors will typically observe about 10 different species of lemurs.
- Saturday–Tuesday, 4 p.m. - 6 p.m.
- Cost: $7 (for participants with an Evolution 2014 badge)
- Children 2 and under: Free

Friday June 20, 5:30 - 6:30 PM

0E_BalC Stephen Jay Gould Award Lecture (Special Lecture)

Room: Ballroom C Chairs: George Gilchrist, Tom Meagher

Snails in Art and the Art of Snails

Steve Jones

Saturday June 21, 8:15 - 9:45 AM

1A_402 SSB Symposium: The "dark side" of phylogenetic comparative methods (Symposium)

Room: 402 Chair : Natalie Cooper

8:15 The Dark Side of Phylogenetic Comparative Methods

Natalie Cooper

8:45 The unsolved challenge to phylogenetic correlation tests for categorical characters

Wayne Maddison, Richard FitzJohn

9:15 Modeling Character Evolution with Phylogenetic Uncertainty

April Wright, Kathleen Lyons

Saturday June 21, 10:15 - 11:45 AM

1B_402 SSB Symposium: The "dark side" of phylogenetic comparative methods (Symposium)

Room: 402 Chair : Natalie Cooper

10:15 Stationary Peaks: the alphas are not what they seem (in OU models of trait evolution)

Gavin Thomas, Natalie Cooper, Chris Venditti, Andrew Meade, Robert Freckleton

10:45 Difficulties of using trait evolution methods on large trees and power to discriminate between complex models

Cecile Ane

11:15 Assessing the adequacy of phylogenetic trait models

Matthew Pennell, Richard FitzJohn, William Cornwell, Luke Harmon

Saturday June 21, 1:15 - 2:45 PM

1C_402 Ernst Mayr Symposium (Symposium)

Room: 402 Chair: Sean Brady

1:15 Combining living and fossil taxa into phylogenies: the missing data issue

Thomas Guillerme, Natalie Cooper

1:30 Species versus subspecies designations in Hercules beetles: quantitative delimitation using multiple data types and an integrative Bayesian approach

Jen-Pan Huang, L. Lacey Knowles

1:45 Toward a mechanistic understanding of trait-dependent diversification: The role of niche breadth in the diversification of foregut-fermenting mammals

Lucy Tran, L. Lacey Knowles

2:00 Geographic history of long-distance seasonal migration in the largest New World radiation of migratory birds

Benjamin Winger, F. Keith Barker, Richard Ree

2:15 Pervasive introgression masks the true phylogeny in the Anopheles gambiae species complex

James Pease, Matthew Hahn

2:30 Diversification of East African Soda Lake Cichlids

Antonia Ford, Kanchon Dasmahapatra, Lukas Rüber, Julia Day

Saturday June 21, 3:15 - 4:45 PM

1D_402 Ernst Mayr Symposium (Symposium)

Room: 402 Chair: Sean Brady

3:15 An improved approximate-Bayesian model-choice method for estimating shared evolutionary history
Jamie Oaks

3:30 Temporal evolution of coral reef fishes: global patterns and disparity in isolated locations
Jennifer Hodge, Lynne van Herwerden, David Bellwood

3:45 Comparative population genomics of island endemic reedfrogs: dispersal and diversification in the Gulf of Guinea
Rayna Bell, Robert Drewes, Kelly Zamudio

4:00 Lessons for phylogenomics analyses based on 48 bird genomes
Siavash Mirarab, Shamsuzzoha Bayzid, Bastien Boussau, Tandy Warnow

4:15 Evidence for early adaptive divergence in Malagasy primates: niche filling and mass extinction
James Herrera

4:30 Recurrent recent dispersal accounts for treefrog diversification in hotspots of biodiversity in South America
Mariana Vasconcellos

Saturday June 21, 6:00 - 7:00 PM

1E_BalC SSB Presidential Address (Special Lecture)

Room: Ballroom C

Phylogenomics and Next-Generation Inferences: the Future of Phylogenetics in an Era of Big Data
L. Lacey Knowles, Stephen Smith, Laura Kubatko

Saturday June 21, 8:30 - 9:45 AM

1A_201 Morphology (Contributed Talks)

Room: 201 Chair: Aaron Olsen

8:30 Skull integration and modularity in five toad species of the Rhinella granulosa group
Monique Simon, Gabriel Marroig

8:45 Quantification of coiling patterns in gastropod shells and evaluation of functional traits
Koji Noshita

9:00 Lizard scales in an adaptive radiation: variation of scale number follows climatic and structural habitat diversity in Anolis lizards
Johanna Wegener, Gabriel Gartner, Jonathan Losos

9:15 Taking many-to-one to the next level: decoupled evolution in an ultrafast prey capture mechanism
Philip Anderson, Sheila Patek

9:30 Exceptional avian herbivores: Diet, behavior and morphology support multiple origins of herbivory in the bird order Anseriformes
Aaron Olsen

1A_206 Avian Evolution (Contributed Talks)

Room: 206 Chair: Daniel Field

8:30 Developmental Mechanisms for Novel Morphological Evolution: Origin and Diversification of the Avian Skull
Arkhat Abzhanov

8:45 Neotenous feather replacement facilitates loss of flight in birds
Ryan Terrill

9:00 A new island rule for birds: evolution towards flightlessness
Natalie Wright, Christopher Witt

9:15 Phylogeny and forelimb disparity in waterbirds
Xia Wang, Julia Clarke

9:30 Late evolutionary origin of modern bird flight inferred from shoulder allometry
Daniel Field, Colton Lynner

1A_301A Genetics of Traits (Contributed Talks)
Room: 301 A Chair: Melissa Gray

8:30 Reef-specific patterns of osmotic response in larval and adult eastern oysters, Crassostrea virginica, from a single estuary
Laura Eierman, Matthew Hare

8:45 Environmental effects on genetic covariances
Corlett Wood, Butch Brodie

9:00 Breaking the mold: the effects of mutations on phenotypic covariation in the fruit fly wing
Annat Haber, William Pitchers, Ian Dworkin

9:15 C. elegans harbors pervasive cryptic genetic variation for embryogenesis
Annalise Paaby, Matthew Rockman

9:30 Genetic architecture of rapid and extreme body size evolution in an island population of house mice
Melissa Gray, Michelle Parmenter, Caley Hogan, Irene Ford, Richard Cuthbert, Peter Ryan, Karl Broman, Bret Payseur

1A_301B Molecular Evolution and Evolutionary Genetics (Contributed Talks)
Room: 301 B Chair: Emily Behrman

8:30 Functional analysis of the B gene homolog PISTILLATA reveals novel regulatory interactions controlling stamen identity in Aquilegia coerulea
Bharti Sharma, Elena Kramer

8:45 Conserved core genes are under positive selection in a long-term Escherichia coli evolution experiment
Rohan Maddamsetti, Phil Hatcher, Barry Williams, Richard Lenski

9:00 Comparative genomics sheds light on the evolution and function of the Highly Iterative Palindrome -1 motif in Cyanobacteria
Minli Xu, Jeffrey Lawrence, Dannie Durand

9:15 Invade, co-opt, and swap: Evolution of G1/S cell cycle control in Fungi and other eukaryotes
Edgar Medina, Jan Skotheim, Nicolas Buchler

9:30 Intragenic epistasis on adaptive dynamics at the gene couch potato
Emily Behrman, Alan Bergland, Dmitri Petrov, Paul Schmidt

1A_302A Adaptation (Contributed Talks)
Room: 302 A Chair: Bjorn Østman

8:30 When field experiments yield unexpected results: lessons learned from measuring selection in White Sands lizards
Kayla Hardwick, Luke Harmon, Erica Rosenblum

8:45 Survival in a cutthroat world: experimental estimation of natural selection on stickleback armor.
Diana Rennison, Seth Rudman, Dolph Schluter

9:00 Increased egg viability, male mating ability and mating frequency evolve in populations of D. melanogaster selected for resistance to cold shock
Karan Singh, N.G PRASAD

9:15 The evolution of fur colour: a marsupial perspective
Sarah Kerr

9:30 Is it time to abandon the holey fitness landscape metaphor?
Bjørn Østman, Christoph Adami

1A_302B Sexual selection (Contributed Talks)

Room: 302 B Chair: Matthew Rockman

8:30 Differential gene expression in ovarian tissue of sexual vs. asexual freshwater snails
Kyle McElroy, Deanna Soper, Laura Bankers, Jeffrey Boore, John Logsdon, Maurine Neiman

8:45 The multifaceted role of mating system on genome evolution.
Peter Harrison, Rebecca Dean, Alison Wright, Fabian Zimmer, Stephen Montgomery, Marie Pointer, Judith Mank

9:00 Congruent phenotypic and transcriptomic responses to testosterone in both sexes:implications for the evolution of endocrine-mediated sexual dimorphism
Christian L Cox, Daren Card, Audra Andrew, Todd Castoe, Robert Cox

9:15 Can intralocus sexual conflict explain the maintenance of alternative reproductive tactics?
Agata Plesnar-Bielak, Anna Skrzynecka, Krzysztof Miler, Jacek Radwan

9:30 Genetics of polymorphic male-male copulatory behavior in C. elegans
Matthew Rockman

1A_302C Antagonistic Coevolution (Contributed Talks)

Room: 302 C Chair: Amanda Gibson

8:30 How to train your symbionts: antagonistic coevolution and the evolution of transmission mode
Devin Drown, Michael Wade

8:45 Examining the presence of a geographic mosaic of coevolution in the walnut aphid biological control system
Jeremy Andersen, Nicholas Mills

9:00 How Nonadditivity of Fitness Impacts Alters Selection for Resistance in a Multiple-Herbivore Community
Michael Wise

9:15 Evolving virulence and defense in a symbiotic community.
Paul Nelson

9:30 Experimental evolution of reduced antagonism: a role for host-parasite coevolution
Amanda Gibson, Kayla Mitman, Ian Gelarden, Curt Lively, Levi Morran

1A_303 Life History (Contributed Talks)

Room: 303 Chair: Kate Hertweck

8:30 Life-history, Selection and Effective Population Size shaping Evolution during Colonization – Lessons from Drosophila melanogaster.
Marta Santos

8:45 Genetic basis of ageing evolution under differential extrinsic mortality in a nematode
Bjorn Rogell, Hwei-yen Chen, Severin Uebbing, Alexei Maklakov

9:00 Genomic response to 30-years of selection for increased lifespan reveals increased immunity as correlated trait
Daniel Fabian, Peter Klepsatel, Martin Kapun, Bruno Lemaitre, Robert Arking, Christian Schlötterer, Thomas Flatt

9:15 EVOLUTION OF INCREASED ADULT LONGEVITY IN DROSOPHILA MELANOGASTER POPULATIONS AS CORRELATED RESPONSE FOR ADAPTATION TO LARVAL CROWDING
Vinesh Shenoi, N.G PRASAD

9:30 Jumping genes and life history: De novo transposable element insertions respond to selection for accelerated and delayed development times
Kate Hertweck, Mira Han, Lee Greer, Mark Phillips, Michael Rose, Joseph Graves

1A_304 Symbiosis (Contributed Talks)

Room: 304 Chair: Bob Thacker

8:30 Exploring patterns of symbiont diversity in natural pea aphid populations
Andrew Smith, Kerry Oliver, Jacob Russell

8:45 Environmental context matters: the impact of microbial symbiont on invasive insect host Megacopta cribraria is mediated by host plant
Jannelle Couret, Lynn Huynh-Griffin, Ivan Antolic-Soban, Tarik Acevedo, Nicole Gerardo

9:00 Holarctic biogeography of a widespread host-symbiont association
Bronwyn Williams, Frank Anderson

9:15 Host evolution and ecology govern community assembly of the gut microbiome in lemurs
Erin McKenney, Allen Rodrigo, Anne Yoder

9:30 Interactions between host phylogeny and biogeography structure sponge-associated microbial communities
Bob Thacker, Cole Easson

1A_305A Toxins (Contributed Talks)
Room: 305 A Chair: Alex Van Dam

8:30 Genetic basis of alkaloid resistance in harlequin toads and poison frogs
Rebecca Tarvin, Juan Santos, Lauren O'Connell, Harold Zakon, David Cannatella

8:45 Auto-toxicity and the evolution of the muscular voltage-gated sodium channel in Phyllobates poison frogs
Roberto Márquez, Adolfo Amézquita

9:00 A native root herbivore drives the evolution of defensive latex metabolites in nature
Meret Huber, Daniella Triebwasser-Freese, Michael Reichelt, Christian Schulze-Gronover, Jonathan Gershenzon, Matthias Erb

9:15 Transcriptome phylogeny and evolution of host chemical sequestration within the lichen moths (Insecta: Lepidoptera: Erebidae)
Clare Scott, Susan Weller, Jennifer Zaspel

9:30 Sea slugs have their cake and eat it too: a phylogenetic analysis of sponge-eating nudibranchs and the defense chemicals they take and reuse
Shayle Matsuda, Terrence Gosliner

1A_305B Plant Mating Systems (Contributed Talks)
Room: 305 B Chair: John Niedzwiecki

8:30 How does pollination mutualism affect the evolution of prior self-fertilization? A model
Clotilde Lepers, Mathilde Dufay, Sylvain Billiard

8:45 Does separation between sexual organs affect mating? A case study from the alpine primrose Primula halleri
Lirui Zhang, Michael Nowak, Jurriaan de Vos, Elena Conti

9:00 Is self-pollination an evolutionary dead end? The evolution of mating systems in Erythranthe section Paradantha (Phrymaceae)
Naomi Fraga

9:15 The breakdown of self-incompatibility in a range expansion
Francisco Encinas-Viso, John Pannell, Andrew Young

1A_306A Biodiversity (Contributed Talks)
Room: 306 A Chair: Hannah Wood

8:30 Diversification and Speciation in the Ethiopian Highlands: Insights from a Radiation of Endemic Frogs
Xenia Freilich, Marc Tollis, Stephane Boissinot

8:45 The tangled evolutionary histories of Madagascar's small mammals
Kathryn Everson, Sharon Jansa, Steven Goodman, Link Olson

9:00 Zoogeography of genus Salvelinus in Kamchatka Peninsula
Ekaterina Bocharova, Evgeny Esin, Grigory Markevich, Nikolai Mugue

9:15 The total inventory of Cuatro Ciénegas (Coahuila, Mexico): Patterns and evolutionary causes of high diversity of an oligotrophic aquatic ecosystem
Valeria Souza, Luis Enrique Eguiarte

9:30 Why is Madagascar special? Diversification patterns in pelican spiders (Archaeidae)
Hannah Wood, Rosemary Gillespie, Charles Griswold, Peter Wainwright

1A_306B Divergence (Contributed Talks)
Room: 306 B Chair: Spencer Ingley

8:30 Recent divergence in fungal populations
Sara Branco, John Taylor, Tom Bruns

8:45 An intraspecific gradient from C3 to C4 photosynthesis
Marjorie Lundgren, Pascal-Antoine Christin, Colin Osborne

9:00 Genomic divergence of putatively adaptive genes along an altitudinal gradient in the common yellow monkeyflower, Mimulus guttatus.
Vanessa Koelling

9:15 Mechanisms for the evolution of seasonal timing in incipient species of Ostrinia moths
Crista Wadsworth, Erik Dopman

9:30 Multi-trait divergence driven by predation environment causes immigrant inviability in Brachyrhaphis fishes
Spencer Ingley

1A_306C Hybridization and Speciation (Contributed Talks)
Room: 306 C Chair: Susan Alberts

8:30 Invasion and hybridization of the highly aggressive introduced reed, Phragmites australis, in the York River watershed
Laura Murray, Carrie Wu

8:45 What is the link between transmission ratio distortion and sterility in Mimulus hybrids?
Andrea Sweigart

9:00 Paternal learning of a phenotype-matching trait promotes speciation at secondary contact, but not the spread of a new local adaptation
Douhan Yeh, Maria Servedio

9:15 Mechanical Transgressive Segregation and the Rapid Origin of Trophic Novelty
Darrin Hulsey

9:30 Life history and behavior in a primate hybrid zone
Susan Alberts, Jeanne Altmann, Jenny Tung

Saturday June 21, 10:15 - 11:30 AM

1B_201 Morphology (Contributed Talks)
Room: 201 Chair: Brian Sidlauskas

10:15 Clade dynamics in size/shape space: Diversity, duration, and extinction risk
Shan Huang, Kaustuv Roy, David Jablonski

10:30 Ecomorphological evolution in the Liolaemus darwinii species group (Squamata: Liolaemini): adaptive diversification to climatic niches
Arley Camargo, Jack W. Sites, Mariana Morando, Luciano Avila

10:45 A comparison of mammalian skull morphological integration throughout ontogeny
Alex Hubbe, Harley Sebastião, Guilherme Garcia, Gabriel Marroig

11:00 Phenotypic evolution of bat skulls, and its relationship with speciation
Jeff Shi, Dan Rabosky

11:15 Ultraconserved Elements Yield New Insights Into the Exceptional Morphological Radiation of Neotropical Headstanding Fishes
Brian Sidlauskas, Michael Alfaro, Michael Burns, Casey Dillman, Brant Faircloth, Benjamin Frable, Kendra Hoekzema, Bruno Melo, Claudio Oliveira, Richard Vari

1B_206 Honey Bee Evolution (Contributed Talks)

Room: 206 Chair: Brock Harpur

10:15 Testing the Effects of Oxidative Stress on Genomic Recombination in the Honey Bee, Apis mellifera
Kurt Langberg, Olav Rueppell, Matthew Phillips

10:30 Exceptional Levels of Genome-Wide Recombination Extends to Novel Species in the Genus Apis
Olav Rueppell, Ryan Kuster, Katelyn Miller, Mananya Phaincharoen , Salim Tingek, Nikolaus Koeniger

10:45 Fine-scale analysis of a genome-wide linkage map to examine meiotic recombination in the honey bee, Apis mellifera.
Katelyn Miller, Caitlin Ross, Corbin Jones, Olav Rueppell

11:00 Flexible decision-making in a variable environment: when do foraging honeybees rob nectar?
Jessica Barker, Judith Bronstein

11:15 Balancing selection and the recognition system of the honey bees
Brock Harpur, Amro Zayed

1B_301A Genetics of Traits (Contributed Talks)

Room: 301 A Chair: Grace Malato

10:15 GBS in Cornus florida L reveals co- divergence in genetic structure and foliar fungal communities along environmental gradients.
Andrew Pais, Jenny Xiang, William Hoffman, Ross Whetten

10:30 Genetic architecture of developmental traits in populations of male gypsy moths
Christopher Friedline, Kristine Dattelbaum, Erin Hobson, Brandon Lind, Rodney Dyer, Dylan Parry, Derek Johnson, Andrew Eckert

10:45 The hunt for quantitative trait nucleotides: a near-isogenic line approach in C. elegans
Max Bernstein, Matthew Rockman

11:00 Genetic architecture of skeletal evolution in unusually large house mice from Gough Island
Michelle Parmenter, Melissa Gray, Caley Hogan, Irene Ford, Karl Broman, Chris Vinyard, Richard Cuthbert, Peter Ryan, Bret Payseur

11:15 A systematic approach to investigate allele-specific gene function in the North American gray wolf
Rachel Johnston, Pauline Charruau, Dan Stahler, Noah Snyder-Mackler, Amanda Lea, Jenny Tung, William Lowry, Robert Wayne

1B_301B Molecular Evolution and Evolutionary Genetics (Contributed Talks)

Room: 301 B Chair: Daniel Ilut

10:15 Theory of identity-by-descent in sequentially Markov coalescent models
Peter Wilton, Shai Carmi, Pier Palamara

10:30 Parallel evolution as a tool for understanding what limits the rate of adaptation.
Peter Andolfatto, Molly Schumer, Matthew Aardema, Ying Zhen, Dario Ghersi, Edgar Medina, Lucy Cobbs

10:45 Evolutionary trends in consolidated human biological pathways
Frida Belinky, Noam Nativ, Gil Stelzer, Shahar Zimmerman, Simon Fishilevich, Marilyn Safran, Doron Lancet

11:00 Genome-wide scans for signals of molecular adaptation in polar bear
Charlotte Lindqvist, Andreanna Welch, Oscar Bedoya-Reina, Lorenzo Carretero-Paulet, Michael Brannick, Enrique Ibarra-Laclette, Tianying Lan, Webb Miller, Aakrosh Ratan, Karyn Rode

11:15 Gene family evolution and functional plasticity following whole genome duplication events in plants
Daniel Ilut, Michael Gore, John Dyer

1B_302A Adaptation in Stressful Environments (Contributed Talks)

Room: 302 A Chair: Jennifer Landin

10:15 Drought tolerance of locally adapted Arabidopsis thaliana
Julius Mojica, Jack Mullen, John Lovell, Christopher Oakley, John McKay

10:30 Do effects of nutritional stress on reproductive traits translate from lab to field?
Carol Boggs, Kristjan Niitepõld

10:45 Investigation of salt tolerance in an association mapping population of cultivated sunflower (Helianthus annuus L.)
Caitlin Ishibashi, John Burke

11:00 The genetics of adaptation to a granite outcrop environment in the Mimulus guttatus species complex
Kathleen Ferris, Laryssa Baldridge, John Willis

11:15 Adaptive potential and trait variation of a widespread grass Andropogon gerardii across a Great Plains climate gradient: implications for climate change
Loretta Johnson

1B_302B Sexual Selection (Contributed Talks)
Room: 302 B Chair: Christine Miller

10:15 Evolution of a mating preference for a trait used in intrasexual competition in genetically monogamous populations
Caitlin Stern, Maria Servedio

10:30 The effect of sampling bias on the heritability of preference and the strength of sexual selection
Derek Roff, Daphne Fairbairn

10:45 The contribution of genes and the environment on traits important for pre and post copulatory reproductive success in the cactus bug, Narnia femorata
Daniel Sasson, Christine Miller

11:00 A novel application of proteomics to quantify adaptive responses to sperm competition
Dominic Edward, Paula Stockley, Jane Hurst, Rob Beynon, Amy Claydon

11:15 Trait-specific levels of sexual dimorphism vary across environments
Christine Miller, Allen Moore

1B_302C Coevolution of Mutualists/Hosts/Parasties (Contributed Talks)
Room: 302 C Chair: Mark Sistrom

10:15 Looking for evolutionary history of nematodes on the beach to better manage their populations in the fields
Cécile Gracianne, Michael Hickerson, Jaanus Remm, Sylvain Fournet, Catherine Porte, Sylvie Valette, Eric Petit, Jean-François Arnaud

10:30 Thymol mediates three-way interactions between Thymus (Lamiaceae), legumes, and rhizobia
Mary McKenna, Veronica Rodriguez-Rosas, Dawn Ruiz-Diaz

10:45 The facultative symbiont Rickettsia protects whiteflies against cryptic Pseudomonas syringae pathogens
Tory Hendry, Martha Hunter, David Baltrus

11:00 Reduced specialization and modularity in an intimate mutualism diversifying on young oceanic islands
David Hembry, Rafael Raimundo, Erica Newman, Lesje Atkinson, Chang Guo, Paulo Guimarães, Rosemary Gillespie

11:15 Phylogenomics shows multiple human infectious lineages of Trypanosoma brucei
Mark Sistrom, Benjamin Evans, Serap Aksoy, Adalgisa Caccone, Paul Turner

1B_303 Life History (Contributed Talks)
Room: 303 Chair: Liana Burghardt

10:15 Life-history evolution of serotinous trees: the role of inter-fire recruitment and dispersal
Alexander Kubisch, Ophélie Ronce, Jeanne Tonnabel, Frank Schurr

10:30 Genome wide association analysis reveals age-specific genetic effects on life history traits
Jeff Leips, Mary Durham, Tashauna Felix, Adrienne Starks

10:45 Strong interspecific interactions help drive the evolution of life histories in the Trinidadian guppy
Ronald Bassar, Brad Lamphere, Andres Lopez-Sepulcre, Joseph Travis, David Reznick

11:00 Natural variation in seed germination speed of Arabidopsis thaliana: complex genetic architecture and response to strong selection
Wei Yuan

11:15 Plasticity of seed dormancy compensates for differences in dispersal timing
Liana Burghardt, Brianne Edwards, Kathleen Donohue

1B_304 Host-Parasite/Pathogen Interactions (Contributed Talks)
Room: 304 Chair: Nicholas Priest

10:15 The evolution of host perception in parasitic plants of the Orobanchaceae
Caitlin Conn, Drexel Neumann, Kelly Dyer, David Nelson

10:30 RNAseq analysis elucidate early responses to infection in scleractinian corals
Jorge Pinzon, Ernesto Weil, Laura Mydlarz

10:45 Evolution and host manipulation of Nasonia venom
Ellen Martinson, Mrinalini Mrinalini, Jack Werren

11:00 Evolution of immune response in Drosophila melanogaster populations selected against a gram-negative bacteria
vanika gupta, zeeshan syed, N.G PRASAD

11:15 Evidence of pathogen-induced recombination among low-fitness lineages of Drosophila melanogaster
Nicholas Priest, Weihao Zhong

1B_305A Local/ecotype Adaptation in Plants (Contributed Talks)
Room: 305 A Chair: David Lowry

10:15 The genetic basis of adaptation to serpentine soils in Mimulus guttatus
Jessica Selby, John Willis

10:30 Repeated evolution of serpentine tolerance across Monkeyflower species (Mimulus)
Annie Jeong, Jennifer Coughlin, John Willis

10:45 How does soil environment influence growth and reproduction in a serpentine plant: the past and the present
Steve Travers, Magdalene Ovbiebo

11:00 Experimental evidence of soil-mediated local adaptation of aphids to plants
Eduardo de la Pena

11:15 The genetics of divergence and reproductive isolation between ecotypes of Panicum hallii
David Lowry, Thomas Juenger

1B_305B Pollination (Contributed Talks)
Room: 305 B Chair: Kelsey Byers

10:15 An altitudinal cline in an ultraviolet floral trait is associated with changes in selection and pollination context
Matthew Koski, Tia-Lynn Ashman

10:30 Identification of major QTLs underlying floral pollination syndrome divergence in Penstemon
Carolyn Wessinger, Lena Hileman, Mark Rausher

10:45 Evolution of hawkmoth pollination in the gourd family (Cucurbitaceae)
Tom Mitchell, Hanno Schaefer

11:00 Making sense of floral scents: floral scent in the genus Mimulus and its role in pollinator shifts
Kelsey Byers

1B_306A Biodiversity (Contributed Talks)
Room: 306 A Chair: Latiffah Zakaria

10:15 Genomic scale phylogeographic analysis of the endangered eastern massasauga rattlesnake (Sistrurus catenatus)
Michael Sovic, Anthony Fries, H. Lisle Gibbs

10:30 Description of a Novel Genetic Marker for Species Identification of Freshwater Mussel Larvae Recovered from Naturally Infested Fish Hosts
Katie Bockrath, John P. Wares, Nathan Johnson

10:45 Assessment of the subspecies status of Calidris maritima littoralis (Aves: Charidriiformes: Scolopacidae)
Derek Barisas, Julien Amouret, Gunnar Þór Hallgrímsson, Ron Summers, Snæbjörn Pálsson

11:00 Exploring reticulate evolution in Amaryllidaceae tribe Hippeastreae using target enrichment and NGS of low-copy nuclear markers
Nicolas Garcia, Alan Meerow, Matthew Gitzendanner, Srikar Chamala, Douglas Soltis, Pamela Soltis

11:15 Fusarium graminearum species complex from highland areas in Malaysia
Latiffah Zakaria

1B_306B Divergence and Speciation (Contributed Talks)
Room: 306 B Chair: Lewis Spurgin

10:15 A single gene affects both ecological divergence and mate choice in Drosophila
Henry Chung, David Loehlin, Heloise Dufour, Kathy Vaccaro, Jocelyn Millar, Sean Carroll

10:30 Identifying genes affecting both adaptive divergence and reproductive isolation in Howea palms from Lord Howe Island using RNA-Seq
Luke Dunning, Helen Hipperson, Alex Papadopulos, Xueping Quan, Javier Igea, Vincent Savolainen

10:45 Speciation and chemical differentiation in the aposematic and mimetic butterflies, Melinaea
Melanie McClure, Mathieu Chouteau, Karine Venne, Alexandra Furtos, Karen C. Waldron, Igor Baroja, Bernard Angers, Marianne Elias

11:00 Phylogenomics reveals rapid and complex evolutionary divergence and speciation in wild Solanum
Leonie Moyle, James Pease, Matthew Hahn

11:15 Genetic and phenotypic divergence in an island bird: isolation by distance, by colonization or by adaptation?
Lewis Spurgin

1B_306C Hybridization and Speciation (Contributed Talks)
Room: 306 C Chair: Moises Bernal

10:15 Candidate barrier genes between G. firmus and G. pennsylvanicus are concentrated on the X-chromosome
Luana Maroja, Erica Larson, Rick Harrison

10:30 The effects of interspecific hybrid incompatibilities on gene flow during complex speciation
Christina Muirhead, Daven Presgraves

10:45 Gene flow dynamics between two Indian fruit bats: what can whole genome scans reveal?
Balaji Chattopadhyay, Kritika Garg, Uma Ramakrishnan

11:00 Patterns of gene flow and reproductive isolation in closely related species of mushroom-feeding Drosophila
Devon Humphreys, Kelly Dyer

11:15 Smells like fish species: massively parallel sequencing supports sympatric speciation of coral reef fishes (genus: Haemulon)
Moises Bernal, Michelle Gaither, Brian Simison, Anna Sellas, Luiz Rocha

Saturday June 21, 1:30 - 2:45 PM

1C_201 Morphology (Contributed Talks)
Room: 201 Chair: Arnar Palsson

1:30 Do additional functional demands promote or inhibit morphological diversification? A test on turtle shells
C. Tristan Stayton

1:45 Tinkering with the axial skeleton: vertebral number variation in ecologically divergent threespine stickleback populations
Windsor Aguirre, Kendal Walker, Shawn Gideon, Katie Carlson

2:00 Arms and Armor: ecomorphological diversification in the girdled lizards
Edward Stanley

2:15 Deterministic Evolution in Greater Antillean Boid Snakes: an Extension of the Caribbean Ecomorph Paradigm?
R. Graham Reynolds

2:30 Transcriptomic and morphometric analyses of recently evolved sympatric Arctic charr morphs
Arnar Palsson, Kalina Kapralova, Johannes Gudbrandsson, Ehsan Pashay Ahi, Sigridur Franzdottir, Zophonias Jonsson, Sigurdur Snorrason

1C_206 Population Structure and Genetics (Contributed Talks)
Room: 206 Chair: Jeremy Yoder

1:30 Genomic studies of red snapper (Lutjanus campechanus) in U.S. waters of the Gulf of Mexico and Atlantic Ocean
Jonathan Puritz, John Gold

1:45 Microgeographic genetic structure of a resident songbird in British Columbia, Canada
Rachael Adams, Theresa Burg

2:00 Genetic structure of parasitoids in a fragmented landscape
Abhilash Nair, Christelle Couchoux, Saskya van Nouhuys

2:15 Comparative seascape genetics of coral reef fishes: integrating genetic datasets and biophysical models across a common seascape
Libby Liggins, Eric A. Treml, Hugh P. Possingham, Cynthia Riginos

1C_301A Genetics of Traits (Contributed Talks)
Room: 301 A Chair: Corbin Jones

1:30 Higher-order epistasis between a mutation and four or more segregating variants generates a 'new' phenotype in a cross
Matthew Taylor, Ian Ehrenreich

1:45 The genetic basis of environmental adaptation in house mice
Megan Phifer-Rixey, Ke Bi, Rachel Thayer, Sara M. Keeble, Jeffrey Good, Michael Nachman

2:00 Intraguild predation results in genome wide adaptation in the Threespine Stickleback
Sara Miller, Dolph Schluter

2:15 The Genomic Architecture of Adaptive Quantitative Trait Variation in Darwin's Finches
Kenneth Petren, Lucinda Lawson

2:30 Genetic basis of adaptive behavior: do proximate genetic mechanisms suggest evolutionary causes?
Corbin Jones, Eric Earley

1C_301B Molecular Evolution and Evolutionary Genetics (Contributed Talks)
Room: 301 B Chair: James Titus-McQuillan

1:30 Evolution of imprinted genes in the Mimulus guttatus species complex
Elen Oneal, Janet Zhang, Josh Puzey, John Willis

1:45 Evolutionary genetics of pigmentation variation in natural populations of Drosophila melanogaster
Rocio Ng

2:00 The genetic architecture of natural variation in abdominal pigmentation of Drosophila melanogaster females
Lauren Dembeck

2:15 Evolutionary genetics of the selfish Segregation Distorter complex
Cara Brand, Amanda Larracuente, Daven Presgraves

2:30 Population genetics of Lialis burtonis: Expanding radiation during Australia's aridification
James Titus-McQuillan, Matthew Fujita

1C_302A Genetics of Adaptation (Contributed Talks)
Room: 302 A Chair: Pedram Samani

1:30 A genomic selection component experiment in Mimulus guttatus
John Kelly, Patrick Monnahan

1:45 Functional genomics of adaptation to hypoxic cold stress in high-altitude deer mice (Peromyscus maniculatus)
Zachary Cheviron

2:00 Simultaneous optimization of growth rate and thermal stability in bacteriophages under pleiotropic constraints
Andrew Sackman, Darin Rokyta

2:15 Quantitative circadian phenotypes vary over the growing season and determine fitness
Matthew Rubin, Cynthia Weinig, Marcus Brock

1C_302B Sexual Selection (Contributed Talks)
Room: 302 B Chair: Laryssa Baldridge

1:30 Testosterone and sexually transmitted bacterial communities in a wild bird
Camilo Escallon, Matthew H. Becker, Jenifer B. Walke, Lisa K. Belden, Ignacio T. Moore

1:45 Phylogeny suggests non-directional and isometric evolution of sexual size dimorphism in argiopine spiders
Ren-Chung Cheng, Matjaz Kuntner

2:00 Coexistence of sexual and asexual reproduction in the wild mustard Boechera retrofracta
Catherine Rushworth, Michael D. Windham, Tom Mitchell-Olds

2:15 Patterns of malaria transmission may affect sex ratio evolution
Allison Neal

2:30 Female color preferences, ecological selection, and the evolution of male nuptial coloration in darters (Percidae: Etheostomatinae)
Patrick Ciccotto, Tamra Mendelson

1C_302C Local Adaptation, Ecotypes and Diversity (Contributed Talks)
Room: 302 C C: Jacqueline Bishop

1:30 Life-history evolution and the role of a chromosomal inversion for ecotype divergence in Mimulus guttatus
Alex Twyford, Jannice Friedman

1:45 Diverging genomes of an emerging ecogenomic model using Restriction-site Associated DNA (RAD)-sequencing
Benjamin Clifford, Jacqueline Lopez, Michaël C. Fontaine, Michael Pfrender

2:00 Water availability influences reproductive output between sexes in two divergent Silene latifolia populations
Laura Weingartner, Lynda Delph

2:15 Inbreeding depression and the potential for genetic rescue in a rare cutthroat trout
Sierra Love Stowell, Andrew Martin, Kevin Rogers

2:30 Selection, drift and plasticity contribute to sensory trait variation in echolocating bats
Lizelle Odendaal, David Jacobs, Jacqueline Bishop

1C_303 Plasticity (Contributed Talks)
Room: 303 Chair: David Des Marais

1:30 The evolution of bet-hedging and phenotypic plasticity
Jeremy Van Cleve

1:45 Mechanistic overlap between plastic and evolved responses to heat stress, revealed through RNA-seq
Morgan Kelly, David Plachetzki, Sabrina Pankey

2:00 Genetic basis of life history plasticity in D. melanogaster
Katherine O'Brien, Paul Schmidt

2:15 Breaking G: Variable pleiotropy and environmentally induced changes in the correlated response to selection
Kristin Sikkink, Rose Reynolds, William Cresko, Patrick Phillips

2:30 The molecular basis of gene by environment interaction in Arabidopsis thaliana
David Des Marais, Jesse Lasky, David Lowry, Thomas Juenger

1C_304 Microbiomes and Microbial Symbionts (Contributed Talks)
Room: 304 Chair: Joshua Shapiro

1:30 Characterization of Amphibian Species-Specific Cutaneous Bacterial Communities and Metabolites
Patrick McLaughlin, Piotr Lukasik, Gail Hearn

1:45 Microbiome Diversity and Dynamics under Neutral and Selective Models
Qinglong Zeng, Jeet Sukumaran, Allen Rodrigo

2:00 Genetics of host regulation of maternal microbial transmission
Lisa Funkhouser-Jones, Seth Bordenstein

2:15 The diversity and evolution of the primate skin microbiome: how different are humans from our closest relatives?
Sarah Council, Amy Savage, Julie Urban, Megan Ehlers, Rob Dunn, Julie Horvath

2:30 Distribution, specificity and horizontal transmission of microbial symbionts in army ant colonies
Piotr Lukasik, Justin Newton, Yi Hu, Jon Sanders, Ryuichi Koga, Daniel Kronauer, Corrie Moreau, Jacob Russell

1C_305A Invasion and Evolution (Contributed Talks)
Room: 305 A Chair: David Ayre

1:30 Evolutionary history and traits, not invasive status, influences community assembly
Nathan Lemoine, Jessica Shue, Brittany Verrico, David Erickson, W. John Kress, John Parker

1:45 Post-invasive evolution of Hawaii's feral chickens
Eben Gering, Pamela Willis, Tom Getty, Dominic Wright

2:00 Darwin's conundrum revisited: does phylogenetic distance predict invasibility?
Emily Jones, Scott Nuismer, Richard Gomulkiewicz

2:15 Fishery-induced selection: what can be learned from introduced salmonids in Sierra Nevada Lakes?
Sebastien Nussle, Mike Bogan, Roland Knapp, Mitch Lockhart, Stephanie Carlson

2:30 Is genetic rescue a valid option for arid zone Acacia?
David Ayre, Andrew Denham, David Roberts, Cairo Forrest, Amy-Marie Gilpin

1C_305B Reproductive Isolation (Contributed Talks)
Room: 305 B Chair: Mark Rausher

1:30 Rapid evolution of reproductive isolation between outcrossing and selfing subspecies of Clarkia xantiana
Ryan Briscoe Runquist, David Moeller

1:45 Divergence and reproductive isolation along elevation gradients in the Hawaiian landscape-dominant tree, Metrosideros
Elizabeth Stacy, Jennifer Johansen, Jill Ekar

2:00 Morphological and genetic analyses of interspecific introgression in a natural damselfly population
Alexandra Barnard, Mark McPeek, Ola Fincke, J.P. Masly

2:15 Evolving isolation mechanisms between two incipient species of an endoparasitic wasp
Justin Bredlau, Karen Kester

2:30 Selfing, Local Mate Competition, and Reinforcement
Mark Rausher

1C_306A Characterizing Biodiversity (Contributed Talks)
Room: 306 A Chair: Katherine Waselkov

1:30 Using sequence capture to reconstruct North American mammoth phylogeny and phylogeography
Jacob Enk, Alison Devault, Chris Widga, Jeff Saunders, Paul Szpak, John Southon, Jean-Marie Rouillard, Grant Zazula, Duane Froese, Ross MacPhee, Dan Fisher, Hendrik Poinar

1:45 Determining asexual versus sexual propagation in the octocoral Paramuricea using RAD sequencing
Rachel Clostio

2:00 Inferring the phylogenetic relationships of early dipteran lineages based on more than 1,000 orthologous genes from transcriptome data.
Karen Meusemann, Michelle Trautwein, Brian Wiegmann, David Yeates

2:15 Who Are the Fathers? Characterizing Hybrid Origins of Parthenogenetic Aspidoscelis Lizards
Alex Hall

2:30 Disentangling phylogenetic relationships complicated by polyploidy in the genus Phlox (Polemoniaceae)
Katherine Waselkov, Bethany Wright, Shannon D. Fehlberg, Mark H. Mayfield, Carolyn J. Ferguson

1C_306B Diversity and Diversification (Contributed Talks)

Room: 306 B Chair: Nicholas Mason

1:30 A genome wide exploration of the pleiotropic theory of senescence. Are human disease and senescence the result of natural selection?
Arcadi Navarro, Juan Rodriguez

1:45 A Comprehensive Multilocus Phylogeny of the Neotropical Cotingas with Comparative Analysis of Breeding System and Plumage Dimorphism
Jacob Berv, Richard Prum

2:00 Dynamic gradients of river systems mediating dispersal and vicariance of fishes
Benjamin Keck, Phillip Hollingsworth, Thomas Near

2:15 On the origin of snakes: inferring the ecology, behavior, and evolutionary history of ancestral snakes
Allison Hsiang, Daniel Field, Adam Behlke, Matthew Davis, Rachel Racicot, Timothy Webster, Jacques Gauthier

2:30 Differentially expressed genes unite phenotypes amidst undifferentiated anonymous loci in the phenotypically diverse redpoll finches (Acanthis)
Nicholas Mason, Scott Taylor

1C_306C Hybridization and Speciation (Contributed Talks)

Room: 306 C Chair: Tilottama Roy

1:30 Latitudinal clines in genome-wide variation predict host race differences in Rhagoletis pomonella
Meredith Doellman, Scott Egan, Gregory Ragland, Glen Hood, Jeffrey Feder

1:45 Gene flow and local adaptation at the lower elevation range limit of the montane salamander, Plethodon ouachitae
Marta Lyons, Donald Shepard, Kenneth Kozak

2:00 Genome-wide analysis of hybrid incompatibilities using an allele-frequency method in Tigriopus californicus
Christopher Willett, Thiago Lima

2:15 Evolution of a genetic incompatibility in the genus Xiphophorus
Samuel Scarpino, Patrick Hunt, Francisco Garcia-De-Leon, Thomas Juenger, Manfred Schartl, Mark Kirkpatrick

Saturday June 21, 3:15 - 4:30 PM

1D_201 Behavior/Cognition (Contributed Talks)

Room: 201 Chair: Alexander Kotrschal

3:15 From dogs to apes: does survival of the friendliest lead to smarts?
Brian Hare

3:30 Sympatric species of stickleback differ in cognition and brain structure in ways consistent with adaptation to divergent environments
Jason Keagy, Janette Boughman

3:45 Absolute brain volume and dietary breadth predict species differences in self-control
Evan MacLean, Brian Hare, Charles Nunn

4:00 Sex-specific effects of brain size on survival under semi-natural conditions in the guppy (Poecilia reticulata)
Alexander Kotrschal, Séverine D. Büchel, Sarah M. Zala, Alberto Corral, Dustin Penn, Niclas Kolm

1D_206 Modes of Reproduction (Contributed Talks)

Room: 206 Chair: Andrea Case

3:15 The effect of herbicide resistance on mating system in the common morning glory, Ipomoea purpurea
Adam Kuester, Shu-Mei Chang, Regina Baucom

3:30 A phylogenetic analysis of gynodioecy and its correlates in the flowering plants
Katherine Eisen, Andrea Case, Christina Caruso

3:45 Gynodioecy and sex ratio variation within a large network of natural populations
Mathilde Dufay

4:00 Genetic diversity of two crustaceans with presumed different reproductive modes in ponds of the Chihuahuan Desert, North America
Rebekah Horn

4:15 When sex allocation theory and reality meet: Insights from size-specific reproductive investment in an androdioecious barnacle
Christine Ewers-Saucedo, John P. Wares

1D_301A Evolution and Physiology (Contributed Talks)
Room: 301 A Chair: Robert Cox

3:15 Patterns of gene expression underlying the extreme physiological remodeling of the Burmese python intestine upon feeding
Audra Andrew, Daren Card, Drew Schield, Elizabeth La, Stephen Secor, Todd Castoe

3:30 Physiological synergism and antagonism in the evolution of life histories
Goggy Davidowitz, Derek Roff, Frederik Nijhout

3:45 Cardiac myopathy and flight performance in starvation-selected Drosophila, or the case of the All-American flies
Allen Gibbs, Christopher Hardy, Michael Brewer, Ryan Birse, Matthew J. Wolf

4:00 Deeply conserved r-opsin phototransduction cascade genes may underlie a novel expansion response of chromatophores to light in isolated Octopus skin
Desmond Ramirez, Todd Oakley

4:15 Survival of the fattest? Indices of body condition do not predict fitness in the brown anole (Anolis sagrei)
Robert Cox, Ryan Calsbeek

1D_301B Molecular Evolution and Evolutionary Genetics (Contributed Talks)
Room: 301 B Chair: Marcy Uyenoyama

3:15 Computationally efficient estimation of the number of founders for colonized populations
Hua Chen

3:30 Estimating F-statistics: Weir and Cockerham, Evolution 38:1358--1370 (1984) updated
Bruce weir

3:45 A new test for positive selection with greatly improved power
Sarah Parks, Nick Goldman

4:00 The shape of adaptive genetic covariance: Chromosome walking using population graphs
Rodney Dyer, Andrew Eckert, Brian Verrelli

4:15 Extending the Ewens Sampling Formula to structured populations: Recursive computation of exact probabilities of allele frequency spectra
Marcy Uyenoyama, Benjamin Redelings, Seiji Kumagai

1D_302A Local Adaptation (Contributed Talks)
Room: 302 A Chair: Christian Rellstab

3:15 The Genetics of Divergence Between Upland and Lowland Ecotypes of Panicum virgatum
Elizabeth Milano, David Lowry, Thomas Juenger

3:30 The genetic architecture of local adaptation at fine spatial scales – a case study of three montane conifer species
Andrew Eckert, Christopher Friedline, Brandon Lind, D. Ethan Harwood, Erin Hobson, David Neale, Detlev Vogler, Patricia Maloney

3:45 The evolutionary interplay between dispersal traits and habitat specialization
Nancy Emery, Elisabeth Forrestel

4:00 Local adaptation to climate within a tree species range: the case of sugar pine, Pinus lambertiana
Aurore Bontemps, Johanna Schmitt, Jessica Wright

4:15 Using pooled sequencing and whole-genome environmental association analyses to study local adaptation in three Alpine Brassicaceae species
Christian Rellstab, Martin C. Fischer, Stefan Zoller, Felix Gugerli, Rolf Holderegger, Andrew Tedder, Kentaro Shimizu, Alex Widmer

1D_302B Sexual Selection (Contributed Talks)
Room: 302 B Chair: Joanna Hubbard

3:15 The predictors of avian song evolution: sexual selection and the trade-off between acoustic and visual signals
Christopher Cooney, Joseph Tobias, Nathalie Seddon

3:30 Evolution of female song production in Drosophila virilis group species
Kelly LaRue, Gordon Berman, Tristan Perez, Georgia Guan, David Stern, Mala Murthy

3:45 Mate choice in European badgers (Meles meles): females choose males from neighbouring groups that have similar MHC
Simon Yung Wa Sin, Geetha Annavi, Chris Newman, Christina Buesching, Terry Burke, David Macdonald, Hannah Dugdale

4:00 Genetic and environmental contributions to a divergent plumage trait in barn swallows
Joanna Hubbard, Amanda Hund, Rebecca Safran

1D_302C Demography (Contributed Talks)
Room: 302 C Chair: Juan Pablo Jaramillo-Correa

3:15 Life history effects and demographic consequences of interacting QTL for flowering and seed dormancy in Arabidopsis thaliana
Johanna Schmitt, Martha Cooper, Peter Braun, Reena Sellamuthu, Mark Taylor

3:30 Going with the flow: patterns of demographic divergence and connectivity in a Hawaiian stream goby.
Kristine Moody, Michael Childress, Johanna Wren, Donald Kobayashi, Michael Blum, Richard Blob, Margaret Ptacek

3:45 Reconstructing the Demographic History of Adélie Penguins (Pygoscelis adeliae) Using mtDNA and Coalescent Methods
Howard Ross, Alex Stuckey, Craig Millar

4:00 Using linked microsatellites to infer basic population decline parameters: a case study on a Mexican relict spruce
Juan Pablo Jaramillo-Correa, Sebastien Gerardi, Jean Beaulieu, F. Thomas Ledig, Jean Bousquet

1D_303 Sex determination/Sex chromosomes (Contributed Talks)
Room: 303 Chair: Rebecca Dean

3:15 Independent origins of the avian Z chromosome reveal contrasting short- and long-term dynamics of sex-specific selection
Alison Wright, Peter Harrison, Stephen Montgomery, Marie Pointer, Judith Mank

3:30 Do interpopulation crosses and genetic drift disrupt sex determination in Tigriopus californicus, a species with polygenic sex determination?
Barret Phillips, Suzanne Edmands

3:45 Sex Chromosome Dosage Compensation in Heliconius butterflies
James Walters, Thomas Hardcastle, Chris Jiggins

4:00 Molecular basis of protogynous sex change in fish
Hui Liu, Melissa Slane, John Godwin, Kim Rutherford , Neil Gemmell

4:15 Sexual co-adaptation or conflict: Are genes that interact with the mitochondria more often on the sex chromosomes?
Rebecca Dean, Fabian Zimmer, Judith Mank

1D_304 Viral Evolution (Contributed Talks)

Room: 304 Chair: Sarah Schaack

3:15 Intrahost HIV Evolution During Early Infection
Sivan Leviyang

3:30 Episodic nucleotide substitutions in seasonal influenza virus H3N2 can be explained by stochastic genealogical process without positive selection
Kangchon Kim, Yuseob Kim

3:45 Ecological competition drives viral host range evolution and adaptation
Lisa Bono, David Pfennig, Christina Burch

4:00 Metagenomic analysis of a ssDNA viral community
Victoria Pearson, Darin Rokyta

4:15 Endogenous hepdnaviruses, bornaviruses and circoviruses in snakes
Clement Gilbert, Jesse Meik, Daren Card, Todd Castoe, Sarah Schaack

1D_305A Mutation in Evolution (Contributed Talks)

Room: 305 A Chair: Kirill Korolev

3:15 The fates of rare beneficial lineages in hypermutable asexual populations.
Tanya Singh, Paul Sniegowski, Philip Gerrish, Kate Kerpen

3:30 Accurate detection of mutations from short read sequencing data
David Winter

3:45 Genetic constraints cause mutation rate catastrophe
Bingjun Zhang, Ricardo Azevedo

4:00 Experimental evidence for both upward instability and decline of the genomic mutation rate across isogenic asexual Escherichia coli populations.
Mitra Eghbal, Paul Sniegowski, Philip Gerrish

4:15 Dynamics of evolutionary innovations in cancer
Kirill Korolev, Christopher McFarland, Leonid Mirny

1D_305B Hybridization (Contributed Talks)

Room: 305 B Chair: Becca Hale

3:15 The origin of species by means of Dobzhansky-Muller incompatibilities
Ricardo Azevedo

3:30 Genes vs. culture: song variation across an avian hybrid zone
Haley Kenyon, Darren Irwin, Miguel Alcaide, David Toews

3:45 A simple two-locus hybrid incompatibility underlies inviability between sympatric Mimulus species
Matthew Zuellig, Amanda Kenney, Andrea Sweigart

4:00 Two-locus hybrid incompatibilities and the introgression of adaptive alleles
Derek Setter, Joachim Hermisson

4:15 Placental gene expression and the evolution of extreme overgrowth in dwarf hamster hybrids
Thomas Brekke, Jeffrey M. Good

1D_306A Biodiversity and Niches (Contributed Talks)

Room: 306 A Chair: Philip Anderson

3:15 Environmental stability, niche conservatism, and energetic constraints--explaining tropical biodiversity
Allen Hurlbert, James Stegen

3:30 Testing the role of ecology and life history in structuring genetic variation across a landscape: A comparative ecophylogeographic approach
Andrea Paz, Roberto Ibáñez, Karen R. Lips, Andrew Crawford

3:45 Incorporating Evolutionary History into Ecological Niche Modeling
Dan Warren

4:00 Spatial niches influence biodiversity during adaptive radiation
Jiaqi Tan, Lin Jiang

4:15 The coupling of niche divergence and lineage diversification at different spatial scales
Glenn Seeholzer, Robb Brumfield

1D_306B Speciation and Diversification (Contributed Talks)
Room: 306 B Chair: Glen Hood

3:15 A tale of two lineages; contrasting patterns of diversification in saxicoline lizard lineages of the Australian monsoon tropics
Rebecca Laver, Paul Oliver, Tim Jessop, Jane Melville

3:30 No divergence in sympatry on a remote oceanic island (Cocos Island, Costa Rica)
Javier Igea, Diego Bogarín, Vincent Savolainen

3:45 Linking neotropical biomes in a spider web
Vera Solferini, Fernanda Fontes, Luiz Filipe Macedo Bartoleti, Elen Peres

4:00 Ecological controls of mammalian diversification
Antonin MACHAC

4:15 Sequential speciation multiplicitively amplifies biodiversity across trophic levels
Glen Hood, Andrew Forbes, Thomas Powell, Scott Egan, Meredith Doellman, James Smith, Jeffrey Feder

1D_306C Hybridization and Speciation (Contributed Talks)
Room: 306 C Chair: Drew Schield

3:15 Piscivorous fish in a fishless environment: predicting ecological and phenotypic differentiation of bigmouth sleepers in Bahamas blue holes
Ryan Martin, Matthew McGee, Brian Langerhans

3:30 Positive selection drives frequency increase of a young chromosomal inversion
Cheng-Ruei Lee, Tom Mitchell-Olds

3:45 Missing snowball in house mice? Evidence against the faster-than-linear accumulation of hybrid incompatibilities between Mus musculus subspecies
Richard Wang, White Michael, Bret Payseur

4:00 Ecological divergence across two North American biodiversity hotspots in the Yellow-Bellied Kingsnake (Lampropeltis calligaster)
Alexander McKelvy, Frank Burbrink

4:15 Using genome-wide single nucleotide polymorphisms to estimate patterns of gene flow and population structure in Crotalus atrox
Drew Schield, Daren Card, Jacobo Reyes Velasco, Carol Spencer, Tereza Jezkova, Todd Castoe

Sunday June 22, 8:15 - 9:45 AM

2A_BalC SSE Symposium: Reuniting fossil and extant approaches to macroevolution (Symposium)
Room: Ballroom C Chairs: Graham Slater, Samantha Price, Lars Schmitz

8:15 Testing the molecular clock using simulated trees, fossils and sequences
Rachel Warnock, Philip Donoghue

8:30 Using fossil data to cover for phylogenetic model assumptions
Emma Goldberg

8:45 The Sad Case of the Has-Been: Can We Detect Diversity Replacement within Extant Clades?
Peter Wagner, Andy Simpson

9:00 Do fossils and extant phylogenies agree upon patterns of mammalian diversification?
Samantha Price, Samantha Hopkins

9:15 Ecological opportunity and ecomorphological evolution in North American canids
Graham Slater

9:30 Nocturnality in Synapsids Predates the Origin of Mammals by Over 100 Million Years
Lars Schmitz, Kenneth Angielczyk

Sunday June 22, 8:30 - 9:45 AM

2A_402 SSE Education Symposium: Assessing Undergraduate Student Understanding of Evolutionary Biology (Symposium)

Room: 402 Chairs: Louise Mead, Kristin Jenkins, Tom Meagher

8:45 Identifying students' misconceptions about genetic drift and using them to improve instruction
Rebecca Price, Tessa Andrews

9:15 Student misconceptions about evolutionary developmental biology and using the EvoDevo Concept Inventory to document student learning
Kathryn Perez, Anna Hiatt

Sunday June 22, 10:15 - 11:30 AM

2B_402 SSE Education Symposium: Assessing Undergraduate Student Understanding of Evolutionary Biology (Symposium)

Room: 402 Chairs: Louise Mead, Kristin Jenkins, Tom Meagher

10:15 Assessing students' mental models of evolutionary change across the tree of life using the ACORNS instrument
Ross Nehm

10:45 Knowledge about and positive attitudes toward evolutionary theory: Curricular effectiveness as measured by the Evolutionary Attitudes and Literacy Survey (EALS)
Patricia Hawley

Sunday June 22, 10:15 - 11:45 AM

2B_BalC SSE Symposium: Reuniting fossil and extant approaches to macroevolution (Symposium)

Room: Ballroom C Chairs: Graham Slater, Samantha Price, Lars Schmitz

10:15 An expanded survey of evolutionary mode in fossil lineages
Gene Hunt, Melanie Hopkins, Scott Lidgard

10:30 An expanded survey of mosaic evolution in fossil lineages
Melanie Hopkins, Gene Hunt, Scott Lidgard

10:45 The 5% solution: is it sufficient?
Sandra Carlson, Holly Schreiber, David Bapst

11:15 Multilevel evolutionary processes in time and space
David Jablonski

Sunday June 22, 1:15 - 2:45 PM

2C_BalC ASN Young Investigators' Symposium: Jasper-Loftus Hill Award (Symposium)

Room: Ballroom C Chair: Trevor Price

1:15 Division of labor in insect societies: Genetic components and physiological regulation
Romain Libbrecht

1:45 Convergences and divergences during adaptive radiation
Travis Ingram

2:15 Climate change ecology and evolution in the sea
Malin Pinsky

Sunday June 22, 3:15 - 3:45 PM

2D_BalC ASN Young Investigators' Symposium: Jasper-Loftus Hill Award (Symposium)

Room: Ballroom C Chair: Trevor Price

3:15 Individual recognition and the maintenance of phenotypic and genetic diversity
Michael Sheehan

Sunday June 22, 3:45 - 4:15 PM

2D_BalC* Dobzhansky Prize Winner Lecture (Special Lecture)

Room: Ballroom C Chair: John Kelly

Drosophila, reproductive isolation, and speciation
Daniel Matute

Sunday June 22, 6:00 - 7:00 PM

2E_BalC SSE Presidential Address (Special Lecture)

Room: Ballroom C

Recombination suppression helps hybridizing species persist, and perils of a career in evolutionary biology
Mohamed Noor

Sunday June 22, 8:30 - 9:45 AM

2A_201 Venom (Contributed Talks)

Room: 201 Chair: Paul Maurizio

8:30 Comparative transcriptomic analyses of venoms from the Cottonmouth (Agkistrodon piscivorus) and Copperhead (Agkistrodon contortrix)
Karalyn Aronow, Darin Rokyta, Kenneth Wray

8:45 Transcriptome analyses and differential gene expression in the cone snail Conus miliaris: Effects of predator-prey interactions on venom evolution.
David Weese, Thomas F. Duda, Jr

9:00 The extremes of toxin expression variation revealed in two sympatric snake species
Darin Rokyta, Mark Margres, James McGivern, Kenneth Wray

9:15 Expression of venom homologs in the python suggest a model for venom gene recruitment and question the definition of a venom toxin
Jacobo Reyes Velasco, Kyle Shaney, Drew Schield, Audra Andrew, Cassandra Modahl, Nick Casewell, Stephen Mackessy, Todd Castoe, Daren Card

9:30 Inferring phylogenetic relationships and understanding venom evolution in cone snails (genus, Conus) using venom duct transcriptomes.
Mark Phuong, Michael Alfaro

2A_206 Island Biogeograhy (Contributed Talks)

Room: 206 Chair: Jacob Esselstyn

8:30 Genomic tests of Pleistocene aggregate island complexes as drivers of divergence: differentiation across local geographic scales in Caribbean crickets
Anna Papadopoulou, L. Lacey Knowles

8:45 Biogeography, range size and body size evolution in North American minnows
Samuel Martin, Ronald Bonett

9:00 Caribbean biogeography: multiple arachnid lineages reveal the role of dispersal and geology in forming a biodiversity hotspot
Ingi Agnarsson, Matjaz Kuntner, Greta Binford

9:15 Island and continental biogeography dynamics in the assembly of the Western Ghats (India) avifauna
Sushma Reddy, V. V. Robin, C. K. Vishnudas, Pooja Gupta, Uma Ramakrishnan

9:30 New perspectives on Sunda Shelf biogeography
Jacob Esselstyn, Anang Achmadi, Maharadatunkamsi None, Thomas Giarla, Kevin Rowe

2A_301A Coevolution (Contributed Talks)

Room: 301 A Chair: Levi Morran

8:30 Broad host ranges in fungal parasites of anciently asexual bdelloid rotifers
Christopher Wilson, Tim Penny

8:45 HOW SPECIFICITY AND EPIDEMIOLOGY DRIVE THE COEVOLUTION OF STATIC TRAIT DIVERSITY IN HOSTS AND PARASITES
Mike Boots

9:00 Does sociality modulate co-phylogeny between social shrimps and their host sponges?
Tin Chi Solomon Chak, J. Emmett Duffy

9:15 Eco-evo dynamics of mutualism decline in response to nitrogen fertilization
Katy Heath, Dylan Weese, Christie Klinger, Benjamin Gordon, Patricia Burke, Jennifer Lau

9:30 Helpful allies or suffocating friends? Evolution in a mutualism constrains adaptive change
Levi Morran, McKenna Penley, Victoria Byrd, Andrew Meyer, Timothy O'Sullivan, Farrah Bashey-Visser, Heidi Goodrich-Blair, Curt Lively

2A_301B Adaptation (Contributed Talks)
Room: 301 B Chair : Graham Wallis

8:30 Quantitative trait locus analysis under osmotic and thermal stress in an intertidal copepod, Tigriopus californicus
Helen Foley, Suzanne Edmands

8:45 Behavioral Diversity in Malawi African Cichlid Fishes
Emily Moore, Jonathan Tufts, Reade Roberts

9:00 Host-associated differentiation as a midpoint in a total host shift: Loss of adaptation to a native host in Florida soapberry bugs
Meredith Cenzer

9:15 Genome-wide evidence of evolution and adaptation in the invasive Florida python population
Daren Card, Drew Schield, Kristen Hart, Margaret Hunter, Todd Castoe

9:30 Swimming with the Red Queen: adaptive evolution of a ZP-domain glycoprotein in galaxiid fishes
Graham Wallis, Lise Wallis, David Winter, Luca Jovine

2A_302A Plant Evolution (Contributed Talks)
Room: 302 A Chair: Findley Finseth

8:30 Centromere-associated drive and the maintenance of fitness variation in Mimulus
Lila Fishman

8:45 Sexy signals: gamete recognition is a reproductive mechanism and isolating barrier in wild tomato species (Solanum sect. Lycopersicon)
Cathleen Jewell, Leonie Moyle

9:00 The role of adaptive introgression in a case of incipient speciation in Mimulus
Joshua Bahr, Matt Streisfeld

9:15 Local Adaptation Drives Intraspecific Reproductive Isolation in Iris atropurpurea
Gil Yardeni

9:30 Rapid evolution and duplication of a key centromeric protein in Mimulus, a genus with female meiotic drive
Findley Finseth, Yuzhu Dong, Lila Fishman

2A_302B Trait Evolution (Contributed Talks)
Room: 302 B Chair: John McKay

8:30 Dimorphic development in Streblospio benedicti: genetic analysis of morphological differences between larval types
Christina Zakas, Matthew Rockman

8:45 Modeling underwater light and visual sensitivity in the estuarine diamondback terrapin (Malaclemys terrapin)
Abby Dominy, Ellis Loew, Harold Avery, James Spotila

9:00 Genetic effects and behavioral plasticity of winner and loser effects in baboons
Mathias Franz, Jenny Tung, Jeanne Altmann, Susan Alberts

9:15 Old World fruit bats (Pteropodidae) vary in pollinator importance and selection exerted on night-blooming plant species
Alyssa Stewart, Michele Dudash

9:30 Local adaptation of Metrosideros polymorpha along a steep elevation gradient
Tomoko Sakishima, Abby Cuttriss, Don Price, Elizabeth Stacy

2A_302C Sexual Selection (Contributed Talks)
Room: 302 C Chair: Howard Rundle

8:30 Constraints on the evolution of sex-biased gene expression in Drosophila serrata
Scott Allen, Steve Chenoweth

8:45 When mito-nuclear epistasis looks like genomic and sexual conflict
Michael Wade, Devin Drown

9:00 "Broad-Sense" Sexual Conflict: A New Model of Evolution of Resistance to Sexual Violence
Samuel Snow

9:15 Dissecting an intersexual genetic correlation for fitness using whole genome sequence data
Adam Reddiex, Steve Chenoweth, Thomas Gosden, Scott Allen

9:30 Between-sex genetic covariance constrains the evolution of sexual dimorphism in (everyone's favourtite) Drosophila melanogaster
Fiona Ingleby, Paolo Innocenti, Howard Rundle, Ted Morrow

2A_303 Macroevolution (Contributed Talks)
Room: 303 Chair: Kin Han

8:30 Using fossils, ecology, and molecules to understand the mechanisms shaping dry forest bird species diversity and distributions
Jessica Oswald

8:45 Macroevolutionary consequences of chemical defence in amphibians
Kevin Arbuckle

9:00 Differences in evolutionary patterns and rates of general cognitive ability compared to neuroanatomical indicators in the primate phylogeny
Heitor Barcellos Ferreira Fernandes, Michael Woodley

9:15 Using genetic variation to infer the comparative demographic history of avian populations in the West Indies
Maria Pil, Robert Ricklefs

9:30 A bird's eye view of habitat fragmentation: comparing the effects at ecological and evolutionary timescales in two sister species
Kin Han, Garth Spellman, Rebecca Kimball

2A_304 Microbial Evolution (Contributed Talks)
Room: 304 Chair: Michele Nishiguchi

8:30 Experimental Measures of the Costs of Complexity for Horizontal Gene Transfer
Artur Romanchuk, Corbin Jones, Christina Burch

8:45 Fitness Effects of Cell-to-Cell Expression Heterogeneity in Saccharomyces cerevisiae
Christopher Morales, Isaak Heon, Kashyapa Bandaralage, Joshua Rest

9:00 Genetics of Ecological Specialization and Incipient Speciation in an Experimental Population of E. coli
Zachary Blount, Richard Lenski

9:15 Ants show distinct gut microbiome convergence at opposite ends of the trophic scale
Jacob Russell, Piotr Lukasik, Yi Hu, Benjamin Rubin, Corrie Moreau

9:30 Ecological diversification of Vibrio fischeri during the planktonic phase and subsequent consequences for squid host colonization
Michele Nishiguchi, William Soto, Michael Travisano

2A_305A Molecular Evolution (Contributed Talks)

Room: 305 A Chair: Greg Slodkowicz

8:30 Comparing Patterns of Molecular Evolution in Nuclear-Encoded Mitochondrial Genes in Sexual and Asexual Lineages of a New Zealand Freshwater Snail
Michelle Sullivan, Joel Sharbrough, Jeffrey Boore, John Logsdon, Maurine Neiman

8:45 Analysis of six gene sets in the chimpanzee lineage illustrates the differential action of natural selection upon coding and non-coding sequences
Arcadi Navarro, Gabriel Santpere, Elena Carnero-Montoro, Natalia Petit-Marty, Francois Serra, Christina Hvilsom, Jordi Rambla, Txema Heredia, Daniel Halligan, Hernan Dopazo, Elena Bosch

9:00 Molecular evolution of anthocyanin pigment genes during flower color transitions
Winnie Ho, Stacey Smith

9:15 Molecular evolution of the selfish sex-ratio X-chromosome in Drosophila neotestacea
Kathleen Pieper, Kelly Dyer

9:30 Structure and function of sites under positive selection
Greg Slodkowicz, Nick Goldman

2A_305B Gene Expression (Contributed Talks)

Room: 305 B Chair: John Stanton-Geddes

8:30 Transcriptomics of the "immortal medusa" Turritopsis dohrnii CANCELLED
Maria Pia Miglietta

8:45 Gene expression explains patterns of evolution in tRNA synthetase genes interacting with mitochondrial and cytosolic tRNAs
Jeffrey Adrion, P. Signe White, Kristi L. Montooth

9:00 Gene expression alterations trigger adaptve diffusion after recurrent allopolyploidization in Dactylorhiza (Orchidaceae)
Ovidiu Paun, Francisco Balao, Maria Teresa Lorenzo, Daniel Jacob Diehl, Bao-Hai Hao, Mikael Hedren

9:15 Detecting relationships between integrated thermal environments & current gene expression profiles in corals
Megan Morikawa

9:30 Thermal reactionome of the temperate forest ants Aphaenogaster rudis and A. picea
John Stanton-Geddes, Andrew Nguyen, Nicholas Gotelli, Sara Helms Cahan

2A_306A Methods for Migration (Contributed Talks)

Room: 306 A Chair: Arun Sethuraman

8:30 FlatNJ: A novel network-based approach to visualize evolutionary and biogeographical relationships
Monika Balvociute, Andreas Spillner, Vincent Moulton

8:45 MIGRATE 4.0: many loci, divergences, and assignments
Peter Beerli

9:00 General extensions of Qst/Fst for detecting adaptation in quantitative traits
Jeremy Berg, Graham Coop

9:15 Evaluating methods for estimating effective population size in the presence of migration
Kimberly Gilbert, Michael Whitlock

9:30 Parallel MCMC and Inference of Ancient Demography under the Isolation with Migration (IM) Model
Arun Sethuraman, Jody Hey

2A_306B Methodology (Contributed Talks)

Room: 306 B Chair: Barbara Holland

8:30 Accelerated Anchored Phylogenomics: A new paradigm enables 10-fold increase in throughput and 10-fold decrease in cost for phylogenomics.
Alan Lemmon, Michelle Kortyna, Felipe Grazziotin, Lisa Barrow, Emily Lemmon

8:45 Anchored Phylogenomics in Angiosperms: Maximizing Data Compatibility Through Coordinated Locus Selection
Chris Buddenhagen, Alan Lemmon, Emily Lemmon, Austin Mast

9:00 Is the general time-reversible model bad for phylogenetics?
Barbara Holland, Jeremy Sumner, Peter Jarvis

2A_306C Phylogenetic Systematics (Contributed Talks)
Room: 306 C Chair: Louise Lewis

8:30 A history of arrivals and subsequent diversification in Madagascar: A case study from the myrrh genus, Commiphora Jacq. (Burseraceae).
Morgan Gostel, Andrea Weeks

8:45 Phylogenomics and the Evolution of Paedomorphism in the Cyprinidae
Milton Tan, Carla Stout, Alan Lemmon, Emily Lemmon, Jonathan Armbruster

9:00 Diversification of Horseshoe Bats
Sebastian Bailey, Xiuguang Mao, Joe Parker, Georgia Tsagkogeorga, Stephen Rossiter

9:15 Origin and evolution of Oceanic pelagic communities
Francesco Santini

9:30 Phylogenetic investigation of green algae that symbiose with spotted salamander eggs
Louise Lewis, Crystal Xue, Mark Urban

Sunday June 22, 10:15 - 11:30 AM

2B_201 Evolution of Signaling (Contributed Talks)
Room: 201 Chair: Dana Moseley

10:15 Flash signal evolution in North American Photinus fireflies
Kathrin Stanger-Hall, James Lloyd

10:30 Courtship Pheromone Evolution in Dusky Salamanders
Michael Steffen, Ronald Bonett

10:45 Ecological and genetic underpinnings of wing pattern diversity and evolution in butterflies
Krushnamegh Kunte, Deepa Agashe

11:00 Warning signal polymorphism under positive frequency-dependent selection
Mathieu Chouteau, Monica Arias, Annabel Whibley, Melanie McClure, Mathieu Joron

11:15 Responses to song playback vary with the vocal performance of both signal senders and receivers
Dana Moseley, David C. Lahti, Jeffrey Podos

2B_206 Migratory Behavior (Contributed Talks)
Room: 206 Chair: Carol Chaffee

10:15 Patterns of genetic variation among Blackcaps (Sylvia atricapilla) with diverse migratory behaviors in Europe
Raeann Mettler

10:30 Stepwise evolution of a complex behavioral trait: migration in Tyrant Flycatchers
Valentina Gomez, Roberto Márquez, Alex Jahn , Oscar Laverde , Daniel Cadena

10:45 Cavity-nesting makes flycatchers fecund and fly farther: evolutionary links between cavity nesting, clutch size and migration in the Muscicapidae.
Sahas Barve, Nicholas Mason

11:00 Genes, mice and Vikings
Jeremy Searle

11:15 Challenging the paradigm of Monarch migrations: behavioral complexity and isotopic variation of the Eastern North American population
Carol Chaffee

2B_301A Coevolution (Contributed Talks)

Room: 301 A Chair: Ryan Garrick

10:15 Resolving relationships in Cecropieae (Urticaceae): Implications for the evolution of an ant-plant mutualism
Erin Treiber, André Gaglioti, Sergio Romaniuc, Santiago Madrinan, George Weiblen

10:30 The population genetics of evolving games
Alexander Stewart

10:45 Differential gene expression in freshwater snails infected and uninfected with a coevolving trematode parasite
Laura Bankers, Kyle McElroy, John Logsdon, Jeffrey Boore, Maurine Neiman

11:00 Symbiotic partnership in brood protection: use of mycelial cover in a fungus-farming ant
Katherine Holmes, William Wcislo, Hermogenes Fernandez

11:15 Co-evolution in the mountains: Phylogeographic comparison of a wood-feeding insect and its bacterial endosymbiont
Ryan Garrick, Zakee Sabree, Jeff Oliver

2B_301B Adaptation (Contributed Talks)

Room: 301 B Chair: Ed McAssey

10:15 Selection on phenotypic traits in an experimentally introduced population of Brassica rapa in a novel environment
Michael Sekor, Steve Franks

10:30 The relative importance of primary and secondary resources in adaptive radiation
Jeremy Heath, Patrick Abbot, John Stireman

10:45 Transient Overdominance Can Constrain Evolvability During Rapid Evolution
Jeremy Draghi, Michael Whitlock

11:00 Short-term density exposure affects male reproductive success in threespine stickleback (Gasterosteus aculeatus)
Emily Weigel, Jenny Boughman

11:15 Genotyping by sequencing and latitudinal divergence in wild sunflower
Ed McAssey, John Burke

2B_302A Plant Evolution (Contributed Talks)

Room: 302 A Chair: Sean Hoban

10:15 Population genetics and phylogeography of wild maize along environmental gradients.
Luis Enrique Eguiarte, Jonas Aguirre, Valeria Souza

10:30 The root of the flowering plants, re-re-revisited.
Isabel Marques, Don Les, Terry Macfarlane, John G. Conran, Paula Rudall, Maria Logacheva , Dmitry D. Sokoloff, Margarita V. Remizowa, Sean W. Graham

10:45 Introgression of the allele for red fruit color from cultivated to wild papaya through feral intermediates
Richard Moore, Meng Wu, Jamicia Lewis

11:00 The mechanisms of frequency-dependent selection in gynodioecious Lobelia siphilitica
L. Ruth Rivkin, Andrea Case, Christina Caruso

11:15 Optimal sampling of plant populations for ex-situ conservation of genetic biodiversity, considering realistic population structure
Sean Hoban, Scott Schlarbaum

2B_302B Trait Evolution (Contributed Talks)

Room: 302 B Chair: Adam Chippindale

10:15 What ion channel gene duplications can tell us about the origin(s) of the nervous system
Benjamin Liebeskind, David Hillis, Harold Zakon

10:30 Search for the evolutionary origin of the brain
Hiroshi Shimizu

10:45 Impacts of anthropogenic disturbance to phenotypic traits under selection in incipient speciation
Justin Yeager

11:00 Estimating phenotypic selection in an age-structured moose Alces alces population by removing transient fluctuations
Thomas Kvalnes, Steinar Engen, Bernt-Erik Saether, Erling J. Solberg

11:15 The Unbearable Lifespan of Beings: A Revision to the Evolutionary Theory of Ageing
Adam Chippindale, Christopher Kimber

2B_302C Sexual Selection (Contributed Talks)
Room: 302 C Chair: Geoffrey Hill

10:15 Multimodal signaling in the North American barn swallow: influences of intra- and intersexual selection on signal evolution
Matthew Wilkins, Maxwell Joseph, Joanna Hubbard, Rebecca Safran

10:30 Intrasexual competition between females leads to aggression toward sexually receptive intruders in convict cichlids (Amatitlania siquia)
Ashley Robart, Barry Sinervo

10:45 The eunuch phenomenon: adaptive evolution of genital emasculation in sexually dimorphic spiders
Matjaz Kuntner, Ingi Agnarsson, Daiqin Li

11:00 Are female mating decisions adaptive when environments vary? A test using natural resource variation
Jennifer Hamel, Christine Miller

11:15 Runaway and good genes processes are not ends of a continuum
Geoffrey Hill

2B_303 Macroevolution (Contributed Talks)
Room: 303 Chair: David Ray

10:15 Chromosomal inversions and avian speciation
Daniel Hooper, Trevor Price

10:30 Macro- and microevolutionary perspectives on the evolution of terrestrial egg-laying in frogs
Justin Touchon

10:45 The Diversification of LINE Transposable Elements in Vertebrate Genomes: Patterns and Processes
Akash Sookdeo, Stephane Boissinot

11:00 Sample sequencing of 40 squamate reptile genomes reveals extensive evolutionary dynamics of genomic repeat element landscapes
Richard Adams, Daren Card, Drew Schield, Todd Castoe, Jacobo Reyes Velasco

11:15 Tick-tock goes the croc: Three genome drafts indicate slow molecular evolution in crocodilians and provide insight into archosaur evolution
David Ray, Richard Green, Benedict Paten, Travis Glenn, Edward Braun, Brant Faircloth, Federico Hoffmann, Toni Gabaldon, Fiona McCarthy, Carl Schmidt, Matthew Fujita, Juan Opazo, Arian Smit

2B_304 Microbial Evolution (Contributed Talks)
Room: 304 Chair: Weigang Qiu

10:15 Exploring pattern and process in the evolutionary history of the mycorrhizal symbiosis
Hafiz Maherali, Brad Oberle

10:30 Individual variation in the gut microbiome of wild mushroom-feeding Drosophila
Vince Martinson, John Jaenike

10:45 Understanding Biodiversity for Targeted Natural Product Discoveries in Marine Cyanobacteria
Niclas Engene
CANCELLED

11:00 Gut microbiome diversity across cichlid fish in Lake Tanganika
Karen Sullam, Peter McIntyre, Catherine Wagner, Susan Kilham, Jacob Russell

11:15 The evolution and ecology of ant gut microbiomes
Corrie Moreau, Jacob Russell

2B_305A Molecular Evolution (Contributed Talks)

Room: 305 A Chair: Julián Torres Dowdall

10:15 An evolutionarily conserved epigenetic element converts wild fungi from metabolic specialists to generalists
Alex Lancaster, Daniel F. Jarosz, Jessica Brown, Susan Lindquist

10:30 Resource abundance influences genome-wide DNA methylation levels in wild baboons (Papio cynocephalus)
Amanda Lea, Jeanne Altmann, Sayan Mukherjee, Susan Alberts, Jenny Tung

10:45 Preliminary Evidence for DNA Methylation as a Mechanism of Adaptive Transgenerational Plasticity in the Annual Plant Polygonum persicaria
Jacob Herman, Sonia Sultan

11:00 The role of MEE57 and global 5mC methylation on natural variation in flowering time in Arabidopsis thaliana
Joshua Banta, Christina Richards

11:15 Molecular evolution of the RH2-opsin complex in Neotropical cichlid fish: are they different or just slower than African cichlids?
Julián Torres Dowdall, Michele Pierotti, Frederico Henning, Kathryn R Elmer, Axel Meyer

2B_305B Gene Expression (Contributed Talks)

Room: 305 B Chair: Nikki Traylor-Knowles

10:15 Gene expression dynamics in a hibernating primate
Sheena Faherty, José Luis Villanueva-Cañas, M.Mar Albà, Anne Yoder

10:30 RNA-seq Reveals Regional Differences in Transcriptome Response to Heat Stress in the Marine Snail Chlorostoma funebralis
Lani Gleason, Ron Burton

10:45 The role of gene expression variation on climatic adaptation in Drosophila melanogaster
Vinayak Mathur, Paul Schmidt

11:00 In what types of environments is inbreeding depression strongest?
Aneil Agrawal, Li Yun

11:15 Some (do not) Like It Hot: The Role of Tumor Necrosis Factor Receptor in Heat Stressed Corals
Nikki Traylor-Knowles, Francois Seneca, Stephen Palumbi

2B_306A Phylogenies and Phylogenetics (Contributed Talks)

Room: 306 A Chair: Rachel Schwartz

10:15 Combined morphological and multigene analysis allows comprehensive taxon sampling of the subfamily of pitvipers (Serpentes: Crotalinae)
Allyson Fenwick, Christopher Parkinson

10:30 Using full-genome sequencing to infer the species tree in Neodiprion sawflies (Hymenoptera: Diprionidae)
Matthew Niemiller, Kim Duong, Catherine Linnen

10:45 Phylogenomics and biogeography of a rapid radiation of crocidurine shrews across the Philippines
Thomas Giarla, Jacob Esselstyn

11:00 Anchored phylogenomics and transcriptomics: comparisons between two next-gen data sets used for estimating deep-level relationships in Lepidoptera
Jesse Breinholt, Alan Lemmon, Emily Lemmon, Akito Kawahara

11:15 Rapid phylogeny construction from next-gen sequencing data
Rachel Schwartz, Reed Cartwright

2B_306B Methodology (Contributed Talks)

Room: 306 B Chair: Chris Nasrallah

10:15 Determining orthology using identity thresholds reduces the comparability of genomic datasets
Michael Harvey, Robb Brumfield

10:30 Temporal scaling of spontaneous mutation rates: implications for the neutral theory of molecular evolution
Philip Gingerich

10:45 Teams of Transcription Factors are rewired in the evolution of Ascomycota fungi
Adriana Munoz

11:00 Detecting concerted demographic history using hierarchical approximate Bayesian computation
Yvonne Chan, Michael Hickerson

11:15 A general nonparametric method for correcting the allele frequency spectrum for misidentified ancestral states
Chris Nasrallah, Alexander Griffing, Jeffrey Thorne

2B_306C Phylogenetic Systematics (Contributed Talks)
Room: 306 C Chair: Francois Michonneau

10:15 Diversification of seepage salamanders across a complex geologic landscape
David Beamer, Sean Graham

10:30 Evolution of a troglobitic salamander, Eurycea spelaea
John Phillips, Sarah Emel, Dante Fenolio, Ronald Bonett

10:45 Phylogeographic analysis of the polytypic Red-crowned Ant Tanager Habia rubica (Cardinalidae) at a continental scale
Pablo Lavinia, Natalia Garcia, Patricia Escalante, Natalia Trujillo-Arias, Kazuya Naoki, Cristina Miyaki, Fabricio Santos, Pablo Tubaro, Dario Lijtmaer

11:00 RAD-Seq-based phylogenetics of New World oaks (Quercus L.)
John McVay, Andrew Hipp, Paul Manos

11:15 Cryptic and not-so-cryptic species complexes in sea cucumbers reveal rapid rates of secondary sympatry
Francois Michonneau, Gustav Paulay

Sunday June 22, 1:30 - 2:45 PM

2C_201 Experimental Evolution (Contributed Talks)
Room: 201 Chair: Matthew Schrader

1:30 Whole genome resequencing of experimental lineages of Drosophila melanogaster exposed to chronic larval malnutrition for over 150 generations
R. Craig Stillwell, Tadeusz Kawecki

1:45 Male-limited evolution shapes sexual dimorphism in longevity
Hwei-yen Chen, Alexei Maklakov

2:00 Conflict increases cooperation between microbial species
William Harcombe

2:15 Evolution of ecological dominance of yeast species in high-sugar environments
Kathryn Williams, Justin Fay

2:30 Experimental removal of parental care leads to the evolution of reduced offspring dependence in the burying beetle, Nicrophorus vespilloides
Matthew Schrader, Benjamin Jarrett, Rebecca Kilner

2C_206 Phylogenetics and Phylogeography (Contributed Talks)
Room: 206 Chair: Kathryn Picard

1:30 Gymnosperm plastomes reveal rampant rearrangements and the retention of ndh pseudogenes in the Pinaceae
Stacey Thompson

1:45 Tracing the dispersal of the baobab Adansonia digitata (Malvaceae: Bombacoideae) from Africa to the Indian Ocean region: An interdisciplinary approach
Karen Bell

2:00 Exon capture phylogenomics of Australian skinks
Jason Bragg, Sally Potter, Craig Moritz

2:15 Using genome-wide RAD markers to resolve character evolution and species history in Nymphalid butterflies
Emily Ebel, Sean Mullen

2:30 Pyrosequencing of surface waters in the English Channel reveals novel early-diverging fungal diversity
Kathryn Picard, Rowena Stern

2C_301A Disease and Resistance (Contributed Talks)
Room: 301 A Chair: Jessie Abbate

1:30 It all adds up: The genetics of thermal reaction norm variation for antibiotic resistance
Jennifer Knies, Angus Angermeyer, Daniel Weinreich

1:45 Immune memory drives the evolution of virulence in an emergent wildlife pathogen
Paul Williams

2:00 Rate of resistance evolution in long- and short-lived hosts
Emily Bruns, Michael Hood, Janis Antonovics

2:15 Genomic Variations Associated with Gonococcal Antimicrobial Resistance
Jeanine Abrams McLean, Carroll Serena, Mike Frace, Steven Johnson, David Trees

2:30 Elevational disease distribution in a natural plant pathogen system: Insights from genetic variation in resistance and morphology.
Jessie Abbate

2C_301B Adaptation (Contributed Talks)
Room: 301 B Chair: Marketa Zimova

1:30 Context-dependent effects of sampling design and demographic history on genome scans for local adaptation
Katie Lotterhos, Michael Whitlock

1:45 Constraints on speciation and local adaptation: On the role of variable selection acting among adaptive traits.
Aaron Comeault

2:00 Evidence for rapid adaptation to an environmental contaminant in a model songbird
Claire Ramos, John Swaddle, Daniel Cristol

2:15 Functional analysis of adaptive evolution of ADH in Drosophila
Mohammad Siddiq, Lora Picton, Joe Thornton

2:30 Climate change and the high fitness costs of seasonal camouflage mismatch in snowshoe hares
Marketa Zimova, L. Scott Mills, J. Josh Nowak

2C_302A Plant Evolution (Contributed Talks)
Room: 302 A Chair: Michael McKain

1:30 Direct and correlated responses to artificial selection for herbicide resistance in Ipomoea purpurea: Divergence in traits and the transcriptome
Regina Baucom, Trent Leslie

1:45 The impact of inbreeding depression on the evolution of herbicide resistance in the agricultural crop weed, Ipomoea purpurea
Anneka Jankowiak, Regina Baucom

2:00 Male-driven evolution of self-compatibility in diploid and polyploid Arabidopsis
Kentaro Shimizu, Chow Lih Yew, Takashi Tsuchimatsu, Timothy Paape, Rie Shimizu-Inatsugi

2:15 Plant defenses in the genus Physalis are not constrained by trade-offs between constitutive and induced defenses
Deidra Jacobsen

2:30 Allopolyploidy, diversification, and the Miocene grassland expansion
Michael McKain, Matt Estep, John Hodge, Trevor Hodkinson, Daniel Layton, Simon Malcomber, Remy Pasquet, Dilys Vela, Jinshun Zhong, Elizabeth Kellogg

2C_302B Trait Evolution (Contributed Talks)
Room: 302 B Chair: Arild Husby

1:30 Local adaptation in herbivore feeding preferences: a marine-terrestrial contrast
Erik Sotka

1:45 Asymmetric mismatch in secondary genital morphology increases harm to Drosophila females
J.P. Masly, Yoshitaka Kamimura

2:00 'Engine for speciation'? Experimental alteration of sexual conflict shows evidence of reproductive isolation in Drosophila Melanogaster.
Zeeshan Syed, Martik Chatterjee, N.G PRASAD

2:15 The Contribution of Rare and Common Variants to Standing Variation for Quantitative Traits in Capsella grandiflora
Young Wha Lee, Emily Josephs, John Stinchcombe, Stephen Wright

2:30 Genome Wide Association Mapping to examine genetic basis of quantitative traits in natural populations
Arild Husby

2C_302C Sexual Selection (Contributed Talks)
Room: 302 C Chair: Danielle Edwards

1:30 Sexual selection impedes ecological specialization
Karin Pfennig, Cody Porter, David Pfennig

1:45 Causes of Rapid Divergence of Female Genital Morphology in Bahamas Mosquitofish (Gambusia hubbsi)
Christopher Anderson, Justa Heinen-Kay, Brian Langerhans

2:00 Comparative analyses of biomechanical reproductive traits in harvestmen support intersexual coevolution via simultaneous mechanisms
Mercedes Burns, Jeffrey Shultz

2:15 Battle of the sexes: may the best fly win in reproduction
Trinh Nguyen, Amanda Moehring

2:30 Ecological divergence, adaptive radiation and the evolution of sexual signaling traits in a complex of Australian agamid lizards
Danielle Edwards, Jane Melville, Leo Joseph, Scott Keogh

2C_303 Macroevolution (Contributed Talks)
Room: 303 Chair: Christopher Muir

1:30 How is geographic variation within species related to macroevolutionary patterns between species?
M. Caitlin Fisher-Reid, John Wiens

1:45 A Nearly Neutral Theory of Ecology and Macroevolution
James Rosindell, Rampal Etienne, Luke Harmon

2:00 The vanishing refuge revisited
Roberta Damasceno, Maria Strangas, Ana Carolina Carnaval, Miguel T Rodrigues, Craig Moritz

2:15 Big groups, bad eggs and biogeography: regional and global patterns of brood parasitism's effect on cooperative breeding
Michael Wells, F. Keith Barker

2:30 Connecting macroevolution to the genetics of adaptation: a case study using stomatal ratio
Christopher Muir, James Pease, Leonie Moyle

2C_304 Insect Evolution (Contributed Talks)
Room: 304 Chair: Daniel Smith

1:30 Divergence in life-cycle associated with variation in circadian genes in the European corn borer
Genevieve Kozak, Rebecca Levy, Brad Coates, Erik Dopman

1:45 Genome-wide rates of molecular evolution are higher in mutualistic plant-nesting ants
Benjamin Rubin, Corrie Moreau

2:00 Differential expression of carotenoid biosynthesis genes may underlie function in gall midges
Cassidy Cobbs, Patrick Abbot, Jeremy Heath, John Stireman

2:15 The Diversification of Insects, a phylogenetic perspective
James Rainford

2:30 Life history response to juvenile stress in Apis mellifera
Daniel Smith, Olav Rueppell, Juan Collazo, Babak Yousefi

2C_305A Mutation (Contributed Talks)
Room: 305 A Chair: Charles Baer

1:30 The effect of genetic quality on the mutation rate, estimated from genome sequences of mutation accumulation lines
Nathaniel Sharp, Aneil Agrawal

1:45 The role of induced mutations as steps toward a Fisherian optimum in Arabidopsis thaliana under field conditions
Frank Stearns, Charlie Fenster

2:00 Patterns of amino acid sequence evolution across various time scales in the mitochondrial genomes of sexual and asexual snails
Joel Sharbrough, Meagan Luse, Jeffrey Boore, John Logsdon, Maurine Neiman

2:15 Redefining the context in context-dependent mutation
Premal Shah, Arjun Krishnan, Michael Gilchrist, Joshua Plotkin

2:30 Susceptibility of Caenorhabditis elegans to a bacterial pathogen is a typical quantitative trait with an atypical mutational bias
Veronique Etienne, Erik Andersen, Charles Baer

2C_305B Genomics (Contributed Talks)
Room: 305 B Chair: Kritika Garg

1:30 Adapterama @ BadDNA.org - DNA sequencing sample prep for Illumina instruments made easy (amplicons, RADseq, sequence capture & genomes)
Travis Glenn, Brant Faircloth, Troy Kieran, Todd Pierson, John Finger

1:45 Transposable element and genome size evolution in sexual and functionally asexual evening primroses
Arvid Ågren, Jesse D Hollister, Marc Johnson, Stephen Wright

2:00 Genome evolution and transposable element dynamics in wild sunflower species
Hannah Tetreault, Mark C Ungerer

2:15 Studying genetic variation in three species of sapsuckers using next generation sequencing
Ashley Curtis, Theresa Burg

2:30 Paternity in the NGS era
Kritika Garg, Balaji Chattopadhyay, Uma Ramakrishnan

2C_306A Phylogenies and Phylogenetics (Contributed Talks)
Room: 306 A Chair: Andreas Baxevanis

1:30 Early Evolution of the Genetic Basis for Soma in the Volvocine Green Algae
Erik Hanschen, Patrick Ferris, Bradley Olson, Richard Michod

1:45 Phylogeny and biogeography of two North American lamioid mint lineages (Lamiaceae)
Tilottama Roy, Charlotte Lindqvist

2:00 An integrated phylogenomic approach toward pinpointing the origin of mitochondria
Martin Wu

2:15 Phylogenetic position of the enigmatic order Palmophyllales (Chlorophyta): independent evolution of multicellularity in deep water
Ana Tronholm, Frederik Leliaert, Juan Lopez-Bautista CANCELLED

2:30 The genome of the ctenophore Mnemiopsis leidyi: bringing resolution to the phylogenetic position of the ctenophores
Joseph Ryan, Christine Schnitzler, Evan Maxwell, Kevin Pang, Warren Francis, Stephen Smith, Tyra Wolfsberg, James Mullikin, Steven Haddock, Casey Dunn, Mark Martindale, Andreas Baxevanis

2C_306B Methodology (Contributed Talks)
Room: 306 B Chair: Mario dos Reis

1:30 Improving model-based phylogeographic inference by developing new spatially-explicit summary statistics
Diego Alvarado-Serrano, Michael Hickerson

1:45 Inferring Very Recent Population Growth Rate from Population-Scale Sequencing Data Using a Large-Sample Coalescent Estimator
Hua Chen, Kun Chen, Jody Hey

2:00 Simulation tests of probabilistic models for historical biogeography: DEC and DEC+J
Nicholas Matzke

2:15 Extending BAMM: a computer program for analyzing complex macroevolutionary dynamics on phylogenetic trees
Carlos Anderson, Dan Rabosky

2:30 The Impact of the Rate Prior on Bayesian Estimation of Divergence Times with Multiple Loci
Mario dos Reis, Tianqi Zhu, Ziheng Yang

2C_306C Phylogenetic Systematics (Contributed Talks)
Room: 306 C Chair: Sean Beckmann

1:30 Phylogenomics of deep-sea octocorals: new approaches to solve long-standing problems
Santiago Herrera, Timothy Shank

1:45 Genome-wide RAD data yields fine resolution species relationships in embiotocid surfperches
Gary Longo

2:00 Convergence of nodes and internodes: Assessing the monophyly of bamboo corals (Cnidaria, Octocorallia, Isididae) and their diversity in the deep sea
Esprit Heestand Saucier, Les Watling, Scott France

2:15 The Ruby Seadragon, a spectacular new species of seadragon (Syngnathidae)
Josefin Stiller, Greg Rouse, Nerida G. Wilson

2:30 Assessing the intraspecific systematics of the Cotton Mouse, Peromyscus gossypinus, using a highly variable region of the mitochondrial genome
Sean Beckmann

Sunday June 22, 3:15 - 4:30 PM

2D_201 Fitness and Selection (Contributed Talks)
Room: 201 Chair: Amber Markowicz

3:15 Population-genomic correlates of inbreeding depression in outcrossing Caenorhabditis species
Luke Noble, Matthew Rockman, Annalise Paaby, Max Bernstein, M. Victoria Cattani, Taniya Kaur

3:30 Conserving genomic variability in amphibians: estimating effective population size and population growth trends
Schyler Nunziata, Stacey Lance, David Scott, David Weisrock

3:45 Demographic inference and genetic diversity in isolated urban and rural populations of white-footed deermice in New York City
Stephen Harris, Jason Munshi-South

4:00 Genomic differences reflect fitness over a small-scale thermal gradient in reef-building corals
Rachael Bay, Stephen Palumbi

4:15 Clonal Selection in a Unisexual Vertebrate
Amber Makowicz, Ingo Schlupp

2D_206 Deep Time (Contributed Talks)

Room: 206 Chair: Liliana Davalos

3:15 Morphological Diversity Patterns of Mammals Prior to the K-Pg Extinction Event
David Grossnickle

3:30 Measuring phylogenetic conservatism of extinction in vertebrates: deep-time signals and methods
Laura Soul, Matt Friedman

3:45 Cenozoic mammals and the biology of extinction
Peter Smits

4:00 Ants in the age of dinosaurs: a history from amber
Phil Barden

4:15 Biting into it: Occlusion and development force correlations and anticorrelations in dental characters
Liliana Davalos, Omar Warsi, Edward Li, Samuel Gochman, Nancy Simmons, Paul Velazco

2D_301A Viral/Microbial Evolution (Contributed Talks)

Room: 301 A Chair: Siobhan Watkins

3:15 Global Influenza A/H3N2 Migration under Changing Prevalence throughout the Year
Daniel Zinder, Mercedes Pascual

3:30 Host range expansion of MERS-Coronavirus and the permissivity of receptor orthologs
Kayla Peck, Adam Cockrell, Boyd Yount, Trevor Scobey, Ralph Baric, Mark Heise

3:45 Spatial variation of microbial communities in the gastrointestinal tract of natural populations of house mice
Taichi Suzuki, Michael Nachman

4:00 Cyanobacterial host response to infection by a novel cyanopodophage, and inferred co-evolutionary interactions in the environment
Siobhan Watkins, Catherine Putonti

2D_301B Convergent Evolution (Contributed Talks)

Room: 301 B Chair: Charles Watson

3:15 Macroevolution, phylomorphospace and directional evolution in burrowing scallops
Emma Sherratt, Dean C. Adams, Jeanne M. Serb

3:30 The evolution of phenotypic convergence in fishes of the lower Congo River
Liz Alter

3:45 Tremendous tenrecs: curious convergence and distinctive disparity
Sive Finlay, Natalie Cooper

4:00 “All roads lead to Rome” in the development of a vestigial eye: Convergent evolution between Eurycea rathbuni and Astyanax mexicanus
Ruben Tovar, Dana Garcia

4:15 Convergent evolution of the conspicuously colored tail in lizards: implications for the evolution of color signals
Charles Watson, Christopher Buttermore, Christian L Cox

2D_302A Plant Evolution (Contributed Talks)

Room: 302 A Chair: Joe Hereford

3:15 The dynamics of autotetraploid formation in Arabidopsis arenosa
Brian Arnold

3:30 Evolution of petal fusion in asterids core eudicots
Jinshun Zhong, Stacy Jorgensen, Sarah Powell, Beck Powers, Jill Preston

3:45 Assessing the Polyploid origin of the genus Erythrina (Fabaceae)
Ashley N Egan, Jeff J. Doyle

4:00 Evolution of tomato fruit ripening traits
Ian Gillis

4:15 Genetic variation for photosynthetic traits within and among populations of the C3-C4 intermediate Mollugo verticillata.
Joe Hereford

2D_302B Trait Evolution (Contributed Talks)
Room: 302 B Chair: Noah Snyder-Mackler

3:15 Host birds combat cuckoo mimicry by evolving recognizable egg pattern signatures
Mary Stoddard, Rebecca Kilner, Christopher Town

3:30 The geographical and community context of mutualism dynamics: fig-pollinator-parasite interactions in the Sonoran Desert
John Nason

3:45 Genome-wide evidence of genetic associations in eclosion timing in Rhagoletis fruit fly host races
Peter Meyers, Scott Egan, Thomas Powell, Glen Hood, Meredith Doellman, Daniel Hahn, Jeffrey Feder, Gregory Ragland

4:00 Multicellular evolution in the volvocine algae evolved through genetic permanence of a predator evasion response in unicellular Chlamydomonas
Bradley Olson, Chris Berger, Sarah Cossey

4:15 Dispersal transiently alters the expression of immune-related genes in male rhesus macaques (Macaca mulatta)
Noah Snyder-Mackler, James Higham, Shauna Morrow, Sean Coyne, Dario Maestripieri, Jenny Tung

2D_302C Sexual Selection (Contributed Talks)
Room: 302 C Chair: Tony Wilson

3:15 Genomic evidence for reduced sexual selection in plumage-dichromatic birds
Huateng Huang, Dan Rabosky

3:30 Modality interactions alter call trait preferences in gray tree frogs
Gerlinde Höbel, Michael Reichert

3:45 Reassessing natural selection patterns and shapes in the wild: the case of an honest insect signal
Roberto Munguia-Steyer, Alex Córdoba-Aguilar, Alejandra Barceló-Atilano, Isaac González-Santoyo, Daniel González-Tokman

4:00 Love "bugs"? Exposure to parasites increases promiscuity in a freshwater snail
Deanna Soper, Curt Lively, Kayla King, Daniela Vergara

4:15 Sexual selection and the evolution of the Major Histocompatibility Complex
Tony Wilson, Angela Bahr, Maciej Ejsmond, Jacek Radwan

2D_303 Speciation and Divergence (Contributed Talks)
Room: 303 Chair: Jeffrey Streicher

3:15 Identifying Drivers of Island Speciation on an Ancient Tropical Island Using Next Generation Sequencing Data
Kyle O'Connell, Matthew Fujita, Eric Smith, Awl Riyanto, Nia Kurniawan

3:30 Locating a selection signature inside chromosomal rearrangements for tests of adaptive divergence in Anopheles gambiae
Qixin He, L. Lacey Knowles

3:45 Wallace under scrutiny: role of the fluvial barriers in the diversification of Amazonian Amphibians
Santiago Ron, Marcel Caminer, Daniela Pareja, Daniel Rivadeneira

4:00 Investigating modes of speciation in trans-Isthmian fishes
Hannah Owens

4:15 Divergent and geographically distinct mitochondrial lineages occur despite apparent nuclear gene flow in the Texas Coralsnake, Micrurus tener
Jeffrey Streicher, Eric Smith, Todd Castoe

2D_304 Insect Evolution (Contributed Talks)

Room: 304 Chair: Michael Simone-Finstrom

3:15 Utilizing genotyping-by-sequencing to elucidate Neotropical army ant evolution
Max Winston, Daniel Kronauer, Corrie Moreau

3:30 A new method of colour pattern analysis helps explain the existence of inaccurate mimics in an insect community
Christopher Taylor, Tom Reader, Francis Gilbert

3:45 Timing the diversification of the Amazonian biota: butterfly divergences are consistent with Pleistocene refugia
Ivonne Garzon, Jennifer Benetti-Longhini, Andrew V.Z. Brower

4:00 The Co-evolution Between Mitochondrial and Nuclear Genes in Insects
Yiyuan Li

4:15 Social context of disease resistance: Interactions among social and individual immune defense mechanisms in honey bees
Michael Simone-Finstrom, David Tarpy

2D_305A Evolution of Regulatory Systems (Contributed Talks)

Room: 305 A Chair: Joseph Coolon

3:15 Transfer of Non-coding DNA Drives Regulatory Rewiring in Bacteria
yaara Oren

3:30 Modeling tumorigenesis in the intestinal crypt: The distribution of fitness effects in somatic tissue fundamentally alters tumor incidence curves.
Vincent Cannataro, Scott McKinley , Colette St. Mary

3:45 Epistatic interactions are prevalent in Drosophila 3'UTR evolution
Ying Zhen, Peter Andolfatto

4:00 Bioenergetics of transcription-factor evolution: pleiotropic constraint, compensation and a sweet spot for hybrid incompatibility
Sasha Tulchinsky, Norman Johnson, Adam Porter

4:15 Tempo and mode of regulatory evolution in Drosophila
Joseph Coolon, C. Joel McManus, Kraig Stevenson, Brenton Graveley, Patricia Wittkopp

2D_305B Genomics (Contributed Talks)

Room: 305 B Chair: Nicole Gerardo

3:15 Population genetic and genomic identification of locally adapted loci
Jeremy Yoder, Peter Tiffin

3:30 One-generation viability experiments have little power to detect selection in genome scans
David Hall

3:45 Snake genomes provide insight into the molecular evolutionary origins of a phenotypically distinct vertebrate clade
Todd Castoe, Jason de Koning, Daren Card, Drew Schield, Jacobo Reyes Velasco, Audra Andrew, Richard Adams, David Pollock

4:00 Genetic mapping of horizontal stripes in Lake Victoria cichlid fishes: benefits and pitfalls of using of dense linkage mapping using RAD markers
Frederico Henning, Hyuk Je Lee, Paolo Franchini, Axel Meyer

4:15 Genomic insights into a specialized pathogen of the fungus-growing ant symbiosis
Nicole Gerardo

2D_306A Phylogenies and Phylogenetics (Contributed Talks)

Room: 306 A Chair: Daniel Murphy

3:15 Small Genome Attraction Obfuscates Phylogenetic Signal
Jonathan Foox, Rob DeSalle, Mark Siddall

3:30 Assessing the utility of whole genome amplified DNA for next-generation phylogeography and population genomics
Christopher Blair, Christopher Campbell, Anne Yoder

3:45 Phylogenomics of Amphibia
Paul Hime, Emily Lemmon, Alan Lemmon, Brice Noonan, Scott Keogh, Stephen Donnellan, Alex Pyron, Rachel Mueller, David Green, David Weisrock

4:00 New phylogenetic tools for studying the phenotypic axis of diversification
Liam Revell

4:15 The evolution of Acacia and biogeographic connections of the Australian continent
Daniel Murphy, Joe Miller, Gillian Brown

2D_306B Methodology (Contributed Talks)
Room: 306 B Chair: John Stinchcombe

3:15 Species tree methods and ultraconserved elements (UCEs): a case study in galliform birds
Edward Braun, Kelly Meiklejohn, Rebecca Kimball, Brant Faircloth, Travis Glenn

3:30 Accounting for Horizontal Gene Transfer in Coalescent-based Phylogenetic Inference in Multi-locus Viral Genome Using a Pruning Algorithm
Arindam RoyChoudhury

3:45 Detecting Evolution in Action: Composite Likelihood Method for inferring Incomplete Selective Sweeps Using DNA Sequence Polymorphism
Thi Ha My Vy, Yuseob Kim

4:00 Public threshold game: a new game to model social behavior in animals
Masoud Mirmomeni, Arend Hintze, Eli Strauss, Christoph Adami

4:15 Estimating uncertainty in multivariate responses to selection
John Stinchcombe, Anna Simonsen, Mark Blows

2D_306C Methodology (Contributed Talks)
Room: 306 C Chair: Jason Cryan

3:15 Reliability of estimating phylogenies using quantitative characters
Ceferino Varón González, Simon Whelan, Chris Klingenberg

3:30 Bayesian inference of population sizes, migration rates and divergence times based on importance sampling of coalescent trees
Yujin Chung, Vitor Sousa, Jody Hey

3:45 The effects of partitioning on phylogenetic inference
David Kainer, Robert Lanfear

4:00 Clustering Genes by Phylogenetic Similarity
Kevin Gori

4:15 Relaxing the molecular clock to different degrees for different substitution types
Hui-Jie Lee, Nicolas Rodrigue, Jeffrey Thorne

Monday June 23, 8:15 - 9:45 AM

3A_BalC ASN Solicited Symposium: Beyond reproductive isolation: microevolutionary controls on macroevolutionary speciation dynamics (Symposium)
Room: Ballroom C Chairs: Dan Rabosky, Daniel Matute

8:15 Reproductive isolation and the causes of speciation rate variation in nature
Dan Rabosky

8:45 Geographic range size and speciation
Kaustuv Roy, Emma Goldberg, Danwei Huang

9:15 Zen and the art of speciation
Erica Rosenblum

Monday June 23, 10:15 - 11:45 AM

3B_BalC ASN Solicited Symposium: Beyond reproductive isolation: microevolutionary controls on macroevolutionary speciation dynamics (Symposium)

Room: Ballroom C Chairs: Dan Rabosky, Daniel Matute

10:15 A twisted view of ecology and speciation
John Wiens

10:45 The genetic architecture of hybrid inviability in Drosophila
Daniel Matute

11:15 What can theoretical studies of microevolutionary speciation processes tell us about macroevolutionary patterns?
Maria Servedio

Monday June 23, 1:15 - 2:45 PM

3C_402 ASN Vice Presidential Symposium:Modern approaches to local adaptation (Symposium)

Room: 402 Chair: Michael Whitlock

1:15 Detecting the genes responsible for local adaptation
Michael Whitlock, Katie Lotterhos

1:45 Theoretical perspectives on local adaptation in heterogeneous environments
Florence Débarre

2:15 Reconciling population and quantitative genetic models of local adaptation: Critical assumptions about genetic architecture
Sam Yeaman

3C_BalC SSB Symposium: Phylogenomics, transcriptomics, and the evolution of gene expression (Symposium)

Room: Ballroom C Chairs: Chris Pires, Casey Dunn

1:15 Emerging methods in phylogenomics, transcriptomics, and the evolution of gene expression
J. Chris Pires

1:20 What can the evolution of gene expression tell us about the evolution of genomes and other phenotypes?
Casey Dunn

1:45 Transcriptomic fingerprints of development and circadian cycles in marine invertebrates
Ann Tarrant

2:15 Comparative Transcriptomics of Queen and Worker Castes in Hymenoptera
Ali Berens, James Hunt, Amy Toth

Monday June 23, 3:15 - 4:45 PM

3D_402 ASN Vice Presidential Symposium:Modern approaches to local adaptation (Symposium)

Room: 402 Chair: Michael Whitlock

3:15 Parallel evolution during local adaptation
Graham Coop, Peter Ralph

3:45 Clinal variation in adaptation to elevation in Boechera stricta (Brassicaceae), a perennial forb native to the Rocky Mountains
Jill Anderson, Tom Mitchell-Olds

4:15 Genomics of local adaptation in evolving populations of microbes
Rees Kassen, Susan Bailey, Alana Schick

3D_BalC SSB Symposium: Phylogenomics, transcriptomics, and the evolution of gene expression (Symposium)

Room: Ballroom C Chairs: Chris Pires, Casey Dunn

3:15 Identifying ancient polyploid events in angiosperms: a phylogenomic approach
Michael McKain, Haibao Tang, Alex Harkess, Saravanaraj Ayyapalayam, Jeff J. Doyle, Steven Cannon, J. Chris Pires, Jim Leebens-Mack

3:45 The Butterfly Plant Arms-Race Escalated via Gene and Genome Duplications
Patrick Edger, H.M. Heidel-Fischer, Michael Bekaert, Adrian Platts, Gavin Conant, Michael Barker, Michelle Tang, Eric Wafula, Josh Der, Claude dePamphilis, Stephen Wright, Thomas Bureau, Mathieu Blanchette, Jocelyn Hall, Ann Smithson, Johannes Hofberger, Eric Schranz, Heiko Vogel, Chris Wheat, J. Chris Pires

4:15 Increases in Plant Diversity Associated with Changes in Genome Composition and WGDs
Michael Barker, Emily Sessa

Monday June 23, 6:00 - 7:00 PM

3E_BalC ASN Presidential Address (Special Lecture)
Room: Ballroom C

Social selection and the evolution of color patterns
Trevor Price

Monday June 23, 8:30 - 9:45 AM

3A_201 Population Genetics (Contributed Talks)
Room: 201 Chair: Gregory Mayer

8:30 The impact of breeding protocol on inbreeding, genetic diversity, and adaptation to captivity as measured in experimental populations of deer mice
Janna Willoughby, Robert Lacy, J. Andrew DeWoody

8:45 Localized population samples reveal discordant patterns of genetic diversity among Mojave lizard species
Mike Hague, Eric Routman

9:00 ddRAD-seq analyses of population structure in brood parasitic indigobirds (Vidua spp.)
Jeffrey DaCosta, Christopher Balakrishnan, Jean-Bernard Dongmo, Michael Sorenson

9:15 Genetic population structure of Blanding's turtle (Emydoidea blandingii) in southeastern Wisconsin
Sean Murphy, Gregory Mayer

3A_206 Genetic Architecture (Contributed Talks)
Room: 206 Chair: Brian Davis

8:30 Male-beneficial genotypes harbor deleterious genetic architecture
Karl Grieshop, David Berger, Göran Arnqvist

8:45 Payoffs and Tradeoffs
Lindsey McGee, Darin Rokyta

9:00 Understanding epistasis and gene networks in complex traits: An analysis of aggression in a model system
John Shorter, Wen Huang, Trudy Mackay

9:15 Opposing genotype-by-environment interactions and the maintenance of a genetic color polymorphism in a livebearing fish
Zachary Culumber, Molly Schumer, Scott Monks

9:30 Comparative quantitative genetics of the pelvis in four species of rodents: Evolution of the genetic and phenotypic covariance structure
Carl Saltzberg, Lee Walton, Angel Spotorno, Laura Walker, Scott Steppan

3A_301A Phylogenetic Methods (Contributed Talks)
Room: 301 A Chair: Elizabeth Wade

8:30 Comparative methods for evaluating the evolutionary history of function-valued traits: a case study of salt tolerance in wild Helianthus (sunflowers)
Eric Goolsby

8:45 Use of principal component analysis in species delimitation leads to (precise?) underestimation of species numbers
Iván Jiménez, Dilys Vela, Felipe Zapata

9:00 Metrics for comparing the fit of time trees to the fossil record
Julia Clarke, Clint Boyd

9:15 Non-null effects of a null range: Exploring parameter estimation in the dispersal-extinction-cladogenesis model
Kathryn Massana, Jeremy Beaulieu, Brian O'Meara, Nicholas Matzke

9:30 Molecular species delimitation methods recover most song delimited cicada species in the European Cicadetta montana complex
Elizabeth Wade, Thomas Hertach, Chris Simon

3A_301B Methodology (Contributed Talks)
Room: 301 B Chair: Jeremy Brown

8:30 Open Tree of Life version 1.0: a comprehensive and easily-updated tree of life
Karen Cranston

8:45 Bayesian estimation of phylogenetic information content and its implications for site-stripping
Paul Lewis, Ming-Hui Chen, Lynn Kuo, Louise Lewis, Karolina Fucikova

9:00 Estimating Evolutionary Parameters and Full Length Haplotypes Simultaneously Using Short-Read Sequences Derived from Genetically Variable Populations
Steven Wu, Jeet Sukumaran, Yuantong Ding, Allen Rodrigo

9:15 Phylogenetic comparative biology and morphometrics collide: PIC, PGLS, and the challenge of high-dimensional data
Dean C. Adams

9:30 Using networks of topologies and bipartitions to explore, quantify, and summarize phylogenetic tree space
Jeremy Brown, Guifang Zhou, Wen Huang, Jeremy Ash, Melissa Marchand, Kyle Gallivan, James Wilgenbusch

3A_302A Selection and Fitness (Contributed Talks)
Room: 302 A Chair: Frank Shaw

8:30 The environmental determinants of natural selection
Christina Caruso, Ryan Martin, Nina Sletvold, Joel Kingsolver, Michael Wade, Kate Augustine, Stephanie Carlson, Andrew Maccoll, Adam Siepielski

8:45 Measuring pollinator-mediated selection with various fitness components: A review and a lesson from Linum pubescens
Yuval Sapir

9:00 Fluctuating selection in the field explains natural variation in Arabidopsis thaliana glucosinolate plant defense
Rachel Kerwin

9:15 “Fitness” has at least three incommensurable dimensions: growth, efficiency, and competitiveness
Joanna Masel

9:30 Fitness functions and distributions: the shape of things to come
Frank Shaw, Ruth Shaw

3A_302B Avian Evolution (Contributed Talks)
Room: 302 B Chair: Jonathan Mitchell

8:30 Avian evolutionary history in the southern Neotropics: complex and varied patterns of diversification
Dario Lijtmaer, Cecilia Kopuchian, Ana Barreira, Pilar Benites, Kevin Kerr, Kazuya Naoki, Gómez Isabel, Pablo Tubaro

8:45 Assembly of the New World oscine passerine fauna
F. Keith Barker

9:00 A reappraisal of the productivity hypothesis for North American bird assemblages
LuAnna Dobson

9:15 Rapid diversification and secondary sympatry in an island bird lineage (Aves: Todiramphus)
Michael Andersen, Robert Moyle

9:30 Early burst in ecological radiation of birds
Jonathan Mitchell

3A_302C Evolutionary Transitions (Contributed Talks)
Room: 302 C Chair: David Baum

8:30 Predator-induced facultative group formation in Chlamydomonas depends on life history traits and the groups can be chimaeric.
Santosh Sathe, Pierre Durand

8:45 Scaffolding the origin of multicellular evolvability
William Ratcliff, Johnathon Fankhauser, David Rogers, Duncan Greig, Michael Travisano

9:00 The evolution of multicellularity as a key innovation for adaptive radiation in experimental microcosms
Maria Rebolleda Gomez, William Ratcliff, Johnathon Fankhauser, Michael Travisano

9:15 The evolution of life cycle gene expression in the Volvocine algae: toward a molecular understanding of multicellular evolution
Tara Marriage, Bradley Olson

9:30 An inside-out origin of the eukaryotic cell
David Baum, Buzz Baum

3A_303 Phylogenomics (Contributed Talks)
Room: 303 Chair: Christopher Balakrishnan

8:30 Method to identify small-scale gene transpositions in rearranged genomes.
Mira Han

8:45 Caught in the Crossfire: Genes tangled up in host-mediated transposable element defense
Alexandra Erwin, Mauricio Galdos, Justin Blumenstiel

9:00 Ancient duplication of vomeronasal receptor class 1 (V1R) genes in lemurs
Anne Yoder, Peter Larsen, Mario dos Reis, Lauren Chan, Christopher Campbell, Joseph Bielawski, Ziheng Yang

9:15 Whole Genome Sequence of the Behaviorally Polymorphic White-Throated Sparrow 1: Mapping Genes for Socio-genomics
Elaina Tuttle, Marisa Korody, Teri Lear, Rusty Gonser, Marlys Houck, Oliver Ryder, Michael Romanov, Christopher Balakrishnan, Alan Bergland, Wesley Warren

9:30 Whole Genome Sequence of the Behaviorally Polymorphic White-Throated Sparrow 2: Population Genomics
Christopher Balakrishnan, Alan Bergland, Rusty Gonser, Wesley Warren, Daniel Newhouse, Elaina Tuttle

3A_305A Climate and Evolutionary Change (Contributed Talks)
Room: 305 A Chair: Joseph Bernardo

8:30 Climate variability may limit evolutionary adaptation to climate change in montane and alpine butterflies
Joel Kingsolver, Lauren Buckley

8:45 Physiological adaptation of thermal sensitivity of Colias larvae in response to climate change
Jessica Higgins, Heidi MacLean, Joel Kingsolver, Lauren Buckley

9:00 • Modeling and detecting biological responses to climate changeweather variability using first-principles of physiology and estimates of food resource
Catherine Graham, Susan Wethington, Donald Powers, Pieter Beck, Scott Goetz

9:15 Genomics of adaptation to altitude in Mus musculus
Felipe Martins, Ke Bi, Sara M. Keeble, Jeffrey M. Good, Michael Nachman

9:30 Target Enrichment of Ultraconserved Elements in Sky Island Frogs of the Brazilian Atlantic Rainforest
Marcio Pie, Marcos Ricardo Bornschein, Luiz Fernando Ribeiro, Brant Faircloth, John McCormack

3A_305B Invasion and Evolution (Contributed Talks)
Room: 305 B Chair: Edward Levri

8:30 The Trojan Female Technique – A novel approach for pest population control
Neil Gemmell

8:45 Baker's General Purpose Genotype: Are highly tolerant weeds also the most fit?
Lindsay Chaney, Regina Baucom

9:00 Comparative QTL mapping, population genetics, and the parallel evolution of weedy rice
xinshuai qi, Kenneth Olsen

9:15 The origin of south Asian red rice and weed competitiveness
Zhongyun Huang

9:30 Clonal genotype influences behavior and response to predators in invasive New Zealand mud snails (Potamopyrgus antipodarum)
Edward Levri, T.J. Clark, Brittany Smith, Sarah Landis

3A_306A Trait Evolution (Contributed Talks)
Room: 306 A Chair: Thomas Stewart

8:30 Shade avoidance and Brassica rapa leaf development: Bayesian modeling and QTL analysis allows for predicting phenotypes from genotypes
Robert Baker, Leong Wen Fung, Marcus Brock, Matthew Rubin, Stephen Welch, Cynthia Weinig

8:45 Evolution of leaf defenses in relation to environment and leaf economics across the genus Helianthus
Chase Mason, Lisa Donovan

9:00 A within-species comparative method reveals reproductive character displacement to a geographic mosaic of interspecific interactions
Deren Eaton, Richard Ree

9:15 Fins as highly integrated building blocks promoting fish morphological disparity
Olivier Larouche, Richard Cloutier, Miriam L. Zelditch

9:30 The evolutionary origin and development of adipose fins, exploring novelty in vertebrate appendages
Thomas Stewart, Melina Hale

3A_306B Sexual Selection (Contributed Talks)
Room: 306 B Chair: Ingo Schlupp

8:30 The role of selection in the rapid evolution of reproductive genes: are we using the correct null hypothesis?
Amy Dapper, Michael Wade

8:45 Sexual selection and sperm competition in a widespread dung fly, Sepsis punctum (Diptera: Sepsidae)
Nalini Puniamoorthy, Scott Pitnick

9:00 Partitioning additive and nonadditive genetic effects on offspring quality in a broadcast spawning marine invertebrate
David Aguirre

9:15 Shifting lines in the sand: determinants of spatiotemporally dynamic opportunities for sexual selection in a polygynous mammal
Jeff Manning, Philip McLoughlin

9:30 The evolutionary importance of male and mutual mate choice
Ingo Schlupp

3A_306C Transcriptomes and Adaptation (Contributed Talks)
Room: 306 C Chair: Brook T. Moyers

8:30 Comparative transcriptomics identifies the gene repertoires underlying functional differentiation of spider silk glands
Nadia Ayoub, Thomas Clarke, Jessica Garb, Cheryl Hayashi

8:45 Spider Transcriptomes Identify Ancient Large-Scale Gene Duplication Event and its Role in Silk Gland Evolution
Thomas Clarke, Nadia Ayoub, Jessica Garb, Robert Haney, Cheryl Hayashi

9:00 Natural selection maintains high diversity in candidate genes underlying local adaptation to climate: evidence from whole-transcriptome sequencing
Paul Gugger, Shawn Cokus, Juan Manuel Peñaloza Ramírez, Victoria Sork

9:15 The genomics of adaptation and divergence in a wild sunflower
Brook T. Moyers, Loren H. Rieseberg

3A_402 Symbiosis (Contributed Talks)
Room: 402 Chair: Martin Ryberg

8:30 Facultative endohyphal bacterial symbionts alter phenotypes of fungal endophyte hosts
Kayla Arendt, David Baltrus, A Elizabeth Arnold

8:45 Asymmetric host resources affect mycorrrhizal responses to host relatedness
Amanda File, John Klironomos, Susan Dudley

9:00 An Investigation of Bacterial and Fungal Symbionts of the Planthoppers (Hemiptera: Fulgoroidea)
Julie Urban, Jason Cryan

9:15 Disentangling the coevolutionary histories of animal gut microbiota
Jon Sanders, Nathaniel Bresnick, Aaron Behr, Corrie Moreau, Daniel Kronauer, Naomi Pierce

9:30 Where are all old fungal ectomycorrhizal lineages?
Martin Ryberg

Monday June 23, 10:15 - 11:30 AM

3B_201 Evolution of Complexity (Contributed Talks)
Room: 201 Chair: Weilong Hao

10:15 Coevolution of Complexity as Seen by a Digital Host's Adaptive Landscape
Luis Zaman

10:30 Extending the concept of diversity partitioning to characterize phenotypic complexity
Zachary Marion, James Fordyce, Ben Fitzpatrick

10:45 The evolution of placentae; complex trait evolution can be constrained by ancient features of an organism's genome
Oliver Griffith, Matthew Brandley, Katherine Belov, Michael Thompson

11:00 Ribozyme plasticity and molecular trade-offs can account for increasing complexity and network stability at the origin of life.
Nisha Dhar, Marco Weinberg, Richard Michod, Pierre Durand

11:15 Horizontal transfer and size evolution in yeast mitochondrial genomes
Weilong Hao

3B_206 Evolution on Islands (Contributed Talks)
Room: 206 Chair: Jeremy Beaulieu

10:15 Structure of geno- and phenotypic variation in a radiation of island amphibians
Simon Maddock

10:30 The phylogeography of Peromyscus maniculatus across the northern California Channel Islands
Paul Durst, V. Louise Roth

10:45 Resolving the complex evolutionary history of a Philippine songbird with genome-wide markers
Peter Hosner

11:00 Ecological Correlates of Body Size Change in Island Populations of Wild House Mice
Lauren Brooks, Bret Payseur, John Orrock

11:15 Estimating how contemporary taxa will evolve in the future to understand how island communities were assembled in the past
Jeremy Beaulieu, Brian O'Meara

3B_301B Methodology (Contributed Talks)
Room: 301 B Chair: Daisie Huang

10:15 AVAToL microbial phenomics: An ontology and natural language processing tools to facilitate trait evolution studies for the archaeal domain of life
Carrine Blank, Hsin-Hui Wu, Hong Cui, Lisa Moore, Gordon Burleigh, Jing Liu, Gail Gasparich

10:30 Billion year old rate shifts in microbial evolution
Josef Uyeda, Carrine Blank, Lisa Moore, Luke Harmon

10:45 Transformation of Taxonomic Literature to a Taxon-Character Matrix for Phylogenetics
Carmen Lorena Endara, Gordon Burleigh, Hong Cui, Jing Liu, Nathalie Nagalingum

11:00 aTRAM - automated Target Restricted Assembly Method: A fast method for assembling genes from massively parallel sequence data
Julie Allen, Daisie Huang, Quentin Cronk, Kevin Johnson

11:15 Assembling genes without genomes: phylogenomic exploration within the family Salicaceae
Daisie Huang, Julie Allen, Quentin Cronk, Kevin Johnson, Carl Douglas

3B_302A Speciation (Contributed Talks)
Room: 302 A Chair: Jeffrey Peters

10:15 Ecological genomics of incipient speciation in Mimulus aurantiacus
Matt Streisfeld, Sean Stankowski

10:30 Phenotypic and ecological divergence between closely-related and reproductively isolated sympatric species of Mimulus
Katherine Toll, John Willis

10:45 Patterns of introgression between sympatric Mimulus species divergent for flowering phenology and mating system
Amanda Kenney, Andrea Sweigart

11:00 Correlated selection by pollinators generates strong premating isolation across a hybrid zone
Sean Stankowski, Matt Streisfeld, James Sobel

11:15 Genomic discord at different stages of divergence with gene flow in six lineages of Holarctic ducks
Jeffrey Peters, Kevin McCracken, Kevin Winker

3B_302B Phylogeography (Contributed Talks)
Room: 302 B Chair: Bernt-Erik Saether

10:15 Estimating gene flow directionality and demography of western Atlantic Syngnathidae with population genomic RADseq data
J.T. Boehm, John Robinson, Nathan Putman, Michael Hickerson

10:30 Comparative Phylogeography of Lizards from the Brazilian Cerrado
Fabricius Domingos, Guarino Colli, Alan Lemmon, Emily Lemmon, Luciano Beheregaray

10:45 Using the multi-species allele frequency spectrum (msAFS) for next-generation comparative phylogeography
Alexander Xue, Michael Hickerson

11:00 Assessing GIS estuarine habitat predictions with a new statistical approach for genetic signatures of postglacial recolonization
Greer Dolby, David Jacobs

11:15 Do ecological communities co-diversify? An investigation into the Sarracenia alata pitcher plant system
Jordan Satler, Bryan Carstens

3B_302C Phylogenetics and Population Genetics (Contributed Talks)
Room: 302 C Chair: Melissa Hawkins

10:15 Impact of ascertainment bias on phylogenetics of foodborne pathogen outbreaks
Emily Jane McTavish, Marc Allard, Ruth E Timme

10:30 Impacts of Individual Loci on Species Tree Inference: An Empirical Example from Slender Salamanders (Batrachoseps)
Elizabeth Jockusch, Iñigo Martínez-Solano, Elizabeth Timpe

10:45 Using transcriptomes for functional phylogenomic studies: promises and pitfalls
Ya Yang, Stephen Smith

11:00 Performance and utility of Single Nucleotide Polymorphisms (SNPs) in fine scale population study
Eugenia Lo, Mariangela Bonizzoni, Anthony James, Elizabeth Hemming, Yaw Afrane, Andrew Githeko, Guiyun Yan

4:15 Influence of mating system on genome evolution in Caenorhabditis
Janna Fierst, John Willis, Rose Reynolds, Timothy Ahearne, Cristel Thomas, Wei Wang, Kristin Sikkink, Asher Cutter, Patrick Phillips

3B_303 Gene Expression (Contributed Talks)
Room: 303 Chair: Emily Landeen

10:15 Investigation of gene expression variation within the Yellowstone National Park gray wolf population using RNA-Seq
Pauline Charruau, Rachel Johnston, Amanda Lea, Noah Snyder-Mackler, Dan Stahler, Bridgett vonHoldt, Jenny Tung, Robert Wayne

10:30 Using NGS to investigate differentially expressed genes and SNPs between closely related tephritid fruit flies, Anastrepha fraterculus and A. obliqua
Carlos Congrains, Victor Rezende, Iderval Sobrinho Jr, Samira Chahad-Ehlers, Reinaldo de Brito

10:45 Association mapping reveals the evolutionary forces maintaining genetic variation for gene expression.
Emily Josephs, Young Wha Lee, John Stinchcombe, Stephen Wright

11:00 Co-Option of an RNA-Binding Protein in the Translational Regulation of a Hypervariable Vertebrate Pheromone, Plethodontid Modulating Factor
Damien Wilburn, Richard (Rick) Feldhoff

11:15 X-linked regulation in the Drosophila male germline
Emily Landeen

3B_305A Understanding Genomes (Contributed Talks)
Room: 305 A Chair: Joanna Rifkin

10:15 The Genome Sequence of a Widespread Apex Predator, the Golden Eagle (Aquila chrysaetos)
Jacqueline Doyle, Yanzhu Ji, Bhagya Wijayawardena, J. Andrew DeWoody, Todd Katzner, Pete Bloom

10:30 Capturing highly divergent regions in genomes: Next-Gen Sequencing and why “false positives” might be exactly what you are looking for.
Martine Zilversmit, Sebastian Gurevich, Gordon Bullen, Sethu Nair, Sittiporn Pattaradilokrat, Yanwei Qi, Jian Li, Xin-zhuan Su

10:45 Comparative genomics and transcriptomics of the New Zealand Giant Weta
Victoria Twort, Richard Newcomb, Howard Ross, Thomas Buckley

11:00 Understanding genome evolution in the dogwood genus Cornus L. (Cornaceae) from analyses of transcriptome sequences
Yan Yu, Jenny Xiang, Baohua Song, Paul Manos

3B_305B Experimental Evolution (Contributed Talks)
Room: 305 B Chair: Michael Wiser

10:15 Experimental evolution to domesticate a filamentous multicellular fungus yields diverse novel phenotypes
Alexis Powell, Hui Lin, Romas Kazlauskas, Michael Travisano

10:30 Genome-Wide Convergence with Repeated Evolution in Drosophila melanogaster.
Joseph Graves, Michael Rose, Lee Greer, Laurence Mueller, Larry Cabral, Molly Burke, Mark Phillips, Mira Han, Kate Hertweck

10:45 Adaptation of a freshwater alga to marine conditions in the laboratory
Josianne Lachapelle, Nick Colegrave, Graham Bell

11:00 Inferring allele frequency trajectories of experimentally evolved Drosophila populations with Gaussian process models
Agnes Jonas, Hande Topa, Antti Honkela, Carolin Kosiol, Robert Kofler

11:15 Analysis of variance in fitness over 50,000 generations in an evolution experiment
Michael Wiser, Noah Ribeck, Richard Lenski

3B_306A Selfing and Outcrossing (Contributed Talks)

Room: 306 A Chair: Ramesh Arunkumar

10:15 Impact of self-fertilization on fecundity, the timing of reproduction, and population genetic structure, in a marine ribbon worm (Nemertea)
Serena Caplins

10:30 Selfing allele favored by male function in experimental populations of Witheringia solanacea in Costa Rica
Judy Stone, Emily VanWyk, Jennifer Hale

10:45 Bayesian Co-estimation of Selfing Rate and Locus-Specific Mutation Rates for a Partially Selfing Population
Benjamin Redelings, Marcy Uyenoyama

11:00 Global biogeography of mating system variation in seed plants
David Moeller, Ryan Briscoe Runquist, Annika Moe

11:15 The evolution of selfing is accompanied by an increased frequency of effectively neutral and strongly deleterious mutations
Ramesh Arunkumar, Stephen Wright, Rob Ness, Spencer Barrett

3B_306B Climate and Evolution (Contributed Talks)

Room: 306 B Chair: Katherine Marske

10:15 Getting into the cold: evolution of adaptations to freezing conditions in angiosperms
Amy Zanne, Jeremy Beaulieu, William Cornwell, David Tank

10:30 Historical responses of Antarctic penguins and seals to climate change
Jane Younger, Karen Miller, Barbara Wienecke, Mark Hindell, John van den Hoff

10:45 The combined effects of artificial warming, competition, and community composition on life history traits and patterns of natural selection
Susana Wadgymar, Benjamin Gilbert, Matthew Cumming, Caroline Tucker, Marc Cadotte, Arthur Weis

11:00 Natural variants of the gene Crystallin are associated with differential seasonal adaptation in Drosophila melanogaster
Xiaqing Zhao, Subhash Rajpurohit, Alan Bergland, Ozlem Onder, Paul Schmidt

11:15 Climate change, phylogeography and the future of genetic diversity
Katharine Marske, Mirnesa Rizvanovic

3B_306C Genetics of Adaptation (Contributed Talks)

Room: 306 C Chair: Kyle Summers

10:15 The soft shoulder effect: spurious signatures of soft and partial selective sweeps result from linked hard sweeps
Daniel Schrider

10:30 Genomics of Variation in Nutrient Metabolism and Stress Resistance in Yeast
Dana Opulente, Christopher Morales, Isaak Heon, Kashyapa Bandaralage, Joshua S. Rest

10:45 Comparative analysis of preference and performance genes in the evolution of host specialization in Neodiprion sawflies
Kim Duong, Catherine Linnen

11:00 EDA signaling and phenotypic evolution of sculpins (Cottus) after admixture
Jie Cheng, Arne Nolte

11:15 Building developmental mechanisms into genotype-phenotype predictions in changing environments
Daniel Runcie, Johanna Schmitt, Stephen Welch, Reena Sellamuthu, Martha Cooper

3B_402 Symbiosis (Contributed Talks)

Room: 402 Chair: Alex Wilson

10:15 Nutritional contributions by gut symbionts ensures metabolic homeostasis in an insect host
Hassan Salem, Eugen Bauer, Martin Kaltenpoth

10:30 Geographical stability of endosymbiotic gut bacteria of the large pine weevil and their role in the detoxification of terpenes
Aileen Berasategui, Christian Paetz, Jonathan Gershenzon, Axel Schmidt, Martin Kaltenpoth

10:45 Gene expression during parasitoid adaptation to symbiont-conferred resistance
Alice Dennis, Christoph Vorburger

11:00 Assessing eco-evolutionary feedbacks among pea aphids, defensive symbionts, and natural enemies
Jacob Russell, Andrew Smith, Piotr Lukasik, Kerry Oliver

11:15 The Effects of Endosymbionts Across Food Webs: How Aphid Endosymbionts Affect the Survival of the Predatory Invasive Lady Beetle Harmonia axyridis
Jennifer Kovacs, Candice Gaul, Seth Wolf, Dene Voisin, Nicole Gerardo

Monday June 23, 1:30 - 2:45 PM

3C_201 Pollination (Contributed Talks)
Room: 201 Chair: Martin Burd

1:30 Joint effects of pollen limitation and pollen competition on offspring quality in a wind-pollinated herb
Anne-Marie Labouche, John Pannell

1:45 Pollen competition in style: Is bigger always better?
Shu-Mei Chang

2:00 Selection on floral traits through male and female fitness in two species of milkweed that differ in pollen limitation of seed set
Raffica La Rosa, Jeffrey Conner

2:15 The consequences of pollinator declines on the quantity and quality of offspring in two New Zealand tree species
Megan Van Etten, Jennifer Tate, Alastair Robertson

3C_206 Plant Organelles (Contributed Talks)
Room: 206 Chair: Logan Cole

1:30 Dad saves the day: biparental plastid inheritance rescues cytonuclear incompatibility
Karen Barnard-Kubow, Laura Galloway

1:45 Contrasting patterns of plastid and mitochondrial genetic diversity in gynodioecious Lobelia siphilitica (Campanulaceae)
Andrea Case, Binaya Adhikari, Hannah Madson, Eric Knox, Christina Caruso

2:00 The plastomes of mycoheterotrophic Ericaceae exhibit extensive gene loss and rearrangements
Thomas Braukmann, Sasa Stefanovic

2:15 Organellar phylogenomics of green plants
Matthew Gitzendanner, Brad Ruhfel, Guanqiao Feng, Greg Stull, Claudia Segovia, Gane Ka-Shu Wang, Pamela Soltis, Douglas Soltis

2:30 Horizontal gene transfer in the mitochondrial genome of Monsonia emarginata
Logan Cole, Jeffrey Mower, Jeffrey Palmer

3C_301A Phylogenetic Methods (Contributed Talks)
Room: 301 A Chair: Carolin Kosiol

1:30 A comprehensive evaluation of species tree methods in the presence of incomplete lineage sorting
Diego Mallo, Siavash Mirarab, Shamsuzzoha Bayzid, Tandy Warnow, David Posada

1:45 guenomu: a Bayesian supertree program for species tree reconstruction
Leonardo de Oliveira Martins, Diego Mallo, David Posada

2:00 Computing the Quartet Distance for Sets of Heterogeneous Phylogenetic Trees
Ralph Crosby, Tiffani WIlliams

2:15 Mean and Variance of Phylogenetic Trees
Megan Owen, Daniel Brown

2:30 Polymorphism-aware Phylogenetic Model (PoMo): An allele frequency-based approach for species tree estimation
Carolin Kosiol, Nicola De Maio, Dominik Schrempf

3C_301B Phylogenetics and Systematics (Contributed Talks)

Room: 301 B Chair: Keith Bayless

1:30 Molecular systematics of the North American tiger salamander radiation using parallel tagged amplicon sequence data
David Weisrock, Eric O'Neill, Brad Shaffer, Gabriela Parra Olea

1:45 Phylogenomic analysis of yellowjackets and hornets (Hymenoptera, Vespidae)
Federico Lopez-Osorio, Kurt M. Pickett, James M. Carpenter, Bryan Ballif, Ingi Agnarsson

2:00 Disentangling phylogenetic relationships in an explosive bird radiation
Carl Oliveros, Michael Andersen, Robert Moyle

2:15 Phylogeny, morphology and ontogeny of the Spikethumb Frogs (Hylidae: Plectrohyla)
David Sanchez

2:30 Increasing phylogenetic resolution in a hyperdiverse radiation of blood feeding flies
Keith Bayless, Brian Cassel, Brian Wiegmann

3C_302A Speciation (Contributed Talks)

Room: 302 A Chair: Alycia Lackey

1:30 What drives genetic and phenotypic divergence for Iris hexagona
Jenna Hamlin, Michael Arnold

1:45 Genome divergence at the onset of speciation with gene flow
David Marques, Laurent Excoffier, Ole Seehausen

2:00 Major Ecological Shifts both Promote and Retard Speciation in Timema Stick Insects
Daniel Funk, Patrik Nosil

2:15 The role of chemical communication in speciation among Timema stick insects
Rüdiger Riesch, Aaron Comeault, Patrik Nosil
CANCELLED

2:30 Insight into the speciation process: patterns of reproductive isolation in five stickleback species pairs that span the speciation continuum
Alycia Lackey, Jenny Boughman

3C_302B Molecular Evolution / Genetics of Adaptation (Contributed Talks)

Room: 302 B Chair: Billie Gould

1:30 Faster rates in snakes? Molecular evolution of the insulin signaling pathway in amniotes
Suzanne McGaugh, Tonia Schwartz, Chih-Horng Kuo, Anne Bronikowski

1:45 Coupling between protein level selection and codon usage optimization in the evolution of bacteria and archaea
wenqi ran

2:00 Into the ant nest: molecular evolution of chemoreception and host specialization in predatory paussine beetles
Tanya Renner, Amanda Romaine, Wendy Moore

2:15 Characterizing independent adaptive mutations in yeast experimental evolution using DNA barcodes
Sandeep Venkataram, Dmitri Petrov, Gavin Sherlock, Barbara Dunn, Jessica Chang, Yuping Li, Jamie Blundell, Sasha Levy, Daniel Fisher

2:30 Uncovering genome-wide targets of convergent evolution along a re-established flowering time cline in the introduced range of Arabidopsis thaliana
Billie Gould

3C_302C Sociality (Contributed Talks)

Room: 302 C Chair: Stephen Kamel

1:30 Periodic Social Niche construction
Philip Poon, Jessca Flack, David Krakauer

1:45 Explaining the novel axes of adaptive phenotypic diversification in complex societies using the turtle ants
Scott Powell, Shauna Price

2:00 Fairness and wisdom: the emergence of leadership
Jeremy Auerbach, Sergey Gavrilets, Mark Van Vugt

2:15 Looking for signatures of social conflict in secondary metabolites of cooperative amoebae
jeff smith, Joan Strassmann, David Queller

2:30 Stepwise evolution of social complexity in ground-dwelling squirrels
Katherine Brooks

3C_303 Hybridization (Contributed Talks)
Room: 303 Chair: David Carlon

1:30 Evolutionary origins and genomic consequences of hybridogenesis in Pogonomyrmex harvester ants
Sara Helms Cahan, Andrew Nguyen, Yihong Zhou

1:45 Hybrid Zones, Genomic Ancestry Patterns, and Genomic Scans for Hybrid Sterility Genes
John Hvala, Bret Payseur

2:00 A Model of Genome-Wide Patterns of Ancestry in a Secondary Contact Zone
Alisa Sedghifar, Yaniv Brandvain, Peter Ralph, Graham Coop

2:15 The role of hybrid incompatibilities in hybrid zone structure
Molly Schumer, Rongfeng Cui, Gil Rosenthal, Peter Andolfatto

2:30 Shaking the parrotfish tree: hybridization in a peripheral environment produces phenotypic novelty
David Carlon, John H Choat, Kendall Clements, D. R. Robertson

3C_304 Symbiosis (Contributed Talks)
Room: 304 Chair: Erol Ackay

1:30 Developmental integration of an obligate intracellular symbiont
Alex Wilson, Hsiao-Ling Lu, Honglin Feng

1:45 Allele changes during spore formation on the mycorrhizal fungi, Rhizophagus irregularis
Ivan Mateus, Frédéric Masclaux, Ian Sanders

2:00 Obligate insect endosymbionts exhibit increased ortholog length variation and loss of large accessory proteins concurrent with genome shrinkage.
Laura Kenyon, Zakee Sabree

2:15 Cytotype growth response to phosphorus limitation and arbuscular mycorhizal colonization in Chamerion angustifolium
Susan Hensen, Hafiz Maherali

2:30 Fitness feedbacks and alignment of interests in mutualisms
Erol Akcay

3C_305A Venom Evolution (Contributed Talks)
Room: 305 A Chair: Robert Haney

1:30 Expression evolution in island snake venoms
Mark Margres, Darin Rokyta, Kenneth Wray, James McGivern, Margaret Seavy

1:45 Uncovering venom neurotoxin gene family evolution from black widow and house spider genomes and transcriptomes
Jessica Garb, Kerry Gendreau, Robert Haney, Cheryl Hayashi, Thomas Clarke, Nadia Ayoub

2:00 The secrets of staying young: Investigating the evolution of venom neoteny in the Timber Rattlesnake, Crotalus horridus.
James McGivern

2:15 All venoms are not created equal: the distribution and adaptive significance of venom types in the Timber Rattlesnake (Crotalus horridus)
Kenneth Wray, Mark Margres, Dragana Sanader, Darin Rokyta

2:30 Evolution of the venom gland transcriptome in widow spiders
Robert Haney, Nadia Ayoub, Thomas Clarke, Cheryl Hayashi, Jessica Garb

3C_305B Phylogeny and Community Assembly (Contributed Talks)
Room: 305 B Chair: Pamela Brannock

1:30 A new dynamic model for the phylogenetic assembly of the ecological community
Alex Pigot

1:45 Phylogenetic Skew: A New Index of Community Diversity
Hungyen Chen, Kwang-Tsao Shao, Hirohisa Kishino

2:00 High-throughput sequencing characterization of meiofaunal communities in northern Gulf of Mexico
Pamela Brannock, Damien Waits, Jyotsna Sharma, Kenneth Halanych

3C_306A Pathogen Evolution (Contributed Talks)
Room: 306 A Chair: Steven Kimble

1:30 The role of deleterious mutations in influenza's antigenic evolution
Katia Koelle, David Rasmussen

1:45 Signatures of Selection on RNA Structures in Influenza Genomes
Yang Ding, Joshua Plotkin

2:00 The Contribution of Migration and Mutation to the Population Shift Following Widespread Rotavirus Vaccination in the United States
Robert Woods, Daniel Zinder, Mercedes Pascual

2:15 Intrahost competition in mixed-strain malaria infections may slow the evolution of resistance in high-transmission settings
Mary Bushman, Venkatachalam Udhayakumar, Jacobus de Roode

2:30 Temporal Dynamics of a Ranavirus Outbreak in Chelonians with Mosquitoes as Possible Vectors
steven kimble, Ajit Karna, April Johnson, Jason Hoverman, Rod Williams

3C_306B Plasticity (Contributed Talks)
Room: 306 B Chair: Lev Yampolsky

1:30 Evidence for natural selection of phenotypic plasticity in Plantago lanceolata
Matthew Marshall

1:45 Soil microbial communities cause differential selection and plasticity of flowering time in the wild mustard Boechera stricta
Maggie Wagner, Derek Lundberg, Devin Coleman-Derr, Susannah Tringe, Jeff Dangl, Tom Mitchell-Olds

2:00 Why wait? The optimal waiting time between an environmental cue and a plastic response
Hamish Spencer

2:15 Predator-induced phenotypic plasticity within- and across-generations
Matthew Walsh, Steve Munch

2:30 Plasticity in offspring growth maximizes potential fitness in unpredictable environments
Robert Aldredge, Peter Lowther

3C_306C Visual Signaling (Contributed Talks)
Room: 306 C Chair: Amanda Hund

1:30 A tradeoff between natural and sexual selection underlies evolution of sexual signal diversity in Bahamas mosquitofish
Justa Heinen-Kay, Kirstin Morris, Nicole Ryan, Samantha Byerley, Rebecca Venezia, Nils Peterson, Brian Langerhans

1:45 Ecological variation affects signal reliability in Gambusia hubbsi
Sean Giery, Craig Layman

2:00 Warning signals are seductive: Relative contributions of color and pattern cues to predator avoidance and mate attraction in Heliconius butterflies
Susan Finkbeiner, Adriana Briscoe, Robert Reed

2:15 Directional Selection on Aposematic Coloration in the Dyeing Poison Frog (Dendrobates tinctorius)
J.P. Lawrence, Antoine Fouquet, Bibiana Rojas, Elodie Courtois, Johanna Mappes, Brice Noonan

2:30 Parasite-mediated sexual signaling: what do females gain?
Amanda Hund, Joanna Hubbard, Rebecca Safran

Monday June 23, 3:15 - 4:30 PM

3D_201 Reproductive Strategies (Contributed Talks)
Room: 201 Chair: Jeff Dudycha

3:15 Condition-dependent alternative reproductive tactics in territorial damselflies: the role of wing shape in territory-holding potential
David Outomuro, Frank Johansson

3:30 Maintenance of a conserved trait: natural selection on stamen lengths in wild radish
Jeffrey Conner, Anne Royer, Zhigang Zhao, Vanessa Koelling, Keith Karoly

3:45 Battle of the sexes? Investigating the evolution of multiple mating types in Dictyostelium
Tracy Douglas, David Queller, Joan Strassmann

4:00 Evolution of sexual dimorphism in floral scent.
Tomoko Okamoto

4:15 An experimental test of the causal mechanisms linking flowering time to male fitness in a hermaphroditic annual plant
Emily Austen, Arthur Weis

3D_206 Evolution in Human-altered Environments (Contributed Talks)
Room: 206 Chair: Brian Langerhans

3:15 Evolutionary responses of plants to urban environments
Mohamed Yakub, Peter Tiffin

3:30 Phenotypic shifts in urban areas in the tropical lizard Anolis cristatellus
Kristin Winchell, R. Graham Reynolds, Sofia Prado-Irwin, Alberto Puente-Rolón, Liam Revell

3:45 An elemental perspective of intraspecific variation and its impact on key eco-evolutionary processes
Priyanka Roy Chowdhury, Punidan Jeyasingh

4:00 Tainted resurrection: Metal pollution is linked with high juvenile mortality in Daphnia egg banks
Mary Rogalski

4:15 Time-after-time: assessing ecological and genetic variation in Daphnia resting egg banks
Lawrence J. Weider, Dagmar Frisch, Philip Morton, Priyanka Roy Chowdhury, Bily Culver, Joaquin Munoz, Punidan Jeyasingh

3D_301A Phylogenetic Methods (Contributed Talks)
Room: 301 A Chair: Arkhat Abzhanov

3:15 Investigating parameterization in RAD-tag phylogenetic inference
Clive Darwell, David Rivers, David Althoff

3:30 A New Age of Experimental Phylogenetics: Digital Evolution and the Population Processes that Reduce Phylogenetic Accuracy
Cory Kohn, Barry Williams

3:45 Capturing single-copy nuclear genes and its applications in phylogenetics
Chenhong Li, Zhizhi Liu, Dong Liu

4:00 PASTA: A new method to co-estimate alignments and trees (even on ultra-large datasets) with high accuracy and speed
Siavash Mirarab, Nam-phuong Nguyen, Tandy Warnow

4:15 A phylogenetic model for measuring departures from the mutation-selection balance
Nicolas Rodrigue, Nicolas Lartillot

3D_301B Phylogenies and Phenotypic Diversification (Contributed Talks)
Room: 301 B Chair: Emilie Snell-Rood

3:15 Convergent evolution and photosynthetic diversity in the grass tribe Paniceae
Jacob Washburn, James Schnable, Gavin Conant, J. Chris Pires

3:30 Sex determination and the birth and death of species.
Nicole Valenzuela, Itay Mayrose, Niv Sabath, Shai Meiri

3:45 Evolution of sexual dimorphism within puppet beetles
Traci Grzymala

4:00 Testing Darwin's hypothesis on the evolution of ornamental eyespots in peafowl and their relatives
Rebecca Kimball, Keping Sun, Kelly Meiklejohn, Edward Braun, Brant Faircloth, Travis Glenn

4:15 Nutrition as a constraint on neural evolution: a comparative study across butterflies
Emilie Snell-Rood, Anne Espeset, Eli Swanson, Sarah Jaumann, Rhea Smykalski

3D_302A Speciation (Contributed Talks)
Room: 302 A Chair: Jason Keagy

3:15 Evidence for multiple barriers to reproduction between edaphic specialist populations of an Amazonian Tree: Protium subserratum (Burseraceae)
Tracy Misiewicz, Paul Fine

3:30 Do color-assortative female preferences generate reproductive isolation in a polymorphic frog?
Cori Richards-Zawacki, Matthew Dugas, Julia Berkey, Stephanie Strickler

3:45 A role for male behavior in trait divergence and behavioral isolation in darters
Michael Martin, Tamra Mendelson

4:00 The identification and characterization of a behavioral isolation gene.
Amanda Moehring

4:15 Speciation genomics and a role for the sex chromosome in the mallard and Mexican duck
Philip Lavretsky, Jeffrey DaCosta, Blanca Hernández-Baños, Andrew Engilis, Michael Sorenson, Jeffrey Peters

3D_302B Microevolution (Contributed Talks)
Room: 302 B Chair: Matthew MacManes

3:15 Did the serpentine sunflower originate on serpentine soil? A population genomics analysis of Helianthus bolanderi
Gregory Owens, Loren H. Rieseberg

3:15 Clinal variation in floral color and flavonoids along alpine elevation gradients in Silene vulgaris
Andrea Berardi, Douglas Taylor

3:15 Evolution as a work in progress: potential incipient adaptive change in a cave-dwelling salamander
Hilary Edgington, Colleen Ingram, Douglas Taylor

3:15 Rapid Divergence and Convergence of Functional Characters in Experimentally Evolved Populations of Drosophila
James Kezos, Thomas Barter, Larry Cabral, Grant Rutledge, Mark Phillips, Kevin Phung, Laurence Mueller, Michael Rose

3:15 Understanding Adaptation to Deserts in a Novel Model Organism, Peromyscus eremicus
Matthew MacManes

3D_302C Diversification (Contributed Talks)
Room: 302 C Chair: Christopher Martin

3:15 Exploring diversification rates in the monocot family Araceae at different taxonomical scales
Alejandro Zuluaga-Trochez, Kenneth Cameron

3:30 The "dry diagonal" of South America as a driver of ecological diversification in turtle ants
Shauna Price, Scott Powell

3:45 Physiological divergence as a driver of the Anolis adaptive radiation
Alex Gunderson

4:00 Does Energy Availability Predict Gastropod Reproductive Strategies?
Craig McClain

4:15 Ecological opportunity is not sufficient to explain the origins of adaptive radiation in Caribbean pupfishes
Christopher Martin

3D_303 Hybridization (Contributed Talks)

Room: 303 Chair: Kira Delmore

3:15 Speciation and hybridization in Jamaican Streamertail Hummingbirds
Caroline Judy, Robb Brumfield, Gary Graves

3:30 Genomic consequences of introgressive hybridization in Darwin's Finches adaptive radiation
Jaime Chaves, Andrew Hendry, Elizabeth Cooper, Jeffrey Podos, Al Uy

3:45 Population genomics of two ecologically disparate Fundulus hybrid zones.
Jacob Schaefer, David Duvernell

4:00 Consistent genomic signatures of reproductive isolation in a hybrid zone responding to climate change
Scott Taylor, Robert Curry, Thomas White, Valentina Ferretti, Irby Lovette

4:15 Inferring differential introgression among Southern African White eyes
Guinevere Wogan, Ke Bi, Graeme Oatley, Gary Voelker, Rauri Bowie

3D_304 MHC Evolution (Contributed Talks)

Room: 304 Chair: Jeremy Chase Crawford

3:15 Variation and duplication of the DQB MHC class II gene in Gulf of California blue whale (Balaenoptera musculus) Population.
Diana Daniela Moreno Santillan, Eileen Lacey, Diane Gendron, Jorge Ortega

3:30 Major Histocompatibility Complex diversity helps lemurs live longer and survive natural disasters
Kathleen Grogan, Michelle Sauther, Frank Cuozzo, Christine Drea

3:45 MHC polymorphism and divergence in wild and domesticated zebra finches
Daniel Newhouse, Christopher Balakrishnan

4:00 Antagonistic effects on survival and reproduction maintain MHC variation in a natural population
David J Wright, Lewis G Spurgin, Hannah Dugdale, Jan Komdeur, Terry Burke, David Richardson

4:15 Multi-tagged pyrosequencing reveals highly polymorphic MHC genes in the endangered San Joaquin kit fox
Tammy Wilbert, Masoumeh Sikaroodi, Brian Cypher, Christine Van Horn Job, Katherine Ralls, Jesus E. Maldonado, Patrick Gillevet

3D_305A Behavior (Contributed Talks)

Room: 305 A Chair: Robert Pennock

3:15 Fighting with ultrafast weapons: mantis shrimp win by striking more frequently
Patrick Green, Sheila Patek

3:30 From fast to ultrafast: the evolutionary dynamics of mantis shrimp power amplification
Sheila Patek, Thomas Claverie, Michael Rosario

3:45 Behavioral drive and behavioral inertia in the tropical lizard, Anolis cybotes
Martha Muñoz, Jonathan Losos

4:00 The anti-predatory behavioral repertoire of Drosophila melanogaster
Abhijna Parigi, Cody Porter, Megan Cremak, William Pitchers, Ian Dworkin

4:15 Effective payoff matrix in spatial games
Ching-I Huang, Hsiu-Hau Lin, Chun-Chung Chen

3D_305B Life History (Contributed Talks)

Room: 305 B Chair: Bart Pollux

3:15 Evaluating the influences of polyploidy and reproductive mode on life-history variation in a snail model for the maintenance of sex
Katelyn Larkin, Claire Tucci, Maurine Neiman

3:30 Residency time as an indicator of reproductive restraint in male burying beetles
Ashlee Smith, Mark Belk, Curtis Creighton

3:45 Sex, mating system, and the evolution of lifespan in Pristionchus nematodes
Cameron Weadick, Ralf Sommer

4:00 Hungry mothers' ability to abort and cannibalize their offspring enables the evolution of placentotrophy in a lizard
James Van Dyke, Oliver Griffith, Michael Thompson

4:15 Do placentation and superfetation facilitate living life in the fast lane? A preliminary field study
Bart Pollux, Andrew Furness

3D_306A Hosts, Pathogens, and Diseases (Contributed Talks)
Room: 306 A Chair: Sujal Phadke

3:15 Genotype-by-Diet Interactions underlying Metabolomic Variation in Drosophila
Laura Reed

3:30 Pathogen-Host Interactions within Freshwater Systems
Catherine Putonti, Kema Malki, Siobhan Watkins

3:45 Evolution of devil facial tumor disease: what it means for the survival of the Tasmanian devil
Janine Deakin, Yiru Zhang, Gayitha Sakthivel, Jennifer Schoning

4:00 Embracing the complex causality of cancer with microbial experimental evolution
Katherine Liu

4:15 Evolution of wild yeasts as opportunistic pathogens during experimental co-infection
Sujal Phadke, Serena Zhao, Calum Maclean, Timothy James

3D_306B Speciation and Cryptic Species (Contributed Talks)
Room: 306 B Chair: Craig Moritz

3:15 Strong selection drives reinforcement in Phlox
Robin Hopkins, Mark Kirkpatrick, Rafael Guerrero

3:30 Sexually-selected sperm competition genes also contribute to postmating species barriers (conspecific sperm precedence) between D. melanogaster and D.
Dean Castillo, Leonie Moyle

3:45 Does Ecological Speciation Explain the Origin of Tropical Savanna Woody Flora?
William Hoffmann

4:00 Analysis of nuclear and mitochondrial DNA reveals cryptic speciation in North American flying squirrels (Glaucomys)
Brian Arbogast, Katelyn Schumacher , Allison Bidlack, Joseph Cook, Jim Kenagy

4:15 Cryptic phyloendemism across the vast monsoonal tropics of northern Australia
Craig Moritz, Sally Potter, Jason Bragg, Renae Pratt, Gaye Bourke

3D_306C Reproductive Traits (Contributed Talks)
Room: 306 C Chair: Sumit Dhole

3:15 Molecular consequences of sperm competition in Agelaius blackbirds
Irene Liu

3:30 Contemporary co-evolution of sea urchin sperm and egg recognition proteins in response to changing population densities
Don Levitan

3:45 Sexual selection in a wild insect population
Ummat Somjee, Christine Miller, Allen Moore

4:00 Diet affects ejaculate traits in a lizard with condition-dependent fertilization success
Ariel Kahrl, Robert Cox

4:15 The effect of plasticity and viability costs of proteins on the evolution of seminal fluid composition
Sumit Dhole, Maria Servedio

Tuesday June 24, 8:15 - 9:45 AM

4A_BalC SSE Symposium: The role of sexual selection in speciation: an integration of theoretical and empirical perspectives (Symposium)

Room: Ballroom C Chairs: Rebecca Safran, Maria Servedio

8:25 Adaptive models of speciation: testing a role of sexual selection
Rebecca Safran, Elizabeth Scordato, Laurel Symes, Rafael Rodriguez, Tamra Mendelson

8:45 The interaction of ecology and sexual selection in speciation
Laurel Symes, Elizabeth Scordato, Rebecca Safran, Tamra Mendelson

9:05 The contrasting roles of sexual selection during speciation with gene flow
Maria Servedio, Reinhard Bürger

9:25 Speciation in darters: a potential example of mutation-order divergence by sexual selection
Tamra Mendelson

Tuesday June 24, 10:15 - 11:45 AM

4B_BalC SSE Symposium: The role of sexual selection in speciation: an integration of theoretical and empirical perspectives (Symposium)

Room: Ballroom C Chairs: Rebecca Safran, Maria Servedio

10:15 Diversification under sexual selection by mate choice: role of mate preference strength and divergence
Rafael Rodriguez, Janette Boughman, David Gray, Eileen Hebets, Gerlinde Höbel, Laurel Symes

10:40 Sexual selection and the cycle of speciation in birds
Nathalie Seddon

11:05 Multimodal signal divergence and the genomics of speciation-with-gene-flow in an island bird
Al Uy, Rebecca Safran, Elizabeth Cooper

Tuesday June 24, 1:15 - 2:45 PM

4C_BalC SSE Symposium: Seeing the forest for the trees: the contributions of synthesis to evolutionary science (Symposium)

Room: Ballroom C Chairs: Todd Vision, Maria Servedio

1:15 Synthesis Centers as Research Incubators
Allen Rodrigo

1:45 Extinctions with and without us: Paleontological baselines for evaluating contemporary extinction risk in coastal oceans
Paul Harnik

2:05 Climate change, fluctuating selection and eco-evolutionary dynamics
Carlos Andrés Botero

2:25 Seed dormancy: its effects on plant life cycles and diversification rates
Kathleen Donohue, Liana Burghardt, Charles Willis

Tuesday June 24, 3:15 - 4:45 PM

4D_BalC SSE Symposium: Seeing the forest for the trees: the contributions of synthesis to evolutionary science (Symposium)

Room: Ballroom C Chairs: Todd Vision, Maria Servedio

3:15 A critical synthesis of indirect genetic effects in adaptive evolution
Michael Wade

3:35 Evolution of a biome
Erika Edwards

3:55 Contemporary Human Evolution and Infusing Evolutionary Thinking into Medical Education
Stephen Stearns

Tuesday June 24, 8:30 - 9:45 AM

4A_301A Gene Expression (Contributed Talks)

Room: 301 A Chair: DavidMcCandlish

8:30 Evolution of the tissue specificity of inherited predispositions to cancer
Brian Muir, Leonard Nunney

8:45 Regulatory adaptation is linked to global gene expression changes in human evolution
Courtney Babbitt

9:00 Genomic imprints of freshwater transitions in the alewife (Alosa pseudoharengus)
Jonathan Velotta

9:15 SNP differentiation and differential gene expression in endemic Epischura baikalensis from Lake Baikal
Lev Yampolsky, Larry Bowman

9:30 Detecting changes in gene expression by high-dimensional analysis of codon usage bias
David McCandlish, Premal Shah, Joshua Plotkin

4A_301B Trait Evolution (Contributed Talks)

Room: 301 B Chair: Robert Meredith

8:30 Ecological constraints on sensory systems: Compound eye size in Daphnia is reduced by resource limitation.
Christopher Brandon, Jeff Dudycha

8:45 Functional traits, biomes, and diversification rates in Rhamnaceae
Renske Onstein, Peter Linder

9:00 Optimal Predator Learning and the Evolution of Mimicry
David Kikuchi, Thomas Sherratt

9:15 Small dog, hairy dog, big dog, scary dog: understanding the genetics of morphological traits in the domestic dog
Jessica Hayward, Marta Castelhano, Kyle Oliveira, Liz Corey, Sara Kalla, Rory Todhunter, Nathan Sutter, Adam Boyko

9:30 Testing traits associated with low nutrient adaptation in Helianthus
Lisa Donovan, Shu-Mei Chang, Kelly Bettinger

4A_302A Macroevolution (Contributed Talks)

Room: 302 A Chair: Samuel Perez

8:30 The role of extinction in the assembly of large-scale biodiversity patterns
Cristina Isabel Pokorny Montero, Ricarda Riina, Mario Mairal, Andrea Briega, Jon Cendoya, Isabel Sanmartín

8:45 Species selection and evolving traits can and do interact
Carl Simpson

9:00 A permutation-based framework for detecting genus-level selection
Kenneth Hoehn, Paul Harnik, V. Louise Roth

9:15 Massive horizontal gene transfer of a chimeric photoreceptor in ferns
Fay-Wei Li, Kathleen M. Pryer

9:30 Tempo and mode of anti-bat ultrasound production and sonar jamming in the diverse hawkmoth radiation
Akito Kawahara, Jesse Barber

4A_302B Social Behavior (Contributed Talks)

Room: 302 B Chair: Sher Hendrickson

8:30 The evolution and transcriptional connectivity of genes underlying ant division of labor
Tim Linksvayer

8:45 Information flow through dominance network in social insect colonies
Anjan Nandi, Annagiri Sumana, Kunal Bhattacharya

9:00 Gene to brain to behavior to fitness: maintaining variation in sociality through avpr1a and OXTR polymorphism in bank voles
Mikael Mokkonen, Esa Koskela, Eija Lönn, Tapio Mappes, Angela Sims, Phill Watts

9:15 The co-evolution of altruism and collective movement
Jaideep Joshi, Vishwesha Guttal

9:30 Beyond aggression: antiandrogen treatment of subordinate males modifies social behavior in wild meerkats
Christine Drea, Javier delBarco-Trillo, Lydia Greene

4A_302C Plant Evolution (Contributed Talks)
Room: 302 C Chair: David Remington

8:30 Convergent evolution of a rare trait: the history of red flowers in Solanaceae
Julienne Ng, Stacey Smith

8:45 Genome-wide analysis reveals rapid genetic changes in natural Brassica rapa populations following drought
Steve Franks, Nolan Kane, Niamh O'Hara, Silas Tittes, Joshua Rest

9:00 LARGE-SCALE ADAPTIVE DIVERGENCE IN BOECHERA FECUNDA, AN ENDANGERED WILD RELATIVE OF ARABIDOPSIS
Bao-Hua Song, Larry Leamy, Cheng-Rui Lee, Vanessa Cousins, Ibro Mujacic, Antonio Manzaneda, kasavajhala prasad, Tom Mitchell-Olds

9:15 Evolution of Crassulacean acid metabolism in the Agavoideae
Karolina Heyduk, Michael McKain, Jim Leebens-Mack

9:30 Shoot development, life history trade-offs, and perenniality in Arabidopsis lyrata
David Remington

4A_303 Education (Contributed Talks)
Room: 303 Chair: Becky Fuller

8:30 Does religion or education matter more when predicting university students' understanding of evolution?
Leslie Rissler, Sarah Duncan, Nicholas Caruso

8:45 Forest vs. trees: does it matter whether the MATE measures student acceptance of, rather than understanding about, evolutionary theory?
Matthew Rowe, Marcus Gillespie, Li-Jen Shannon, Steven Koether, Lori Rose

9:00 Assessing student perceptions and explanations of microbial evolution
Alita Burmeister, Richard Lenski, Jim Smith

9:15 What is this gorilla doing in my gene pool? Using trans-specific polymorphisms as a case study in evolution education.
Norman Johnson, James Smith, Ryan Gregory

9:30 Teaching teachers to teach evolution: An idiot's guide
Becky Fuller

4A_305A Phylogenetics and Diversification (Contributed Talks)
Room: 305 A Chair: Clarisse Palma-Silva

8:30 Origin and biogeographic relationships of the Southern Appalachian Flora
Paul Manos, Jose Eduardo Meireles

8:45 Resolving the phylogenetic relationships of the carnivorous plant genus Sarracenia using gene target enrichment
Jessica Stephens, Willie Rogers, Karolina Heyduk, Ron Determann, Jenny Cruse-Sanders, Russell Malmberg

9:00 Museum specimens illuminate paraphyly within the Asiatic striped squirrels (genus Tamiops).
Melissa Hawkins, Jennifer A. Leonard, Kristofer M. Helgen, Gavin Perri, Jesus E. Maldonado

9:15 RNA-seq reveals strong evidence of positive selection and gene expression differences over 20 million years of evolution in Heteromyid rodents
Nicholas Marra, J. Andrew DeWoody

9:30 Phylogeography and speciation of Pitcairnia flammea (Bromeliaceae) adapted to Neotropical rock outcrops
Clarisse Palma-Silva, Carla Sardelli, Mateus Ribeiro Mota, Carolina da Silva Carvalho , Juliana Santin, Felipe Aoki-Gonçalves, Tania Wendt, Fabio Pinheiro

4A_305B Phylogeography (Contributed Talks)
Room: 305 B Chair: Elizabeth Sbrocco

8:30 Climate change driven vicariance of Appalachian Trees
Jose Eduardo Meireles, Paul Manos

8:45 Does dispersal ability affect the spatial organization of geographic ranges?
Dominic Evangelista, Jessica Ware

9:00 Phylogenetic and environmental controls on the geographic range dynamics of woody plants since the Last Glacial Maximum
Paul Harnik, Hafiz Maherali, Paul Manos, Joshua Miller

9:15 Molecular phylogeny and historical biogeographic reconstructions onto shifting continents in the cockles and giant clams (Bivalvia: Cardiidae)
Nathanael Herrera, Jan Johan ter Poorten, Paula Mikkelsen, Rüdiger Bieler, David Jablonski, Scott Steppan

4A_306A Sex and Evolution (Contributed Talks)
Room: 306 A Chair: Stuart McDaniel

8:30 Resolving Intralocus Sexual Conflict: results of a long-term selection experiment in Drosophila melanogaster.
Andrew Stewart

8:45 Evolutionary capacitance in sex determination
Paul Sequeira, Yen-Shan Chen, Joseph Racca, Nelson Phillips, Michael Weiss

9:00 Fight fire with fire: Redirected meiotic drive in Drosophila affinis subgroup
Spencer Koury, Ryan Mulqueen

9:15 Neo-sex chromosomes in Habronattus jumping spiders: fusions, chiasma localization, and sexual conflict
Wayne Maddison, Geneviève Leduc-Robert

9:30 Intragenomic conflict over sex ratio in a moss
Stuart McDaniel, Jose Miguel Ponciano, Adam Payton

4A_306B Evolution and Development (Contributed Talks)
Room: 306 B Chair: Joanna Wolfe

8:30 Convergent evolution of alternative developmental trajectories associated with diapause in African and South American killifish
Andrew Furness, David Reznick, Mark Springer, Robert Meredith

8:45 Shifts in the Expression of Developmental Regulatory Genes Involved in the Evolution of a Novel Life History Difference
Jennifer Wygoda, David McClay, Greg Wray

9:00 A Dictionary of Genetic Effects for the Drosophila Wing
David Houle, Eladio J. Marquez, Rosa Moscarella

9:15 Linking dynamic gene expression in a cichlid key innovation to adaptive molecular evolution
Sharon Clemmensen, Darrin Hulsey

9:30 The role of ontogeny in homology statements: case studies from morphology and phylogenomics of pancrustaceans
Joanna Wolfe

Tuesday June 24, 10:15 - 11:30 AM

4B_301A Genome Evolution (Contributed Talks)

Room: 301 A Chair: Sarah Sander

10:15 Genome-wide analysis of wild-type Epstein-Barr virus genomes derived from healthy individuals of the 1000 Genomes Project
Arcadi Navarro, Gabriel Santpere, Fleur Darre, Soledad Blanco, Antonio Alcamí, M.Mar Albà, Pablo Villoslada

10:30 The evolutionary dynamics of endogenous retroviruses by computer simulations
Fabricia Nascimento, Allen Rodrigo

10:45 Determination of complete mitochondrial genome sequences of cartilaginous fishes using next generation sequencing
Lei Yang, Gavin Naylor

11:00 Chloroplast genome sequencing of extinct and endangered Hawaiian mints and their New World relatives (Lamiaceae)
Andreanna Welch, Katherine Collins, Aakrosh Ratan, Daniela Drautz, Stephan Schuster, Charlotte Lindqvist

11:15 Genome size evolution in North American fireflies
Sarah Sander, J. Spencer Johnston, Shawn Hanrahan, David Hall

4B_301B Trait Evolution (Contributed Talks)

Room: 301 B Chair: Rachel Kerwin

10:15 Modular color evolution facilitated by a complex nanostructure
Chad Eliason, Rafael Maia, Matthew Shawkey

10:30 Competition kernels and coexistence
Richard FitzJohn

10:45 Evolution of secondary woodiness in Hedyotis-Oldenlandia complex (Rubiaceae) in Asia and the Pacific
Suman Neupane, Paul Lewis

11:00 Linking gene flow to changes in traits, fitness, and population dynamics in the wild
Sarah Fitzpatrick, Chris Funk, Lisa Angeloni

4B_302A Speciation (Contributed Talks)

Room: 302 A Chair : Donald Price

10:15 Dobzhansky-Muller incompatibilities and the evolution of reproductive isolation
Ata Kalirad

10:30 Life history selection drives the early evolution of reproductive barriers in Mimulus guttatus
Megan Peterson, Amy Angert, Kathleen Kay

10:45 First passage time to allopatric speciation and species creation rate
Ryo Yamaguchi, Yoh Iwasa

11:00 A simple biophysical model of protein binding DNA predicts higher rates of allopatric speciation in small populations
Bhavin Khatri, Richard Goldstein

11:15 Strong premating reproductive isolation contributes to incipient speciation in Mimulus aurantiacus
James Sobel, Matt Streisfeld

4B_302B Sexual Dimorphism (Contributed Talks)

Room: 302 B Chair: Bronwyn Bleakley

10:15 Sexual selection and species recognition in Calopteryx damselflies
Idelle Cooper, Oumar Sacko, Tom Getty

10:30 Character displacement in the wing color patterns of rubyspot damselflies: An experimental test of multiple character displacement hypotheses
Jonathan Drury, Gregory Grether

10:45 Adaptation and the tempo of phenotypic change during radiation in the Hawaiian damselflies (Coenagrionidae: Megalagrion)
Jonathan Brown, Idelle Cooper, Sam Sherwood, Madeline Cloud, Mark McPeek

11:00 Evolution of Body Size and Sexual Size Dimorphism in Two Replicated Lizards Radiations
James Schulte, Joshua Lavelle, Daniel Pincheira-Donoso

11:15 Endocrine disrupting chemicals lead to higher order behavioral effects when they alter interacting phenotypes in guppies, Poecilia reticulata
Bronwyn Bleakley, Roberto Rosa, Johnny Joseph

4B_302C Adaptation (Contributed Talks)
Room: 302 C Chair: Nichole Bennett

10:15 A History of High Latitude Adaptation in Holarctic Ground Squirrels (Urocitellus)
Bryan McLean, Joseph Cook

10:30 Evaluating the immediate capacity for ongoing adaptation
Ruth Shaw, Charles Geyer, Julie Etterson, Stuart Wagenius

10:45 Inferential Evolution and the Reflection Principle
Christopher J. Ellison, Jessca Flack, David Krakauer

11:00 Preadaptation to human environmental impacts: Deforestation filters species and facilitates geographic reshuffling in an anthropogenic world
Luke Frishkoff

11:15 Geographic mosaics of phenology, host preference, adult size and microhabitat choice predict butterfly resilience to climate warming
Nichole Bennett, Camille Parmesan, Michael C. Singer, Paul Severns

4B_303 Education (Contributed Talks)
Room: 303 Chair: Christopher Jensen

10:15 Inquiry-based learning in the Evolution classroom
Ajna Rivera, Lisa Wrischnik

10:30 New assessment tools to capture student thinking about evolution and provide them with timely feedback
Denise Pope, Kerry Kim, Jody Clarke-Midura, Susan Maruca, Eli Meir

10:45 National Experiment in Undergraduate Science Education (NEXUS) - teaching and assessing a competency-based life science curriculum with case studies
Jane Indorf, Michael Gaines

11:00 Hit the Road, Chuck! Evolution Education Goes Mobile With The Darwin Day Roadshow
Jory Weintraub

11:15 Visualizing cooperation theory in the non-majors evolution classroom: free tools for teaching the evolutionary dynamics of the Prisoner's Dilemma
Christopher Jensen

4B_305A Phylogenetics and Diversification (Contributed Talks)
Room: 305 A Chair: Dominik Halas

10:15 Exploring the origins and diversification of ratsnakes using anchored hybrid enrichment to generate 100s of loci for species tree estimation
Xin Chen, Alan Lemmon, Emily Lemmon, Frank Burbrink

10:30 The phylogenetic position of Indian coralsnakes provides insights into the evolutionary history of basal Elapids
Utpal Smart, Todd Castoe, Eric Smith, David Sanchez, Karthikeyan Vasudevan, Ramesh Aggarwal, Hidetoshi Ota

10:45 Gene Trees vs Species Trees: Piecing together the evolutionary history of the New Zealand cicada genus Kikihia
Sarah Banker, Chris Simon

11:00 Reconstructing the molecular phylogeny of giant sengis (genus Rhynchocyon) using museum samples
Elizabeth Carlen, Jack Dumbacher, Galen Rathbun

11:15 A Complex History of Diversification, Dispersal, and Introgression in the Notropis rubellus (Teleostei: Cyprinidae) species group
Dominik Halas

4B_305B Divergence and Biogeography in the Tropics (Contributed Talks)
Room: 305 B Chair: Clarisse Palma-Silva

10:15 An unusual colonization scenario among Galápagos organisms: Origin and diversification of endemic leaf-toed geckos (Phyllodactylidae: Phyllodactylus)
Omar Torres-Carvajal, Charlie Barnes, María Pozo-Andrade, Washington Tapia, Gabriela Nicholls

10:30 Testing the roles of orogeny and habitat heterogeneity in driving allopatry in mid-elevation frogs (Aromobatidae: Rheobates) of the northern Andes
Astrid Muñoz-Ortiz, Álvaro Velásquez-Álvarez, Carlos E. Guarnizo, Andrew J. Crawford

10:45 Evolution and Biogeography of the Bignoniaceae: Insights into the origin of the Neotropical Flora
Lucia Lohmann

11:00 Diversification of Malagasy ectotherms Part II: an exploration of patterns and processes
Brice Noonan, Anne Yoder, Miguel Vences, Achille Raselimaninana, Brian Fisher

11:15 Phylogeny and biogeography of the spiny ant genus Polyrhachis (Hymenoptera: Formicidae)
Dirk Mezger, Corrie Moreau

4B_306A Sex and Evolution (Contributed Talks)
Room: 306 A Chair: Maria Orive

10:15 Adaptation and Muller's ratchet in sympatric populations of sexual and apomictic Boechera spatifolia (Brassicaceae)
John Lovell, John McKay, Stephen Wright, Timothy Sharbel

10:30 The role of genetic drift in the maintenance of sexual reproduction in an artificial gene network model
Amanda Whitlock, Christina Burch, Kayla Peck

10:45 Unisexual whiptail lizards find a loophole: how meiosis progresses in a species created through hybridization
Aracely Newton, Diana Baumann, Peter Baumann

11:00 Germline mutation as an outcome of evolved and continually evolving biological processes
Adi Livnat

11:15 The effects of clonal reproduction on the rate of evolution.
Maria Orive

4B_306B Molecular/Protein Evolution (Contributed Talks)
Room: 306 B Chair: Kuangyu Wang

10:15 Differential natural selection on codon usage among amino acids in Drosophila pseudoobscura.
Richard Kliman

10:30 Using disease data to inform models of protein evolution
Jeffrey Thorne, Alexander Griffing, Eric Stone, Liwen Zou

10:45 Microsatellites as Targets of Natural Selection
Bret Payseur, Ryan Haasl

11:00 Selection on position and context of nonsense codons in introns
Megan Behringer, David Hall

11:15 A Cross--species Study of Probabilistic Measures for Protein Amino Acid/Codon Preference Given Structure Environment Using Residue Level Features
Kuangyu Wang, Xiang Ji, Clemens Lakner, Shuhui Yu, Jeffrey Thorne

Tuesday June 24, 1:30 - 2:45 PM

4C_301A Genome Evolution (Contributed Talks)

Room: 301 A Chair: Jeffrey Townsend

1:30 Highly variable recombinational landscape modulates efficacy of natural selection in birds
Toni Gossmann

1:45 Genome sequencing, assembly and analysis of the four cactus host populations of Drosophila mojavensis
Luciano Matzkin, Carson Allan

2:00 Genomic signatures of selection in a classic fisheries harvest experiment
Nina Overgaard Therkildsen, Steve Munch, David Conover, Stephen Palumbi

2:15 Genome wide congealing and the dynamics of speciation
Samuel Flaxman, Jeffrey Feder, Patrik Nosil

2:30 MAC-PRF: Inferring intragenic clusters of sites under natural selection from polymorphism and divergence
Ning Li, Zi-Ming Zhao, Zhang Zhang, Jeffrey Townsend

4C_301B Trait Evolution (Contributed Talks)

Room: 301 B Chair: Sean Mullen

1:30 Evolution of weed phenotypes in radish
Amanda Charbonneau, Ian Dworkin, Jeffrey Conner

1:45 Rapid evolution at the edge: selection on life-history traits during experimental range expansions
Emanuel Fronhofer, Florian Altermatt

2:00 Patterns of metabolic network evolution in plants
Seung Rhee, Lee Chae, Kate Dreher, Taehyong Kim, Ricardo Nilo-Poyanco, Chuan Wang, Peifen Zhang

2:15 Phenotypic variation and differential gene expression in Virginia opossum (Didelphis virginiana) populations inhabiting different environments.
Sergio Nigenda, Ryan Harrigan, Hugo Ruiz-Piña, James Beasley, David Valenzuela, Robert Wayne

2:30 Repeated cis-regulatory evolution underlies convergent phenotypic adaptation in butterflies.
Sean Mullen, Jason Gallant, Vance Imhoff, Arnaud Martin, Robert Reed, Marcus Kronforst

4C_302A Speciation and Hybridization (Contributed Talks)

Room: 302 A Chair: Erica Larson

1:30 Changes in gene regulation associated with reproductive isolation in house mice
Katya Mack, Polly Campbell, Matt Bomhoff, Michael Nachman

1:45 Natural hybridization between lineages that diverged from each other over 50 million years ago
Carl Rothfels, Anne K. Johnson, Peter H. Hovenkamp, David L. Swofford, Harry C. Roskam, Christopher R. Fraser-Jenkins, Michael D. Windham, Kathleen M. Pryer

2:00 Islands as venues for homoploid hybrid speciation: A case for the endangered hawaiian duck
Philip Lavretsky, Andrew Engilis, John Eadie, Jeffrey Peters

2:15 Rapid speciation along a genetic continuum in a neo-XY bark beetle
Ryan Bracewell, Barbara Bentz, Jeffrey Good

2:30 Polymorphic hybrid male sterility during the early stages of speciation
Erica Larson, Jeffrey Good

4C_302B Sexual Selection (Contributed Talks)

Room: 302 B Chair: Catherine Sheard

1:30 Sex-specific changes in the scaling relationships of sexually selected traits due to a novel host
Pablo Allen, Christine Miller

1:45 Factors promoting coexistence in a sexual/asexual minnow complex
James Barron, Troy Lawson, Brennan Zotovich, Philip Jensen

2:00 Do female dung flies minimize harm by preferring subordinate males?
Brian Gress, Victoria Finn, Scott Pitnick

2:15 Mating tactics and evolution of the female mimic morph of the ruff sandpiper, a bird with permanent genetic mating strategies
Susan McRae, David B. Lank

2:30 Why do female birds sing? Contrasting selection on males and females and the evolution of ornamentation in birds.
Catherine Sheard

4C_302C Host-Parasite Evolution (Contributed Talks)
Room: 302 C Chair: Britt Koskella

1:30 Linking phenotype to expression: A comparative approach to understanding the effects of mating system on immune system processes
Jeremy Chase Crawford, Scott A. Fay, Michael B. Eisen, Matthew MacManes

1:45 Differential Coevolutionary Dynamics of E. coli and Lambda Phage in Two Resource Environments
Jeremie Brusini, Michael Sieber, Ivana Gudelj, Samantha Forde

2:00 Patterns of single-cell phylogenies under different evolutionary models of cancer
Yuantong Ding, Andreas Aristotelous, Edward Patz, Rick Durrett, Allen Rodrigo

2:15 Immunogenomics of non-model species: what can Ig-seq tell us about the evolution of the adaptive immune system?
Peter Larsen, C. Ryan Campbell , Anne Yoder

2:30 Bacteria-phage coevolution within plant hosts
Britt Koskella

4C_303 Experimental Evolution (Contributed Talks)
Room: 303 Chair: Joseph Lachance

1:30 Experimental Evolution of Increased Size and Complexity of Anabaena variabilis
Kristin Jacobsen, Michael Travisano, Ford Denison

1:45 Structured Populations with Limited Resources Exhibit Higher Rates of Complex Function Evolution
Art Covert

2:00 Evolution of elemental composition in E. coli under carbon and nitrogen limitation
Caroline Turner, Richard Lenski

2:15 Positive natural selection on mitochondrial OXPHOS genes in fishes with different swimming performance
Feifei Zhang, Richard Broughton

2:30 Biased gene conversion skews allele frequencies in human populations, increasing the disease burden of recessive alleles
Joseph Lachance, Sarah Tishkoff

4C_305A Phylogenetics and Diversification (Contributed Talks)
Room: 305 A Chair: Christopher Laumer

1:30 New insights on sheet web spiders phylogeny (Araneae: Linyphiidae)
Thiago da Silva Moreira, Gustavo Hormiga

1:45 A molecular phylogeny of black fungus gnats (Diptera: Sciaridae) and the evolution of larval habitats
Seunggwan Shin, Sunghoon Jung, Frank Menzel , Kai Heller, Heungsik Lee, Seunghwan Lee, Brian Wiegmann

2:00 The use of ultra-conserved elements in resolving nightbird (caprimulgiformes) phylogeny
Noor White, Brant Faircloth, Michael Braun

2:15 Danio Genus Phylogeny Resolved with RAD Phylogenomics
Braedan McCluskey, John Postlethwait

2:30 Tracing the diversification of prorhynchid flatworms with cDNA-enriched genome libraries
Christopher Laumer, Gonzalo Giribet

4C_305B Diversification and Phylogeography (Contributed Talks)

Room: 305 B Chair: Warren Booth

1:30 Contrasting patterns of morphological diversity and climatic preferences in the genus Anthurium (Araceae)
Monica Carlsen, Thomas Croat

1:45 Phylogeography and systematics of the southern redback salamander Plethodon serratus in the southeastern US
Catherine Newman, Christopher Austin

2:00 Effects of Ecological Interactions on Diversfication and Trait Evolution: Tests with Macroevolutionary Models
Matthew Dufort

2:15 Asynchrony of seasons: genetic differentiation associated with geographic variation in climatic seasonality and reproductive phenology
Daniel Cadena, Ignacio Quintero, Paul-Camilo Zalamea, Sebastian Gonzalez-Caro

2:30 Host Association Drives Deep Divergence in the Common Bed Bug, Cimex lectularius
Warren Booth, Ondrej Balvin, Edward Vargo, Coby Schal, Jitka Vilímová

4C_306A Sex and Evolution (Contributed Talks)

Room: 306 A Chair: Yaniv Brandvain

1:30 Sex determination and the young Asparagus Y chromosome
Alex Harkess, Jim Leebens-Mack

1:45 Y fuse? Sex chromosome fusions in theory and in practice
Mark Kirkpatrick, Jun Kitano, Sarah Otto, Matthew Pennell

2:00 Phylogenetics of polyploid African clawed frogs using RNAseq; inferences for sex chromosome evolution
Benjamin Furman, Ben Evans

2:15 Testing the Meiotic Requirement for Recombination
Beth Dumont

2:30 Sperm do not evolve to collaborate in female meiotic drive
Yaniv Brandvain, Graham Coop

4C_306B Phenotypic Plasticity (Contributed Talks)

Room: 306 B Chair: Ivonne Garzon

1:30 Interactions between behavioral thermoregulation and color change in pipevine swallowtail caterpillars (Battus philenor)
Matthew Nielsen, Daniel Papaj

1:45 Playing smart and playing safe: the joint expression of phenotypic plasticity and diversification bet hedging
Andrew Simons

2:00 Developmental plasticity and reproductive fitness in the house mouse
Wendy Hood, Aubrey Sirman, Zachary Donoviel, Mark Sadler

2:15 Ecological genomics and plasticity of genetic regulation for saltwater tolerance
Hilary Smith, Nora Besansky, Changde Cheng

2:30 Using comparative transcriptomics and a whole genome to study the evolution of cold tolerance in stick insects
Thomas Buckley, Alice Dennis, Luke Dunning, Chen Wu, Richard Newcomb, Howard Ross, Brent Sinclair

Tuesday June 24, 3:15 - 4:30 PM

4D_301A Genome Evolution (Contributed Talks)

Room: 301 A Chair: Simon Aeschbacher

3:15 Genomic patterns of selection on genes of aerobic respiratory pathways in vertebrates
Richard Broughton, Feifei Zhang

3:30 The organization and evolution of the Responder satellite in the Drosophila melanogaster group: dynamic evolution of a target of meiotic drive
Amanda Larracuente

3:45 Whole genome sequence analysis of the allotetraploid Mimulus sookensis reveals a nuanced history of genome evolution
Jennifer Modliszewski, John Willis

4:00 Exploring genome-wide signals of selection against gene flow
Simon Aeschbacher, Graham Coop

4D_301B Trait Evolution (Contributed Talks)
Room: 301 B Chair: Thomas Backman

3:15 Understanding the evolution and genetic basis of variation in vernalization in Mimulus guttatus
Jannice Friedman, Jill Preston

3:30 Genome-wide relationships among color-pattern forms in a polymorphic bumble bee
Jeffrey Lozier, Jason Jackson

3:45 Physical and chemical interactions mediate sex change in a protandrous gastropod
Abigail Cahill

4:00 The Genetic Basis of Natural Aridity Tolerance in Anopheles gambiae
Simo Zhang, Matthew Hahn

4:15 Genetic pedigree analysis to evaluate supplementation and natural reproductive success of spring Chinook salmon in Newsome Creek, ID.
Thomas Backman, Andrew Matala , Shawn Narum

4D_302A Reproductive Isolation and Hybridization (Contributed Talks)
Room: 302 A Chair: Kurt Langberg

3:15 In search of nuclear correlates of massive boreal mitochondrial DNA introgression in hares
Jose Melo-Ferreira, Liliana Farelo, Pierre Boursot, Paulo C. Alves

3:30 Hybridization increases fecundity and size in invasive taxa: meta-analytic support for the hybridization-invasion hypothesis
Stephen Hovick, Kenneth Whitney

3:45 One species or three? Resolving lineage boundaries in dusky salamanders through sexual isolation trials and next-generation sequencing
Justin Kratovil, David Weisrock

4:00 Variation in Interploid Reproductive Isolation within the Campanula rotundifolia Polyploid Complex
Brittany Sutherland, Laura Galloway

4:15 Hybrid taxa can mislead phylogeographic analyses in Tolpis (Asteraceae)
Michael Gruenstaeudl, Bryan Carstens, Robert Jansen, Arnoldo Santos-Guerra

4D_302B Recombination (Contributed Talks)
Room: 302 B Chair: Laurie Stevison

3:15 Natural selection helps explain the unexpectedly small range of neutral diversity among species.
Tim Sackton, Russ Corbett-Detig, Dan Hartl

3:30 The evolution of functional trait syndromes: the ecological genetics of drought resistance in annual monkeyflowers.
Nicholas Kooyers, Anna Greenlee, Jack Colicchio, Benjamin Blackman

3:45 The effects of inhibited recombination on the social chromosome of Solenopsis invicta
Rodrigo Pracana, Nichols Richard, Yannick Wurm

4:00 Evolution of Recombination Rate in Angiosperms
George Tiley, Gordon Burleigh

4:15 Determining the relationship between changes in interspecies recombination rates and nucleotide divergence
Laurie Stevison, Jeff Wall

4D_302C Host-Parasite Evolution (Contributed Talks)

Room: 302 C Chair: Paul Mack

3:15 Understanding variation in susceptibility and host response to the amphibian-killing chytrid fungus: a case study in two bufonid species
Thomas Poorten, Erica Rosenblum

3:30 Evolution of defenses against parasitoid wasps in the Drosophila melanogaster subgroup
Zachary Lynch, Jacobus de Roode, Todd Schlenke

3:45 Horizontal gene transfer between schistosomes and their hosts?
Bhagya Wijayawardena, Dennis Minchella, J. Andrew DeWoody

4:00 A global analysis of water and nitrogen relationship between mistletoes and their hosts: broad-scale tests of old and enduring hypotheses
Marina Scalon, Ian Wright

4:15 Accelerated molecular evolution in brood parasitic finches: demography or selection?
Allison Lansverk, Christopher Balakrishnan, Daniel Newhouse, Michael Sorenson, Michael Brewer

4D_303 Evolution on Environmental Gradients (Contributed Talks)

Room: 303 Chair: Claire Ramos

3:15 The rate of adaptation in a changing environment
Leonard Nunney

3:30 Identifying a potential for early assortative mating between the morphs of Giant Kelp down its environmental gradient along Central California's coast
Heidi Hargarten, Mattias Johansson, Nelson Coelho, Sarah Jeffries, Michael Graham, Filipe Alberto

3:45 Divergence along an elevational gradient in Borneo
Daniela Sorger, Jan Zima jr. , Ian Butler, Daniel Kronauer, Rob Dunn, Milan Janda

4:00 Why tropical species have narrow ranges and niches: a theoretical exploration of Janzen's hypothesis
Xia Hua

4:15 Germination time, asymmetric competition, frequency-dependent selection and the emergence of the "irrelevant fraction"
Arthur Weis, Kyle Turner, Emily Austen, Susana Wadgymar

4D_305A Phylogenetic Methods (Contributed Talks)

Room: 305 A Chair: Nathan Jackson

3:15 Analysis of a multi-gene phylogeny: Discriminating between alternative hypotheses and phylogenetic noise
Lauren Eserman, Richard Miller

3:30 Towards inferring the history of life in the presence of lateral gene transfers
Bastien Boussau, Gergely Szöllősi, Eric Tannier, Vincent Daubin

3:45 Nextgen data and phylogenetics-- can we ignore incomplete lineage sorting and gene tree/species tree conflict in phylogenetics?
David Althoff, David Rivers, Clive Darwell

4:00 Approaches to reducing spurious signal in phylogenomic datasets
Randee Young, Vinson Doyle, Gavin Naylor, Jeremy Brown

4:15 Phylogeographic model selection using approximated likelihoods
Nathan Jackson, Ariadna García, Bryan Carstens, Brian O'Meara

4D_305B Divergence (Contributed Talks)

Room: 305 B Chair: Ioanna Visviki

3:15 Genomic signatures of life history divergence during speciation: diapause as a complex target of selection in Rhagoletis fruit flies.
Gregory Ragland, Thomas Powell, Glen Hood, Peter Meyers, Meredith Doellman, Daniel Hahn, Jeffrey Feder

3:30 Dissecting the physiological basis of allochronic isolation in Rhagoletis
Thomas Powell, Qinwen Xia, Jeffrey Feder, Greg Ragland, Daniel Hahn

3:45 Genomic atolls of divergence in Hypoplectrus coral reef fishes
Oscar Puebla, Owen McMillan, Eldredge Bermingham

4:00 Divergent phenotypes despite (mostly) homogeneous genomes: insights from a recent avian radiation
Leonardo Campagna, Luís Fábio Silveira, Irby Lovette

4:15 Repeatability of genomic divergence during non-ecological speciation
Ricardo Pereira, Felipe Barreto, Miguel Carneiro, Tessa Pierce, Ron Burton

4D_306A Reproductive Strategies (Contributed Talks)
Room: 306 A Chair: Holly Kindsvater

3:15 Sexual reproduction: (epi)mutagenesis and selective bottlenecks engender pre-selected variation
Kurt Heininger

3:30 The Effect of Parasites on the Ability of Self-Fertilization to Invade Outcrossing Host Populations
Samuel Slowinski, Levi Morran, Raymond Parrish, Eric Cui, Curt Lively, Patrick Phillips

3:45 Empirical evidence for a continuum between semelparity and iteroparity
P. William Hughes, Andrew Simons

4:00 Life cycle evolution and wnt signaling in the Hydractiniidae (Cnidaria: Hydrozoa)
Steven Sanders, Paulyn Cartwright

4:15 The evolution of semelparity and egg size
Holly Kindsvater

4D_306B Evolutionary Innovations (Contributed Talks)
Room: 306 B Chair: Matthew Knope

3:15 Non-equilibrium dynamics lead to long-term persistence of ancestral floral forms in modern angiosperms
Brian O'Meara, Stacey Smith, W Scott Armbruster, Lawrence Harder, Christopher Hardy, Lena Hileman, Larry Hufford, Amy Litt, Susana Magallon, Stephen Smith, Peter Stevens, Charlie Fenster, Pamela Diggle

3:30 Is the ectomycorrhizal lifestyle an evolutionary key innovation? Trophic evolution in the Tricholomatoid clade (Agaricales)
Marisol Sanchez-Garcia, Brandon Matheny

3:45 The evolutionary genetics of shape variation in penis bones
Nick Schultz , Matt Dean, Jesse Ingels, Rob Williams , Lu Lu

4:00 Phylogeny and evolution of pharmacophagy in tiger moths (Insecta: Lepidoptera: Erebidae)
Jennifer Zaspel, Susan Weller, Taylor Wardwell, Reza Zahiri, Niklas Wahlberg

4:15 An ecological diversification history of marine animals
Matthew Knope, Noel Heim, Jonathan Payne

LIGHTNING TALKS

Monday June 23, 8:15 - 9:45 AM

3A_304 Lightning Talks: Phylogenetics

Room: 304 Chair: Elizabeth Zimmer

8:15 PhyDesign: the impact of molecular evolutionary models on profiling phylogenetic informativeness, signal, and noise
Tony Su, Jeffrey Townsend

8:20 Assessing approaches for inferring species trees from genes with histories of duplication and loss
Ruchi Chaudhary

8:25 Phylogenetic Inference from Dependent Loci: Treating the Dependent Loci as Independent
Arindam RoyChoudhury

8:30 Inferring the diversification of metagenomes in space and time using Markov models
Maria C. Rivera, Christopher Friedline

8:35 An evaluation of alternative methods for constructing phylogenies from whole genome sequence data
James Pettengill, Errol Strain, Hugh Rand, Yan Luo, Marc Allard

8:40 Modelling competition and dispersal in a statistical phylogeographic framework
Stephane Guindon

8:45 Ancestral state reconstruction of complex characters: how important are state-dependent parameters?
Kathleen Lyons, April Wright

8:50 New computational approaches to identify global patterns of avian diversity
Judit Ungvari-Martin, Gordon Burleigh

8:55 RADTaq sequencing to study phylogenetic relationships and diversification within the House Wren (Troglodytes aedon) complex
Raeann Mettler, Garth Spellman, John Klika

9:00 Phylogeography of Tadarida brasiliensis in North America
Ariadna Morales Garcia

9:05 DNA sequences identify cryptic species of North American quillworts (Isoetes L.)
Elizabeth Zimmer, W. Carl Taylor, Gabriel Johnson

9:10 Molecular phylogenetics of semi-fossorial Atlantic Forest anurans identifies new cryptic species across a small geographical scale
Joao Tonini, Maurício Forlani, Rafael de Sá

9:15 Forensic phylogeography of the invasive plant, kudzu (Pueraria montana) in its native range
Kerin Bentley

9:20 Multidimensional niches and the ecological and phylogenetic diversification of predatory Lasiopogon robber flies
Tristan McKnight, L. Lacey Knowles

9:25 Reconstructing the ancient biogeography and phylogeny of dragonflies (Odonata: Anisoptera)
Harald Letsch, Jessica Ware, Brigitte Gottsberger

9:30 Constraints in symbiont switching in higher fungus-gardening ants
Jon Seal

9:35 Reconstructing the spatio-temporal diversification of the Brazilian Eupatorieae (Asteraceae)
Vanessa Rivera

Monday June 23, 10:15 - 11:45 PM

3B_304 Lightning Talks: Evolution theory, methods, outreach

Room: 304 Chair : Jonathan Rowell

10:15 Estimating Evolutionary Divergence in an Ecological Community.
Bryan Carstens, Michael Gruenstaeudl, Jordan Satler

10:20 Theoretical perspectives on (co)evolutionary stability when multiple traits (co)evolve
Florence Débarre, Michael Doebeli, Scott Nuismer

10:25 Hybrid zones - natural laboratories for the study of symbiosis
Ben Fitzpatrick

10:30 Novel insights from spatial models of phylogenetic dissimilarity of Brazilian Atlantic Forest amphibians
Jason Brown, Dan Rosauer, Mariana Lyra, Paula Valdujo, Ana Carolina Carnaval

10:35 Experimental evidence natural selection drives genome-wide divergence during sympatric speciation
Scott Egan, Greg Ragland, Lauren Assour, Scott Emrich, Glen Hood, Thomas Powell, Patrik Nosil, Jeffrey Feder

10:40 Phenotypic plasticity and ecological speciation in Caribbean gorgonian corals
Juan Sanchez, Johanna Velásquez, Ivan Calixto

10:45 Why inter-montane valleys are lower in the tropics? Testing drivers of speciation in Andean birds
Andres Cuervo, Robb Brumfield

10:50 Does personality drive speciation?
Spencer Ingley, Jerald Johnson

10:55 River Networks and the Genetics of Aquatic Populations
Andrea Thomaz, Mark Christie, L. Lacey Knowles

11:00 Evolution of Continuous Reaction Norms
Courtney Murren, Heidi MacLean, Sarah Diamond, Ulrich Steiner, Mary Heskel, Corey Handelsman, Cameron Ghalambor, Josh Auld, Hilary Callahan, David Pfennig, Rick Relyea, Carl Schlichting, Joel Kingsolver

11:05 Gene expression evolves under a House-of-Cards model of stabilizing selection
Andrea Hodgins-Davis, Jeffrey Townsend

11:10 The Seed Cloud Method for the De Novo Identification of Novel Repeat Elements
Robert Ruggiero

11:15 Artificial selection results in a trade-off for herbivory in B. rapa fast plants
Jennifer Weber, Nicholas Genovese, Marisa Stockdale, Beth Ansaldi, Steve Franks, Ellen van Wilgenburg

11:20 Invasive Japanese knotweed (Fallopia japonica) exhibits tolerance, not resistance to the herbicide glyphosate
Acer VanWallendael

11:25 Adaptive Population Movement amid Incomplete Information: Implications for Harvesting and Community Dynamics
Jonathan Rowell

11:30 Demonstrating Evolution at the Otago Museum through Collections and Education
On Lee Lau

Tuesday June 24, 8:15 - 9:45 AM

4A_304 Lightning Talks: Genetics

Room: 304 Chair: Ovidiu Paun

8:15 Gene duplication and divergence affecting drug content in Cannabis
George Weiblen

8:20 Diversity of gene birth and death rates across Eukaryotes
Erik Hanschen, Michael Barker

8:25 Widespread impacts of a stable sex-ratio polymorphism on the X chromosome of Stalk-eyed flies
Josephine Reinhardt

8:30 Canine Genomics: Phylogenomics and Selection in the Modern Domestic Dog
Brian Davis

8:35 Factors influencing genetic boundaries between chipmunk species (Genus:Neotamias) in the Lake Tahoe Basin, California
Christina Frare, Evon Hekkala

8:40 Stay high or get low: can epigenetic variation lead to recurrent speciation?
Ovidiu Paun, Ruth Flatscher, Maria Teresa Lorenzo, Emiliano Trucchi, Božo Frajman, Peter Schönswetter

8:45 Using parasite genetics to infer patterns of host dispersal in a fragmented system
Kelly Speer, David Reed

8:50 Evolutionary genetic consequences of a catastrophic event: impacts of Volcan Puyehue on the colonial tuco-tuco
Jeremy Hsu

8:55 Population genomic structure and historical demography of rats in New York City
Jason Munshi-South, Cadhla Firth

9:00 Estimating the genetic diversity and spatial structure of Crocodylus suchus populations: implications for conservation
Seth Cunningham, Mathew Shirley, Evon Hekkala

9:05 Mitochondrial Genomes and radiocarbon dating reveal rapid evolution of dwarf California Channel Islands foxes (Urocyon littoralis)
Courtney Hofman

9:10 On the optimal trimming of high-throughput mRNA sequence data
Matthew MacManes

9:15 Microsatellites vs. RAD-Seq: A comparison of markers for population genetic inference in red mangroves (Rhizophora mangle)
Richard Hodel, Pamela Soltis, Douglas Soltis

9:20 A selection scheme for studying male mitochondrial transmission in Caenorhabditis briggsae
Joseph Ross

9:25 Connections between genotype and phenotype at candidate loci for environmental adaptation in house mice
Rachel Thayer, Megan Phifer-Rixey, Ke Bi, Sara M. Keeble, Jeffrey M. Good, Michael Nachman

9:30 Evidence for widespread positive and negative selection in coding and conserved noncoding regions of Capsella grandiflora.
Robert Williamson, Emily Josephs, Stephen Wright

9:35 In search of a wild type: defining terms and testing assumptions with data from Arabidopsis thaliana
Hilary Callahan

Tuesday June 24, 10:15 - 11:45 AM

4B_304 Lightning Talks: Evolutionary ecology

Room: 304 Chair: Frank Burbink

10:15 Adaptation to polyploidy: Genomics of genome doubling in Mimulus (monkeyflower)
Josh Puzey

10:20 Differentiation in critical photoperiod and flowering time in natural populations of Mimulus laciniatus along an elevational gradient
Paivi Leinonen, John Willis

10:25 What are the genetic underpinnings of shifts in the threshold of a plastic environmental response between populations of Mimulus douglasii?
Laryssa Baldridge, Ashley Troth, John Willis

10:30 Integrating phylogenetic and trait data to understand how snake communities form over steep environmental gradients in the Nearctic
Frank Burbrink

10:35 Intraspecific plasticity swamps interspecific variation in some freshwater fishes
Timothy Sosa

10:40 Can underground seed dispersal provide predator escape?
Rafael Rubio de Casas, Ignacio Cifrian

10:45 Personality across ontogeny in sister-species of Brachyrhaphis fishes from divergent environments: sex, predation and life-history trade-offs
David Money, Spencer Ingley, Jerald Johnson

10:50 Variation in adaptive resilience underscores differences in vulnerability to a changing environment for an ecologically important fish species
Luciano Beheregaray, Steve Smith, Chris Brauer, Peter Unmack, Gilles Guillot, Louis Bernatchez

10:55 Urbanization and phenotypic divergence in minnows
Elizabeth Hassell, Brian Langerhans

11:00 Does parental exposure to glyphosate increase filial cannibalism in burying beetles, Nicrophorus orbicollis?
Nicholas Berman, Katherine Morelli, Bronwyn Bleakley

11:05 The mechanistic basis of natural amino acid variation in a metabolic enzyme in Colias butterflies
Michael Bramson, Ward Watt

11:10 Immunological benefits of sweet-talk in fruit flies
Nicholas Priest

11:15 Do differences in glucocorticoid receptor (GR) or androgen receptor (AR) expression influence responsiveness to social partners in guppies?
W. Jackson Reilly, Corey Mair, Bronwyn Bleakley

11:20 Fishing for genes: the distribution of nervous network components across cnidarians
Adolfo Lara

POSTERS

Saturday June 21, 7:00 - 9:00 PM

1F_BalAB Saturday Poster Session

Room: Ballroom A & B

1 Variation of the plant-mycorrhizal interaction in a gynodioecious plant species
Katharine Putney, Shu-Mei Chang

2 Experimental evolution of parasitoid performance on two aphid hosts
Emily Mohl, George Heimpel

3 The utility of target capture and high-throughput sequencing of ultraconserved elements across an avian hybrid zone
Nick Vinciguerra, Brant Faircloth, John McCormack

4 Sexual selection on damselfly wing pigmentation in Calopteryx maculata
Oumar Sacko, Idelle Cooper, Tom Getty

5 Lekking, intrasexual competition, and predator defense in the parasitoid wasp <Napo townsendi> (Hymenoptera: Braconidae: Euphorinae)
Andy Kulikowski, Delina Dority, Will Robinson, Scott Shaw

6 Ecological character displacement between the sexes?
Stephen De Lisle, Locke Rowe

7 Male mate choice and female receptivity lead to reproductive interference
Savannah Nease, Jennifer Hamel, Christine Miller

8 Genetic variation for age at sexual maturity in wild baboons
Emily McLean, Jeanne Altmann, Susan Alberts

9 Using a New Zealand Freshwater Snail to Evaluate the Fate of Genes Under Relaxed Selective Constraints
Christopher Rice, Cynthia Toll, Jeffrey Boore, Maurine Neiman, John Logsdon

10 Crossing fitness-valleys without the help of Mendel
Matthew Osmond, Sarah Otto

11 Environmental constraints on nest-mate recognition molecules in Pogonomyrmex harvester ants
Michael Herrmann, Sara Helms Cahan

12 Sequence, cis-regulatory evolution and expression profile of HSPs in Ants
Andrew Nguyen, Sara Helms Cahan, Nicholas Gotelli

13 Phylogenetic signal in carnivore anatomy, life history, neurology, and ecology: how strong is it and does allometry make a difference?
Heitor Barcellos Ferreira Fernandes

14 Rapid evolution of mimicry following local model extinction
Chris Akcali, David Pfennig

15 The benefit of being a social butterfly: Communal roosting deters predation
Susan Finkbeiner, Adriana Briscoe, Robert Reed

16 Patterns and genetic mechanisms of nonfunctional trait loss
Samuel Perez, Jeffrey Conner, Doug Schemske

17 Investigating the genetic structure of a fragmented chorus frog species complex
Lisa Barrow, Alyssa Bigelow, Christopher Phillips, Emily Lemmon

18 Comparison of Aggressive and Advertisement Call Types in the Upland Chorus Frog, Pseudacris feriarum
Hannah Ralicki, Emily Lemmon

19 Natural replication for testing the influence of landscape processes on genetic structure across the disjunct range of the Pine Barrens treefrog
Alexa Warwick

20 Gene tree discordance and species delimitation in the widespread skink species Mabuya dorsivittata
Danielle Rivera, Ana Carolina Carnaval

21 Spider Phylogenomics Shifts the Paradigm for the History of Earth's Most Diverse Predator Lineage
Jason Bond, Nicole Garrison

22 Quantifying niche overlap in Neotropical Gladiator Frogs (Hylidae: Hypsiboas)
Brandon Baird

23 Is deep ancestral mtDNA clade divergence associated with contemporary nuclear genomic variation in threespine stickleback?
Emily Lescak, Susan Bassham, Julian Catchen, Jeffrey Colgren, Mary Sherbick, Frank von Hippel, William Cresko

24 The effects of age and genetic variation on the metabolome of Drosophila melanogaster
Jessica Hoffman, Daniel Promislow

25 Evolution and development of tubers in sweet potato and other morning glories
Lauren Eserman, Jim Leebens-Mack

26 A framework to study compensatory evolution
Gabriela Toledo

27 Strong seasonal selection results in rapid life history adaptation in Drosophila
Emily Behrman, Paul Schmidt

28 The implications of life history on the molecular evolution of chemoreception in predatory paussine beetles
Tanya Renner, Wendy Moore, Amanda Romaine

29 Island invaders: how island conditions alter the reproductive dynamics of wild house mice
Megan Serr, Caroline Leitschuh

30 Evolution of the leaf economic spectrum under habitat divergence across the genus Helianthus
Chase Mason, Lisa Donovan

31 Odd for an ericad: nocturnal pollination of Lyonia lucida
John Benning

32 Mechanisms of batrachotoxin resistance in toxic birds: sodium channel evolution in Pitohui
Megan Kobiela, Jack Dumbacher, Butch Brodie

33 Variation in pair-bond and related behaviors of male prairie voles
Andrea Vogel, Caitlin Clement, Caroline Leitschuh, Megan Serr, Lisa McGraw

34 The deep roots of animal sociality: hints from Williams-Beuren Syndrome genes
Cassondra Vernier, Yehuda Ben-Shahar

35 Expression Evolution of Dosage Balanced Ohnologs
ammon Thompson

36 Resistance against Botrocetin induced platelet aggregation in Didelphid Marsupials: Evidence for a Coevolutionary Arms Race
Danielle Drabeck

37 Geographical coincidence and mimicry between harmless snakes (Colubridae: Oxyrhopus) and harmful models (Elapidae: Micrurus)
Renan Bosque, Guarino Colli

38 A preliminary analysis of ontogenetic integration in the gray short-tailed opossum, Monodelphis domestica
Arthur Porto, John VandeBerg, Gabriel Marroig, James Cheverud

39 Was the radiation of the western chipmunks (genus Tamias, subgenus Neotamias) adaptive?
Ana Paula Aprígio Assis, Gabriel Marroig, James Patton

40 Are mpi and pgi Under Balancing Selection in Heliconius Butterflies?
Ryan Jenks, Luana Maroja

41 Dengue virus type 3 evolution and epidemic activity in Indonesia: A historical study of outbreaks from 1976-1979
Sean Edgerton, Duane Gubler, Shannon Bennett

42 Comparative Genomics of Desert Adaptation Among Mice in the Genus Peromyscus
Lauren Kordonowy, Matthew MacManes

43 To play, or not to play, that's a resource abundance question
Jeremy Auerbach, Gordon Burghardt

44 Selection during domestication affects the circadian clock and the expression of ecophysiological traits.
Yulia Yarkhunova

45 Is the susceptibility to chytridiomycosis related to niche conservatism?
Isis Arantes

46 A molecular phylogeny of microgastrine (Braconidae) wasps that attack Eois caterpillars (Lepidoptera: Geometridae)
Kyle Parks

47 Comparative phylogeography of amphibians in the southeastern U.S. with Anchored Phylogenomics
Lisa Barrow

48 The Significance of Integrating Genetic Patterns of Diversity with Geographic Patterns of Suitability
Sarah Duncan, Nichole Mattheus, Erica Crespi, Leslie Rissler

49 Environmental influences on germination and sex expression in Silene vulgaris
Malcolm Augat, Austin Yantes, Butch Brodie

50 The Effects of Social Status on Immune Function in Male Vertebrates: A Meta-Analytic Review
Bobby Habig, Elizabeth Archie

51 Fine-tuned adaptive responses of larval anurans to a combination of natural enemies
John Marino

52 Genome-wide phylogeography using RAD-Seq: cryptic vicariance in the Albertine Rift and gene flow into the Kenyan Highlands in Afromontane mammals
Terrence Demos

53 Testing Whether Ecological Differentiation Supports The Taxonomy Of Three Hibiscus Species In Northeast Texas
Melody Sain, John Placyk, Randall Small, Lance Williams, Marsha Williams, Joshua Banta

54 Single-cell analysis of yeast reveals natural variability in a potential bet-hedging trait
Colin S. Maxwell, Paul Magwene

55 The remodeling of the plant vacuole and its role in chloroplast evolution
Amber Paasch, Eunsoo Kim

56 Investigating natural selection on defense traits in Passiflora incarnata
Aline Waguespack Claytor, Nina Sletvold

57 Cascading effects of intraspecific variation in plant subsidies on aquatic and terrestrial ecosystem function
Sara Jackrel, J. Timothy Wootton

58 Individual growth rate heterogeneity changes population dynamics of perennial plants
Erin Feichtinger, Gordon Fox, Bruce Kendall

59 Variation in thermal tolerance in an invasive lizard (Anolis sagrei)
Tamara Fetters, Prabhsimret Dhillon, Joel McGlothlin

60 Comparing Pieris virginiensis (Lepidoptera: Pieridae) preference and performance on the native Cardamine diphylla and the invasive Alliaria petiolata
Kate Augustine, Joel Kingsolver

61 The relative roles of climate and interspecific interactions in determining distribution patterns differ between two species of hybridizing songbirds.
Michael McQuillan, Amber Rice

62 The genetic architecture of recombination rate variation in Drosophila melanogaster
Chad Hunter, Nadia Singh

63 Explaining population dynamics of two threatened prairie orchids through GIS modeling and next-generation sequencing
Andrea Ravelo, Steve Buback, Gavin Conant, J. Chris Pires

64 Evolutionary genetic consequences of a catastrophic event: impacts of Volcan Puyehue on the colonial tuco-tuco
Jeremy Hsu, Eileen Lacey, Elizabeth Hadly

65 Comparative Niche Modeling in Common Gartersnake (Thamnophis sirtalis) Subspecies
Kayla Key, Joshua Banta, Andy Gluesenkamp, Marsha Williams, John Placyk

66 Updating the phylogeny of Rhagoletis: Relationships of the North American species groups
Daniel Hulbert, Jim Smith

67 Investigating the molecular basis of female-to-male sex change in fish
Hui Liu, Melissa Slane, John Godwin, Kim Rutherford , Neil Gemmell

68 Postmating Prezygotic Barriers to Gene Exchange in Rapidly Speciating Hawaiian Laupala Crickets
Jon Lambert

69 Genomic clines and admixture in a natural primate hybrid zone
Marcella Baiz, Liliana Cortes Ortiz

70 Mechanisms by which phenotypic plasticity promotes and hinders ecological speciation
Etsuko Nonaka, Richard Svanbäck, Xavier Thibert-Plante, Göran Englund, Åke Brännström

71 Genomic regions of intraspecific divergence in a homoploid hybrid species
Cassandra Trier, Glenn-Peter Sætre

72 Genomic signatures of rapid adaptive divergence in the Swamp Sparrow
Petra Deane-Coe, Steven Bogdanowicz, Irby Lovette, Rick Harrison

73 Hybrid songbirds employ intermediate routes in a migratory divide
Kira Delmore, Darren Irwin

74 It's inner beauty that counts: ecomorphological diversification of feeding morphologies in the Neotropical fish superfamily Anostomoidea
Benjamin Frable, Brian Sidlauskas

75 Importance of Museum Specimens versus Literature Data for Distribution Records, a Case Study with Cicadas
Kreshnik Jusufi, Geert Goemans, Chris Simon

76 anyFish: a free, open-source software platform for generating animated fish models to study behavior
Spencer Ingley, Chengde Wu, Mohammad Rahmani Asl, Mahmoud Islam Abdelhay Gadelhak, Rongfeng Cui, Jon Simpson, Jerald Johnson, Wei Yan, Gil Rosenthal

77 The Generation of Ontology: negotiating the organism's place in evolutionary theory
Max Dresow, Emilie Snell-Rood

78 Using microsatellite loci to distinguish detween members of the Peromyscus leucopus species group
Hayden Pehl, Sean Beckmann, Lauren Hyser

79 Applications of Circos beyond genomics
Christopher Campbell, Peter Larsen, Christopher Blair, Anne Yoder

80 FlatNJ: A Novel Network-Based Approach to Visualize Evolutionary and Biogeographical Relationships
Monika Balvociute, Andreas Spillner, Vincent Moulton

81 Phenotypic Plasticity of the Pharyngeal Jaw in the Parachromis Managuensis Cichild Fish
Carson Cope, Brian Langerhans

82 Population variation in age and size at metamorphosis in different morphs of spadefoot toads
Katrina Pfennig, Elsa Pfennig, David Pfennig, Karin Pfennig

83 Analysis of the genetic adaptation of two Arabidopsis strains to high concentrations of heavy metals
Maggie Lassiter, Alex Ludwig, Hari Madhu, Cere Poovey

84 Citizen Science: Engaging Students in Authentic Scientific Research
Lea Shell, Kristin Bedell

85 Analysis of Cancer-Related Genes in the Wnt Signaling Pathway
Tingzhou Meng

86 The effect of population size on the genetic drift of eye color in Drosophila melanogaster
Jaye Sudweeks, Richard Romano

87 Female mate choice based on male morphology in Poecelia reticulata
Anjalique Knight, Na'Briya Ware, Etinosa Obanor, Emily McGuirt

88 Effects of UV radiation on survival and reproduction of S. cerevisiae strains with and without DNA-repair mechanisms
Amanda Glen, Abby Blaine, Sydney Cole, Cailee Ladd

89 Adaptation for salinity tolerance in two mutant strains of Arabidopsis
Michael Li, Shuyi Wang, Maggie Knostman

90 The complete mitochondrial genomes of two species of Orconectid crayfishes
Dyani Sabin, Angela Roles

91 Characterization And Evolutionary Analysis Of The Highly Diverse Latrotoxin Venom Gene Family From The Common House Spider Genome
Kerry Gendreau, Robert Haney, Jessica Garb

92 Notung 2.7: Software platform for reconciling gene and species trees to infer duplications, losses, and transfers
Minli Xu, Han Lai, Maureen Stolzer, Dannie Durand

93 Complete mitochondrial genome sequences reveal that independent control region duplications (usually) result in identical gene orders in parrots
Jessica Eberhard, Erin Schirtzinger, Timothy Wright

94 SimPhy: Comprehensive simulation of gene, locus and species trees at the genome-wide level
Diego Mallo, Leonardo de Oliveira Martins, David Posada

95 Student-centered active learning curriculum in evolutionary biology
Andrew Martin, Sarah Seiter

96 Increasing student engagement in STEM through an authentic research introductory biology laboratory course
Jane Indorf, David Janos, Michael Gaines

97 DNA barcoding gap: Reliable species identification over morphological and geographical scales
Klemen Čandek, Matjaz Kuntner

98 Linking to Literature to Increase Understanding and Decrease Fear about Evolution and Science
John Niedzwiecki, Wyeth Burgess

99 SDMtoolbox: a python-based GIS toolkit for landscape genetic, biogeographic, and species distribution model analyses
Jason Brown

100 Mating prescription, proscription, and the time since a common ancestor; a coalescent approach
Russell Campbell

101 Phylogeny of urban ants in North America: Does relatedness predict ant success in cities?
Amy Savage

102 Genome-wide patterns of isolation by time associated with life cycle shifts in the European corn borer
Gabriel Golczer, Brad Coates, Erik Dopman

103 Patterns of ecological selection and geographic divergence within a neotropical fruit fly
Kristina Ottens

104 An Integrative Approach to Detecting Cryptic Wild Tomato Species (or How Many Tomato Species Live in the Atacama Desert?)
Andrew Raduski

105 Imaging Kleptoplasty in the Marsh Foraminifera of South Carolina
Megan Cevasco

106 The effects of social environment and predation risk on the emergence of personality: an experiment
Tamás Urszán, János Török, Attila Hettyey, László Garamszegi, Gabor Herczeg

107 Mitochondrial hot spots: recombination, mutation, or selection?
Meggan Alston, Stephen Jensen, Sarah Bradburn, Halie Andersen, Carina Marón, Sílvia Pérez-Espona, Will Goodall-Copestake, Jon Seger

108 Exploration of conditions favoring the evolution of superfetation using a state dependent life history model
Ashley Edwards, Rebecca Hale

109 Habitat transitions in insects and associated molecular evolutionary patterns
T Fatima Mitterboeck, Sarah J. Adamowicz, Jinzhong Fu

110 Analysis of QTLs for dietary influences on body weight in Drosophila
Ayse Cigdem Tunckanat

111 Detecting novel instances of meiotic drive in wild populations of Mus
Lorraine Provencio, Matt Dean

112 Structure and Decay of a Proto-Y Region in Tilapia, Oreochromis niloticus
Will Gammerdinger

113 Naturally occurring deletions of Hunchback binding sites in the even-skipped stripe 3+7 enhancer
Arnar Palsson, Natalia Wesolowska, Michael Ludwig, Martin Kreitman

114 The Status and Populations Genetics of the Flattened Musk Turtle
Peter Scott

115 Eye size sexual dimorphism and interspecies variation in Daphnia
Stephen Walterhouse

116 Genomic impacts of sex-ratio meiotic drive in stalk-eyed flies
Josephine Reinhardt

117 Male fertility costs of sex-ratio meiotic drive and rates of female remating in Drosophila neotestacea
Cheryl Pinzone, Kelly Dyer

118 Cryptic sex? Estimates of gene exchange between sexual and asexual mole salamanders (Ambystoma sp.)
H. Lisle Gibbs, Robert D. Denton

119 Recombination load caused by multiple chromosomal rearrangements
Spencer Koury, Walter Eanes

120 B Chromosome Maintenance in Cichlid Fishes
Frances Clark

121 Local adaptation of the eastern oyster: evidence from a reciprocal transplant experiment
Martha Burford Reiskind

122 The influence of plasticity and evolution on information use during resource exploitation with variable competition
Sarah Jaumann, Emilie Snell-Rood

123 Evolutionary relations and population differentiation of Acipenser gueldenstaedtii Brandt., Acipenser persicus Borodin and Acipenser baerii Brandt.
Alexey Sergeev, Nikolai Mugue

124 Rapid visual pigment evolution in a radiation of freshwater anchovies
Alex Van Nynatten, Devin Bloom, Belinda Chang, Nathan Lovejoy

125 Investigating the role of candidate genes PIN1 and BRC2 in shaping resource allocation tradeoffs and life history evolution in diverged popula
Bishwa Giri

126 The role of evolution for the invasion of salt cedar (Tamarix ramosissima) across Western United States
Soo-Rang Lee, Matthew Olson

127 Population genetic structure and fitness of Daphnia pulicaria across a pH gradient in three North American lakes
Billy Culver

128 Host before Habitat? Assessing congruency in patterns of gene flow in an imperiled freshwater mussel and its vertebrate host.
Mason Murphy, David Weisrock, Steven Price

129 Population genetics of non-LTR retrotransposons in lake and oceanic populations of three-spine stickleback
Jayson Slovak, Stephane Boissinot

130 Phylogeography of the Malagasy ant species Odontomachus coquereli.
Jason Jackson, Brian Fisher, Brice Noonan

131 Macro- and micro-scale phylogeny of Japanese hynobiid salamanders: implication of genetics to conservation of H. tokyoensis
Hirotaka Sugawara, Tamotsu Kusano, Fumio Hayashi

132 Where do introduced populations learn their tricks? Searching for the geographical source of a species introduction to the Galápagos archipelago.
Adrienne Cheng, Sarah Pangburn, Jasmine Gums, Adrian Troya, Andrea Sequeira

133 Genetic variation in a fungal entomopathogen Pandora neoaphidis and the evolution of symbiosis in pea aphid populations
Narayan Wong, Jacob Russell, Andrew Smith

134 A SINE-based tool for studying population structure of Coilia nasus
Dong Liu, Wenqiao Tang

135 Effects of geography, climate and host plant association on population genetic differentiation of a specialized mediterranean grasshopper
Víctor Noguerales, Pedro J. Cordero, Joaquín Ortego

136 Geographic and genetic variation in an acoustically-orienting parasitoid fly
Marlene Zuk, Susan Balenger, Henry Kunerth, David Gray

137 Heat shock transcription factor regulates differential responses to acute heat stress in conspecific populations of Tigriopus californicus
Sumaetee Tangwancharoen, Ron Burton, Gary Moy

138 Horizontal gene transfer enables rapid evolution and decline of the legume/rhizobia mutualism
Benjamin Gordon, Christie Klinger, Dylan Weese, Patricia Burke, Jennifer Lau, Katy Heath

139 Population specific differential thermal stress response in Drosophila melanogaster in a lab versus field setting
Vinayak Mathur, Paul Schmidt

140 Acclimation and adaptation in a marine invertebrate, Tigriopus to common marine pollutants
Patrick Sun, Helen Foley, Suzanne Edmands

141 Cryptic Diversity in Ethiopian Highland Amphibians Revealed Through Molecular Data
Megan Smith, Brice Noonan, Timothy Colston

142 Natural variation in freeze tolerance between the yellow monkeyflowers Mimulus tilingii and M. guttatus
Alexis Caldwell, Clifford Smith, Kevin Kurack, Carrie Wu

143 Exploration of the Evolutionary Landscape of Chemical Sequestration Using a Model System from the Southern United States
Katherine Bell, Chris Nice, Premal Shah, James Fordyce

144 Reproductive isolation in sympatry & allopatry: Gene expression/sequence analysis of courtship traits and male sterility in Hawaiian Drosophila
Donald Price, Eva Brill, Thomas Fezza, Anne Veillet, Elizabeth Stacy, Pawel Michalak

145 Divergence and gene flow in a cosmopolitan lineage of dabbling ducks
Joel Nelson, Kevin McCracken, Jeffrey Peters

146 The molecular basis of novel phenotypes in hybrids: transgressive segregation in heat-tolerance
Madoka Krick, Ricardo Pereira, Felipe Barreto, Ron Burton

147 Characterization of Newly Discovered Interspecific Hybrids in the Drosophila affinis Subgroup
Amanda Abrams, Ryan Mulqueen, Spencer Koury

148 The genomic landscape of a homoploid hybrid species
Tore Oldeide Elgvin, Glenn-Peter Sætre, Cassandra Trier

149 Diversifying selection on candidate genes involved in postcopulatory reproductive incompatibilities between Drosophila mojavensis and D. arizonae
Jeremy Bono, Luciano Matzkin, Kim Hoang, Laurel Young

150 Trade-off between the reproductive and anti-competitor roles of a bacterial symbiont of insect-parasitic nematodes
Farrah Bashey-Visser, Sofia Bertoloni Meli

Sunday June 22, 7:00 - 9:00 PM

2F_BallAB Sunday Poster Session
Room: Ballroom A & B

1 Host-Parasite Interactions: The Cuckoo Catfish and Non-Sympatric Hosts
Anna Vinton

2 Assessing Genotypic Bias in Neotropical Army Ant Caste Determination
Andrea Thompson

3 Inferring parentage in Eciton burchellii colonies
Gabriel Trujillo

4 The role of Agouti isoforms in the evolution of pigmentation differences in deer mice
Tess Linden, Ricardo Mallarino, Catherine Linnen, Hopi Hoekstra

5 Cryptic diversity of Melanochlamys sea slugs (Gastropoda, Aglajidae) in the North Pacific
Samantha Cooke, Angel Valdes

6 Discordance Among Geographical, Morphological, and Genetic Data May Indicate Interspecific Hybridization in the Peromyscus leucopus Species Group
Jennifer Brannon, Sean Beckmann

7 Testing the Coalescent with Whole Genome Data
Amie Settlecowski, John Kelly

8 Evolution of Biased Chemotaxis in Escherichia coli
Austin Cole

9 The effect of eye size and habitat on scleral thickness in mammals
Sophie Wang, Lars Schmitz

10 The impacts of floral features on pollinator landing success
Michael Rivera, Anna Dornhaus

11 Floral and Pollinator Evolution in Light of a Near-complete Phylogeny for Polemoniaceae
Jacob Landis, Margarita Hernandez, Douglas Soltis, Pamela Soltis

12 Migratory birds carry plant diaspores in their feathers
Emily Behling, Lily Lewis , Hannah Gousse, Emily Qian, Chris Elphick, Jean-François Lamarre, Joël Bêty, Ricardo Rozzi , Bernard Goffinet

13 Documentation of Female Song in the Tropics: The Case of the Puerto Rican Oriole
Susanna Campbell

14 Species delimitation and genetic diversity among populations of Etheostoma raneyi (Yazoo Darter) in northern Mississippi.
Andrew Brown

15 Developing and evaluating novel nuclear markers for phylogenetic reconstruction in the myrrh genus,Commiphora Jacq.using multiplexed target enrichment
Kiera Coy, Andrea Weeks, Morgan Gostel

16 Effect of chronic infection on resource allocation
Sarah Khalil, Moria Chambers, Brian Lazzaro

17 Remarkable colonization from West Indies to Neotropical mainland in weevils supported by phylogenetic and biogeographic analyses
Usmaan Basharat

18 Elemental Defense in Alyssum murale: Effect on a Specialist Herbivore, Pieris rapae
Alexandria Igwe, Mary McKenna

19 Consequences of terrestrial egg laying in amphibians: a comparison of embryonic oxygen sensitivity in two Ambystomatid salamanders
Natrieifia Miller, Emily Saxe, Rebecca Hale, Caroline Kennedy, Robert Francis

20 Development of microsatellite primers and population genetics of an arctic-alpine species, Toefiledia pusilla
Daniela Zarate

21 Population genetic analysis of golden eagles (Aquila chrysaetos) killed at the Altamont Wind Pass Resource Area in California
Nadia Fernandez, Jacqueline Doyle, Todd Katzner, J. Andrew DeWoody

22 Biogeographical Patterns of Two Phoenicurus Redstarts Across Eurasia
Anna Blick, Gary Voelker, Sergei Drovetski

23 Rhagoletis juniperina in the Great Lakes region: A bridge to Old World Rhagoletis?
Megan Frayer, Daniel Hulbert, Jim Smith

24 Reproductive incompatibility within a woodland strawberry species
Rebecca Dalton

25 Duplicated Mitochondrial Genes in Whip-Tail Lizards
Jose Maldonado

26 The influence of community biodiversity on coevolution: Drosophila and their parasitoid wasp as a model system
Chia-Hua Lue, Jeff Leips, Matthew Buffington

27 Population structure in Egyptian geese and their heamosporidian parasites
Tim Kawsky, Leah Shurte, Graeme Cumming, Jeffrey Peters

28 Do ecology, habitat, life history or social behaviour influence disease risk in squirrels?
Mirjam Ansorge, Natalie Cooper

29 Who's your chipmunk? Co-divergence, host-switching, and diversification in a widespread pinworm
Kayce Bell, John Demboski, Joseph Cook

30 Influence of sex and habitat on the size and shape of anal and dorsal fins of the blackstripe topminnow, Fundulus notatus
Daniel Welsh, Rebecca Fuller

31 Squash bugs host multiple endosymbiotic Burkholderia sp.
Gregory Fricker, Justine Garcia, Tarik Acevedo, Nicole Gerardo

32 Diversity and Transmission of Symbiotic Bacterial Communities in Haplosclerid Sponges of the Caribbean Sea.
Michael Dewar, Megan Zappe, Cole Easson, Bob Thacker

33 Concept Essay on Why Life Evolves in the Universe
James Thornton

34 Edward O. Wilson's "conversion": a current polemic about group selection.
Lívia Maria Santos Assunção, Mark Borrello, Charbel Niño El-Hani

35 Comparison of Sex-Biased Gene Expression and Behavior in Drosophila melanogaster between Wild and Lab Strains
Clair Han

36 Are Maternal Effects Species Specific?
Kyle Benowitz, Katherine Moody, Allen Moore

37 Clinal variation of nest-building behavior in house mice (Mus musculus domesticus)
Ting-Ting Lin, Michael Nachman

38 Using genomics to detect local adaptations and assess conservation risks in populations of the California Gnatcatcher
Josie Griffin

39 Evidence of two distinct evolutionary host lineages in Pseudoperonospora cubensis through comparative genomic analysis
Anna Thomas, Kisurb Choe, Ignazio Carbone, Peter Ojiambo

40 In vitro models of endangered species: transcriptomic characterization of Rana sevosa genes associated with chytrid fungus response
Cynthia Steiner, Marlys Houck, Oliver Ryder

41 Positive selection drives the evolution of a major histocompatibility complex gene in an endangered Mexican salamander species complex
Karen Tracy, Kelly Zamudio, Karen Kiemnec-Tyburczy, Gabriela Parra Olea, J. Andrew DeWoody

42 Local adaptation and linkage maps - a first step towards the genomic architecture of fitness-related phenotypes in natural populations
Christopher Friedline, Brandon Lind, Erin Hobson, D. Ethan Harwood, Annette Delfino-Mix, Patricia Maloney, Andrew Eckert

43 The two-component regulatory system, etk is involved in biofilm morpholog In the symbiotic bacterium, Vibrio Fischeri
Amy Nava, Michele Nishiguchi

44 Factors influencing rates of autogamy among populations
Alison Post, Laura Galloway

45 Experimental Evolution of Divergence with Gene Flow: Testing for Local Adaptation in Yeast
Tyler Hether, Matthieu Delcourt, Paul Hohenlohe

46 Larrea populations exhibit multiple solutions to freezing stress with contrasting implications for persistence in a warming world
Juliana Medeiros

47 Temporal dynamics of neotropical Epidendrum species (Orchidaceae) under climate change
David Draper, Isabel Marques

48 Genome-wide effects of factorial fire and thinning in fire-suppressed populations of Jeffrey and sugar pine
Brandon Lind, Christopher Friedline, Erin Hobson, Malcolm North, Andrew Eckert

49 Proof-of-Concept for the development of environmental DNA tools for Atlantic sturgeon management
Jameson Hinkle, Greg Garman, Rodney Dyer

50 Contemporary Evolution In Managed Natural Ecosystems: How Much Does It Take To Get A Manager Fired?
Ryan Thum, Lindsey-Ann Schulte, Danielle Grimm, Syndell Parks, James McNair
CANCELLED

51 Body size evolution in catfish (Siluriformes)
Dave Campbell, Jacob Schaefer, Wilfredo Matamoros

52 Impact of dietary adaptation on gastrointestinal biology across trophic levels in Lake Malawi cichlids
Kaitlin Coyle, Natalie Roberts, Reade Roberts

53 Ecology and Evolution of Common Tetras (Teleostei: Characidae) in shallow streams of southwestern Ecuador
Windsor Aguirre, Ronald Navarrete, Virginia Shervette, Paola Calle, Antonio Torres, Enrique Laaz, Marissa Locke, Grecia Valadez, Vinh Vu, Alexandra Confer

54 Effects of temperature and water flow on morphology and swimming performance in Astyanax mexicanus (Teleostei: Characidae)
Winer Reyes, Windsor Aguirre

55 Body shape variation in Rhoadsia (Teleostei: Characidae) along a low altitude gradient in Western Ecuador
Grace Malato, Maxine Loh, Webster Vital, Catherine Collins, Vinh Vu, Grecia Valadez, Paola Calle, Ronald Navarrete, Windsor Aguirre

56 Differential symmetry in the limbs of emydid and kinosternid turtles: are more important limbs more symmetrical?
Jonas Oppenheimer, Cally Deppen, Ben Welkie, Gabe Rivera

57 Polygenic Sex Determination in the Cichlid Fish Astatotilapia burtoni
Natalie Roberts, Scott Juntti, Allyson Ryan, Russell Fernald, Reade Roberts

58 Population Genetics of the Blackspotted Topminnow using Genomic SNP Analysis
Eric Westhafer, Jacob Schaefer

59 Contrasting Genetic Structure of Two Topminnow Species in Adjacent Contact Zones.
David Duvernell, Jacob Schaefer

60 Phylogeny and reclassification of the plant-associated species of the family Rhizobiaceae.
Seyed Abdollah Mousavi, Kristina Lindström

61 Hybrid Dysgenesis and Transposable element variation in Drosophila simulans
Tom Hill, Christian Schlötterer, Andrea Betancourt

62 Temporal Stability of Molecular Diversity Measures in Natural Populations of Drosophila pseudoobscura and Drosophila persimilis
Jennifer Gredler, Mohamed Noor, Alex Hish

63 The Repetitive Landscape of Megachile Rotundata
Aressa Coley

64 Chromosomal variation and reproductive isolation in wild house mice (Mus musculus domesticus) in Switzerland
Sofia Grize, Jeremy Searle, Barbara König, Anna Lindholm

65 The Contribution of Repetitive Elements to Genome Size in North American Fireflies
Katharine Korunes, Sarah Sander, David Hall

66 Exploiting the full potential of next-generation DNA sequencing through genotype imputation
Daniel Money, Kyle Gardner, Sean Myles

67 Does selfing facilitate niche shifts? Evidence from niche modeling
Alannie Grant, Susan Kalisz

68 Genotype by social environment interaction for male aggressive behavior in Drosophila melanogaster
Palle Jensen, Bryn Gaertner, Kirsty Ward, Trudy Mackay

70 Partial behavioral isolation between two divergent populations of Drosophila melanogaster and their mating potential with other wild type populations.
Phillip Barnes, Phoebe Winn, Melanie Argueta, Lucy Drayson

71 Maintenance of plasmid-encoded drug resistance in Acinetobacter baumannii in liquid culture and biofilms
Genevieve Metzger, Eva Top, Jack Millstein, Silvia Smith, Thibault Stalder, Matthew Settles, Karol Gliniewicz, Larry Forney

72 The distribution of major mutational effects: assaying thousands of Arabidopsis thaliana insertion mutants with unPAK
Matt Rutter, Courtney Murren, Hilary Callahan, Allan Strand, Michael Wolyniak

73 Uncovering mutant and natural variation phenotypes in Arabidopsis roots
Courtney Murren, Clare Kohler, Michelle Jordan, Amber Frazier, Gorka Sancho

74 How cardiac system developed during metazoan evolution
Hiroshi Shimizu

75 Modularity and integration in the mouse scapula
Madeline Keleher, James Cheverud, Charles Roseman

76 Heteropatric Speciation: picking a mate over space and time
Abigail Kimmitt

77 Genomic regions under divergent selection as a by-product of character displacement in spadefoot toads
Heidi Seears, Karin Pfennig, David Pfennig, Amber Rice

78 Reiterative evolution during rapid radiation of Diospyros (Ebanaceae) in New Caledonia uncovers the basis of adaptation
Ovidiu Paun, Barbara Turner, Jérôme Munzinger, Mark W. Chase, Rosabelle Samuel

79 Population structure reflects patterns of sexual isolation in a case of reinforcement in Drosophila
Emily Bewick, Michael Bray, Kelly Dyer

80 Using molecular sequencing to assess the geographic origin of an introduced obligate brood parasitic finch (Vidua macroura)
Noah Burg, Julie Lockwood, Phillip Cassey, Mark E. Hauber

81 Towards an avian model system for speciation genomics: gene expression divergence in zebra finches (Taeniopygia guttata)
John Davidson, Christopher Balakrishnan

82 The repeatability of variability: exploring intra- and inter-individual variation in seasonality
Kevin Matson, Maaike Versteegh, Irene Tieleman

83 Visual transcriptomics of seasonal forms of the butterfly Bicyclus anynana
Aide Macias, Adriana Briscoe, Antónia Monteiro, Furong Yuan

84 An amino acid polymorphism in the Drosophila insulin receptor demonstrates pleiotropic and adaptive function in life history traits
Annalise Paaby, Paul Schmidt

85 Evidence that previous experiences anchor mate choice decisions in male Drosophila
Kimberly Dolphin, Ashley Carter

86 The T-type calcium channel from basal eumetazoan Trichoplax adhaerens highlights the fundamental features and evolution of the Cav3 channel family
Adriano Senatore, Liana Artinian, Arnaud Monteil, Wendy Guan, Arianna Tamvacakis, Vincent Rehder, Paul Katz, David Spafford

87 The contribution of mutation and environmental variation to population variation in gene expression
Andrea Hodgins-Davis, Jeffrey Townsend

88 Molecular evolution of 13 mitochondrial OXPHOS genes in Euteleost fishes
Feifei Zhang, Richard Broughton

89 A Comparison of Molecular Markers for Analyzing Population Structure in Three Species of Shark
Drew Duckett, Gavin Naylor

90 Investigation of Atlantic white-sided dolphin (Lagenorhynchus acutus) population structure in the western North Atlantic based on mtDNA analysis
Nicole Vollmer

91 Surprisingly simple evolutionary histories of arctic peat mosses (Sphagnum)
Hans Stenoien, Jonathan Shaw, Blanka Shaw, Karen Golinski, Kristian Hassel, Kjel I. Flatberg

92 Species delimitation and morphological evolution in the Heteronotus delineatus complex (Insecta: Hemiptera: Membracidae)
Olivia Evangelista, Marcio Pie, Julie Urban, Jason Cryan

93 New species of metaine spiders (Araneae, Tetragnathidae)
Bob Kallal, Gustavo Hormiga

94 Phylogeny and historical biogeography of the Rhinolophus pusillus species complex
Balaji Chattopadhyay, Kritika Garg, Swamidoss D Paramanantha, Sripathi Kandula, Uma Ramakrishnan

95 Redescription and systematics of the sheet web spider genus Lomaita, Bryant 1948 (Linyphiidae).
Thiago da Silva Moreira, Gustavo Hormiga

96 The Cochineal Insect Genome: Dactylopius coccus Genome Assembly
Alex Van Dam, Simon Rasmussen, Bent Petersen, Rubini Maya Kannangara, Paiman Khorsand-Jamal, Bjoern Madsen, Finn Okkels, Mads Bennedsen, Kim Binderup, Thomas Sicheritz Pontén, Ulf Thrane, Birger Lindberg Møller, Uffe Hasbro Mortensen, Rasmus J. N. Fandsen

97 Population genomics of Dascyllus trimaculatus (Rüppell 1829) in the Indian Ocean
Eva Salas

98 Phylogeography of Mesoamerican bumble bees
Michelle Duennes, Sydney Cameron

99 To Sprout in Drought: A Genome-Wide Association Study of Drought Resistance in Cultivated Sunflower (H. annuus) Seedlings.
Rishi Masalia, Kody Brindley, John Burke

100 Evolution of flowering time and disc color across the genus Helianthus
Kaleigh Davis, Chase Mason, Lisa Donovan

101 Understanding floral trait evolution in wild sunflowers (genus Helianthus)
Hiral Patel, Chase Mason, Lisa Donovan

103 Mechanisms maintaining two feeding strategies in the moth Symmestrischema lavernella
Stephanie Cruz Maysonet, T'ai Roulston

104 Plant Trait Variation of Big Bluestem (Andropogon gerardii) Across Great Plains' Reciprocal Gardens
Matthew Galliart

105 Selective pressure by pollinators on floral nectar of female Eurya japonica
Kaoru Tsuji, Takayuki Ohgushi

106 Anchored Phylogenomics: Rapidly Expanding Across the Tree of Life
Michelle Kortyna, Alan Lemmon, Emily Lemmon

107 Species delimitation of Cattleya coccinea and C. mantiqueirae (Orchidaceae): insights from phylogenetic and population genetics analyses
Jucelene Rodrigues, Cassio van den Berg, Aluana Abreu, Mariana Novello, Elizabeth Veasey, Giancarlo Oliveira, Samantha Koehler

108 Assessing the Phylogenetic Utility of the ITS Regions
Kevin Bird

109 Extreme genetic homogeneity: Phylogeography of the salamander genus, Pseudotriton
LaShonda Caine, David Beamer

110 Features of diversification in a ubiquitous freshwater crustacean, the Hyalella azteca species complex
Gary Wellborn, Jonathan Witt

112 Statistical Analysis of the Factors Affecting the Distribution of Genome size in Angiosperms
Rosana Zenil-Ferguson, Gordon Burleigh, Jose Miguel Ponciano

113 Insect Phylogeny from the 1000 Insect Transcriptome Evolution (1KITE) initiative
Karl Kjer, Xin Zhou, Bernhard Misof

114 Comparative transcriptomics reveals orthologous loci for spider phylogenetics
Jesus Ballesteros, Prashant Sharma, Rosa Fernandez-Garcia, Gonzalo Giribet, Gustavo Hormiga

115 Solving and contrasting tokogenic relations in nuclear gene ITS-2 and mitochondrial msh-1 of Caribbean Octocorals.
Lina Gutierrez, Juan Sanchez

116 A phylogenetic approach for estimating amounts of nonhomologous gene conversion in duplications
Xiang Ji, Jeffrey Thorne

117 Understanding the Benefit of Soma during the Origin of Cellular Differentiation
Erik Hanschen, Richard Michod

118 Nutrient effects on energy allocation among body parts within an individual.
Goggy Davidowitz, Autumn Moore, Andrew Daws, R. Craig Stillwell

119 Predator induced aggregation of Chlamydomonas reinhardtii by a diffusible signal
Sarah Cossey, Chris Berger, Nicole Richardson, Bradley Olson

120 Evolution of sex-biased gene expression in human and non-human primates
Nichole Rigby, Rob Kulathinal

121 Unsorted homology within locus and species trees
Diego Mallo, Leonardo de Oliveira Martins, David Posada

122 Network Structure of Gene Expression Anticorrelation in Saccharomyces cerevisiae
Christopher Morales, Joshua Rest

123 Witnessing Adaption in Action via Synthetic Phage Genomics
Alex Kula, Catherine Putonti, Katherine Bruder

124 Community detection on networks of topologies and bipartitions identifies conflicting phylogenetic signal
Jeremy Ash, Guifang Zhou, Wen Huang, Melissa Marchand, Kyle Gallivan, James Wilgenbusch, Jeremy Brown

125 Identification of downstream targets of the Pax gene in the sponge Ephydatia muelleri
Ajna Rivera, Nathan Haberkern, Arvind Arul Nambi Rajan, Dora Posfai, April Hill

126 Variability of rRNA operon number and its effect in the growth parameters of Bacillus isolates from an oligotrophic ecosystem
Pedro Márquez-Zacarías, Jorge Valdivia-Anistro, Gabriela Delgado-Sapien, Luis Eguiarte, Valeria Souza

127 Testing host-defense functions of the giant panda RNase A genes
Sara Budney

128 Macroevolutionary Patterns of Plant Phenolic Metabolites in the Onagraceae
Jeffrey Ahern, Daniel Anstett, Marc Johnson, Juha-Pekka Salminen

129 The role of the environment in specialized plant-insect interactions
Anahi Espindola, Scott Nuismer

130 The microscopic battle of David and Goliath: competing large and small viruses
Alexandria Cooper, Catherine Putonti, Monica Janeczek

131 Sources, sinks, SNPs, and snappers: population structure of deepwater snappers in protected and non-protected areas of Puerto Rico
Stuart Willis

132 The orchid thief and friends: A look into the evolution of the loss of photosynthesis in plants
Kathryn Massana

133 Annual Arabidopsis thaliana has faster substitution rates than perennial A. lyrata at numerous loci consistent with plant generation time hypothesis
John Braverman, Matthew Hamilton, Brent Johnson

134 Darwin's peaches: grape-phylloxera galls interrogated by RNA-Seq
Wade Dismukes, J. Chris Pires

135 A Monogamous Mind: Modeling the Co-evolution of Intelligence and Monogamy in Early Humans
Kelly Rooker, Aaron Mishtal, Sergey Gavrilets

136 Modeling all or nothing behavior in social animals
Masoud Mirmomeni, Arend Hintze, Eli Strauss, Christoph Adami

137 Inter- or Intra-genomic gene conversions between peptide-chain release factor paralogs in Bacteroidetes
Sota Ishikawa, Ryoma Kamikawa, Yuji Inagaki

138 Synthesizing range biology and the eco-evolutionary dynamics of dispersal
Alexander Kubisch, Robert D. Holt, Hans Joachim Poethke, Emanuel Fronhofer

139 Quorum sensing inhibits the breakdown of cooperative behavior by social cheaters in Vibrio bacteria
Eric Bruger, Christopher Waters

140 Spatially correlated extinctions select for less emigration but larger dispersal distances in the spider mite Tetranychus urticae
Emanuel Fronhofer, Jonas Stelz, Eva Lutz, Hans Joachim Poethke, Dries Bonte

141 Genetic and environmental drivers of geographic variation in dispersal traits in Cakile edentula: implications for the evolution of species' ranges
Elizabeth LaRue, Nancy Emery

142 Phylogenomic evaluation of parasitic wasps in the genus Aphelinus (Hymenoptera, Chalcidoidea)
Kristen Kuhn, Keith Hopper

143 Genome Evolution in Orchids and Fungi
Sarah Unruh, Michael McKain, Patrick Edger, Larry Zettler, J. Chris Pires

144 Refining phylogenetic hypotheses: increasing the resolution of cryptic nodes in the genus Lasthenia
Joseph Walker, Alan Clinton, Michael Zanis, Nancy Emery

145 Genetic and morphometric comparison between two lineages of Peromyscus leucopus in northern Michigan
Joseph Baumgartner, Susan Hoffman

146 Identifying hyper-variable regions within the chloroplast genome of Anthurium (Araceae)
Monica Carlsen

147 Chloroplast genome sequence of Amphilophium aschersonii, a liana from Western Amazon
Verônica Thode, Alison G. Nazareno, Monica Carlsen, Lucia Lohmann

148 Founder events and morph loss in populations of a tristylous species.
Christopher Balogh, Spencer Barrett

149 A Directed Mutation-centric Network Model of Protein Adaptation
Violeta Beleva Guthrie, Melissa Standley, Manel Camps, Rachel Karchin

150 Combining NGS and Sanger sequencing data to obtain a robust phylogeny of Bignonia L. (Bignonieae, Bignoniaceae)
Alexandre Zuntini, Lucia Lohmann

Monday June 23, 7:00 - 9:00 PM

3F_BallAB Monday Poster Session
Room: Ballroom A & B

1 Multilocus phylogeography of a widespread rodent reveals influence of Pleistocene geomorphology and climate change in the Zambezi Region of Africa
Molly McDonough, Radim Sumbera, Vladimir Mazoch, Caleb Phillips, Josef Bryja

2 The Relationship Between Allometry and Integration: Combining Geometric and Traditional Approaches to Morphological Variarion
Guilherme Garcia, Gabriel Marroig

3 Evolution of Snout Shape in the Toothless Knifefishes (Teleostei, Gymnotiformes): Morphological Disparity and Habitat Transitions
Tiago Carvalho, James Albert

4 Genomic and Fossil Evidence for Lockstep Evolution of Tooth Loss and the Acquisition of a Horny Beak in the Common Ancestor of Modern Birds
Robert Meredith, Guojie Zhang, M Thomas P Gilbert, Erich Jarvis, Mark Springer

5 A molecular phylogeny provides new insight into the evolutionary history of African galagids (Primates: Galagidae)
Luca Pozzi

6 Macroevolutionary trends in the gliriform dental pattern of extant and fossil mammals
Emily Woodruff, Jonathan Bloch, Kathryn Broecker

7 Endemism and morphological diversification on California's Channel Islands: A study of the Island Night Lizard, Xantusia riversiana
Nicole Adams, Matt Dean, Gregory Pauly

8 Morphological Homoplasy within Mountain Dusky Lineages (Desmognathus)
Jessica Avila, David Beamer

9 Incremental lines in therizinosaurian tooth enamel suggest slowed amelogenesis: Implications for evolution of herbivory in theropods
Khai Button, Lindsay Zanno, Hailu You

10 Geographically uneven expansion of mammalian diversity
Antonin Machac

11 The evolution of phylogeographic sequence data sets: A meta-analysis.
Bryan Carstens, Ryan Garrick

12 Multilocus species delimitation and phylogeography of the freshwater sleepers,Odontobutis, in the Yangtze River drainage
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13 Demographic history of Indian Cynopterine bats
Kritika Garg, Balaji Chattopadhyay, Sripathi Kandula, Uma Ramakrishnan

14 Reproductive strategy and the efficiency of selection in small populations
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15 Range-wide assessment of genetic variation and structure in subalpine larch (Larix lyallii)
Marie Vance, Patrick von Aderkas

16 Evolutionary history across the range of the black-striped pipefish, Syngnthus abaster
Florentine Riquet, Lital Fleyshmaker, Nuno Monteiro, Tony Wilson

17 Influence of land use on Drosophila species and genetic diversity
Andrey Bombin

18 The effect of the dispersal distribution on isolation by distance in a continuous population
Tara Furstenau, Reed Cartwright

19 Family matters: multi-scale analyses of relatedness in the pink volcano barnacle, Tetraclita rubescens
Stephanie Kamel

20 Small mammal comparative phylogeography in the Arctic: evolutionary, ecological and human land-use implications
Andrew Hope, Eric Waltari, Jason Malaney, David Payer, Joseph Cook, Sandra Talbot

21 Introducing the Distinction between Static and Dynamic Mutational Robustness in Finite, Asexual Populations
Yinghong Lan, Aaron Trout, Christopher Scott Wylie, Daniel Weinreich

22 Evolution of body mass in the Pan-Alcidae (Aves, Charadriiformes): the effects of combining neontological and paleontological data
Adam Smith

23 Fossil Insights to Drivers of Geographic Co-occurrence and Ecological Differentiation Between Marine Bivalves
Stewart Edie

24 Evaluating drivers of genomic diversification in a tropical moth radiation
Josh Jahner, Thomas Parchman, Lee Dyer, Andrea Glassmire, Christopher Jeffrey, Lora Richards, Angela Smilanich, Matthew Forister

25 The Vitória-Trindade Chain (SE Brazil) as a natural laboratory for reef fish evolutionary studies
Hudson Pinheiro, João Gasparini, Jean-Christophe Joyeux, Giacomo Bernardi, Luiz Rocha

26 Evolution of Parental Behavior in Peromyscus
Young Kwon

27 The effect of ecological context and relatedness on larval cannibalism in a fungus-associated beetle
Hannah Marti, Corlett Wood, Edmund Brodie

28 The Evolution of Nitrogen Resorption across Helianthus
Chinyere Uzoigwe, Chase Mason, Lisa Donovan

29 The Evolution of Physical and Chemical Leaf Defenses in Helianthus
Breanna Crowell, Chase Mason, Lisa Donovan

30 Evidence for widespread positive and negative selection in coding and conserved noncoding regions of Capsella grandiflora
Robert Williamson, Emily Josephs, Stephen Wright

31 Natural genetic variation in molecular structure-function relationships of PGI of Colias (Lepidoptera, Pieridae)
Jason Hill, Ward Watt

32 Changes in adipocyte cell structure and gene expression during human origins
Sasha Makohon-Moore, Lisa Pfefferle, Greg Wray

33 Detecting distributive conjugal transfer in mycobacteria from whole genome sequences
Tatum Mortimer, Caitlin Pepperell

34 Diversification of the deep-sea octocoral Tokoprymno maia across the Antarctic Circumpolar Current
Luisa Duenas, Andrew J. Crawford, Juan Sanchez

35 The decline and rescue of pupfish inhabiting a small isolated spring
Andrew Martin, Kyle Keepers, Nolan Kane

36 Genomic signals of local adaptation across the range of the allotetraploid weed C. bursa-pastoris
Adriana Salcedo, Stephen Wright

37 Comparative analysis of active transposable elements in the transcriptomes of three species of heteromyid rodents
Yanzhu Ji, Nicholas Marra, J. Andrew DeWoody

38 Causes and consequences of APOBEC3A rapid evolution in primates
Jacob Gable, Rick McLaughlin, Harmit Malik

39 Genetically complex growth defects in a yeast cross revealed by simultaneously perturbing two components of the environment
Takeshi Matsui, Ian Ehrenreich

40 Piwi vs. DNA Transposons: Identifying Piwi homologs in vespertilionid bats.
Sarah Mangum, Federico Hoffmann, David Ray

41 Analysis of Conserved Gene sequences in forty-eight model Organismin reference of rice and development of a phylogenetic tree of life
Pawan Jayaswal, Vivek Dogra, Asheesh Shanker, Tilak Sharma, Nagendra Singh

42 A next-generation transcriptomics approach to testing homologies in hoofed mammal cranial appendages
Zachary Calamari

43 Elucidating the evolutionary history of the primate alpha-amylase multi-gene family
Tiare Takaesu

44 Transcriptomics of an endemic species flock: Lake Baikal amphipods
Lev Yampolsky, Sergey Naumenko, Maria Logacheva , Georgii Bazykin, Nina Popova, Anna Klepikova, Aleksey Penin, Aleksey Kondrashov

45 Phylogenetic analysis of fatty acid biosynthetic genes in the Asteraceae
Jonathan Corbi, John Burke

46 Introduced guppies induce divergent trajectories of morphological change in an intraguild predator
Bradley Lamphere, Diane Biederman, James Gilliam

47 Exposure to vinclozolin, an androgen antagonist, slows social learning in guppies (Poecilia reticulata)
Allyssa Wong, Bronwyn Bleakley

48 Evolution of tetrodotoxin resistance in avian voltage-gated sodium channels
Joel McGlothlin

49 Do inbred lines of guppies, Poecilia reticulata, vary in their lateral line morphology?
Alexander Tavares, Brendan Hughes, James Goodrich, Bronwyn Bleakley

51 Influence of physical barriers to gene flow in a widespread passerine
Theresa Burg, Rachael Adams

52 Molecular evolution of lynx1, a gene involved in learning
Joanna Warren, Michael McQuillan, Kristin Anderson, Thomas Fox, Jacquelin Botello, Julie Miwa, Amber Rice

53 Individual variation in responsiveness to indirect genetic effects on cooperative antipredator behavior in guppies, Poecilia reticulata.
Kyle Ryan, Bronwyn Bleakley

54 Molecular phylogeny of some Sarcophaginae (Diptera:Sarcophagidae)
Ronald DeBry, Evan Wong, Gregory Dahlem, Eliana Buenaventura

55 Differential ecomorphological diversification in Paleozoic lobe-finned fishes (Sarcopterygii)
Bryan Juarez, Lauren Sallan

56 Body-size evolution and diversification in birds: do smaller taxa exhibit higher diversification rates?
Simón Quintero Corzo, Laura Natalia Céspedes Arias, Angela Perilla, Anny Pan, Elkin Tenorio

57 Consistent patterns of ecomorphology and functional trade-offs in the evolution of discretely different feeding systems in rodents
Dallas Krentzel, Kenneth Angielczyk

58 DNA-based Species Delimitation of the Agriculturally Important Genus, Ravinia (Diptera: Sarcophagidae)
Evan Wong, Gregory Dahlem, Ronald DeBry

59 Diversification in the Hexapoda (Insects and their relatives)
James Rainford, Peter Mayhew, Michael Hofreiter, David Nicholson

60 Following in Wallace's footsteps: investigating species diversity & biogeography of the onchidiid slugs in the Indo-West Pacific
Tricia Goulding, Benoît Dayrat

61 Color, not gill number, resolves clade assignments within the Paguristes/Areopaguristes hermit crab complex
Catherine Craig, Darryl Felder

62 Molecular Phylogenetics of North American Ribbonsnakes
Larimy Brown, Bradley Martin, John Placyk

63 Enhanced phylogeographic information of the Green Woodpecker and the Acorn Woodpecker
Utku Perktas, Hakan Gür, Townsend Peterson

64 Genetic basis of adaptive developmental traits in Drosophila melanogaster: phenotypic variation and plasticity in natural-derived populations
Alejandra Petino Zappala, Victoria Ortiz, Ignacio Satorre, Julián Mensch, Valeria Carreira, Juan José Fanara

65 Quantitative genetics of micro-environmental plasticity in Drosophila melanogaster
Fabio Morgante, Daniel Sorensen, Peter Sørensen, Christian Maltecca, Trudy Mackay

66 Testing adaptive plasticity: Are the effects of social density on offspring size consistent over multiple food regimes in Heterandria formosa
David Hoover, Joseph Travis

67 The origins of adaptive plasticity: Using experimental evolution to examine costs, benefits, and constraints in the evolution of trait plasticity
Noah Gettle, Michael Travisano

68 Natural variation, plasticity and tradeoffs of ecophysiological traits in the Brachypodium distachyon (Poaceae) ploidy complex
Antonio Manzaneda, Pedro J. Rey, Jill Anderson, Tom Mitchell-Olds

69 Incipient speciation between two races of Drosophila athabasca
Roman Yukilevich

70 Fine-scale Local Adaptation: case study of thermal tolerance of Tigriopus californicus
Lori Luers, Ricardo Pereira, Ron Burton

71 The Genetic Basis of an Incident of Incipient Speciation in Nasonia Wasps
Ashley Saulsberry

72 Genetic architecture of hybrid "less-function" in the nematode Caenorhabditis briggsae
Joseph Ross, Kevin Pham, Jordan Montgomery, Brandon Ortega

73 Colocalizing quantitative trait loci control pre- and post-mating female choice in Drosophila
Cheng-Ruei Lee, Cheng-Lin Li, Shun-Chern Tsaur, Shu Fang, Chau-Ti Ting

74 Sex, flies, and videotape: behavioural phenotypes of adaptation in Certititis capitata
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75 Comparative phylogeography of three rock dwelling lizard species gives unparalled insights into the speciation process in southern Africa.
Stuart Nielsen, Brice Noonan, Krystal Tolley, Aaron Bauer

76 Molecular and behavioral correlates of premating isolation in Mus
Abby McClellan, Heather Martin, Polly Campbell

77 Selection Response for Stamen Accuracy (Precision and Bias) in Brassica rapa
Carolina Diller, Charlie Fenster

79 Parasite modification of predator functional response
William Newsome, Benjamin Toscano, Blaine Griffen

80 Genetic and epigenetic response to the Deepwater Horizon oil spill in S. alterniflora
Marta Robertson, Aaron Schrey, Ashley Shayter, Christina Meals, Christina Richards

81 Analysis of the cultivated sunflower methylome
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82 When super-organisms collide: thermal adaptation at the colony level in two ant species
Clint Penick, Sarah Diamond, Rob Dunn

83 Quantitative Genetics of Food Intake in Drosophila melanogaster
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84 Long term selection experiments: The role of epistasis in the response to selection
Charles Goodnight

85 A Comparison of Effective Population Size and Census Size in Three Coastal Shark Species
Hayley DeHart, Gavin Naylor

86 Apocynum (Apocynaceae) through time and space: dispersal, divergence, and adaptations to temperate habitats
Elizabeth McHone, Tatyana Livshultz

87 Deep mRNA sequencing of the central nervous systems of six Nudipleura molluscs: molecular homologies and animal phylogeny.
Adriano Senatore, Neranjan Edirisinghe, Paul Katz

88 Consequences of hybridization for mountain bog pitcher plants and their phytotelma communities
Elise Powell, Steven Jaslow, Rebecca Hale, Jennifer Rhode Ward, Caroline Kennedy, Mara Alexander

89 The origin of gap junction proteins
Stephen Bond, Andreas Baxevanis

90 Molecular patterns of conflict in imprinted genes of Arabidopsis
Katherine Geist, Joan Strassmann, David Queller

91 QTL studies of transcription factors that control opsin expression in cichlid fishes.
Sri Pratima Nandamuri, Jane Schulte

92 The evolution of plant carnivory: insights into morphological diversification and prey partitioning in the carnivorous pitcher plant genus Sarracenia
Jessica Stephens, Ron Determann, Russell Malmberg

93 The effects of pitcher plant hybridization on oviposition of the pitcher plant midge
Steven Jaslow, Rebecca Hale

94 Seeing the forest by interpreting the trees: An assessment instrument for evaluating undergraduate student understanding of evolutionary trees
Louise Mead, David Baum, Kristin Jenkins, Kristy Halverson

95 Moving the mountain: How to transform comparative anatomy into computable anatomy?
Wasila Dahdul, Alex Dececchi, Nizar Ibrahim, Hilmar Lapp, Paula Mabee

96 Size matters: a laboratory exercise on the allometric analysis of avian eggs
Henry John-Alder, Allison Anholt

97 Synthetic morphological supermatrices: revealing unknown knowns and reducing missing data
James Balhoff, Alex Dececchi, Hilmar Lapp, Paula Mabee

98 Whole exome capture in species without a sequenced genome
Matthew Jones, Joel Alves, Ted Cosart, Paulo C. Alves, Jose Melo-Ferreira, Frank Jiggins, Jeffrey Good

99 UNPAK: using a knockout library to quantify variation in whole-organism phenotypes, and to test ideas about phenotypic and genome evolution
Hilary Callahan, Courtney Murren, Matt Rutter, Allan Strand, Michael Wolyniak

100 Evaluating the application of high-throughput sequencing for the identification of fish eggs collected in the Northern Gulf of Mexico
Matthew Greenwold, Joseph Quattro, Shrujan Amin, Mark Roberts

101 Development of microsatellite markers for two Orconectid crayfishes via Illumina paired-end genomic sequencing
Angela Roles, Dyani Sabin

102 Connections between Neotropical Rainforests revealed by Araneus venatrix (Araneae: Araneidae)
Elen Peres, Vera Solferini, da Silva Márcio José

103 Mitochondrial phylogeography of the web spider Aglaoctenus lagotis (Araneae, Lycosidae) in Brazil
Fernanda Fontes, Vera Solferini, da Silva Márcio José

104 Comparative Phylogeography in Atlantic forest and Brazilian Savanna: Pleistocene fluctuations and dispersion shaping the patterns of two bumblebees
Elaine Françoso, Alexandre Zuntini, Ana Carolina Carnaval, Maria Cristina Arias

105 Evolution of Mandirola (Genesriaceae, Lamiales) species complex in Neotropical Savanna
Cecilia Fonseca Fiorini, Andréa Onofre, Vera Solferini, da Silva Márcio José

106 Unveiling the evolutionary history of an Atlantic forest passerine bird using ABC
Ana Cristina Fazza, Michael Hickerson, Cristina Miyaki

107 Evaluating the level of endemism and isolation in the avifauna of the Central mountain range in Córdoba province, Argentina
Belen Bukowski, Pablo Lavinia, Natalia Trujillo-Arias, Cecilia Kopuchian, Pablo Tubaro, Dario Lijtmaer

108 Population genetic structure of Argiope argentata (Araneae: Araneidae)
Jair Francisco Mendes Júnior, Vera Solferini, da Silva Márcio José

109 Recent structuring of lineages of the golden orb-weaver spider Nephila clavipes, a neotropical Nephilidae (Araneae).
Luiz Filipe Macedo Bartoleti, Vera Solferini, da Silva Márcio José

110 Incipient speciation related to mimetic divergence in the poison frog Ranitomeya imitator
Evan Twomey, Kyle Summers, Jacob S. Vestergaard

111 RNAseq Analysis of Wing Pigmentation in Papilio glaucus
Maria Gutin, Molly Schumer, Matthew Aardema, Iva Fuková, Peter Andolfatto

112 Predator learning and toxicity in a Müllerian mimicry complex of poison frogs in Peru
Adam Stuckert, Ralph Saporito, Kyle Summers

113 Mimicry on the wing: flight morphology and kinematics in a mimetic butterfly and its model
Krushnamegh Kunte, Deepa Agashe, Stacey Combes

114 Avian coloration along an Andean elevation gradient: Interspecific patterns in Thraupidae
Laura Natalia Céspedes Arias, Oscar Laverde, Daniel Cadena

115 Environmentally induced background matching in spadefoot toads
Antonio Serrato-Capuchina, Dylan Carroll, David Pfennig

116 Evolution of morphological diversity and sexual dimorphism in Argynnis butterflies
Gaurav Agavekar, Jahnavi Joshi, Krushnamegh Kunte

117 The genomic basis of adaptive coat color variation in a population rock pocket mice (Chaetodipus intermedius)
Noelle Bittner, Megan Phifer-Rixey

118 The genetic basis of coat color change in the snowshoe hare, Lepus americanus: an RNA-seq approach
Ana Mafalda Sousa Ferreira, Paulo C. Alves, Colin Callahan, L. Scott Mills, Jeffrey M. Good, Jose Melo-Ferreira

119 Molecular phylogeny, phylogeography, and anti-predatory eyespot evolution in Eumorpha caterpillars (Lepidoptera: Sphingidae)
Francesca Ponce

120 Identification of genomic underpinnings of spot polymorphism in Harmonia axyridis
Lindsay Havens, Matthew MacManes

121 Differential predation on the two color morphs of Nicaraguan Midas cichlid fish: implications for the maintenance of its gold-dark polymorphism
Julián Torres Dowdall, Gonzalo Machado-Schiaffino, Jimena Golcher-Benavides, Andreas F. Kautt, Henrik Kusche, Axel Meyer

122 Historical and Geographic Variation in wing melanin in an alpine butterfly in relation to climate
Heidi MacLean, Jessica Higgins, Lauren Buckley, Joel Kingsolver

123 Candidate genes and SNPs for body size related traits in Drosophila melanogaster
Victoria Ortiz, Juan José Fanara, Valeria Carreira

124 Evolutionary conservation of genes for male size at maturity in poeciliid fishes
Tyler Collins, Margaret Ptacek, Brian Langerhans, Elizabeth Lange, Felix Breden, Shawn Shaji

125 Quantitative genetics of an evolutionary innovation and diagnostic trait in the Drosophila affinis subgroup
Ryan Mulqueen, Spencer Koury

126 Self-incompatibility and the maintenance of cleistogamy in T. perfoliata, an annual herb
Beth Ansaldi, Steve Franks, Jennifer Weber

128 Cleistogamy affects the direction and extent of gene flow between subspecies of an annual plant
Carol Goodwillie, Emily R. Stewart, Evan Arthur

129 Correlates of gut community composition across an ant species (Cephalotes varians) elucidate causes and consequences of symbiotic variability
Yi Hu, Piotr Lukasik, Corrie Moreau, Jacob Russell

131 Differentiation of sex allocation strategies between terminal and lateral inflorescences in Aconitum kusnezoffii
Xing-Yue Ge

132 Impact of male: female ratio on male mating behaviors in Poecilia latipinna
Shane Gorbett, Shala Hankison

133 The influence of male and female genotype on copulatory plug breakdown
Rachel Mangels, Matt Dean

134 The role of social and dietary environment on growth and life history trait expression in sailfin mollies, Poecilia latipinna
Elizabeth Lange, Grant Davidson, Kelly Hogan, Margaret Ptacek

135 Sexual size dimorphism and reproductive isolation in two island populations of Anolis sagrei
Eric Wice, Anastasia Arkhipova, Christopher Noble-Molnar, Andrew Schurtz, Thomas Wood, Robert Cox, Joel McGlothlin

136 Testing for cryptic female choice in monarch butterflies
Andrew Mongue

137 Multimodal Signaling and Mating Success in Drosophila saltans
Cynthia Odu, Kaila Colyott, Jennifer Gleason

138 Patterns of selection on floral traits important for male fitness in the gynodioecious Geranium maculatum
Dorothy Christopher, Shu-Mei Chang

139 Characterisation of the Manduca sexta Sperm Proteome
Emma Whittington, Qian Zhao, Stephen Dorus, James Walters, Stuart Reynolds

140 The Relationships Between Female Throat and Egg Carotenoids in Threespine Sticklebacks from a Population with Red-Throated Females
Ruqing Guo, Michele Pierotti, Lenny Yong, Jeffrey McKinnon

141 Sperm heteromorphy in Danaus plexippus: a molecular approach to an unsolved phenomenon
Desiree Harpel, James Walters

142 Multi-model analysis of biased birth sex ratios in captive prosimians
Elizabeth Berkeley, Sarah Zehr

143 Structure and function of bursal spines in the female internal genitalia of false blister beetles (Coleoptera: Oedemeridae)
Kosei Hashimoto, Hirotaka Sugawara, Fumio Hayashi

144 A test of inbreeding avoidance in multiple populations of the redheaded pine sawfly, Neodiprion lecontei
Katherine Harper, Robin Bagley, Catherine Linnen

145 Transcriptional co-regulation of linked genes in Daphnia and its (epi?)genetic variability
Lev Yampolsky, Michael Pfrender, John Colbourne

146 HIF (Hypoxia Inducible Factor) transcription factor family expansion and diversification in Eukaryotes
Allie Graham, Jason Presnell

147 Bulk segregant RNA-sequencing reveals insights into the genetic basis for the loss of anthocyanin pigmentation in the genus Iochroma
Daniel Gates, Bradley Olson, Stacey Smith

148 Untangling selection and mutation in non-coding RNA
Joshua Martin, Adam Smith

149 Survival of the Curviest: Selection for Robustness and the Origins of Epistasis
Jon Wilkins

150 Variation in Genetic Robustness
Dana Opulente, Isaak Heon, Christopher Morales, Joshua S. Rest

THINGS TO DO IN RALEIGH, DURHAM AND CHAPEL HILL

Raleigh, which was recently featured in *The New York Times* 36-Hours series, is the capital and the second largest city in the state of North Carolina. It is known as the "City of Oaks" for its many oak trees, which line the streets in the heart of the city. According to the U.S. Census Bureau, the city's 2011 estimated population was 416,468, over an area of 142.8 square miles (370 km2), making Raleigh currently the 42nd most populous city in the United States. It is also one of the fastest-growing cities in the country. The city of Raleigh is named after Sir Walter Raleigh, who established the lost Roanoke Colony on Roanoke Island in present-day Dare County, North Carolina.

Raleigh, Durham, and Chapel Hill make up the three primary cities of the Research Triangle metropolitan region. The regional nickname of "The Triangle" originated after the 1959 creation of the Research Triangle Park, primarily located in Durham County, roughly midway between the cities of Raleigh and Chapel Hill, and three major research universities of North Carolina State University, Duke University, and the University of North Carolina at Chapel Hill.

Raleigh is home to numerous cultural, educational, and historic sites. The Progress Energy Center for the Performing Arts in Downtown Raleigh features three theater venues and serves as the home for the North Carolina Symphony. Time Warner Cable Music Pavilion is a large music amphitheater located in Southeast Raleigh. Museums in Raleigh include the North Carolina Museum of Art in West Raleigh, as well as the North Carolina Museum of History and North Carolina Museum of Natural Sciences located next to each other near the State Capitol in Downtown Raleigh.

Local Attractions

Raleigh

North Carolina Museum of Natural Sciences http://naturalsciences.org/

The North Carolina Museum of Natural Sciences is the largest museum of its kind in the Southeast. The museum offers opportunities for visitor's to experience science and nature with exhibits, programs and field experiences. Featuring an array of permanent and special exhibits, live programs and educational films that appeal to audiences of all ages, the North Carolina Museum of Natural Sciences encourages visitors to explore the natural world and their connections to it.

Marbles Kids Museum http://www.marbleskidsmuseum.org/

Marbles Kids Museum is a hands-on, minds-on museum that inspires imagination, discovery and learning through extraordinary adventures in play and larger-than-life IMAX experiences. With so much to do, Marbles Kids Museum lets kids get back to the serious business of being kids…laughing, playing and learning. For more information visit us at www.marbleskidsmuseum.org.

North Carolina Museum of History http://www.ncdcr.gov/ncmoh/Home.aspx

Explore more than 14,000 years of North Carolina history, from the state's earliest inhabitants through the 20th century. The major exhibition The Story of North Carolina features fascinating artifacts, multimedia presentations, and an interactive format for all ages. Other exhibits highlight the state's military history, sports heroes, decorative arts and more. Monthly programs include children's programs, craft demonstrations and family events. The Museum Shop, featuring North Carolina crafts, and the on-site restaurant Pharaoh's @ the Museum are open daily. Admission is free, although some special exhibits require a fee. Free parking is available on weekends in the Jones/Edenton Street lot. Museum hours are Monday through Saturday, 9 a.m. to 5 p.m., and Sunday, noon to 5 p.m. For more information, call 919-807-7900 or go to ncmuseumofhistory.org or Facebook. To schedule group reservations (10 people or more), go to nccapvisit.org. The museum is part of the Division of State History Museums, an agency of the N.C. Department of Cultural Resources, www.ncdcr.gov.

North Carolina Museum of Art www.ncartmuseum.org/

The North Carolina Museum of Art is a museum where you can find your own place—either in contemplative spaces or through lively programming. The Museum's permanent collection spans more than 5,000 years, from ancient Egypt to the present, making the institution one of the premier art museums in the Southeast. The 164-acre Museum Park showcases the connection between art and nature through monumental works of environmental art. The Museum offers changing national touring exhibitions, classes, lectures, family activities, films, and concerts, allowing you to create your own captivating experience each time you visit. Admission is free (aside from some special exhibitions and programs).

Durham

Sarah P. Duke Gardens https://gardens.duke.edu/

Duke Gardens is a stunning 55-acre public garden on the campus of Duke University. It won the 2013 Horticulture Magazine Award for Garden Excellence, and it was named one of the top 10 public gardens in the U.S. in 2013 by tripadvisor.com. Among its attractions are Italianate terraces, an Asiatic arboretum, a garden of native plants, a white garden, and an organic food garden. Duke Gardens also has a café and a gift shop. It is open 365 days a year, 8 a.m. to dusk. Admission is free.
420 Anderson St., Duke University, Durham, N.C. 919-684-3698.

Duke Chapel http://chapel.duke.edu/

Duke Chapel, the icon of Duke University, stands 210 feet high at the center of West Campus. Built in the early 1930s, the Chapel houses 77 stained glass windows, a 50-bell carillon, a 100-voice choir, and is home to more than two dozen religious groups, including an interdenominational Christian congregation. The Chapel is open to visitors year round and hosts

numerous weekly worship services, as well as other special events, making it one of the most active university chapels in America. All are welcome!

Chapel Hill

Morehead Planetarium and Science Center http://www.moreheadplanetarium.org/

Morehead Planetarium and Science Center was the first planetarium to be built on a college campus in the United States and is located in downtown Chapel Hill on scenic Franklin Street. The building is on the north end of the campus of The University of North Carolina at Chapel Hill.

Morehead features a 68-foot planetarium dome with a Definiti full-dome digital video projection system including surround sound. The facility also features the Science Stage, exhibits, the UNC Visitor's Center, a portrait gallery, a rose garden and a massive sundial. UNC's department of physics and astronomy operates the Morehead Observatory at the east end of the building.

Planetarium schedules at Morehead feature multimedia shows and live star shows narrated by planetarium staff members. The Science Stage offers Science LIVE! demonstration shows as well as Science 360 presentations.

North Carolina Botanical Garden http://ncbg.unc.edu/

The North Carolina Botanical Garden, part of the University of North Carolina at Chapel Hill, aims "to inspire understanding, appreciation, and conservation of plants in gardens and natural areas and to advance a sustainable relationship between people and nature." The collections include displays of native plants in natural habitat settings, perennial borders, carnivorous plant displays, and an herb garden. We offer educational programs and conduct research in the conservation and propagation of plants native to the southeastern United States and manage more than 1,000 acres of natural areas and gardens. Also part of the Garden, the UNC Herbarium, used by students, botanists, taxonomists and other professionals from across the Southeast and the nation, currently contains over 750,000 specimens.

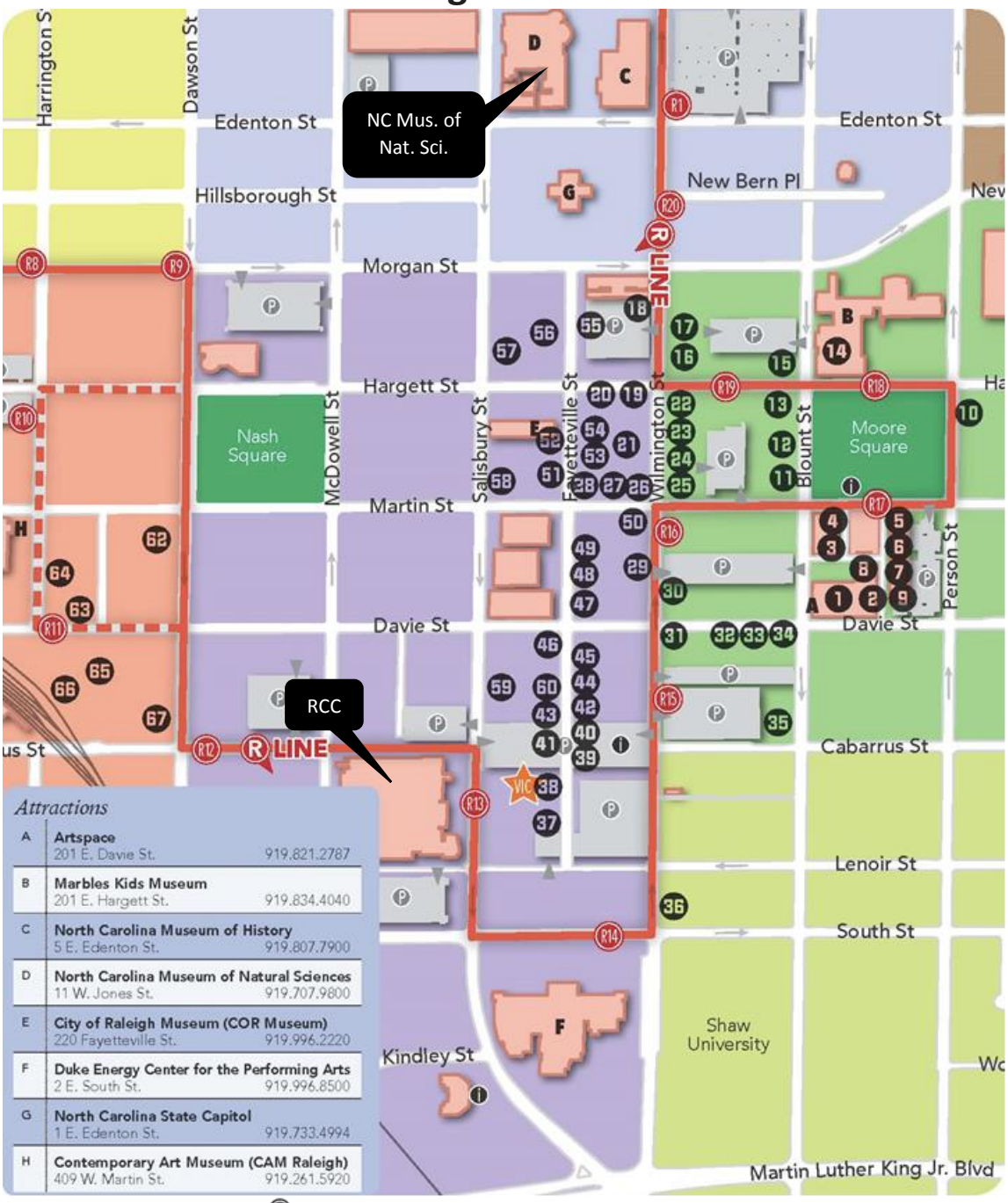
Coker Arboretum http://ncbg.unc.edu/coker-arboretum/

The Coker Arboretum, managed by the North Carolina Botanical Garden and in the center of the UNC Campus, is a 5-acre collection of trees, shrubs, and vines, some native to the southeastern United States and others of East Asian origin. It was founded 110 years ago by the first professor of botany at the University of North Carolina, Dr. William Chambers Coker.

Dining In Raleigh

With options ranging from authentic North Carolina barbecue to fine Laotian cuisine, the dining scene in Raleigh has been highlighted by national publications including *Southern Living*, *Bon Appétit*, and *Cooking Light*. More than 130 downtown restaurants are within walking distance of the RCC or accessible by a short ride on the R-line: http://www.godowntownraleigh.com/get-around/r-line/r-line-stop-locations. Check out the various options on the next two pages.

Downtown Raleigh's Diverse Eateries



★=Official Visitor Information Center ℹ=Visitor Information R-LINE =Free downtown circulator bus; dotted line indicates R-LINE service after 6:30pm.

A skip in the numbering sequence indicates an opening or closing. Information current as of 2.28.14.

visitRaleigh

evolution 2014

Something for Everyone

	RESTAURANT	ADDRESS	PHONE	CUISINE	PRICE	MEALS SERVED	WKEND HRS
1	**El Rodeo**	329 S. Blount St.	919.829.0777	Mexican	$	L, D	•
2	**Cupcake Stop Shop**	300 Blake St.	919.802.2726	Bakery	$	L	•
3	**Woody's City Market**	205 Wolfe St.	919.833.3000	American	$	L, D, Ln	•
4	**Battistella's**	200 E. Martin St.	919.803.2501	Cajun/Creole	$$	L, D, Br	•
5	**Subway**	220 E. Martin St.	919.828.9977	American	$	B, L, D	•
6	**Benelux Café**	309 Blake St.	919.926.8796	Coffeehouse	$	B, L, D	•
7	**Troy Mezze Lounge**	317 Blake St.	919.834.8133	Middle Eastern	$$	L, D, Ln	•
8	**Big Ed's City Market**	220 Wolfe St.	919.836.9909	Southern	$	B, L	•
9	**Vic's Italian Restaurant**	331 Blake St.	919.829.7090	Italian	$$	L, D	CS
10	**Mo's Diner**	306 E. Hargett St.	919.856.0980	American	$$$	D	CS
11	**Bida Manda**	222 S. Blount St.	919.829.9999	Pan-Asian	$$	L, D, Ln	CS
12	**Tir Na Nog**	218 S. Blount St.	919.833.7795	Irish Pub	$$	L, D, Br, Ln	•
13	**Caffe Luna**	136 E. Hargett St.	919.832.6090	Italian	$$	L (M-F), D (W-Sa)	CS
14	**Pogo**	201 E. Hargett St.	919.834.1135	American	$	L	•
15	**Remedy Diner**	137 E. Hargett St.	919.835.3553	American	$$	L, D	•
16	**Sitti**	137 S. Wilmington St.	919.239.4070	Middle Eastern	$$	L, D	•
17	**Gravy**	135 S. Wilmington St.	919.896.8513	Italian	$$	L (M-F), D	•
18	**Centro**	106 S. Wilmington St.	919.835.3593	Mexican	$	L (M-Sa), D (W-Sa)	CS
19	**Raleigh Times**	14 E. Hargett St.	919.833.0999	American	$$	L, D, Ln	•
20	**Morning Times**	8 E. Hargett St.	919.836.1204	American	$	B, L, D	•
21	**Quiznos**	1 Exchange Plaza, Ste. 115	919.836.0034	American	$	L	•
22	**Joule Coffee**	223 S. Wilmington St.	919.424.7422	Coffeehouse	$	L, D, Br (Su-W), LN (Th-Sa)	•
23	**Busy Bee Café**	225 S. Wilmington St.	919.424.7817	American	$$	L, D, Ln	•
24	**Chuck's**	237 S. Wilmington St.	919.322.0126	American	$$	L, D	•
25	**Beasley's Chicken & Honey**	237 S. Wilmington St.	919.322.0127	Southern	$$	L, D, Br	•
26	**Square Rabbit**	19 E. Martin St., Ste. 100	919.829.9223	American/Bakery	$	L	CS
27	**Mecca Restaurant**	13 E. Martin St.	919.832.5714	American	$	B, L, D	CS
28	**Garland**	14 W. Martin St.	919.833.6886	Pan-Asian	$	D	CM,CS
29	**Manhattan Café**	320 S. Wilmington St.	919.833.6105	Deli/Café	$	B, L	CS
30	**Clyde Coopers BBQ**	327 S. Wilmington St.	919.832.7614	Barbecue	$	L, D	CS
31	**Buku**	110 E. Davie St.	919.834.6963	Pan-Asian	$$	L, D, Ln, Br	•
32	**Sosta Café**	130 E. Davie St.	919.833.1006	Deli/Café	$	B, L	CW
33	**Dickey's Barbecue Pit**	170 E. Davie St.	919.809.8830	Barbecue	$	B (M-F), L, D	•
34	**Oak City Meatball Shoppe**	180 E. Davie St.	919.714.9014	Italian	$	D	CS
35	**Calavera**	444 S. Blount St., Ste. 101	919.617.1661	Central American	$$	L (M-F), D, Ln	CS
36	**McDonald's**	105 E. South St.	919.833.7800	American	$	B, L, D	•
37	**Posta Tuscan Grille**	500 Fayetteville St.	919.227.3370	Italian	$$$	B, L, D	•
38	**Starbucks**	500 Fayetteville St.	919.334.9894	Coffeehouse	$	B, L, D	•
39	**Crema City Plaza**	421 Fayetteville St., Ste. 101	919.834.7279	Deli/Café	$	B, L, D	•
40	**Z Pizza**	421 Fayetteville St., Ste. 103	919.838.0681	Pizza	$	L, D	•
41	**Firewok**	442 Fayetteville St.	919.821.8089	Pan-Asian	$	L, D	CS
42	**Jimmy Johns**	437 Fayetteville St.	919.754.0101	American	$	L, D	•
43	**Shish-kabob**	438 Fayetteville St.	919.833.4005	Mediterranean	$	L, D	•
44	**La Volta Italiano**	411 Fayetteville St.	919.838.8700	Italian	$$	L, D	CS
45	**Plaza Café**	410 Fayetteville St., Ste. 109	919.758.8759	Deli/Café	$	B, L	CW
46	**Chick-Fil-A**	400 Fayetteville St.	919.834.3875	American	$	B, L	CW
47	**Sono**	319 Fayetteville St.	919.521.5328	Pan-Asian	$$$	L (M-F), D	•
48	**The Oxford**	319 Fayetteville St.	919.832.6622	New American	$$	L, D, Ln	•
49	**Zinda**	301 Fayetteville St., Ste. 120	919.825.0995	Pan-Asian	$$	L, D, Ln	CS
50	**Oro Restaurant**	18 E. Martin St.	919.239.4010	New American	$$	L, D, Ln	•
51	**Subway**	234 Fayetteville St.	919.615.2670	Deli/Café	$	B, L, D	•
52	**The Big Easy**	222 Fayetteville St.	919.832.6082	Cajun/Creole	$$	L, D, Ln	•
53	**Bolt Bistro & Bar**	219 Fayetteville St.	919.821.0011	American	$$	L, D, Br (Sa-Sun), LN	•
54	**Cafe de los Muertos**	219 Fayetteville St.	919.821.0011	American	$$	L, D, Br (Sa-Sun), LN	•
55	**Crema on Fayetteville**	121 Fayetteville St., Ste. 110	919.832.5959	Coffeehouse	$	B (M-F), L , D (M-Sa)	•
56	**Café Carolina**	150 Fayetteville St.	919.834.9117	American	$	B, L	CW
57	**Subway**	126 S. Salisbury St.	919.828.0009	American	$	B, L, D	•
58	**Capital Club 16**	16 W. Martin St.	919.832.6866	New American	$$	L (Su-F), D (T-Sa)	•
59	**Sam and Wally's**	434 Fayetteville St.	919.829.7215	American	$	B (M-F), L	CS
60	**Jimmy V's Osteria & Bar**	420 Fayetteville St.	919.256.1451	Italian	$$	B, Br, L, D	•
61	**Poole's Diner**	426 S. McDowell St.	919.832.4477	American	$$	D (T-Sa), Br, D (Su)	CM
62	**Brewmasters Bar & Grill**	301 W. Martin St.	919.836.9338	American	$$	L, D, Ln	•
63	**The Pit Authentic BBQ**	328 W. Davie St.	919.890.4500	Barbecue	$$	L, D	•
64	**Humble Pie**	317 S. Harrington St.	919.829.9222	Spanish/Tapas	$$	D (T-Sa), Br (Su)	CM
65	**Jose and Sons**	327 W. Davie St., Ste. 102	919.755.0556	Mexican	$$	L, D, Br (Su)	CM
66	**Tuscan Blu**	327 W. Davie St.	919.834.5707	Italian	$$	L (M-F), D (T-Sa)	CS
67	**Fiction Kitchen**	428 S. Dawson St.	919.831.4177	Vegetarian/Vegan	$$	D (T-Th) D, L (F-Sa)	CS

KEY: Price range: $=meal for 2 people under $20; $$=meal for 2 people $20-$40; $$$=meal for 2 people more than $40; Meals served: B=breakfast; L=lunch; D=dinner; Br=brunch; Ln=late night; • = open daily; CS= closed Sundays; CM=closed Mondays; CW=closed weekends.

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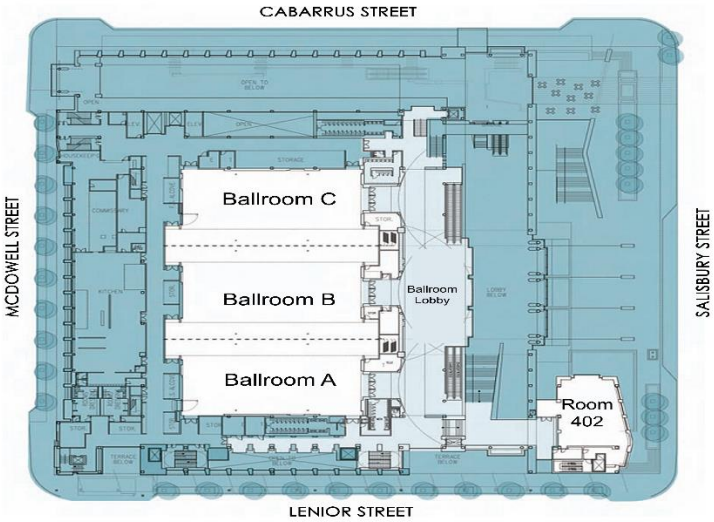
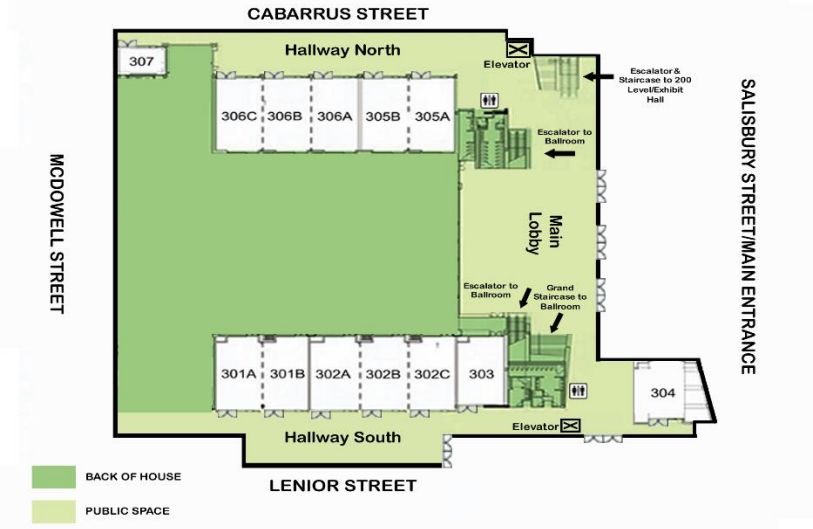
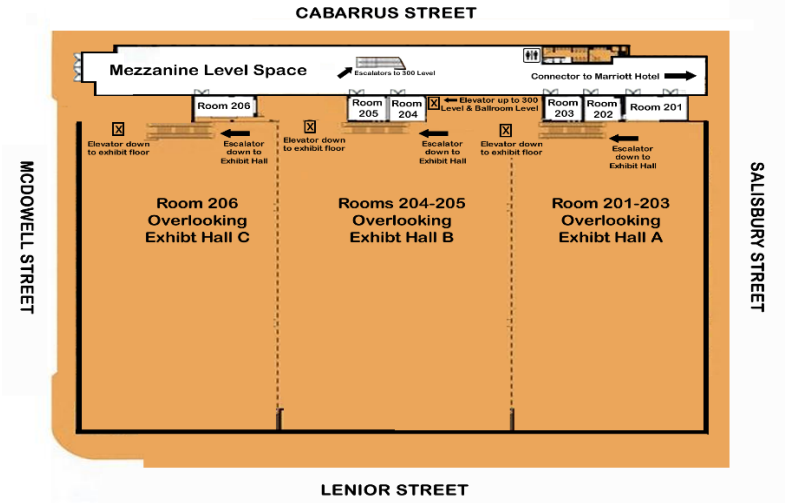
Raleigh Convention Center Floor Plan



300 LEVEL-Street Entrance



200 LEVEL/Mezzanine Level



Raleigh Marriott City Center Floor Plan