Scientific Program

American Society of Naturalists

Society for the Study of Evolution

Society of Systemic Biologists

Annual Meetings
June 20-24, 2008

University of Minnesota
Minneapolis, Minnesota

Welcome to Evolution 2008

And welcome to the City of Lakes.

We the local hosts are eager to share with you the best that our campus and our town have to offer. We hope that you enjoy your time with us at the University of Minnesota. And we especially hope that you take time to enjoy the diverse experiences that the city of Minneapolis and the state of Minnesota have to offer.

As these meetings continue to grow each year a new planning committee faces the perennial question, "couldn't the meetings be better coordinated if the same set of people organized the meetings as in the past?" A regular and predictable program outline is dropped into a new set of hands at a university campus. Members and officers of the societies, university faculty and staff, together carry out a set of experiments whose success and failure results in the annual evolution meetings. With over 700 oral presentations and 250 posters, this is no easy task for a bunch of faculty and graduate students! Yet each year members exclaim how much fun they had, and many recognize these meetings as the very best they attend. Campus life and the uniqueness of each venue are what set the experience of these meetings apart.

Thank you for your participation and for you patience as these meetings evolve.

George Weiblen, Program Chair, Evolution 2008
On behalf of the organizing committees and the University of Minnesota

Acknowledgements

Evolution 2008 is made possible through the cooperation, contributions and assistance of many people. We thank the officers of the American Society of Naturalists, the Society for the Study of Evolution, and the Society of Systematic Biologists, especially Jessica Gurevitch, Charlie Fenster, Dale Clayton, Don Waller, John Thompson, Sally Otto, Chris Simon, Scott Edwards, David Mindell, Vicki Funk, Keith Crandall, and David Hibbett. We thank the hosts of past meetings for their perspective and helpful advice, particularily David Lambert, Mike Bell, Mike Antolin and Mike Wade.

Heartfelt thanks to Gene Anderson, Heather Dorr, Kristi Fischer and Kay Ferguson in the College of Continuing Education for administering the meetings. Kim Araya and Kathleen O'Brien provided essential guidance and logistic support. We thank our colleagues throughout the numerous departments at the University of Minnesota who have helped to facilitate the meetings. In particular we thank the staff of the Bell Museum including Nina Shepard (media relations), Michelle Orr (field trips), Gordon Murdock (public outreach), Scott Lanyon, Sharon Jansa, F. Keith Barker,Peggy Korsmo-Kennon, Kevin Williams (Evolution 101). Jim Cursinger and the Minnesota Citizens for Science Education deserve special thanks for organizing Evolution 101. The program committee included Peter Tiffin, Georgiana May, Ruth Shaw, Imke Schmitt, Susan Weller, Ken Kozak, and Mike Travisano. These individuals worked tirelessly to solve problems and correct errors in the program. We thank Jason Keillor of Prarie Home Productions for coordinating music at the picnic.

We would also like to thank the University of Minnesota staff and graduate student volunteers, meeting attendees, exhibitors, symposium organizers and participants, workshop organizers and participants, and public school teachers for taking part in Evolution 2008. You are too numerous to name individually but we very much appreciate your support.

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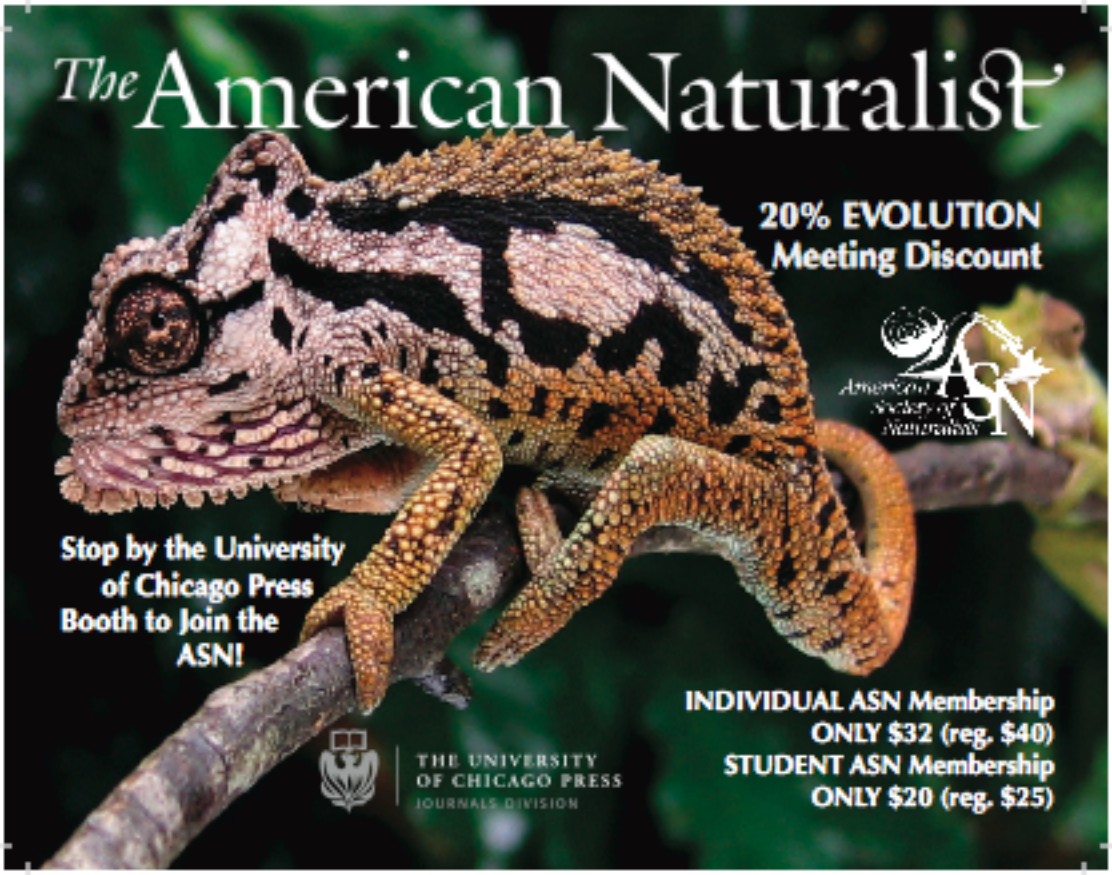
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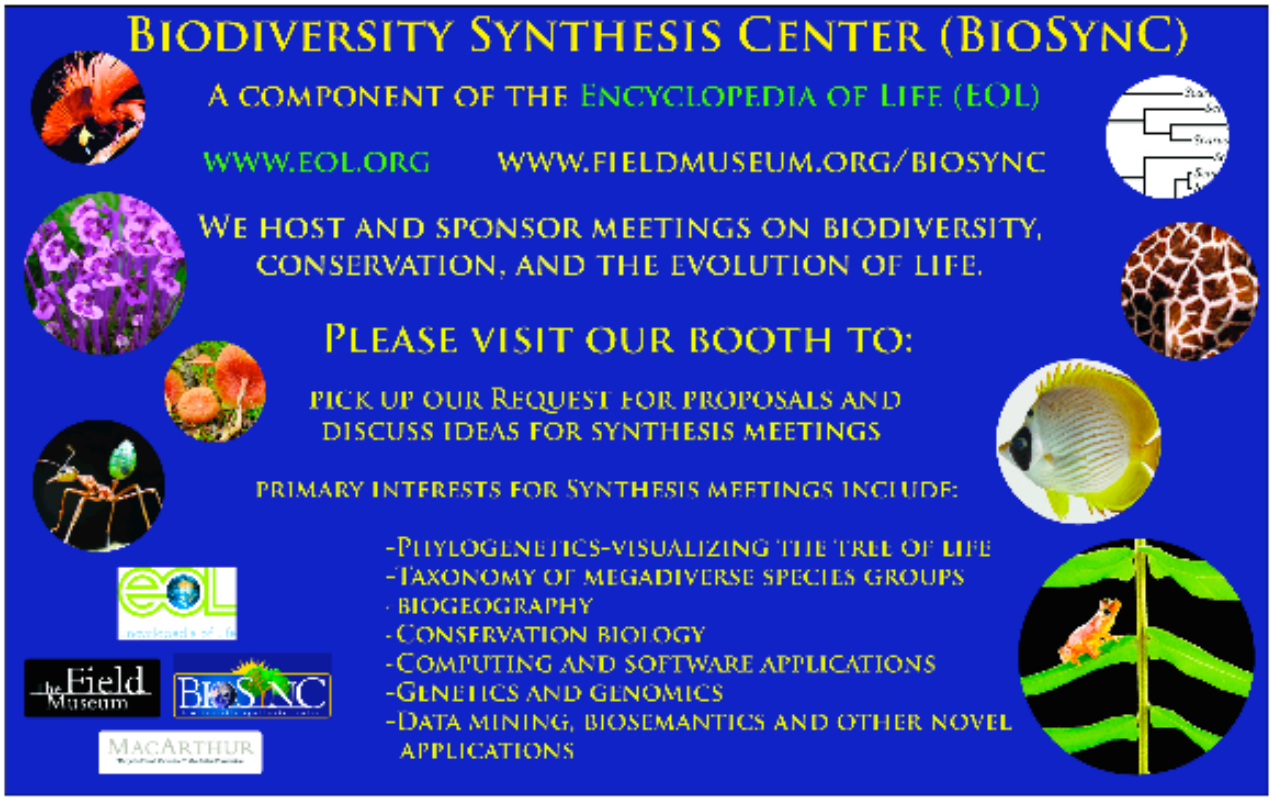

BIODIVERSITY SYNTHESIS CENTER (BIOSYNC)
A COMPONENT OF THE ENCYCLOPEDIA OF LIFE (EOL)
WWW.EOL.ORG
WWW.FIELDMUSEUM.ORG/BIOSYNC
WE HOST AND SPONSOR MEETINGS ON BIODIVERSITY, CONSERVATION, AND THE EVOLUTION OF LIFE.
PLEASE VISIT OUR BOOTH TO:
PICK UP OUR REQUEST FOR PROPOSALS AND DISCUSS IDEAS FOR SYNTHESIS MEETINGS
PRIMARY INTERESTS FOR SYNTHESIS MEETINGS INCLUDE:
-PHYLOGENETICS-VISUALIZING THE TREE OF LIFE
-TAXONOMY OF MEGADIVERSE SPECIES GROUPS
-BIOGEOGRAPHY
-CONSERVATION BIOLOGY
-COMPUTING AND SOFTWARE APPLICATIONS
-GENETICS AND GENOMICS
-DATA MINING, BIOSEMANTICS AND OTHER NOVEL APPLICATIONS
eol
The Field Museum
BIOSYNC
MACARTHUR

Registration and General Information

Location

The Evolution 2008 Conference takes place on the West Bank Campus of the University of Minnesota, in Minneapolis, Minnesota, June 20-24, 2008. The conference registration and exhibit area is in the atrium of Willey Hall, 225 19th Ave. South.

Registration and Information Desk

University of Minnesota staff will be at the registration desk during the times listed below. Information about Minneapolis and St. Paul is available at the city information exhibit booth.

Registration desk hours:

Friday, June 20	Noon to 6:00 p.m.
Saturday, June 21	8:00 a.m. to 5:00 p.m.
Sunday, June 22	8:00 a.m. to 5:00 p.m.
Monday, June 23	8:00 a.m. to 5:00 p.m.
Tuesday, June 24	8:00 a.m. to 5:00 p.m.

Student Volunteers

Student volunteers are on duty throughout the conference to assist as room monitors and conference guides. The volunteers will be identifiable by their distinctive name badges. Please feel free to seek advice and assistance from this team at any time.

Name Badge

Your name badge is your entrance ticket to all symposia, concurrent sessions, poster and exhibit sessions, and social events. Please remember to always wear your name badge during the conference. You will not be served if you do not have a name badge. Your name badge has also been assembled to include your beverage tickets, dinner tickets, and tour tickets. Keep your tickets with you for all events – no duplicate tickets will be issued.

Presentations

The scientific sessions will be held in Anderson Hall, Blegen Hall, Ferguson Hall, and Willey Hall classrooms. Speakers in concurrent sessions are limited to 15 minutes which includes 12 minutes for presentation and 3 minutes for questions. Most of the invited symposia are scheduled to run for 30 minutes unless indicated otherwise in the overview of symposium. Please leave time for questions. Consult the schedule of symposia and concurrent sessions to confirm the time and location of your talk.

Each meeting room is equipped with a laptop PC, video projector, microphone, and a room monitor. Laptop computers are equipped with Windows 2003 and Microsoft PowerPoint (Office 2003 with a patch to read Office 2007 .pptx files) or Acrobat Reader. **It is not possible under any circumstance for presenters to use their own laptop computers.** PowerPoint or PDF files must be provided to the room monitor before the start of a session on either a CD or a USB Flash Drive. Please report to your assigned room location and identify yourself to the room monitor at least 20 minutes before the beginning of the session. Presenters are encouraged to use the *Internet Café* to test presentations for compatibility with the equipment that is provided.

Session Chairs

If you are chairing a session, please arrive approximately 30 minutes early to ensure that all presentations are ready, and that the scheduled presenters are accounted for. The Chair should alert speakers when 3 minutes remain, and, if necessary, when 1 minute remains. If time runs out, the presenter will be asked to leave the podium without taking questions. If a presenter finishes early, the Chair should help the previous presenter to field questions and answers. In the event of a cancellation, the Chair should announce a pause in the session so that talks remain on schedule.

Poster Sessions

Poster sessions and receptions are scheduled 8:00-10:30 p.m. on Sunday, June 22, and Monday, June 23, The sessions will be held on the upper (pedestrian) level of the Washington Avenue over the Mississippi River. Each presenter will have 4 foot by 4 foot space for the poster. Posters may be attached using push pins that will be provided on the bridge.

Each poster is assigned a numbered location. Consult the schedule of poster sessions to find your poster location.

Posters can be displayed starting at 6:00 p.m. and will remain on display for the entire session. Presenting authors are asked to stand beside their posters after the session begins at 8:00 pm. Posters must be removed from the bridge by 10:30 p.m. Please take your poster with you after the session..

Refreshments

Morning and afternoon refreshment breaks will be available in the Willey Hall atrium and Anderson Hall, Saturday, June 21 through Tuesday, June 24. Morning breaks run 10:00–10:30 a.m. and afternoon breaks run 3:00–3:30 p.m. Lunch each day is on your own, from noon to 1:30 p.m. A list of local restaurants is included in this program under Dining.

Social Functions

All registered attendees are invited to the following events which are included in the registration fee:

- Opening Reception, Friday, June 20, 5:00-9:00 p.m., Bell Museum of Natural History and the adjacent Nolte Plaza
- Picnic, Saturday, June 21, 7:00-10:00 p.m., Riverbend Plaza behind Coffman Memorial Union
- Poster Receptions, Sunday, June 22 and Monday, June 23, 8:00-10:30 p.m., Washington Avenue Bridge and Willey Hall Plaza

Eight drink tickets are included with your name badge. Each ticket is valid for one beverage at any of the above functions. According to University policy, alcoholic beverages cannot be sold for cash at these events. Beer and wine will be served in exchange for tickets only.

The conference banquet is Tuesday, June 24, 7:00-10:00 p.m. at the McNamara Alumni Center. Advance purchase of tickets is required for the banquet. Banquet tickets purchased online are included in the name badge holders. A limited number of $50 tickets for this event are available at the registration desk for those who have not already purchased tickets. These additional tickets will be sold on a first

come basis through noon on Sunday June 22. Drink tickets are not valid at the banquet but complimentary wine and a cash bar will be available.

Participants are responsible for all tickets. Lost tickets will not be replaced.

Cell Phone and Pagers
Please turn off cell phones and pagers while in all meeting rooms. Also, please mute the sound on your personal laptops.

Language
All conference activities including talks and posters will be presented in English.

First Aid
In case of emergency, please dial 911 and contact the registration desk.

Time Zone
The time zone in Minneapolis is Central Daylight Time (CDT), 5 hours behind GMT.

Exhibits
Exhibit booths are in the Willey Hall Atrium. Exhibitor hours are:

Friday, June 20	Noon to 6:00 p.m.
Saturday, June 21	8:00 a.m. to 5:00 p.m.
Sunday, June 22	8:00 a.m. to 5:00 p.m.
Monday, June 23	8:00 a.m. to 5:00 p.m.
Tuesday, June 24	8:00 a.m. to 5:00 p.m.

Message Board
A message board is located near the Registration Desk in the Willey Hall Atrium. Participants are welcome to post messages about local meetings that may be arranged, job postings, and messages for other participants.

Internet Access

Wireless internet is available campus-wide to participants of Evolution 2008. Usernames and passwords are provided in your name badge holders. The username and password will also allow you to log into the computer kiosks located throughout campus. Details on this wireless access are provided in your registration tote bag.

An *Internet Café* with PC and Macintosh computers wired for high speed internet access is located in Blegen Hall. This service is provided to participants for preparing presentations and checking mail.

The University of Minnesota provides a Technology Helpline: Call them at 612-301-4357 (on campus, dial 1-HELP), or e-mail them at help@umn.edu.

Technology Helpline Hours
Monday – Thursday: 8:00 a.m. – 11:00 p.m.
Friday: 8:00 a.m. – 5:00 p.m.
Saturday: 12:00 – 5:00 p.m.
Sunday: 5:00 – 11:00 p.m.

Transportation

Campus Shuttle Bus Service
Except on weekends, you can get wherever you need to go at the University on the campus shuttle system. These shuttle buses link the East Bank, West Bank, and the St. Paul campuses. All campus shuttles are free and use a color-coded bus-stop mapping system. Shuttles run at approximately at 15 minute intervals, from 7:00 a.m. to 9:30 p.m. Monday-Friday. For details call 612-626-7275. Buses are equipped with wheelchair lifts.

- East Bank to West Bank - 4 minutes
- West Bank (Blegen Hall) to St. Paul - 20 minutes
- St. Paul to East Bank - 15 minutes

Hotel Shuttle Service
The Radisson University, Holiday Inn Metrodome, and Days Inn have their own shuttle services; you will need to arrange in advance your transportation needs with your hotel.

Metro Transit
Metro Transit operates city buses and light-rail which are an easy, inexpensive way to get around town. During peak times the fare is $2.00, and off-peak times the fare is $1.50. One may freely transfer between buses and trains, but if you pay your fare on a bus you must explicitly ask for a transfer. Also, on buses exact change is required.

To go to downtown Minneapolis on Metro Transit buses numbers #16, #50, or #3. During the day they run every 10 minutes, during the evening every 15 minutes, and after 1:00 a.m., every hour. You can catch the bus in front of Willey Hall on Washington Avenue, in front of Coffman Memorial Union on Washington Avenue, at the intersection of Washington Avenue and Union Street, or Washington Avenue and Oak Street.

Light rail service links the MSP airport, Mall of America, and downtown Minneapolis. To get to the light rail from Willey Hall, descend to the street level of Washington Ave and walk in the direction of the Metrodome. At Cedar Avenue turn left 2 blocks to 4th Street, turn right on 4th Street and go 2 blocks to 15th Avenue, turn left on 15th Avenue. When you arrive at the light rail track, look left and you will see the Cedar-Riverside Station. During peak times, the fare is $2.00, and at off-peak times, the fare is $1.50. Ticket purchase machines are located at each station.

Taxicab service
Taxicabs are available at most times at each hotel. Taxi drivers don't normally respond to hailing on the street. You'll need to call a company for a pickup. The following companies are available:

Airport Taxi	612-721-0000
Gold Star Taxi	612-343-8888
Green & White Taxi	612-522-2222

Northwest Taxi	612-741-6600
Rainbow Taxi	612-332-1615
Suburban Taxi	612-522-2222

Accomodation

Dormitory Accommodation

Dormitory reservations are full. Breakfast is included in the dormitory package. Middlebrook Hall is closest to the meeting venue on the West Bank Campus. Yudof Hall is located south of Coffman Memorial Union on the East Bank campus. All buildings on the University of Minnesota campus are smoke free.

Middlebrook Hall
412 22nd Avenue South

Mark G. Yudof Hall
220 Delaware Street S.E.

Hotel Accommodation

Holiday Inn Metrodome
1500 Washington Ave. South
800-448-3663

Radisson University Hotel
615 Washington Ave. S.E.
800-822-6757

Days Inn University Hotel
2407 University Ave. S.E.
612-623-9303

Parking

The University of Minnesota has an urban campus. There is public parking on campus, but the space is limited. There is no reciprocal parking or in and out privileges for campus parking. Overnight parking permits for dormitory residents may be purchased at check-in. Please note that many campus surface parking lots do not allow overnight parking. Conference participants staying at hotels are encouraged to leave their vehicles in the hotel parking lots and use alternative means of transportation.

Medical Services and Emergency Numbers

For Fire, Police, and Medical Assistance dial: 911

Non-emergency medical treatment is available at:

Boynton Health Service 612-625-8400
University of Minnesota Minneapolis campus
410 Church St. S.E.
Minneapolis, MN 55455
www.bhs.umn.edu/

Gopher Quick Clinic 612-625-8400
Fairview University Hospital 612-273-3000
University of Minnesota Minneapolis campus
500 Harvard Street S.E.
Minneapolis, MN 55455
www.fairview.org/

After Hours Medical Information Nurse 612-625-7900

Other assistance available on campus:

University of Minnesota Police (non-emergency) 612-624-2677
Free campus escort service 612-624-9255
Motorist assistance 612-626-7275

Banking Services

US Bank ATM and banking services – Coffman Union
Wells Fargo ATM – Willey Hall and Coffman Union
TCF Bank and ATM – West Bank Skyway
TCF ATM - Blegen Hall and Coffman Union

Dining

Breakfast is served to dormitory residents at Middlebrook Hall, and so is lunch for ticketed meal plan participants.

On-Campus Convenience

Academic Blend Café
Wilson Library
Monday – Friday 8:00 a.m. – 1:30 p.m.

Bistro West
Huber H. Humphrey Center
Monday – Friday 11:30 a.m. – 1:30 p..m.

Essentials Market and Deli
Blegen Hall
Monday – Friday 7:00 a.m. – 3:00 p.m.

Starbucks Coffee
Hanson Hall
Monday – Thursday 7:00 a.m. – 8:00 p.m.

Off-Campus Options

Restaurants within walking distance of Evolution 2008 are located in West Bank, Dinkytown, and Stadium Village neighborhoods near campus. Recommended restaurants and bars are highlighted.

Deliciously diverse and always evolving, the Minneapolis dining scene packs a flavorful punch. But don't leave for home until you've tried a bite of walleye pike, Minnesota's state fish.

Stadium Village is located near the East Bank at the corners of Oak Street and Washington Avenues (see map). Walk from Willey Hall across the Washington Avenue bridge past the Radisson University, or Monday-Friday catch the free shuttle beneath Blegen Hall

Azuki Sushi
307 Oak St. S.E.
612-331-9551

Big Ten
(Hamburgers and subs)
606 Washington Ave.
612-378-0467

Bona Vietnamese Restaurant
815 Washington Ave. S.E.
612-331-5011

Campus Pizza
(Pizza, Italian specialties)
818 Washington Ave. S.E.
612-378-2417

Caspian Bistro
(Middle Eastern)
2418 University Ave. S.E.
612-623-1113

Chipotle Mexican Grill
800 Washington Ave. S.E.
612-378-7078

Erbert and Gerbert's Subs and Clubs
720 Washington Ave. S.E.
612-623-9485

Espresso Expose
(Coffeehouse)
600 Washington Ave. S.E.
612-378-9604

Espresso Royale Café
(Coffeehouse)
614 Washington Ave. S.E.
612-378-1104

Hong Kong Noodles Restaurant
901 Washington Ave. S.E.
612-379-9472

Jasmine Orchid
(*Thai-Vietnamese*)
304 Oak St. S.E.

Leaning Tower of Pizza
2505 University Ave. S.E.
612-331-7474

Lotus
(Vietnamese)
313 Oak St. S.E.
612-331-1781

Sally's Saloon and Eatery
(American food, full bar)
712 Washington Ave. S.E.
612-331-3231

Stub & Herb's
(Bar menu & full bar)
227 Oak St. S.E.

Village Wok
(Late-night Chinese)
610 Washington Ave. S.E.
612-331-9041

Dinkytown is located on the East Bank just across University Ave. from the campus (see map)..

Al's Breakfast
413 14th Ave. S.E.
612-331-9991

Annie's Parlor
(Hamburgers and, malts)
313 14th Ave. S.E.
612-379-0744

Blarney's Irish Pub
412 14th Ave. S.E.
612-331-1527

Camdi
(*Vietnamese*)
1325 4th St SE
612-331-4194

El Burrito Loco
418 13th Ave S.E.

Espresso Royale Café
411 14th Ave. S.E.
612-623-8127

Espresso 22
(Soups and coffee)
Dinkydome, Suite 202
1501 University Ave. S.E.
612-378-9555

Hong Kong Express
Dinkydome
1501 University Ave. S.E.
612-623-9380

Kafe 421
(*Greek & American*)
421 14tH Ave. S.E.
612-623-9000

Loring Pasta Bar
(*Amazing interior fit for big parties*)
327 14th Ave. S.E.

Shuang Chen Restaurant
(*Chinese*)
1320 4th St. S.E.
612-378-0208

Caribou Coffee Co.
1500 4th St. S.E.
612-331-6716

Thai Spice
425 13th Ave. S.E.

Vescio's Italian Restaurant
406 14th Ave SE
612-378-1747

West Bank restaurants are located along Cedar Ave. to the north and south of Washington Ave.

Acadia Café
(Fine beer selection & former bio- magnetic center of the universe)
329 Cedar Ave. S.
612-874-8702

Bullwinkle's Saloon & Grill
(American)
1429 Washington Ave. S.
612-338-8520

Chipolte Mexican Grill
229 Cedar Ave S

Hard Times Café
(Vegan coffeehouse)
1821 Riverside Ave
612-341-9261

Jewel of India
1427 Washington Ave. S.
612-339-0002

Keefer Court Chinese Bakery
326 Cedar Ave. S.
612-340-0937

Nomad World Pub
501 Cedar Ave S
612-338-6424

Sergeant Preston's
(Bar & grill)
221 Cedar Ave S
612-338-6146

Town Hall Brewery
(*Local brewpub)*
1430 Washington Ave S
612-339-8696

Triple Rock Social Club
(Grill & punk scene)
629 Cedar Avenue
612-333-7499

Some Recommended Twin Cities Restaurants

Fine Dining

Nye's Polanaise
('best bar in America' –Esquire Magazine)
112 E Hennepin Ave, 612-379-2021

Red Stag Supper Club (LEED-certified)
509 1st Avenue NE, 612.767.7766

Restaurant Alma
528 University Ave S.E., 612.379.4909

African
Blue Nile Restaurant & Lounge (Ethiopian) (V)
2027 E Franklin Ave, Minneapolis.;
612.338.3000

Indian/Nepali
Everest on Grand (Nepali) (V)
1278 Grand Ave, St. Paul; 651.696.1666

New Delhi Bar and Restaurant (Indian) (V)
1400 Nicollet Ave S, Minneapolis.;
612.813.0000

Asian
Chiang Mai Thai (Thai) (V)
Calhoun Square: 3001 Hennepin Ave S (in Calhoun Square), Minneapolis.; 612.827.1606

Fuji-Ya (Japanese) (V)
600 W Lake St, Minneapolis.; 612.871.4055

Kikugawa (Japanese)
43 Main St SE (in Riverplace), Minneapolis.;
612.378.3006

King & I Thai (Thai) (V)
1346 LaSalle Ave, Minneapolis.; 612.332.6928

Nami (Japanese)
251 1st Ave N, Minneapolis.; 612.333.1999

Origami (Japanese -V)
30 1st St N, Minneapolis.; 612.333.8430

Peninsula (Malaysian) (V)
2608 Nicollet Ave S, Minneapolis.;
612.871.8282

Rainbow Chinese Restaurant & Bar (Chinese)
2739 Nicollet Ave S, Minneapolis.;
612.870.7084

Sawatdee (Thai -V)
607 Washington Ave S,
Minneapolis.;612.338.6451
118 4th St N, Minneapolis.; 612.373.0840
1005 Nicollet Mall, Minneapolis.; 612.341.2838

Tum Rup Thai (Thai) (V)
1221 W Lake St, Minneapolis.; 612.824.1378

Caribbean
Babalu (Caribbean)
800 Washington Ave N, Minneapolis.;
612.746.3158

Cafe Havana (Cuban)
119 Washington Ave N, Minneapolis.;
612.338.8484

Chino Latino (Asian/Latin Fusion) (V)
2916 Hennepin Ave S, Minneapolis.;
612.824.7878

European
Al Vento (Italian) (V)
5001 34th Ave S, Minneapolis.; 612.724.3009

Black Forest Inn (German)
1 E 26th St, Minneapolis.; 612.872.0812

Brit's Pub (British Pub)
1110 Nicollet Mall, Minneapolis.; 612.332.3908

Kramarczuk (Polish Deli)
215 E Hennepin Ave, Minneapolis.;
612.379.3018

Moscow on the Hill (Russian)
371 Selby Ave, St. Paul; 651.291.1236

Pizza Luce (Pizza – Open until 3:30 a.m. on weekends) (V)
119 4th St N, Minneapolis.; 612.333.7359
2201 E Franklin, Minneapolis.; 612.332.2535

Pizza Nea (Woodfired Pizza) (V)
306 E Hennepin, Minneapolis.; 612.331.9298

Solera (Tapas Bar) (V)
900 Hennepin Ave, Minneapolis.; 612.338.0062

Zelo (Italian) (V)
831 Nicollet Mall, Minneapolis.; 612.333.7000

Mexican

Boca Chica Restaurante (Mexican)
11 Cesar Chavez **,** West Side, St Paul; 763.571.7784

La Cucaracha Mexican Restaurante (Mexican)
36 Dale Street South, St. Paul; 651.221.9682

Las Tapatias (Mexican)
301 E. Lake St , Minneapolis; 612.824.6743

Masa (Mexican)
1170 Nicollet Mall, Minneapolis; 612.338.6272

Salsa a la Salsa (Mexican)
1420 Nicollet Avenue S., Minneapolis; 612.813.1970

Middle Eastern

Babani's Kurdish Restaurant (Kurdish) (V)
544 St. Peter St, St. Paul; 651.602.9964

Barbary Fig (Moroccan)) (V)
720 Grand Avenue, St Paul; 651-290-2085

Emily's Lebanese Deli (Lebanese) (V)
641 University Ave NE, Minneapolis.; 612.379.4069

Gardens of Salonica (Greek) (V)
19 5th St NE, Minneapolis.; 612.378.0611

Jerusalem's Restaurant (Middle Eastern – Belly dancing Friday and Saturday nights 7:30 and 9:00)) (V)
1518 Nicollet Ave S, Minneapolis.; 612.871.8883

Khyber Pass Café (Afghan) (V)
1571 Grand Ave, St. Paul; 651.690.0505

Tourism and Entertainment

Chain of Lakes

The Chain of Lakes is part of the Grand Rounds Scenic Byway and includes Lake Calhoun, Lake of the Isles, Lake Harriet, Cedar Lake, and Brownie Lake. This district of Minneapolis provides a variety of wonderful outdoor activity venues. Beach hours are from 12 noon – 8:00 p.m. daily for most beaches. Calhoun 32nd, East Cedar, and Southeast Harriet beaches are only open Fridays, Saturdays, and Sundays. Canoes are available for rental.

Lake Calhoun

Lake Calhoun is at the heart of the Chain of Lakes. Driving down Lake Street, one encounters Lake Calhoun, a popular summer destination, where there are many eateries, outdoor sports, and aquatic activities. There is a 3.2 mile walking path and a 3.1 mile biking path. Three beaches are also located on this lake: Calhoun 32nd Beach at 3200 E. Calhoun Parkway, Calhoun North Beach at 2710 W. Lake Street, and Calhoun Thomas Beach.

Minnehaha Park

Overlooking the Mississippi River, Minnehaha Park is one of Minneapolis' oldest and most popular parks, and the inspiration for Henry Wadsworth Longfellow's *Song of Hiawatha*. It is located at the intersection of Hiawatha Avenue and Minnehaha Parkway.

Minnehaha Park is 193 acres with a 53-foot waterfall, limestone bluffs, and river overlooks. The park contains oak, elm, silver maple, basswood, hackberry, and cottonwood trees as well as woodland wild flowers.

In the summer many visit the park for the abundant activities including concerts, picnics, walking, and viewing the falls. There is a great seafood restaurant next to the falls, called *Sea Salt*.

Historic Fort Snelling

Located in the heart of the Twin Cities**,** this park offers extensive hiking, bike, and ski trails that link to Minnehaha Park and the Minnesota Valley National Wildlife Refuge. Canoe on Gun Club Lake, play golf, swim in Snelling Lake, or hike on Pike Island where the Mississippi and Minnesota rivers converge. Interpretive exhibits and films on display in the Thomas C. Savage Visitor Center give visitors a good background on the history and resources of the park and area. Trails also allow visitors to hike up to the historic Fort Snelling for a view of military life in the 1820s.

Minneapolis Sculpture Garden

The Minneapolis Sculpture Garden is located on Vineland Place, across from the Walker Art Center. The 11-acre garden is a joint project of the Minneapolis Park & Recreation Board (MPRB) and the Walker Art Center. It offers visitors an opportunity to enjoy important works of art by leading American and international artists in a setting of plazas, walkways, and plantings.

Look for these displays on your visit:

- The colossal Spoonbridge and Cherry Fountain by Claes Oldenburg and Coosje van Bruggen.
- The Irene Hixon Whitney Footbridge designed by Siah Armajani that connects the Sculpture Garden with Loring Park and downtown Minneapolis. Walk across the bridge to visit the Loring Park Garden and to find a selection of cafes!
- Frank Gehry's Standing Glass Fish located in the Palm Room of the Cowles Conservatory. This room features permanent and seasonal horticultural displays including exotic orchids, palms, and other fragrant and beautiful species.
- The northern boundary of the Sculpture Garden features the Alene Grossman Memorial Arbor. Along the entire 300-foot length of the vine-covered stainless steel arbor are colorful plantings of perennial and annual flowers.

Walker Art Center

Formally established in 1927, the Walker Art Center began as the first public art gallery in the Upper Midwest. The museum's focus on modern art began in the 1940s, when a gift from Mrs. Gilbert Walker made possible the acquisition of works by important artists of the day, including Pablo Picasso, Henry Moore, Alberto Giacometti, and others. During the 1960s, the Walker organized increasingly ambitious exhibitions that circulated to museums in the United States and abroad. The permanent collection expanded to reflect crucial examples of contemporary artistic developments; concurrently, performing

arts, film, and education programs grew proportionately and gained their own national prominence throughout the next three decades. Today, the Walker is recognized internationally as a singular model of a multidisciplinary arts organization and as a national leader for its innovative approaches to audience engagement.

Science Museum of Minnesota

The Science Museum of Minnesota, founded in 1907, is a large regional science museum located on the banks of the Mississippi River in downtown St. Paul. The Science Museum's programs combine research and collection facilities, a public science education center, extensive teacher education and school outreach programs, and an IMAX Convertible Dome Omnitheater to provide science education to an audience of more than a million people per year. The Science Museum of Minnesota is known worldwide for its interactive exhibits, dynamic traveling exhibitions, and internationally distributed large format films. The Museum was an early innovator in the use of live theater as a humanizing interpretive tool and continues to be a training ground for other museums wishing to include live programming in their exhibit halls.

Minnesota Children's Museum

With a focus on hands-on learning, this museum is appropriate for children from six months to 10 years. It hosts five permanent galleries. Earth World introduces children to nature's seasons, cycles, and systems. World Works puts the tools for invention and creativity into children's hands. One World connects children to the world and all its people, through international food and music. Habitot is a learning landscape for toddlers to explore Minnesota's habitats -- the prairie, the pond, the forest, and the bluff caves. Rooftop ArtPark, brings nature and art together in an outdoor setting. *Visitors are encouraged to use all of their senses to explore the many things there are to see and do.*

Frederick R. Weisman Art Museum

Housed on the East Bank campus of the University in a striking stainless steel and brick building designed by architect Frank Gehry, the Weisman Art Museum offers a free and educational museum experience. The museum's collection features early 20th century American artists such as Georgia O'Keeffe and Marsden Hartley, as well as a diverse selection of contemporary art. A teaching museum for the University of Minnesota and the community, the Weisman provides a fresh, engaging arts experience through an array of programs and a changing schedule of exhibitions.

Minneapolis Institute of Arts

In 1883, 25 citizens of Minneapolis founded the Minneapolis Society of Fine Arts, committed to bringing the arts into the life of their community. More than a century later, the museum they created, The Minneapolis Institute of Arts, stands as a monument to a remarkable history of civic involvement and cultural achievement. MIA's permanent collection has grown from eight hundred works of art to around one hundred thousand objects. The collection includes world-famous works that embody the highest levels of artistic achievement, spanning five thousand years and representing the world's diverse cultures across all continents. The MIA's free general-admission policy, public programs, classes for children and adults, and award-winning interactive media programs have helped to broaden and deepen this museum's roots in the communities it serves.

To find one of the many, many other great museum and arts experiences the Twin Cities have to offer please visit: http://www.twincities.worldweb.com/SightsAttractions/Museums.

Guthrie Theater

The Guthrie Theater, founded in 1963, is an American center for theater performance, production, education, and professional training. By presenting both classical literature and new work, the Guthrie illuminates the human condition connecting Minnesota to the peoples of the world. A new multistage theater center opened in 2006 on the banks of the Mississippi River. The complex includes a classic thrust stage for the grand-scale classics of the centuries, a proscenium stage for the more intimate classics of this century, and a studio theater for developing the classics of tomorrow. The Guthrie complex is open to the public and offers an architectural experience with spectacular views of the city from several restaurants and bars.

The Guthrie is one of the many theater opportunities the Twin Cities have to offer. To find a more complete directory of options please visit: http://www2.bitstream.net/~iras.

First Avenue

San Francisco has the Fillmore Auditorium. New York has the Knitting Factory. And Minneapolis has First Avenue. Anyone who knows about music in this town will tell you that, for the last three decades, First Avenue has been integral to the Twin Cities' vibrant music scene. From the avant garde to the mainstream, First Avenue is a music club committed to fostering the arts. Memorialized in Prince's *Purple Rain*, First Avenue is your downtown danceteria.

Major League Baseball

The Minnesota Twins play the Arizona Diamond Backs at the Metrodome on June 19 (12:10 pm), June 20 (7:10 pm), June 21 (6:10 pm), and June 22 (12:05 pm).

To find more fun and interesting things to do while you're in Minnesota, visit www.exploreminnesota.com/

Field Trips

Metro Area Birding, June 22 & June 23 (early morning)

Although Minneapolis-St. Paul is a metropolitan area, the confluence of the Mississippi and Minnesota Rivers offers good birding in a variety of woodland edge and marsh habitats. Experience the dawn chorus at the Minnesota Valley National Wildlife Refuge with later stops along the Mississippi River. Participants should be prepared for mosquitoes and mud at the refuge, depending on rainfall and water levels. June 24 is an alternate date in case of rain.

Leader: Alexis Powell (University of Minnesota, ornithologist).

Depart 5:30 a.m. from the Radisson University Hotel, Trip includes no meals.

Return by 8:30 a.m. to Willey Hall

Capacity: 10-14. **These trips are fully booked.**

North Woods, June 25-27

This two-and-a-half-day trip explores Minnesota's famous north woods, geology, and bird life. The Saint Louis River plunges through ancient rock exposures at Jay Cooke State Park and traces a major route of the French-Indian fur trade. Duluth, a major inland seaport, sits at the western tip of Lake Superior, the largest fresh-water lake in the world. Itasca State Park is home to the headwaters of the mighty Mississippi River, old growth pine forests, wetlands, bogs, maple-basswood forests, and the University of Minnesota's Itasca Biological Station . Day two offers opportunities for bird watching, canoeing, hiking, and biking.

Leaders: Dr. David Biesboer (University of Minnesota, Director of the Itasca Biological Station and botanist), Dr. David Schimpf (University of Minnesota – Duluth, botanist), Dr. John Green (University of Minnesota – Duluth, geologist), and Dr. Muir Eaton (Drake University and Itasca Biological Station, ornithologist)

Includes two nights at the Itasca State Park hostel, dinner on June 25, breakfast, lunch and dinner on June 26, and breakfast on June 27. The cost of lunch in Duluth on June 25 is not included.

Depart June 25, 8:00 a.m. from the Bell Museum of Natural History

Return June 27, 1:00 p.m. to the Bell Museum of Natural History, with continued service to the MSP airport

Capacity: 18-24

Tour cost $235

Mississippi River Geology, June 25 (morning)

The Mississippi River flows through the urban corridor of Minneapolis-St. Paul and includes waterfalls, limestone caves, and fossil beds. This tour highlights geological features at the Mississippi's head of navigation including the University of Minnesota's Saint Anthony Falls Laboratory , the nation's center for earth-surface dynamics research. Also includes a tour of fossil beds exposed at quarries in Burnsville, near Minneapolis.

Leaders: Karen Campbell (University of Minnesota Saint Anthony Falls Laboratory, associate program director) and Sara Wilson (Kraemer Mining and Materials, geologist)

Trip includes box lunch.

Depart 7:00 a.m. from the Radisson University

Return 1:00 p.m. to the Radisson University

Capacity: 18-25

Tour cost $50

Cedar Creek Ecosystem Science Reserve, June 25 (morning)

Cedar Creek Ecosystem Science Reserve, formerly Cedar Creek Natural History Area, is an NSF Long Term Ecological Research Site in central Minnesota, with natural habitats that represent most of the state, from boggy coniferous forest to hardwood forest and prairie remnants. The area is noteworthy for its biological diversity so close to the metropolitan area (about 30 miles north of downtown Minneapolis). The modern science of ecosystem ecology was conceived here and so was the invention of animal tracking by radio telemetry. Long-term research on fire ecology and prescriptive burning of savannas began here in the 1960s. Experiments started in the 1980s have contributed a great deal to modern ecological theory. World-renowned ecologists including David Tilman and Peter Reich currently conduct their research at Cedar Creek.

Leader: Dr. Jeff Corney (University of Minnesota Cedar Creek Ecosystem Science Reserve, director)

Includes a box lunch

Depart 8:00 a.m. from the Bell Museum of Natural History

Return 1:00 p.m. to the Bell Museum of Natural History

Capacity: 18-28

Tour cost $35

St. Croix Valley Wineries, June 25 (afternoon)

Minnesota is known for harsh winters but less well known are its distinctive wineries, “where the grapes suffer.” Tour three wineries located in the St. Croix River Valley for tastes of Alexis Bailly, St. Croix Vineyards, and Northern Vineyards Winery. Linger for dinner in historic downtown Stillwater. Minnesota’s oldest chartered city overlooks the beautiful St. Croix River, a national scenic waterway that forms the boundary with Wisconsin. The St. Croix is part of the earth’s oldest well documented geological rift system, the 1.1-billion-year-old Midcontinent Rift, extending from Lake Superior to Kansas.

Leaders: Dr. Paul Weiblen (University of Minnesota, geologist) and Ms. Michelle Orr (Bell Museum of Natural History, wine enthusiast)

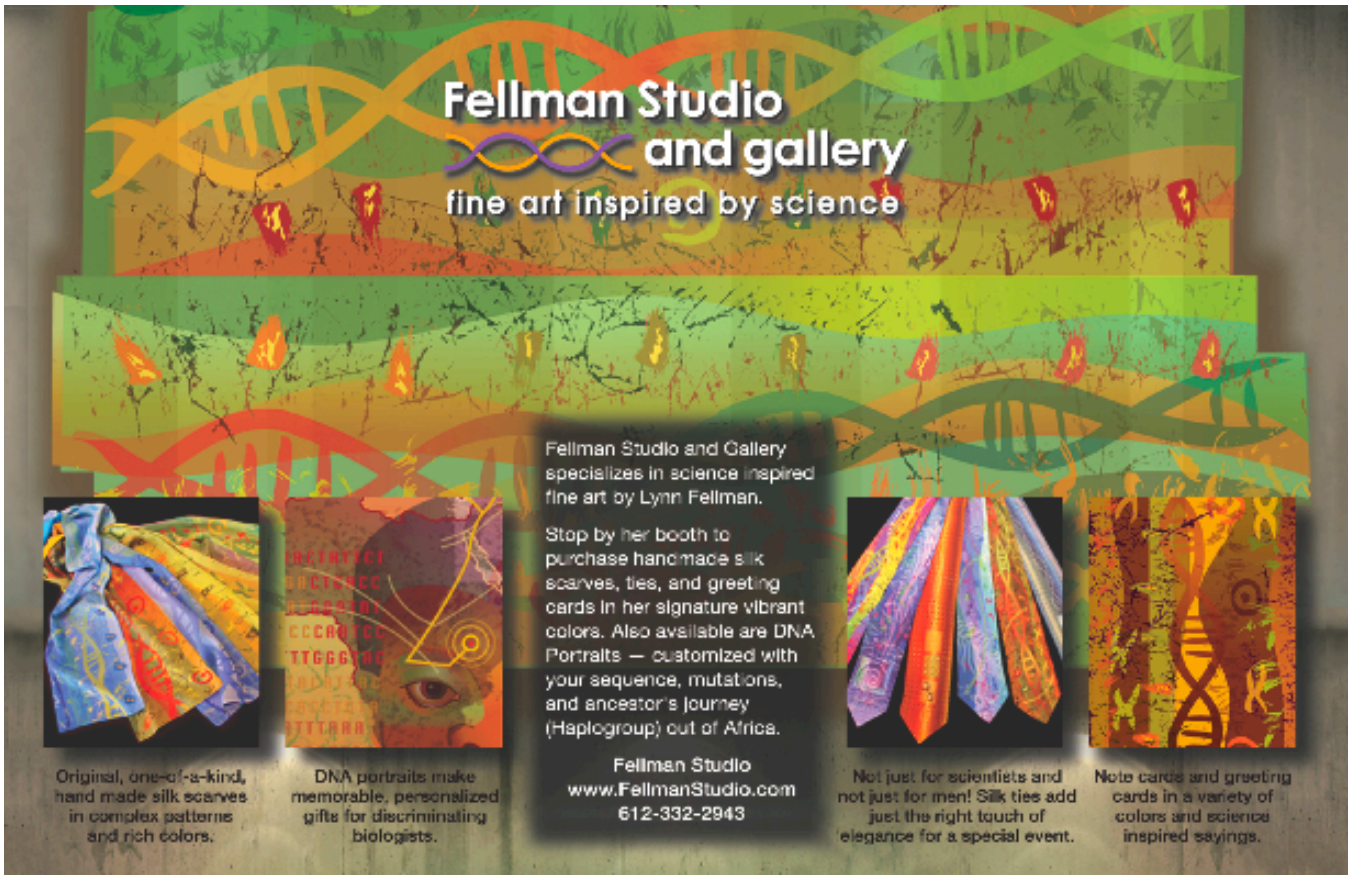
Dinner on your own in Stillwater.

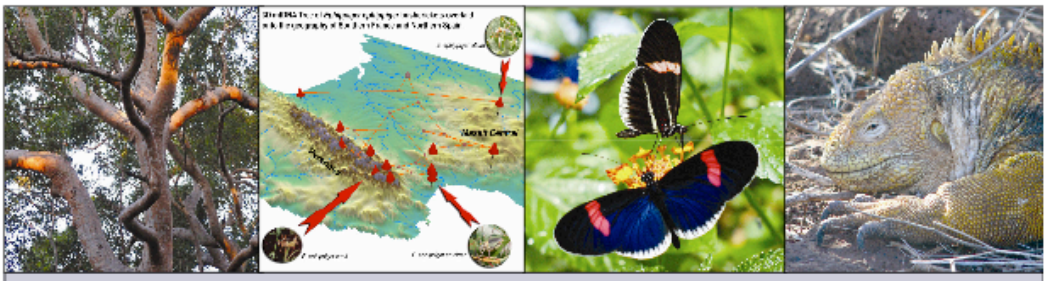
Depart 2:00 p.m. from Bell Museum of Natural History

Return approximately 9:00 p.m. to Bell Museum of Natural History

Capacity: 18-30

Tour cost $45





NESCent
National Evolutionary Synthesis Center
www.nescent.org

- Join us at a free NESCent-sponsored breakfast reception and talk to our Directors about funding opportunities

  Hubert H. Humphrey Center Atrium
  University of Minnesota - West Bank
  Sunday, June 22nd, 7:30 – 9:00 AM

- Visit our booth in the exhibit hall

Sponsors & Exhibitors

Evolution 2008 is extremely grateful to the following sponsors and exhibitors for their generous support. Participants are urged to take time to visit the sponsor booths and discuss with the company representatives their range of products and service.

American Society of Naturalists

Society for the Study of Evolution

Society of Systematic Biologists

Bell Museum of Natural History

College of Biological Sciences

University of Chicago Press

CodonCode Corporation

Roberts and Company

CRC Press – Taylor & Francis Group

University of California Press

NESCent

Princeton University Press

Biodiversity Synthesis Center

The Royal Society

New England Biolabs, Inc.

Fellman Studio and Gallery

SimBiotic Software, Inc.

Cambridge University Press

Sinauer Associates, Inc. Publishers

Wiley-Blackwell

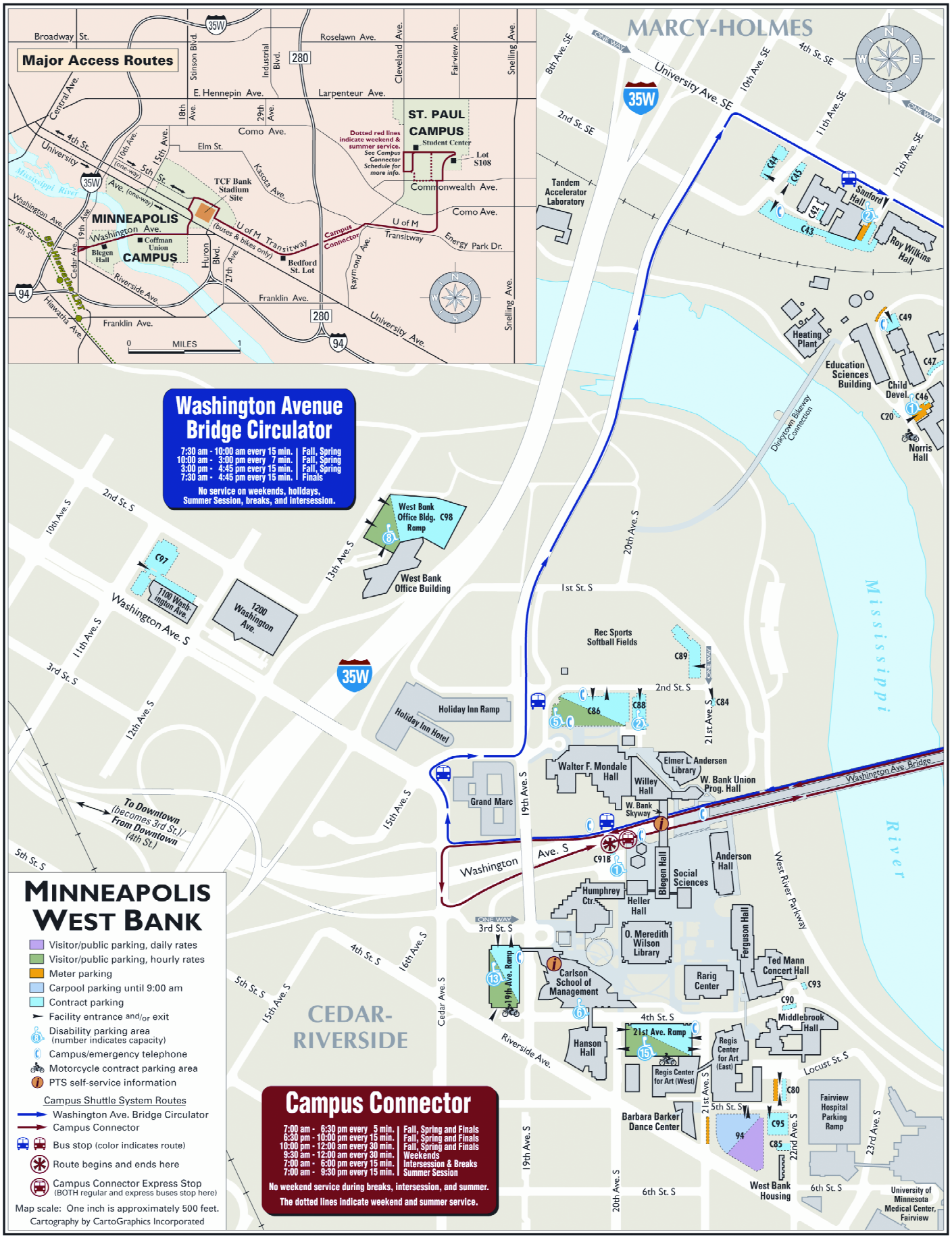
Oxford University Press

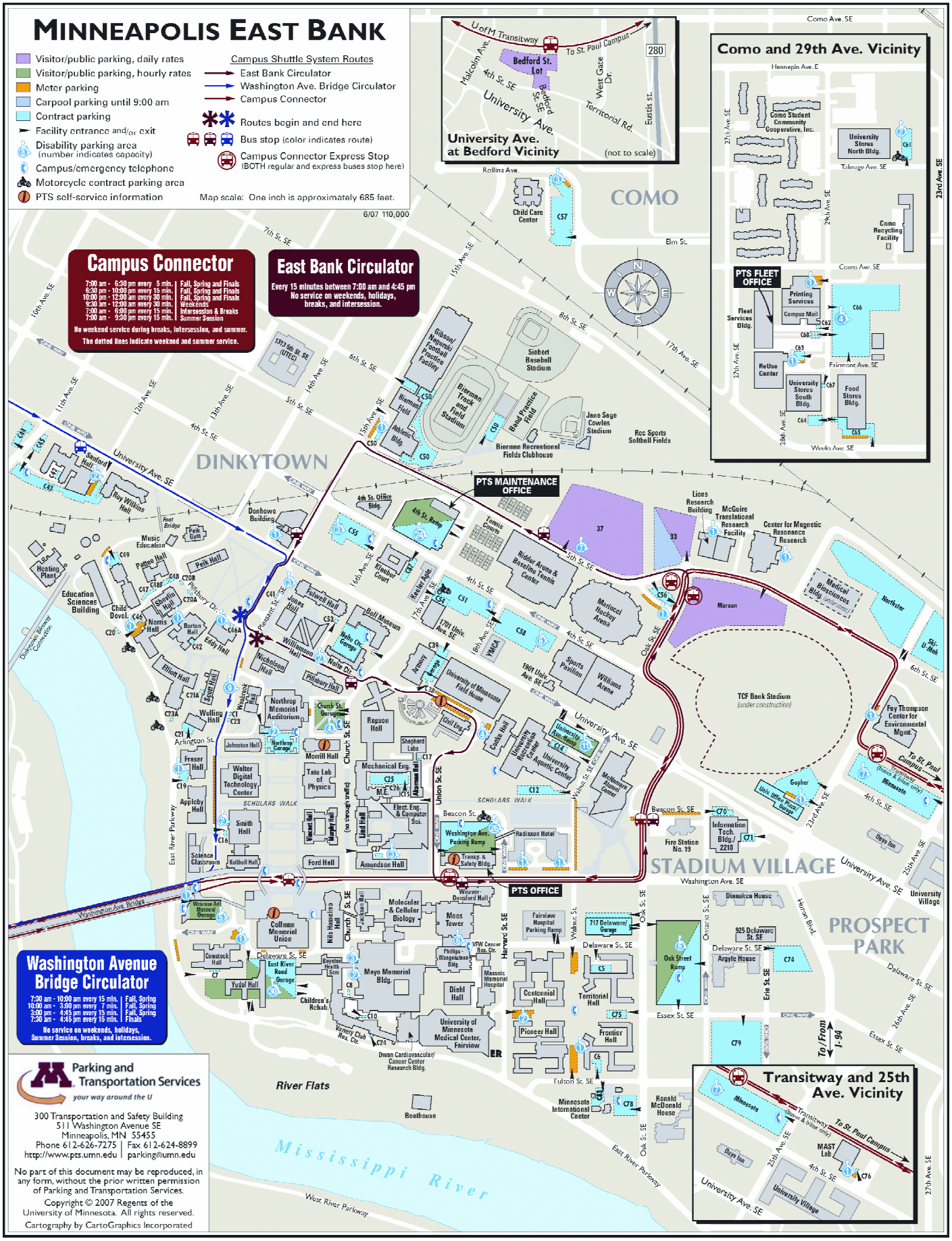
Pearson

Minnesota Citizens for Science Education

Springer

New Phytologist


Major Access Routes
Broadway St.
Stinson Blvd.
Industrial Blvd.
Roselawn Ave.
Cleveland Ave.
Fairview Ave.
Snelling Ave.
E. Hennepin Ave.
Larpenteur Ave.
Central Ave.
18th Ave.
29th Ave.
Como Ave.
Elm St.
4th St.
University
10th Ave. (one-way)
5th St.
15th Ave.
Mississippi River
Washington Ave.
19th Ave.
Cedar Ave.
MINNEAPOLIS CAMPUS
Coffman Union
Blegen Hall
TCF Bank Stadium Site
Kasota Ave.
U of M Transitway (buses & bikes only)
Bedford St. Lot
Huron Blvd.
27th Ave.
Riverside Ave.
Franklin Ave.
Hiawatha Ave.
Raymond Ave.
Campus Connector
U of M Transitway
Commonwealth Ave.
Energy Park Dr.
ST. PAUL CAMPUS
Student Center
Lot S108
Dotted red lines indicate weekend & summer service. See Campus Connector Schedule for more info.
University Ave.
Snelling Ave.
0 MILES 1
MARCY-HOLMES
University Ave. SE
8th Ave. SE
2nd St. SE
10th Ave. SE
4th St. SE
11th Ave. SE
12th Ave. SE
Tandem Accelerator Laboratory
Sanford Hall
Roy Wilkins Hall
Heating Plant
Education Sciences Building
Child Devel.
Norris Hall
Dinkytown Bikeway Connection
Washington Avenue Bridge Circulator
7:30 am - 10:00 am every 15 min. | Fall, Spring
10:00 am - 3:00 pm every 7 min. | Fall, Spring
3:00 pm - 4:45 pm every 15 min. | Fall, Spring
7:30 am - 4:45 pm every 15 min. | Finals
No service on weekends, holidays, Summer Session, breaks, and intersession.
West Bank Office Bldg. Ramp
West Bank Office Building
2nd St. S
10th Ave. S
13th Ave. S
20th Ave. S
1st St. S
1100 Washington Ave.
1200 Washington Ave.
Washington Ave. S
11th Ave. S
3rd St. S
12th Ave. S
Holiday Inn Ramp
Holiday Inn Hotel
Rec Sports Softball Fields
2nd St. S
21st Ave. S
Mississippi River
Walter F. Mondale Hall
Elmer L. Andersen Library
Willey Hall
W. Bank Union Prog. Hall
W. Bank Skyway
Washington Ave. Bridge
Grand Marc
19th Ave. S
15th Ave. S
To Downtown (becomes 3rd St.)/ From Downtown (4th St.)
5th St. S
Washington Ave. S
Blegen Hall
Social Sciences
Anderson Hall
West River Parkway
Humphrey Ctr.
Heller Hall
O. Meredith Wilson Library
Ferguson Hall
3rd St. S
4th St. S
16th Ave. S
19th Ave. Ramp
Carlson School of Management
Rarig Center
Ted Mann Concert Hall
Middlebrook Hall
CEDAR-RIVERSIDE
Cedar Ave. S
Riverside Ave.
Hanson Hall
21st Ave. Ramp
Regis Center for Art (East)
Regis Center for Art (West)
Locust St. S
Fairview Hospital Parking Ramp
Barbara Barker Dance Center
5th St. S
21st Ave. S
22nd Ave. S
23rd Ave. S
West Bank Housing
6th St. S
University of Minnesota Medical Center, Fairview
Campus Connector
7:00 am - 6:30 pm every 5 min. | Fall, Spring and Finals
6:30 pm - 10:00 pm every 15 min. | Fall, Spring and Finals
10:00 pm - 12:00 am every 30 min. | Fall, Spring and Finals
9:30 am - 12:00 am every 30 min. | Weekends
7:00 am - 6:00 pm every 15 min. | Intersession & Breaks
7:00 am - 9:30 pm every 15 min. | Summer Session
No weekend service during breaks, intersession, and summer.
The dotted lines indicate weekend and summer service.
MINNEAPOLIS WEST BANK
Visitor/public parking, daily rates
Visitor/public parking, hourly rates
Meter parking
Carpool parking until 9:00 am
Contract parking
Facility entrance and/or exit
Disability parking area (number indicates capacity)
Campus/emergency telephone
Motorcycle contract parking area
PTS self-service information
Campus Shuttle System Routes
Washington Ave. Bridge Circulator
Campus Connector
Bus stop (color indicates route)
Route begins and ends here
Campus Connector Express Stop (BOTH regular and express buses stop here)
Map scale: One inch is approximately 500 feet.
Cartography by CartoGraphics Incorporated


MINNEAPOLIS EAST BANK
Visitor/public parking, daily rates
Visitor/public parking, hourly rates
Meter parking
Carpool parking until 9:00 am
Contract parking
Facility entrance and/or exit
Disability parking area (number indicates capacity)
Campus/emergency telephone
Motorcycle contract parking area
PTS self-service information
Campus Shuttle System Routes
East Bank Circulator
Washington Ave. Bridge Circulator
Campus Connector
Routes begin and end here
Bus stop (color indicates route)
Campus Connector Express Stop (BOTH regular and express buses stop here)
Map scale: One inch is approximately 685 feet.
6/07 110,000
Campus Connector
7:00 am - 6:30 pm every 5 min. | Fall, Spring and Finals
6:30 pm - 10:00 pm every 15 min. | Fall, Spring and Finals
10:00 pm - 12:00 am every 30 min. | Fall, Spring and Finals
9:30 am - 12:00 am every 30 min. | Weekends
7:00 am - 6:00 pm every 15 min. | Intersession & Breaks
7:00 am - 9:30 pm every 15 min. | Summer Session
No weekend service during breaks, intersession, and summer.
The dotted lines indicate weekend and summer service.
East Bank Circulator
Every 15 minutes between 7:00 am and 4:45 pm
No service on weekends, holidays, breaks, and intersession.
Washington Avenue Bridge Circulator
7:30 am - 10:00 am every 15 min. | Fall, Spring
10:00 am - 3:00 pm every 7 min. | Fall, Spring
3:00 pm - 4:45 pm every 15 min. | Fall, Spring
7:30 am - 4:45 pm every 15 min. | Finals
No service on weekends, holidays, Summer Session, breaks, and intersession.
University Ave. at Bedford Vicinity
UofM Transitway
To St. Paul Campus
Bedford St. Lot
Malcolm Ave.
4th St. SE
Bedford St. SE
West Gate Dr.
Territorial Rd.
Eustis St.
University Ave.
280
(not to scale)
Como and 29th Ave. Vicinity
Hennepin Ave. E
Como Student Community Cooperative, Inc.
University Stores North Bldg.
Talisage Ave. SE
Como Recycling Facility
PTS FLEET OFFICE
Fleet Services Bldg.
Printing Services
Campus Mail
ReUse Center
University Stores South Bldg.
Food Stores Bldg.
Fairmont Ave. SE
Weeks Ave. SE
Como Ave. SE
COMO
DINKYTOWN
STADIUM VILLAGE
PROSPECT PARK
River Flats
Mississippi River
PTS MAINTENANCE OFFICE
PTS OFFICE
Transitway and 25th Ave. Vicinity
To St. Paul Campus
To/From I-94
Parking and Transportation Services
your way around the U
300 Transportation and Safety Building
511 Washington Avenue SE
Minneapolis, MN 55455
Phone 612-626-7275 | Fax 612-624-8899
http://www.pts.umn.edu | parking@umn.edu
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Announcements

New Student Award from SSE

The Society for the Study of Evolution is launching a new award: “The W.D. Hamilton Award” for an outstanding student presentation at the annual meeting. Presentations will be judged by a committee of SSE members. Applicants will present their papers during regular sessions appropriate for their topic. The winner will receive an award of $1000, a year of membership to the Society for the Study of Evolution, and one year’s free subscription to the journal “Evolution”. Up to two runners-up will each receive one year of membership to the Society for the Study of Evolution, plus one year's subscription to the journal "Evolution".

Eligibility: Only oral presentations will be considered. Students should be currently enrolled in a M.S. or Ph.D. program, or should have acquired a degree in 2008.

The deadline for indicating your intention to be considered for this year’s award was May 23, 2008.

Undergraduate Diversity at Evolution 2008

For the sixth consecutive year the National Science Foundation has funded a program to send talented and diverse undergraduates from across the US to the Evolution meetings. This particular program is specifically associated with the Society for the Study of Evolution and the Society for Systematic Biologists. This year the program is again being organized by **Scott Edwards** (Harvard University) and **Richard Kliman** (Cedar Crest College, NJ), but we have gained additional strength and outreach capability through a collaboration with the National Evolutionary Synthesis Center (NESCent), a major initiative for evolutionary research and synthesis in Durham, NC also funded by NSF. At NEScent, Director of Education and Outreach **Brian Wiegmann** (Duke University/NESCent) and Science Education and Outreach Program Manager **Jory Weintraub** have helped solicit applications to the Diversity program and are helping underwrite the costs for travel of a high school student, the first such student to be sponsored in this way at the Evolution meetings.

This year the program will cover the costs of travel to the meetings, registration and lodging for 19 undergraduates from the US and Puerto Rico. Students will present a poster on their research in a designated area of one of the poster sessions. In addition, the students will 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. An Undergraduate Diversity Social will take place 4:00-5:30 on Monday June 23 at West Bank Plaza. An Undergraduate Pep Talk will take place 2:00 – 3:00 p.m on Tuesday in 125 Blegen Hall. Everyone is welcome to both events, 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.

We are particularly grateful to Patrick Herendeen at NSF for his enthusiastic support of this program, which benefits everyone in the societies. We also thank **George Weiblen, Heather Dorr, Eugene Anderson, Kristi Fischer** and the rest of the meeting planning staff for their generous time in facilitating this year's program. Look out for the undergraduate posters at the meeting, and spread the word about this important opportunity for students embarking on careers in evolutionary biology. For further information about this and next year's program, go to:
http://www.oeb.harvard.edu/faculty/edwards/community/application.html

Workshops

Evolution 101

Bell Museum of Natural History
Friday, June 20, 2008

8:30 AM K-12 teacher registration (Bell Museum Lobby)

9:00 *What's new in evolution?* (Bell Museum Auditorium)
Dr. Scott Lanyon, Director, Bell Museum of Natural History

9:30 *Using history to teach biology* (Bell Museum Auditorium)
Dr. Mark Borrello, History of Science, Dept. of Ecology, Evolution, & Behavior, University of Minnesota, and Board of Directors, MnCSE

10:00 Break (coffee in the lobby)

10:15 *Schoolyard ecology explorations* (Bell Museum Auditorium)

Share the thrill of discovery with your students using simple schoolyard inquiry techniques. This session summarizes a 2-week course offered by monarch butterfly researcher, Dr. Karen S. Oberhauser, Dept. of Fisheries, Wildlife, & Conservation Biology, University of Minnesota, and Board of Directors, MnCSE

10:45 *Preparing students for college biology* (Bell Museum Auditorium)

The perspective of college-level general biology teachers on how well students are prepared when they enter college, what could be improved, and why it's important to provide K-12 exposure to evolutionary biology.
Drs. Mark Decker, Sehoya Cotner, and Randy Moore, Biology Program, University of Minnesota

11:15 Announcements (Bell Museum Auditorium)

11:30 Lunch (on your own in Dinkytown)

1:30 PM Choose (1) or (2):

(1) For teachers of grades K-5:

Introducing young readers to evolution (1:30, Room 3, Bell Museum) Promises and pitfalls of teaching evolution to young students, according to children's author Lisa Westberg Peters, author of *Our Family Tree: An Evolution Story* (Harcourt 2003).

(2) For teachers of grades 6-12:

Classroom simulation (1:30, Bell Museum Auditorium)
How the concepts of evolution can be implemented throughout the semester instead of being constrained to a brief unit at the end of a typical biology course. Strategies for implementation will be provided along with labs and activities for students of varying academic abilities. Brad Ward (Forest Lake High School, Forest Lake, MN and Board of Directors, MnCSE) and Jeff Plaman (International School Beijing).

1:45 *Patterns in evolution* (Bell Museum Auditorium)

Principles of evolution, adaptation, homology, and phylogeny. Dr. Sharon Jansa and Dr. F. Keith Barker, Bell Museum of Natural History and Department of Ecology, Evolution, & Behavior, University of Minnesota.

2:30 Break (coffee in the lobby)

2:45 Travel to computer lab

3:00 *Patterns in evolution*: *Computer workshop* (location to be announced)

Hands-on exercises based on the 1:45 lecture. Drs. Sharon Jansa and F. Keith Barker

4:00 Travel to Bell Museum

4:15 *Summing up: Panel discussion* (Bell Museum Auditorium)

5:00 K-12 teachers turn in questionnaires and receive certificate for continuing education credit (Bell Museum Lobby)

6:00 Reception at Nolte

Evolution 101 Workshop is sponsored by the Society for the Study of Evolution, the Bell Museum of Natural History, The College of Biological Sciences, University of Minnesota, and Minnesota Citizens for Science Education (MnCSE), with the generous financial support of the ADC Foundation.

Program committee: Mark Borrello (University of Minnesota), James Curtsinger (University of Minnesota), Bruce Leventhal (Forest Lake High School), Randy Moore (University of Minnesota), and Brad Ward (Forest Lake High School) are all members of Minnesota Citizens for Science Education

On-site committee: Mark Borrello, Judy Budreau (University of Minnesota and MnCSE), Charlie Curtsinger (University of Minnesota), James Curtsinger, Peggy Korsmo-Kennon (Bell Museum), Gordon Murdock (Bell Museum), Susan Weller (University of Minnesota), Kevin Williams (Bell Museum).

Evolutionary Biology & Ontologies

McNamara Alunni Center
Friday, June 20, 2008

This workshop in conjunction with Evolution 2008 is organized through the National Center for Biomedical Ontologies (NCBO) in collaboration with the National Evolutionary Synthesis Center.

Organizers
Barry Smith, Paula M. Mabee, Todd Vision, Monte Westerfield

Agenda

9:00-10:00 a.m. Tutorial: An Introduction to Ontology for Evolutionary Biology, Barry Smith, NCBO / Center of Excellence in Bioinformatics and Life Sciences, University at Buffalo

10.00-10.30 a.m. Morning Break

10:30-11:00 a.m. An Introduction to the PATO Phenotype Ontology , Chris Mungall, NCBO / University of California, Berkeley

11:00-11:30 a.m. Using Ontologies in the NCBO Project to Link Fish and Fly Mutants to Human Diseases, Monte Westerfield, Director, Zebrafish Information Network and Institute of Neuroscience, Eugene, OR

11:30 a.m.– Noon An Introduction to the Use of Ontologies in Linking Evolutionary Phenotypes to Genetics, Paula M. Mabee, University of South Dakota

12:00-1:00 Lunch

1:00-1:45 p.m. An Introduction to the CARO Anatomy Reference Ontology; Multispecies Ontologies , Melissa Haendel, Anatomy Curator, Zebrafish Information Network, Eugene, OR

1:45-2:15 p.m. Developing an Ontology for Amphibians using NLP, Anne Maglia, University of Missouri-Rolla

2:15-2:45 p.m. Afternoon Break

2:45-3:15 p.m. Ontologies, Image Databases, and Evolutionary Biology, Martin Ramirez, Museo Argentino de Ciencias Naturales “Bernardino Rivadavia”, Buenos Aires, Argentina

3:15-3:45 p.m. An Introduction to the Use of Anatomy Ontologies for the Identification of Genes Underlying Complex Traits, Todd Vision, Associate Director, National Evolutionary Synthesis Center and Dept. of Biology, University of North Carolina

3:45-4:45 p.m. Roundtable & Discussion

4:45-5:00 p.m. Wrap-Up: Next Steps, Suzanna Lewis, NCBO / University of California, Berkeley

Calendar of Events

Friday, June 20

8:00 a.m. – 4:00 p.m.	Evolutionary Biology & Ontologies Workshop McNamara Alumni Center, A.I. Johnson Room Washington Avenue & Oak Street
9:00 a.m. – 5:00 p.m.	Evolution 101 Workshop Bell Museum of Natural History 10 Church Street
9:00 a.m. – Noon	ASN/SSE/SSB Joint Council Meeting Campus Club, 4th floor Coffman Memorial Union Conference Room A, B, C
Noon – 1:00 p.m.	Society Council Members Luncheon Campus Club Cafeteria
1:00 – 5:00 p.m.	SSE Council Meeting Campus Club, Conference Room A ASN Council Meeting Campus Club, Conference Room B SSB Council Meeting Campus Club, Conference Room C
5:00 – 9:00 p.m.	Opening Reception Bell Museum of Natural History & Nolte Plaza 10 Church Street

Saturday, June 21

8:00 a.m. – 5:15 p.m.	Symposia and Concurrent Sessions West Bank Campus
Noon – 1:00 p.m.	Systematic Biology Associate Editors Luncheon Campus Club, 4th floor Coffman Memorial Union Dale Shephard Room
Noon – 1:30 p.m.	SSE Workshop: *How to Get a Job in Academic Biology: Tips for Graduate Students and Postdocs* Lorne Wolfe, Daniel E.L. Promislow 125 Willey Hall
4:00 – 5:30 p.m.	Publisher's Reception for the American Society of Naturalists Ted Mann Concert Hall Lobby
5:30 – 6:30 p.m.	ASN Presidential Address *The Coevolving Web of Life* John N. Thompson, University of California, Santa Cruz Ted Mann Concert Hall
6:30 – 7:00 p.m.	ASN Business Meeting Ted Mann Concert Hall
7:00 – 10:00 p.m.	Picnic Coffman Memorial Union Riverbend Plaza (Coffman Great Hall in the event of rain)
7:30 – 8:30 p.m.	*Sweet 'Stache* (70's & 80's rock)
8:30 – 9:15 p.m.	Open Mic
9:15 – 10:00 p.m.	*Suede Denim Secret Police* (80's punk rock)

Sunday, June 22

7:30 – 9:00 a.m.	National Evolutionary Synthesis Center Breakfast Reception (Discussion of funding opportunities with NESCent directors) Hubert H. Humphrey Center Atrium, West Bank
8:00 a.m. – 5:15 p.m.	Symposia and Concurrent Sessions West Bank Campus
Noon – 1:00 p.m.	NSF Funding Opportunities: Finding the Buried Treasure 125 Willey Hall Samuel Scheiner, National Science Foundation
Noon – 1:30 p.m.	American Naturalist Editorial Board Luncheon Campus Club, 4th floor Coffman Memorial Union Dale Shephard Room
4:00 – 5:00 p.m.	Public Lecture *The Art of Seduction: Evolution, Sex, and the Public* Dr. Olivia Judson Ted Mann Concert Hall
5:30 – 6:30 p.m.	SSE Presidential Address *Evolution in a Changing World* Johanna Schmitt, Brown University Ted Mann Concert Hall
6:30 – 7:30 p.m.	SSE Business Meeting Ted Mann Concert Hall
8:00 – 11:00 p.m.	Poster Session I & Reception Washington Avenue Bridge and West Bank Plaza

Monday, June 23

8:00 a.m. – 5:15 p.m.	Symposia and Concurrent Sessions West Bank Campus
Noon – 1:00 p.m.	Evolution Editorial Board Luncheon Campus Club, 4th floor Coffman Memorial Union Dale Shephard Room
4:00 – 5:30 p.m.	Undergraduate Diversity Social West Bank Plaza
5:30 – 6:30 p.m.	SSB Presidential Address *Systematics, Evolution and Natural History: Lessons From Past Presidents and Cicadas* Dr. Chris Simon, University of Connecticut Ted Mann Concert Hall
6:00 – 7:00 p.m.	SSE International Committee Meeting 125 Blegen Hall
6:30 – 7:30 p.m.	SSB Business Meeting Ted Mann Concert Hall
8:00 – 11:00 p.m.	Poster Session II & Reception Washington Avenue Bridge and West Bank Plaza

Tuesday, June 24

8:00 a.m. – 5:15 p.m.	Symposia and Concurrent Sessions West Bank Campus
Noon – 1:30 p.m.	ASN/SSB/SSE Joint Council Exit Meeting Campus Club, 4th floor Coffman Memorial Union Dale Shephard Room
2:00 – 3:00 p.m.	Undergraduate Diversity Pep Talk 125 Blegen Hall
5:00 – 6:00 p.m.	SSE Council Exit Meeting 125 Blegen Hall
5:00 – 6:00 p.m.	ASN Council Exit Meeting 135 Blegen Hall
7:00 – 10:00 p.m.	Banquet McNamara Alumni Center Washington Avenue and Oak Street

Overview of Symposia and Concurrent Sessions

Saturday, 21 June

	Willey 175	Willey 125	Anderson 370	Anderson 270	Anderson 250	Anderson 230	Anderson 210	Ferguson 225	Blegen 150
8:00- 10:00am	SSE Symposium: Molecular Mechanisms of Life History Evolution	Phylogeo-graphy I	Molecular Evolution I	Systematics I	Behavior & Social Evolution I	Plant Mating Systems I	Speciation I	Natural Selection & Contemporary Evolution I	Invasive Species I
10:30am-12:00pm	SSE Symposium: Molecular Mechanisms of Life History Evolution	Phylogeo-graphy II	Molecular Evolution II	Systematics II	Behavior & Social Evolution II	Plant Mating Systems II	Speciation II	Species interactions I	Invasive Species II
1:30-3:00pm	SSB Symposium: Merging Phylogenetic Biology and Spatial Ecology	Ecological Genetics I	Genomics & Proteomics I	Hybridization I	Sexual Selection I	Evolution & Ecology of Disease I	Speciation III	Evolutionary Theory I	Development & Evolution I
3:30-5:15pm	SSB Symposium: Merging Phylogenetic Biology and Spatial Ecology	Ecological Genetics II	Genomics & Proteomics II	Hybridization II	Sexual Selection II	Evolution & Ecology of Disease II	Speciation IV	Evolutionary Theory II	Development & Evolution III

Sunday, 22 June

	Willey 175	Willey 125	Anderson 370	Anderson 270	Anderson 250	Anderson 230	Anderson 210	Ferguson 225	Blegen 150
8:00- 10:00am	Ernst Mayr Award Competition I	Evolution of Sex I	Quantitative Genetics I	Phylogeography III	Coevolution I	Behavior & Social Evolution III	Speciation V	Bioinformatics	Animal Mating & Breeding Systems
10:30am-12:00pm	Ernst Mayr Award Competition II	Evolution of Sex II	Quantitative Genetics II	Molecular Evolution III	Macroevolution I	Phylogenetic Theory & Methods I	Speciation VI	Coevolution II	Education
1:30-3:00pm	SSE Symposium: Evolution Education		Life History Evolution I	Natural Selection & Contemporary Evolution II	Macroevolution II	Biogeography I	Molecular Evolution V	Experimental Evolution I	Systematics III
3:30-5:15pm	SSE Symposium: Evolution Education		Life History Evolution II	Natural Selection & Contemporary Evolution III	Macroevolution III	Biogeography II	Theoretical Population Genetics I	Adaptation I	Systematics IV

Monday, 23 June

	Willey 175	Willey 125	Anderson 370	Anderson 270	Anderson 250	Anderson 230	Anderson 210	Ferguson 225	Blegen 150
8:00- 10:00am	ASN Symposium: Evolution of Sex	Natural Selection and Contemporary Evolution IV	Phylogeography IV	Ecological Genetics III	Empiricial Population Genetics I	Comparative Biology I	Speciation & Sexual Selection	Phenotypic Plasticity I	Conservation Biology
10:30am-12:00pm	ASN Symposium: Evolution of Sex	Molecular Evolution V	Phylogeography V	Ecological Genetics IV	Empiricial Population Genetics II	Comparative Biology II	Sexual Selection III	Experimental Evolution II	Phenotypic Plasticity II
1:30-3:00pm	SSE Symposium: Evolution of Recombination Rates	Adaptation II	Phylogeography VI	Ecological & Quantative Genetics	Development & Evolution III	Molecular Evolution VI	Phylogenetic Theory & Methods I	Systematics V	
3:30-5:15pm	SSE Symposium: Evolution of Recombination Rates	Adaptation III	Phylogeography VII	Molecular Evolution VII	Coevolution III	Quantitative Genetics III	Evolution of Ecological Communities	Speciation & Genomics	Systematics VI

Tuesday, 24 June

	Willey 175	Willey 125	Anderson 370	Anderson 270	Anderson 250	Anderson 230	Anderson 210	Ferguson 225	Blegen 150
8:00- 10:00am	SSB Symposium: Estimating Species Trees from Gene Trees	Species Interactions II	Adaptation IV	Hybridization III	Life History Evolution III	Biogeography III	Behavior & Social Evolution IV	Plant Mating Systems III	
10:30am-12:00pm	SSB Symposium: Estimating Species Trees from Gene Trees	Species Interactions III	Systematics VII	Hybridization IV	Life History Evolution IV	Evolutionary Theory III	Sexual Selection IV	Plant Mating Systems IV	
1:30-3:00pm	SSE Dobzhansky Prize & ASN Young Investigator's Symposium	Phylogenetic Theory & Methods II	Speciation IX	Phylogeography VIII	Theoretical Population Genetics II	Ecological Genetics V	Evolution of Sex III	Late-Breaking Evolution I	
3:30-5:15pm	ASN Young Investigator's Symposium	Phylogenetic Theory & Methods III	Speciation X	Phylogeography IX	Molecular Evolution VIII	Late-Breaking Evolution II	Late-Breaking Evolution III		

* presenters are first authors except where indicated by an asterisk

Saturday, June 21 8:00 - 10:00 am

	Willey 175		Willey 125	Anderson 370	Anderson 270
	SSE Symposium		**Phylogeography I**	**Molecular Evolution I**	**Systematics I**
8:00 AM	**Molecular Mechanisms of Life History Evolution** Opening remarks Thomas Flatt	8:00 AM	Historical climate change and the phylogeographic structure of *Cophixalus ornatus* Maria Tonione Conrad Hoskin Craig Moritz	Evolution of RNA structure in the ribosome Ajith Harish, Gustavo Caetano-Anolles	Multiple multilocus DNA barcodes from the plastid genome discriminate plant species equally Aron J. Fazekas, Kevin S. Burgess*, Prasad R. Kesanakurt, Diana M. Percy, Mehrdad Hajibabaei, Sean W. Graham, Brian C. Husband, Steven G. Newmaster, Spencer C. H. Barrett
8:05 AM	The contributions of functional genomics to life history theory Derek A. Roff	8:15 AM	Biological responses to Pleistocene climate change: a multi-locus study of Brazilian Atlantic forest frogs Ana C Carnaval	Parallel evolution of tRNA structure Susan Masta	DNA barcoding Lepidoptera of Area de Conservacion Guanacaste John J Wilson
8:30 AM	Genetics of *Drosophila* reproductive diapause, a pleiotropic life history syndrome Paul S. Schmidt	8:30 AM	Comparative phylogeography of montane aquatic insects in Europe Steffen U Pauls, Christine HM Engelhardt, Stephanie Lehrian, Kathrin Theissinger, Peter Haase	Functional horizontal gene transfer of a trans-spliced mitochondrial gene Aaron O. Richardson, Jeffrey D. Palmer	DNA barcoding in birds from the Neotropics Kevin C. R. Kerr Dario A. Lijtmaer, Ana S. Barreira, Pablo L. Tubaro, Paul D. N. Hebert
		8:45 AM	Pleistocene refugia and post-glacial expansion along the North Pacific Coast: genetic signatures in Carnivora: Mustelidae Natalie G Dawson, Joseph A. Cook	Bayesian nonparametric models of protein-coding nucleotide sequence evolution with heterogeneous preferences at the amino acid level Nicolas Rodrigue	New genes useful for phylogeny reconstruction in insects John K Moulton
8:55 AM	The making of a social insect: regulatory architectures of social design Gro V. Amdam	9:00 AM	Lineage diversification and historical demography in a sky island salamander Donald B. Shepard, Frank T. Burbrink	Epistatic and environmental influences on the fitness effects of substitutions fixed among yeast species Barry L. Williams, Beverly K. Twiss, Krista G. Reitenga, Devin Scannell, Sean B. Carroll	Who is sister group of the most speciose avian order (Passeriformes)? Analyses of over 20 nuclear loci Rebecca T. Kimball, Tamaki Yuri, Edward L. Braun, Michael J. Braun, Shannon J. Hackett, Kin-Lan Han, John Harshman, Christopher J. Huddleston, Ben D. Marks, Kathleen J. Miglia, William S. Moore, Sushma Reddy, Frederick H. Sheldon, Christopher C. Witt and Tamaki Yuri
		9:15 AM	Comparative phylogeography of Elassomatidae: a test of the interglacial refugia hypothesis Michael Sandel, Phillip M. Harris	Pleiotropy and tradeoffs in yeast development Paul M. Magwene	Multiple nuclear genes resolve the phylogeny of the holometabolous insect orders Michelle D. Trautwein, Brian M Wiegmann
9:20 AM	Genetics of life-history variation in an annual plant: a phenological perspective Kathleen Donohue	9:30 AM	Investigating the role of climate fluctuations on patterns of population divergence Lucinda P Lawson	Whole genome duplication and evolution of fermentation in yeast Huifeng Jiang, Wenjun Guan, David Pinney, Wen Wang	Tempo and mode of evolution in Hawaiian Drosophilidae Patrick M. O'Grady
9:45 AM	Hormones as mediators of life history stage transitions in plants Peter McCourt	9:45 AM	A test of Pleistocene climate-induced diversification in island lizards from Hispaniola Matthew E Gifford	Genotype phenotype map of a known RNA virus phylogeny Robert McBride	Timing and patterns of diversification in beetles (Coleoptera) Duane D. McKenna, Alex Wild, David R. Maddison, Brian D. Farrell

Saturday, June 21 8:00 - 10:00 am				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Behavior & Social Evolution I	**Plant Mating Systems I**	**Speciation I**	**Nat. Selection & Contemp. Evol I**	**Invasive Species I**
The evolution of simple and complex learning rules in a social game: can foraging strategy shape cognitive style? Michal Arbilly, Uzi Motro, Marcus W. Feldman, Arnon Lotem	Genetics of Putative Self-incompatibility polymorphism in California Papaveraceae Timothy Paape, Josh Kohn	Postzygotic isolating barriers in cactophilic Drosophila: fitness of *D. mojavensis/D. arizonae* hybrids Jeremy M Bono, Therese A. Markow	Natural selection on testosterone production in a wild songbird population Joel W. McGlothlin, Danielle J. Whittaker, Sara E. Schrock, Nicole M. Gerlach, Jodie M. Jawor, Ellen D. Ketterson	Evolutionary dynamics during range expansion Adam Porter, Joe Elkinton, Evan Preisser, Aaron Ellison, Matt Fitzpatrick, Connie Parks
Conflict potential, clonality, and the evolution of altruism in eusocial aphids Patrick Abbot, Vikram Chhatre	Inbreeding depression and heterosis as a function of sub-population size in *Hypericum cumulicola* Christopher G Oakley	Reproductive barriers in the morphologically variable *Collinsia parviflora* - *C. grandiflora* species complex Nicole D. Tunbridge, Elizabeth Elle	Predictable patterns of widespread disruptive selection in threespine stickleback Daniel I. Bolnick	Hybridization-prone plant families do not generate more invasive species Kenneth D Whitney, Jeffrey R. Ahern, Lesley G. Campbell
Can social selection operating through indirect genetic effects drive the evolution of cannibalism? Bronwyn H. Bleakley, Stephen M. Shuster, Allen J. Moore	Molecular genetic structure and the evolution of inbreeding in the plant *Eichhornia paniculata* Rob W Ness, Stephen I. Wright, Spencer C. H. Barrett	The evolution of reproductive barriers among species of *Collinsia* April M Randle, Susan Kalisz	Selection on size in fish early life history Kestrel O. Perez, Stephan B. Munch	A potentially adaptive physiological response to thermal habitat alteration by a globally invasive species Rebbekah Jannell Watson
Capturing the superorganism: a formal theory of group adaptation Andy Gardner, Alan Grafen	Paternal leakage, heteroplasmy, and recombination in the mitochondrial genome of a gynodioecious plant David E. McCauley, Mark E. Welch, Stephanie A. Pearl	The evolution of reproductive isolation across the genus *Mimulus* James M. Sobel, Douglas W. Schemske	Testing for selection along a cline of color change in a polymorphic frog Jacob F. Degner, Tyler D. Hether, Eric A. Hoffman	Quantitative trait evolution along a latitudinal gradient in the invasive aquatic plant *Lythrum salicaria* Robert I. Colautti, Spencer C. H. Barrett
Constraints on the origin and maintenance of genetic kin recognition Francois Rousset, Denis Roze*	Population sex ratio influences selfing rate in gynodioecious *Silene vulgaris* Keiko Miyake, Matthew S. Olson*	Post-zygotic reproductive isolation and phylogenetic relationships among Irises Yuval Sapir	Selection analysis predicts the lack of evolutionary change seen in an invasive plant Steven J. Franks	Genetic analysis reveals multiple cryptic invasive species of the hydrozoan genus *Cordylophora* John A. Darling, Nadine C. Folino-Rorem
On the evolution of cooperation by mutual regard Erol Akcay, Jeremy Van Cleve*, Marcus W. Feldman, Joan Roughgarden	Evolutionary genetics of plant sexual systems: the roles of hybridization and sex inconstancy Sarah Yakimowski, Spencer C. H. Barrett	Formation and evolution of a polyploid derivative of *Mimulus guttatus* and *M. nasutus*: inferences from chloroplast DNA Jennifer L. Modliszewski, John H. Willis	Conspecific density and the abundance of alternative resources affects the pattern and strength of selection on trophic morphology driven by intraspecific competition Ryan A. Martin	Potential breakdown in mitochondrial inheritance within species of the *Mytilus edulis*-complex around Hokkaido, Japan Pamela M Brannock, Thomas J. Hilbish
The durability of public goods changes the dynamics and nature of social dilemmas Sam P Brown, Francois Taddei	The relationship between flower size and inbreeding depression: an experimental study of thirty-two populations across the geographic range of *Camissoniopsis cheiranthifolia* (Onagraceae) Sara Dart, Christopher G. Eckert	Hybridization, introgression, and the origin of species in *Heliconius* butterflies Marcus R. Kronforst	Reduced ability to respond to selection towards the margins of a species' geographic distribution following range expansion Benoit Pujol, John R Pannell	Surprising modifications of aquatic ecosystem communities after experimental introduction of a generalist predator Pauline Teillac-Deschamps
Frequency-dependent selection imposed by social interactions Michael J. Sheehan, Elizabeth A. Tibbetts	Interspecific competition with purple loosestrife alters inbreeding depression in *Mimulus ringens* Nicholas W Griffin, Alan R Templeton, Tiffany M Knight	Patterns of reproductive isolation in toads (Anura: Bufonidae) John H. Malone, Brian E. Fontenot*		A silent invasion Maria Pia Miglietta, Harilaos Lessios

Saturday, June 21 10:30 am - 12:00 pm					
	Willey 175		Willey 125	Anderson 370	Anderson 270
			Phylogeography II	**Molecular Evolution II**	**Systematics II**
10:30 AM	Corticosterone, testosterone and avian life histories Michaela Hau	10:30 AM	Ocean barriers and Pleistocene divergence in the buffy flower bat (*Eropyhlla sezekorni*) Kevin Lager Murray, Theodore H. Fleming	Genome size evolution in mammals Jillian Smith, T. Ryan Gregory	Congruence between nuclear and mitochondrial DNA: simple concatenation of multiple nuclear introns resolves a well-supported phylogeny of New World orioles (Icterus) Frode Jacobsen, Dorothy A. Kenny, Kevin E. Omland
		10:45 AM	Why is there a biogeographic transition zone at 30°S along the Chilean coast? A phylogeographic study of the kelp *Lessonia nigrescens* Florence Tellier, Myriam Valero, Sylvain Faugeron	Temporal and spatial substitution rate variation in mammals Frank G Jørgensen, Mikkel H Schierup	New approach to test the mandibulata concept and to infer the phylogeny of crustaceans Bjoern M von Reumont, Karen A. Meusemann, Wolfgang Waegele, Bernhard Y. Misof, Dieter Waloszek
10:55 AM	Hormonal regulation of amphibian metamorphosis Daniel Buchholz	11:00 AM	Testing trans-Pacific marine community vicariance using a hierarchical Bayesian approach Katriina L. Ilves, Michael J. Hickerson	Rate and spectrum of dinucletide repeat mutations in *Caenorhabditis* Naomi Phillips Andy Custer, Thomas E. Keller, Jeff Rosenbloom and Charles F. Baer	Molecular markers from ESTs can give new insights for arthropod phylogeny Karen A. Meusemann, Bjoern M von Reumont, Bernhard Y. Misof, Wolfgang Waegele
		11:15 AM	Statistical marker geography: Genetic congruence in Sonoran desert megaflora Rodney J. Dyer, Ryan C. Garrick, John D. Nason	Evolutionary rate variation and diploidization in the Asteraceae Michael S. Barker, Nolan C. Kane, Loren H. Rieseberg	From multi-locus to genome-wide analysis: phylogenetic concordance and discordance in the Enterobacteriaceae Bing Ma, Jeremy D. Glasner, Nicole T. Perna
11:20 AM	Thyroid hormone signaling in echinoderm life history Andreas Heyland				
		11:30 AM	Coastal sibling species pairs separated by latitude Douglas J. Eernisse	Variation in the rate of molecular evolution in endotherms: the effects of population size and energy flux Shane D. Wright, Len N. Gillman, Howard A. Ross*, D. Jeanette Keeling	Fine scale phylogenetic discordance across the house mouse genome Michael A White, Cécile Ané, Colin N Dewey, Bret R Larget, David A. Baum, Bret A Payseur
11:40 AM	The biochemical basis of life history trade-offs: integrative molecular-physiological studies of lipid metabolism in a wing-polymorphic cricket Anthony Zera				
		11:45 AM	Phylogenetics and environmental space occupation of box-jellyfishes (Cnidaria: Cubozoa) Bastian Bentlage, Allen G. Collins, Paulyn Cartwright	Evolution and survival on eutherian sex chromosomes Melissa Wilson, Kateryna D Makova	Phylogeny, timing of diversification, and patterns of species accumulation in North American darters Thomas J. Near

Saturday, June 21 10:30 am - 12:00 pm				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Behavior & Social Evolution II	**Plant Mating Systems II**	**Speciation II**	**Species interactions I**	**Invasive Species II**
Precopulatory mate guarding behavior in clam shrimp: a case of intersexual conflict Chiara Benvenuto, Stephen C. Weeks	Selection on floral display size in the morning glory, *Ipomoea purpurea* Jennifer A. Lau, Richard E. Miller*, Mark D. Rausher	Identifying gene interactions contributing to hybrid breakdown in the intertidal copepod *Tigriopus californicus* Christopher S. Willett	When do host-parasite interactions drive the evolution of non-random mating? Scott L. Nuismer, Sarah P. Otto, Francois Blanquart	Evolutionary history and biogeography of an invasive frog, *Eleutherodactylus planirostris* Matthew P. Heinicke, S. Blair Hedges
The function condition-dependence and heritability of a visual signal of quality in a paper wasp Elizabeth A. Tibbetts	Do plants mate in flatland? Multivariate selection causes stable intermediate selfing rates Mark O. Johnston	Mitochondrial regulatory dysfunction in interpopulation hybrids Christopher K. Ellison, Ronald S. Burton	Effects of environment and genetics on variation in defense traits and herbivore activity in a Sonoran Desert endemic cotton species, *Gossypium davidsonii* Adam P. Kuester, John D. Nason	Colonization and demographic history of the invasive monk parakeet in the United States Michael A Russello, Anders Goncalves da Silva, Michael L Avery, Timothy F Wright
Multiple origins of novel call traits in *Neoconocephalus katydids* Robert L Snyder, Johannes Schul	Division of labor within flowers: empirical evidence and theoretical consequences of sex organ specialization Mario Vallejo-Marin, Jessamyn Manson, Spencer C. H. Barrett	Genetics of flower color patterning in chilean *Mimulus* Arielle M. Cooley, John H. Willis	Host plant adaptation in southern *Rhagoletis pomonella* Thomas HQ Powell, Andrew A. Forbes, Stewart Berlocher, Jeffrey L. Feder,	Evolution of adaptive biological control of invasive species Scott P Carroll
Gradients of precipitation and ant abundance may contribute to the altitudinal range limit of subsocial spiders: insights from a transplant experiment Jessica Purcell, Leticia Aviles	Floral design in *Polemonium brandegei* (Polemoniaceae): genetic and phenotypic variation under hawkmoth and hummingbird pollination Mason W Kulbaba, Anne C Worley	Intra and Inter specific divergence in the nuclear sequences of period gene in species of *Drosophila buzzatii* cluster: is period evolving as a speciation gene? Fernando de Faria Franco, Erica C C Silva-Bernardi, Fabio M Sene, Maura H Manfrin	Legume host effects on resource hoarding in *Rhizobium* bacteroids Ryoko Oono, R. Ford Denison	Evidence against the Enemy Release Hypothesis: a native specialist herbivore shows preference for and higher fitness on an introduced host Rodrigo Cogni
The evolution of facial stripes in new world pitvipers: testing ecological and social hypotheses Matthew A. Kwiatkowski, D. Brent Burt	How well does morphology predict mating system? A test in *Leavenworthia* Vanessa A. Koelling, Rodney Mauricio	Genetic analysis of the Drosophila speciation gene maternal hybrid rescue Pierre Gerard, Daven C. Presgraves	Horizontal transmission of male-killing *Wolbachia* in *Drosophila* reflects phenotypic stability between divergent hosts Sara L. Sheeley, Bryant F. McAllister	Quantitative genetics across the pond: evaluating EICA in *Silene latifolia* Dexter R Sowell, Douglas R Taylor, Maurine Neiman, Lorne Wolfe
Using Bayesian phylogenetic methods to infer the history of birdsongs Louis Ranjard, Howard A. Ross, Dianne Brunton, Kevin Parker	Ecological effects of the virus-resistance transgene on pollinator behavior Holly R. Prendeville, Diana Pilson	A cytonuclear incompatibility causes hybrid male sterility between *Drosophila virilis* and *D. americana* Andrea L. Sweigart	Trophic omnivory and the structure and strength of species interactions across a productivity gradient Mark Novak	The postglacial history of *Silene vulgaris*: population structure and cytonuclear disequilibria in the native and introduced ranges Stephen R Keller, Douglas R Taylor

Saturday, June 21 1:30 - 3:00 pm					
	Willey 175		Willey 125	Anderson 370	Anderson 270
	SSB Symposium		**Ecological Genetics I**	**Genomics & Proteomics I**	**Hybridization I**
1:30 PM	**Merging Phylogenetic Biology and Spatial Ecology** Climatic zonation, speciation, and the origins of geographic variation in species diversity Kenneth H. Kozak	1:30 PM	Adaptation in beach mice: an integration of genes, phenotype and environment Sacha N. Vignieri, Hopi E. Hoekstra	Genome-wide determinants of microsatellite evolution Yogeshwar D Kelkar, Svitlana Tyekucheva, Francesca Chiaromonte, Kateryna Makova	Gene trees reveal repeated instances of mtDNA introgression in orangethroat darters Christen M. Bossu, Thomas J. Near
		1:45 PM	Molecular and genomic approaches for characterizing adaptive flower color variation in *Mimulus* Matthew A Streisfeld, Mark D. Rausher	Evolution and intraspecific variation of amino acid repeats in stalk-eyed flies Leanna M. Birge, Richard H. Baker, Marie L Pitts, Gerald S Wilkinson	Growth, morphology, and developmental instability of hybrid trout, *Oncorhynchus mykiss* and *O. clarki bouvieri* John H. Graham, Jeffrey J. Duda, Carl Ostberg, Sunan Zhang, Kenneth P. Haywood III Brandon Miller
1:50 PM	Geophylogenies and the map of life David M. Kidd	2:00 PM	Population genomics to identify the targets of natural selection using high-density arrays Melissa H. Pespeni, Stephen R. Palumbi	Comparative analysis of legume genome evolution: rates and dates in low-copy genes Ashley N. Egan, Roger Innes, Saghai Maroof, Bruce Roe, Nevin Young, Jeffrey J. Doyle	Hybridization dynamics at the edge of speciation in *Ensatina* salamanders Ricardo Pereira, Derenik Estepanian, David B Wake
2:10 PM	The identification of new species using genetic and ecological data Bryan Carstens	2:15 PM	Evolution of an avirulence effector in *Pseudomonas syringae* Joel M Kniskern, Joy Bergelson	A genome wide scan for signature of positive selection of gene regulatory regions in primates Olivier Fedrigo, Ralph Haygood, Jovanna Pavisic, Gregory A. Wray	Analysis of phenotypic variation in hybrid tiger salamanders Jarrett Johnson, Benjamin M. Fitzpatrick, Howard B Shaffer
2:30 PM	Niche-based distribution modeling in cryptic species delimitation: trapdoor spiders as model systems Jason Bond, Amy K Stockman	2:30 PM	From gene family to phenotype: contributions of FT paralogs to the evolution of plasticity in sunflower Benjamin K. Blackman, David A. Rasmussen, Kathryn G. Turner, Loren H. Rieseberg	Identification and analysis of the targets of selection during the evolution of cultivated sunflower Mark A Chapman, John M Burke	Hybrid vigor, selective sweeps, and genomic islands of dysfunction in hybrid tiger salamanders Benjamin M. Fitzpatrick, Brad Shaffer, S. Randal Voss
		2:45 PM	Epigenetic variation within asexual dandelion lineages: effects of environmental stress and ploidy level changes Koen JF Verhoeven, Peter van Dijk, Arjen Biere	Phylogenetic analysis of nucleotide bias codon usage and selection in hundreds of fish mitochondrial genomes Richard E Broughton	Examining the strength of reproductive isolation in a threatened Caribbean coral genus, *Acropora* Nicole D. Fogarty

Saturday, June 21 1:30 - 3:00 pm				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Sexual Selection I	**Evolution & Ecology of Disease I**	**Speciation III**	**Evolutionary Theory I**	**Development & Evolution I**
Evolving toxic New York males: natural and experimental evolution of sexual conflict within *Caenorhabditis* Patrick C. Phillips, Michael F. Palopoli, Colin Peden, Ken Akiha, Lori Albergotti, Caitlin Woo, Megan Ary, Wendy Mayer, Jennifer L. Anderson	Impact of pathogens on genetic differentiation in marginal habitats Vijay G. Panjeti	The probability of speciation when adapting to a shared environment Robert L. Unckless, H. Allen Orr	Reversing Mother's Curse: selection and mitochondrial effects on male fitness Michael J. Wade, Yaniv Brandvain	Shape analysis of complex symmetric structures Yoland Savriama, Christian Peter Klingenberg
Assessing the extent of genome-wide intralocus sexual conflict via experimentally enforced gender-limited selection Andrew D Stewart, Edward H. Morrow, William R. Rice	Within-host competition and virulence in entomopathogenic bacteria Farrah Bashey, Hadas Hawlena, Fabienne Vigneux, Curtis M. Lively	"Isolation by Adaptation" and *Neochlamisus* leaf beetles Daniel J. Funk, Scott P. Egan, Patrik Nosil	Intralocus sexual and parental antagonism Manus M. Patten, David Haig	Morphological integration in the artiodactyl skull: preliminary results Annat Haber
Experimental sexual selection and the evolution of size dimorphism and shape Nelly A. Gidaszewski, Leonardo D. Bacigalupe, Allen J. Moore, Rhonda R. Snook	Diversifying selection, geographic structure and the evolution of virulence in a plant-pathogen interaction Luke G. Barrett, Peter H Thrall, Jeremy J Burdon	Genetic differentiation between apple and hawthorn host races of *Rhagoletis pomonella* as revealed by microsatellite loci Sheina B. Sim, Andrew P. Michel, Jeffrey L. Feder	Mom! Where are you taking us? Maternal/zygotic epistasis and the phenotypic landscape Nick K. Priest, Michael J. Wade	Dissecting convergent evolution between flat tree oysters (Bivalvia : Isognomonidae) using geometric morphometric analysis of conchological ontogeny John A. Wilk, Mary V. Ashley, Rudiger Bieler
Sex- and gonad-biased gene expression in *Danio rerio* revealed by microarray analysis Clayton M. Small, Adam G. Jones, Ginger E. Carney, Quincy Mo	Host-parasite genotypic specificity: effects of host variation on parasite evolution Lucie Salvaudon, Virginie Heraudet, Jacqui A. Shykoff	Connecting host adaptation to incipient reproductive isolation in the butterfly *Euphydryas editha* Carolyn S McBride, Michael C. Singer	The role of pathogens in the establishment of polyploid lineages Benjamin P. Oswald, Scott L. Nuismer	Microevolution of sex determination pathways: a case study in *Caenorhabditis elegans* Christopher H. Chandler
X-linkage constrains the genic capture model of sexual selection Tim Connallon	Multiple introductions of the *Spiroplasma* bacterial endosymbiont in *Drosophila* Tamara S. Haselkorn, Therese A. Markow, Nancy A. Moran	The selective forces driving sequential radiation in *Diachasma alloeum* (Hymenoptera: Braconidae) Andrew A. Forbes, Jeffrey L. Feder	A tale of five traits - the coevolutionary dynamics of host-pathogen interactions Mario Pineda-Krch	Evolution of robustness and complexity in an artificial developmental system Rolf Lohaus, Ricardo BR Azevedo
Genetic architecture of male song and female preference: a test of genomic linkage in the rapidly speciating cricket genus *Laupala* Chris Wiley, Kerry L. Shaw	Uncovering correlations between parasite resistance and pigmentation in natural populations of *Drosophila* Rocio S Ng, John R. True	Adaptation to desiccation fails to generate premating isolation in *Drosophila melanogaster* Lucia Kwan, Howard D. Rundle	Class struggle in space: evolution of helping and cannibalism in viscous populations Sebastien Lion, Minus van Baalen	Development and evolution of cnidarian sensory organs rhopalia Nagayasu Nakanishi, David K. Jacobs

Saturday, June 21 3:30 - 5:15 pm					
	Willey 175		Willey 125	Anderson 370	Anderson 270
	SSB Symposium		**Ecological Genetics II**	**Genomics & Proteomics II**	**Hybridization II**
3:30 PM	**Merging Phylogenetic Biology and Spatial Ecology** Quantitative analysis of environmental niche evolution in an adaptive radiation Richard Glor, Dan L Warren	3:30 PM	Effects of an extreme altitudinal gradient on gene expression in the rufous-collared sparrow, *Zonotrichia capensis* Zachary A. Cheviron, Andrew Whitehead, Robb T. Brumfield	Rapid construction of an EST library for *Rhagoletis* via next generation sequencing Dietmar Schwarz, Hugh Robertson, Jeffrey L Feder, Stewart Berlocher	The meeting of mating systems Markus Ruhsam, Richard A. Ennos, Pete M. Hollingsworth
3:50 PM	Investigating the relationship between morphological variability and climate-based environmental niche characteristics in Caribbean *Anolis* lizards Jason Knouft, Jonathan B Losos	3:45 PM	Genetic diversity of Mhc class IIB: Conservation implications for the white sands pupfish Yongjiu Chen, Jeffrey S. Heilveil, Craig. A. Stockwell	Evolutionary insights from short read sequencing of eight *Pseudomonas syringae* pathovars Josephine A Reinhardt, David A. Baltrus, Jeffrey L Dangl, Corbin D Jones, Marc T Nishimura, William R Jeck	The different outcomes of hybridization in distylous primroses Elena Conti
		4:00 PM	Molecular basis of adaptation: cryptic color of deer mice living on the Nebraska Sand Hills Catherine R. Linnen, Evan P. Kingsley, Hopi E. Hoekstra	Functional genomics of variation in sperm morphology in the sea urchin *Strongylocentrotus droebachiensis* Mollie K. Manier, Stephen R. Palumbi	Genealogical evidence for hybridization in the *Physcomitrium* - *Physcomitrella* species complex Stuart F. McDaniel, Mark von Stackelberg, Gabrielle Schween, Ralph S. Quatrano, Ralf Reski, Stefan Rensing
4:10 PM	Phylogeography and ecophysiological differentiation of live oaks (*Quercus* section Virentes) from the tropics to the temperate zone Jeannine Cavender-Bares, Annette Pahlich, Antonio Gonzalez-Rodriguez, Nicholas J. Deacon	4:15 PM	Lack of evidence for local adaptation of mesic and xeric allozyme ecotypes of *Avena barbata* in California Robert G. Latta	Functional genomics of a host-pathogen interaction and implications for understanding amphibian declines Erica Rosenblum	Unexpected patterns of hybrid sterility and fertility within and among species of *Tolpis* (Asteraceae) endemic to the Canary Islands Daniel J. Crawford, Jenny K. Archibald, Danielle Stoermer, Arnoldo Santos-Guerra
4:30 PM	Untangling diversity patterns in neotropical lianas (Bignonieae, Bignoniaceae): an integrative approach Lucia G. Lohmann	4:30 PM	Evolution of convergent melanic coloration in *Peromyscus* Evan P. Kingsley, Hopi E. Hoekstra	Proteomic identification and rapid evolution of seminal proteins in *Heliconius* butterflies James Walters, Richard G. Harrison	The genetic consequences of independent formations of the allopolyploid species *Tragopogon miscellus* and *T. mirus* V. Vaughan Symonds, Pamela S. Soltis, Douglas E. Soltis
		4:45 PM	Molecular evolution of the cyanogenesis adaptive polymorphism in white clover (*Trifolium repens*) Kenneth M Olsen	Engineering horizontal gene exchanges: how much evolutionary divergence is tolerated? Rachael L. Springman, Devanshi S Kapadia, James J. Bull	Differential pollen tube growth as a barrier to hybridization in *Silene* Benjamin R. Montgomery, Deanna. M. Soper, Lynda. F. Delph
4:50 PM	Toward a genomic approach to integrating spatial ecology and statistical phylogeography Alan R. Lemmon, Emily C Moriarty Lemmon	5:00 P	Relaxed purifying selection on the CBF/DREB1 transcriptional activators underlies reduced freezing tolerance in the southern range of *Arabidopsis thaliana* Ying Zhen, Mark C. Ungerer	The diversity of T3SS and effector repertoires in enterobacteria Bryan S Biehl, Sara L Worzella, Eric L Cabot, Jeremy D. Glasner, John Greene, Nicole T. Perna	Synthetic polyploids of *Tragopogon* (Asteraceae): 50+ years after Ownbey's discovery Jennifer A Tate, V. Vaughan Symonds, Andrew N. Doust, Richard J. A. Buggs, Evgeny Mavrodiev, Pamela S. Soltis, Douglas E. Soltis

Saturday, June 21 3:30 - 5:15 pm				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Sexual Selection II	**Evolution & Ecology of Disease II**	**Speciation IV**	**Evolutionary Theory II**	**Development & Evolution III**
Good-genes and the intersex correlation for fitness across environments Matthieu Delcourt, Mark W. Blows, Howard D. Rundle	Dating the origin of SIV from sooty mangabey using a relaxed molecular clock Joel O Wertheim, Michael Worobey	Ecological divergence of wild tomatoes driven by the Andean uplift and the subsequent climate changes Takuya Nakazato, Pierre Sepulchre, Leonie C. Moyle	Evolution as information channel Carl T. Bergstrom, Martin Rosvall	Intralocus sexual conflict in *Drosophila* wing morphology Jessica K. Abbott, Adam K. Chippindale
What makes a good gene? Local adaptation, inbreeding avoidance and mate choice in song sparrows Elizabeth A. MacDougall-Shackleton, Kathryn A. Stewart, Vishalla K. Singh, Dominique A. Potvin	Evidence of extensive HIV-1 diversity in central Africa by 1960 Marlea Gemmel	Ecological and genetic mechanisms of reproductive isolation in *Mimulus guttatus* David Lowry, John H. Willis	Natural selection and information theory Martin Rosvall, Carl T. Bergstrom	Reconciling morphological disparity and phylogenetic conservation of patterns of modularity in the rodent mandible Eladio J. Márquez
Understanding sexual selection by using Bateman's Principles: statistical issues and an example from a natural population of sex-role-reversed pipefish Adam G. Jones, Kenyon B. Mobley	Immunity and maternal effects in *D. melanogaster* Jodell Linder, Daniel E.L. Promislow	Ecological aspects of postmating isolation among host-associated populations of *Neochlamisus bebbianae* leaf beetles Scott P. Egan, Daniel J. Funk	Neutral networks and the contextual determination of functional neutrality David M McCandlish	QTL mapping of male-specific pigmentation and courtship behavior in *Drosophila elegans* Shu-Dan Yeh, John R. True
Extreme male phenotypes suffer under stress: results from a plasticity experiment Christopher R Herlihy, Lynda F. Delph	Conservation of genetic architecture of immune genes in *Drosophila* Marta L. Wayne, Jason Pienaar, Sergey V. Nuzhdin, Lauren M. McIntyre	Faster fertilization rate in conspecific versus heterospecific matings in house mice Matthew D. Dean, Michael W. Nachman	The road from Mt. Optimal to Pessimal Valley: surveying protein production energetics fitness landscapes Michael A. Gilchrist	Genetics of morphological evolution: Using the wasp genome to clone a sex-specific wing shape locus in *Nasonia* David W. Loehlin, John H. Werren
Behavioral phenotypes and sexual selection in the bluefin killifish Katie E McGhee	Virulence and adaptation in *Pseudomonas syringae* David A. Baltrus	Testing introgression hypotheses of mtDNA, autosomal and z-linked loci across the *Passerina* hybrid zone Matt D Carling, Robb T Brumfield	Crossing fitness valleys Daniel Weissman, Michael M. Desai, Daniel S. Fisher, Marcus W. Feldman	Genomic analysis of genitalia development and evolution in *Drosophila* John P. Masly, Michelle N. Arbeitman
Multiple effects of lighting environment on preference behavior in bluefin killifish Becky Fuller	Modeling the dynamics of parasite-mediated competition Olivier Restif	Multiple origins of allopolyploidy in *Sphagnum* Mariana Ricca	Evolution of mutation rate in obligate pathogens Brendan O'Fallon	The firefly lantern: developmental genetics of an evolutionary novelty Matthew S. Stansbury, Armin P. Moczek
A test of condition-dependency and its role in generating genetic variation in the male sex comb of *Drosophila melanogaster* Abha Ahuja, Rama Shankar Singh	Selective host predation and the control of chronic wasting disease in deer: a simple model comapred to data Erik E. Osnas	Genetic evidence for contemporaneous origin of *Drosophila sechellia* and *D. mauritiana* Richard M. Kliman, Shannon R. McDermott	Extinction by mutation: how strict are thresholds for lethal mutagenesis? Thomas E. Keller, James J. Bull, Matt C. Cowperthwaite	Evolution of insect genitalia: rates, trade-offs and development Harald Parzer

Sunday, June 22 8:00 - 10:00 am					
	Willey 175		**Willey 125**	**Anderson 370**	**Anderson 270**
	Ernst Mayr Award Competition I		**Evolution of Sex I**	**Quantitative Genetics I**	**Phylogeography III**
8:00 AM	Penguin on the menu: prehistoric dna reveals cryptic extinction and colonisation within 500 yrs of human settlement in New Zealand Sanne Boessenkool, Jeremy J Austin, Trevor H worthy, Philip J Seddon, Jonathan M Waters	8:00 AM	Heterochronic changes in sexual development and the evolution of sex determination Nicole Valenzuela	Comparing Qst to Fst Frederic Guillaume, Michael Whitlock	The effects of marker type on population parameter estimates: a comparison of SNP and microsatellite variation in California steelhead trout Andres Aguilar
8:15 AM	Biogeography and evolution of Haemadipsidae (Hirudinida: Arhynchobdellida: Hirudiniformes): the paradox of trans-oceanic dispersion of Indopacific terrestrial annelids Elizabeth Borda	8:15 AM	Nucleic acid and phosphorus content in sexual vs. asexual snails (*Potamopyrgus antipodarum*) Maurine Neiman, Katherine M. Theisen, Madelyn E. Mayry, Adam D. Kay	Correlated responses to clonal selection in populations with historically different frequencies of sex Jeffry L. Dudycha, Meg Snoke-Smith, Ricardo Alia, Michael Lynch	mtDNA vs. nuDNA in avian phylogeography Robert M. Zink, George F. Barrowclough*
8:30 AM	Integrating phylogeography, genetic structure and ecological niche modeling in the ringneck snake *Diadophis punctatus* Frank Fontanella, Mark E. Siddall	8:30 AM	Does competition or reproductive assurance influence the distribution of parthenogenesis in a freshwater snail? Lisa T. Crummett, David Lafon, Marta L. Wayne	Modularity and sexual dimorphism in the mouse innominate Jane P. Kenney-Hunt, James M. Cheverud	Over-precision in molecular dating Richard G. Olmstead, David C. Tank
8:45 AM	Species maintenance in sympatric *Megistostegium* (Malvaceae) in southern Madagascar Margaret Koopman, David A. Baum	8:45 AM	Evidence for multiple direct transitions from sexual reproduction to apomictic parthenogenesis in Timema stick insects Schwander Tanja, Bernard J. Crespi	On the heritability of directional asymmetry Ashley J.R. Carter, Elizabeth Osborne, David Houle	Conflicting mitochondrial and nuclear phylogenies, and what they tell us about biogeography and hybridization Phillip Q. Spinks, Brad Shaffer
9:00 AM	Data partitioning without a priori assumptions substantially improves the models in phylogenetic analysis Chenhong Li, Guillermo Ortí	9:00 AM	Stress-induced increase in mutation rates: mutation accumulation under salt stress in *Saccharomyces cerevisiae* Christopher P. Kozela, Mark O. Johnston	Alternative hypotheses for increased additive variance in critical photoperiod for northern populations of *Wyeomyia smithii*. Donald V. Griffin, Thomas F. Hansen	Temporal dynamics of population genetic divergence revealed by comparison of historic and contemporary landscape connectivity Amanda J Zellmer, L. Lacey Knowles, Earl E. Werner
9:15 AM	A molecular phylogeny of the squid lineage Decapodiformes (Mollusca: Cephalopoda) Annie Lindgren	9:15 AM	Epistasis for fitness among biosynthetic mutants in yeast Matthew C. Agan, David W. Hall	Standing genetic variance reflects mutational variance for fitness and body size in two species of *Caenorhabditis* Matthew P Salomon, Naomi Phillips, D. Gigi Ostrow, Andy Custer, Dustin Blanton, Whitney Bou, Jasmine Brown, Salome Gogoberdize, Thomas E. Keller, Laura Levy, Jeff Rosenbloom, Judit Ungvari-Martin, Jennifer Yackey, Charles F. Baer	Contrasting genetic structure among sympatric asterinid sea stars with different mating systems Carson C Keever, Jason A. Addison, Michael W. Hart, Richard K. Grosberg, Maria A. Byrne, Robert J. Toonen
9:30 AM	Phylogeography and forest refugia of a New Zealand fungus beetle during the last glacial maximum Katharine Marske, Thomas R Buckley, Richard A B Leschen, Allen Rodrigo	9:30 AM	Sex for the stressed: facultative outcrossing in the predominantly selfing nematode *C. elegans* Levi T. Morran, Brian J Cappy, Jennifer L. Anderson, Patrick C. Phillips	Quantifying mutation parameters in the wild: a study of *Arabidopsis thaliana* mutation accumulation lines Charles B. Fenster, Matt Rutter, Frank Shaw	Rock and sand adapted geckos show congruent molecular signatures across the world's oldest land surface Mitzy R. Pepper, Paul Doughty, Richard Arculus, Scott Keogh
9:45 AM	Phylogenetic evidence for competitively-driven divergence: body-size evolution in caribbean treefrogs (Hylidae: Osteopilus) Daniel Moen, John J. Wiens	9:45 AM	*Wolbachia*-induced asexuality and the evolution of obligate parasitism James E. Russell, Richard Stouthamer	Inbreeding depression via stabilizing selection Frank Shaw, Ophelie Ronce, Francois Rousset, Ruth G. Shaw	

Sunday, June 22 8:00 - 10:00 am				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Coevolution I	**Behavior & Social Evolution III**	**Speciation V**	**Bioinformatics**	**Animal Mating & Breeding Systems**
Native Hawaiian leafhopper endosymbionts (*Candidatus Sulcia muelleri*): are they sharing the island experience? Gordon M. Bennett, Patrick M. O'Grady	Geographic variation in songs of singing mice (genus *Scotinomys*): local adaptation or neutral divergence? Polly Campbell, Bret Pasch, Steven Phelps	Genetics of sexual isolation in the *Drosophila simulans* clade Daniel R. McNabney, H. Allen Orr	Estimating the rate and length distribution of indels in mammalian genomes Reed A. Cartwright	The genetic basis of sex allocation behaviour in *Nasonia* wasps Bart A Pannebakker, David M Shuker, Stuart A. West
Correlated Interactions in Simple Communities Benjamin J Ridenhour, Scott L. Nuismer	Behavioral evolution and the neuromuscular mechanisms of reproduction in Caribbean *Anolis* lizards Michele A. Johnson, Rachel E. Cohen, Juli Wade	The genetics of reproductive character displacement in *Phlox drummondii* Robin Hopkins, Mark D. Rausher	Statistical properties of short subsequences in viral genomes Michael A. Quance, Chen Feng, Catherine Putonti, Mark Rojas, Yuriy Fofanov	The effect of streak spawning on fertilization success in a hermaphroditic seabass Mia S. Adreani
Evolution of complex symbioses Georgiana May	Lovers & fighters: repeatability of behavioral responses to conflicting stimuli in male threespine stickleback Teresa L Dzieweczynski, Colleen L Mack	Genetic basis and developmental timing of gametic isolation in *Solanum* Amanda L Posto, Martina A Jackson, Leonie C. Moyle	Relative role of selection and mutation in *Prochlorococcus* genome reduction Zhiyi Sun, Jeffrey Blanchard	A key ecological trait drives the evolution of monogamy in a Peruvian poison frog Jason L Brown, Kyle Summers
When is coevolution important in the adaptive radiation of crossbills? Craig W. Benkman, Thomas L. Parchman	Change and reliability matter: experimental evolution of learning and non-learning Aimee S. Dunlap, David W. Stephens	Genetics of postmating, prezygotic isolation in a cricket Jeremy L. Marshall, Diana L. Huestis, Brenda Oppert	Rapid Bayesian analysis of complex patterns of protein evolution A.P. Jason de Koning, David D. Pollock	Inbreeding depression, inducible defenses, and life history plasticity in a freshwater snail Josh R. Auld
Divergence in an obligate mutualism is not explained by divergent fundamental niches William K. Godsoe, Eva Strand, Christopher I. Smith, Jeremy B. Yoder, Olle Pellmyr	Evolutionary basis of a behavioral polymorphism in *Caenorhabditis elegans* Andrea Gloria-Soria, Ricardo BR Azevedo	A speciation gene on a neo-sex chromosome in sticklebacks Jun Kitano, Joseph A. Ross, Seiichi Mori, Catherine L. Peichel*	Phylogenetic visualization tools and phyloinformatics in the Encyclopedia of Life Mark W. Westneat	Evolution of sex determination mechanisms in the Hymenoptera Mark K. Asplen, James B. Whitfield, Jetske G. de Boer, George E. Heimpel
The geographical mosaic of coevolution in a plant-pollinator mutualism Bruce Anderson	Evolutionary dynamics of social decay in the bacterium *Myxococcus xanthus* Jeff Smith, Greg Velicer	Speciation in the absence of degenerate sex chromosomes Suzanne Edmands	Framework for a comparative data analysis ontology Brandon Chisham, Enrico Pontelli, Francisco Prosdocimi, Arlin Stoltzfus, Julie Thompson	Sexual selection and banana slug species Janet L Leonard, John S. Pearse, Thierry Backeljau, Karin Breugelmans
Population fragmentation and pollinator-mediated gene flow in Joshua tree Jeremy B. Yoder, Christopher I. Smith, William K. Godsoe, Olle Pellmyr	Experimental test of how dispersal patterns affect the evolution of cooperation in bacteria Rolf Kummerli, Andy Gardner, Stuart A. West, Ashleigh Griffin	Not just a boys club anymore: the role of Hmr and Lhr in the fertility rescue of *D. simulans/D. melanogaster* hybrid females Heather Eisler, Jeanne Romero-Severson, Hope Hollocher	Mass generation of new sequences and analysis David Penny, Gillian C Gibb, Lesley J Collins, Patrick Biggs	Avian phallus evolution: new discoveries Patricia L.R. Brennan, Tim R. Birkhead, Richard O. Prum
Darwin 's coevolutionary race in a bat-flower mutualism Nathan Muchhala	Condition-dependent female choice and a reproductive disadvantage for MHC-divergent male tiger salamanders David H Bos, Rod Williams, David Gopurenko, Zafer Bulut, J. Andrew Dewoody	A lethal hybrid incompatibility between the *Drosophila simulans* clade species Victoria Cattani, Daven C. Presgraves	RNAsalsa: automated integration of rRNA secondary structures in alignment and tree reconstruction Harald O Letsch, Roman R. Stocsits, Bernhard Y. Misof	Mate choice and the evolution of adaptation: parental relatedness affects expression of phenotypic variation in a natural population Kevin Oh, Alex Badyaev

Sunday, June 22 10:30 am - 12:00 pm					
	Willey 175		Willey 125	Anderson 370	Anderson 270
	Ernst Mayr Award Competition II		**Evolution of Sex II**	**Quantitative Genetics II**	**Molecular Evolution III**
10:30 AM	Evolutionary time for dispersal limits the extent, but not the occupancy of species potential ranges in the neotropical plant genus *Psychotria* John Paul, Cynthia Morton, Charlotte M. Taylor, Stephen J. Tonsor	10:30 AM	Using a meiosis detection toolkit to uncover evidence for sexual reproduction in bdelloid rotifers Andrew M. Schurko, Emily Petruccelli, Lauren Stefaniak, Karian Mulford, Ramesh Ratnappan, Rebecca Hart-Schmidt, David Mark Welch* & John M. Logsdon, Jr.	Production of quantitative phenotypic variation through developmental genetic pathways in *Drosophila* Jason G Mezey, James Lorigan	Contrasting patterns of genetic variation in humans and chimpanzees at collagen type I alpha 1 (COLIa1): implications for the evolution of bone-related diseases Daryn Stover, Brian C. Verrelli
10:45 AM	The origins and evolution of novel photosensitivity pathways in animals: tree-thinking reveals duplication and divergence plus co-option David C. Plachetzki, Todd H. Oakley	10:45 AM	Loss of sex in rotifers: mechanisms and adaptive significance Claus-Peter Stelzer	Using eight-way synthetic populations of *Drosophila melanogaster* to investigate the genetic basis of complex trait variation Stuart J Macdonald, Anthony D Long	The evolution of aldo-keto reductases (AKRs): the TDH enzyme clusters within the fungal xylose reductase clade and is potentially involved in sexual pheromone biosynthesis in Mucorales (Fungi) Kerstin Voigt, Kerstin Hoffmann, Martin Eckart, Christoph Thieme, Stefan Schuster
11:00 AM	Ancestral character state reconstruction and divergence dating using multi-locus datasets Robert Pyron, Frank T. Burbrink	11:00 AM	Evolution of sex determination in sticklebacks James R. Urton, Joseph A. Ross, Jessica Boland, Michael D. Shapiro, Catherine L. Peichel	Connecting QTLs to evolutionary quantitative genetics John K. Kelly, Alison G Scoville, John H. Willis	Adaptive evolution and functional redesign of core metabolic proteins in snakes Todd A Castoe, Wanjun Gu, A. P. Jason de Koning, David D. Pollock, Zhi J. Jiang Zhengyuan O. Wang
11:15 AM	Diversification, coevolution and specialization in euglossine bees and their orchid hosts Santiago Ramirez	11:15 AM	QTL analysis of sex determination and reproductive traits in gynodioecious *Fragaria virginiana* (Rosaceae) Rachel B Spigler, Kimberly S. Lewers, Tia-Lynn Ashman	Recombinant inbred lines increase power to detect non-additive genetic effects in line cross analysis Tarek W. Elnaccash, Stephen J. Tonsor	Molecular evolution of the rapidly evolving and signal-rich plastid gene matK Khidir W. Hilu, Michelle M. Barthet
11:30 AM	Revealing the causes of hyper-diversity in a biodiversity hotspot, the cape of South Africa Jan Schnitzler, Timothy G. Barraclough, John C. Manning, Peter Goldblatt, Vincent Savolainen	11:30 AM	Detection of QTL influencing recombination using recombinant inbred lines Jefferey Dole, David F. Weber	Association mapping of gene expression in *Saccharomyces cerevisiae* Joshua A. Shapiro, Joseph Schacherer, Leonid Kruglyak	Detecting selection in the squid bacterial symbiont, *Vibrio fischeri* Wendy Castle, Michele K Nishiguchi
11:45 AM	Species extinction, phylogenetic selectivity, and climate change in Thoreau's woods Charles Willis, Brad Ruhfel, Abraham J. Miller-Rushing, Richard B. Primack, Charles C. Davis	11:45 AM	Doublesex-related genes control sexual development in diverse phyla David Zarkower	Genomic analysis of a sexually-selected trait in stalk-eyed flies Gerald S Wilkinson, Leanna M. Birge, Richard H. Baker, Xianhui Wang	Molecular evolution of the primary bacterial endosymbiont *Uzinura diaspidicola*, and its host, the armored scale insect *Aspidiotus nerii* (Hemiptera: Diaspididae) Matthew E. Gruwell, Benjamin B. Normark

Sunday, June 22 10:30 am - 12:00 pm				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Macroevolution I	**Phylogenetic Theory & Methods I**	**Speciation VI**	**Coevolution II**	**Education**
Size-related improvements in hunting ability as a cause of Cope's rule in carnivores Daniel R. MacNulty, Douglas W. Smith, L. David Mech, Lynn E. Eberly	Breaking them down and building them up: reconstructing maximum-likelihood species trees from discordant gene trees John E McCormack, Huateng Huang, L. Lacey Knowles	Speciation in South East Asian mosquitoes Magdalena Zarowiecki, Catherine Walton, Yvonne Linton	Legume sampling of natural rhizobial populations: multilocus sequence typing of *Lupinus*- and *Lotus*-associated bacteria from nodules and the rhizosphere Martine O. Ehinger, Toni J Mohr, Alex Lau, Ellen L. Simms	
Effects of alignment parameters upon apparent diversification rate: a case study using a molecular dataset of parasitoid wasps Owen R Jones, Nina Laurenne, Andy Purvis, Donald Quicke	Reconstruction of phylogenetic networks from data at the leaves Stephen J. Willson	Density-dependent speciation in North American wood-warblers Daniel L Rabosky, Irby J. Lovette	Effect of genetic exchange in AMF on plant gene expression Alexandre Colard, Caroline Angelard, Caroline Gutjahr, Uta Paszkowski, Ian R. Sanders	
The FLYTREE of Life: multiple lines of evidence reveal the earliest radiations of true flies (Insecta: Diptera) Brian M Wiegmann, Markus Friedrich, David K. Yeates, Greg Courtney, Rudolf Meier	When to sequence a few genes and when to sequence thousands? Casey W Dunn, Erika J Edwards	Brer cicada's songs of the south: phylogenetic insights into song evolution of platypleurine cicadas (Hemiptera: Cicadidae) Benjamin W Price, Martin H Villet, Nigel P. Barker	Coevolution between mutualists and exploiters Emily I Jones, Regis Ferriere, Judith L Bronstein	Evolution education at Iowa State University: student understanding and acceptance of evolution, creationism, and intelligent design Justin W. Rice
Dating the Cypriniformes Tree of Life M. Vincent Hirt	Phenotypic evolution on phylogenies: selection and drift revisited Dylan R Dittrich-Reed	Parent-offspring conflict and the evolution of reproductive isolation in a poeciliid fish Matthew Schrader, Joseph Travis	Genotype- and nitrogen-dependence of stabilizing mechanisms in legume-rhizobium mutualism Katy D. Heath, John R. Stinchcombe*, Peter Tiffin	Aipotu: a computer simulation linking genetics, biochemistry, molecular biology, and evolution Brian T White
Rates of diversification in the large marine jellyfish (Cnidaria: Scyphozoa) Keith M. Bayha, Michael N. Dawson, Allen G. Collins	Testing genome rearrangement phylogeny methods with the highly rearranged mitochondrial genomes of lice Stephen L Cameron, Kevin P. Johnson	Evidence for concurrent male directed reticulate evolution in the New World fruit bat genus *Artibeus* John C. Patton, Maria A. Pinto, John B. Patton, Burton K. Lim, Mark D. Engstrom, Timothy McCarthy, John W. Bickham	The evolution of cheating in wild *Bradyrhizobium* Ellen L. Simms, Joel L. Sachs, Martine O. Ehinger	"Tree-thinking" issues: undergraduates' reasoning about phylogenies Kristy L. Halverson, J. Chris Pires, Sandra K. Abell
Temporal and geographic patterns of diversification in *Sebastes* rockfishes Chad D Brock, Amanda Donabauer, Michael E. Alfaro	Testing comparative phylogeographic models of marine community assembly using hierarchical ABC (approximate Bayesian computation) Michael J. Hickerson, Chris Meyer	Low in situ hybridization between sympatric ecomorphs of the reef coral *Favia fragum* David B. Carlon, Catherine Lippe	Genotypic variation and the role of endosymbionts in an all-parthenogenetic host-parasitoid interaction Christoph Vorburger, Christoph Sandrock, Alexandre Gouskov, Julia Ferrari	Life after Dover: current attacks on evolution education Louise S. Mead

Sunday, June 22 1:30 - 3:00 pm					
	Willey 175		Willey 125	Anderson 370	Anderson 270
	SSE Symposium: Education			**Life History Evolution I**	**Natural Selection & Contemporary Evol II**
1:30 PM	A citizen's guide to applied evolution: case histories for the classroom David P. Mindell	1:30 PM		Deep evolutionary conservation of genes associated with aging Erica D. Smith, Matt Kaeberlein, Brian Kennedy, Daniel E.L. Promislow	Trophic cascades alter natural selection on *Mimulus guttatus* plants: exploring spatial and temporal variation in selection pressure Jon Haloin, Sharon Y Strauss
		1:45 PM		Food without a mate is more than a bad date: the impact of sexual maturation diet on female life history Emma L. B. Barrett, Allen J. Moore, Patricia J. Moore	Diffuse vs. pairwise selection by pollinators and herbivores on floral traits of *Lobelia siphiilitica* Catherine Walsh, Christina M. Caruso
2:00 PM	Human evolution and the interface between research and primary/secondary education Francis Thackeray	2:00 PM		Testing the effect of a quantitative trait locus for lifespan on *Drosophila* longevity John R. True	Natural selection on floral traits through male and female function in wild popualtions of a heterostylous daffodil Kathryn A Hodgins, Spencer C. H. Barrett
		2:15 PM		Life stress and telomere attrition Alexander Kotrschal, Dustin J. Penn	Female meiotic drive and the maintenance of fitness variation in *Mimulus* Lila Fishman, Arpiar Saunders
2:30 PM	Recent work in developmental biology and how to teach it PZ Myers	2:30 PM		Evolution of life histories in garter snakes: endocrine control Amanda M Sparkman, Anne Bronikowski	Selection on mating system traits in native and novel environments: temporal and spatial variation Michele R. Dudash, Courtney J. Murren, Cynthia C. Chang
		2:45 PM		Signals from the gonad regulate insulin and lifespan in the fly Thomas Flatt	Sexually antagonistic selection, sexual dimorphism, and the resolution of intralocus sexual conflict Robert M Cox

Sunday, June 22 1:30 - 3:00 pm				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Macroevolution II	**Biogeography I**	**Molecular Evolution V**	**Experimental Evolution I**	**Systematics III**
Was the radiation of teleost fish linked to the fish specific genome duplication? Francesco Santini, Michael E. Alfaro	Effect of study region on GIS models of species distributions and estimates of niche evolution: tests with montane rodents (genus *Nephelomys*) in Venezuela Robert P. Anderson, Ali Raza	C4 photosynthesis evolution switched rbcL selective pressures Pascal-Antoine Christin, Nicolas Salamin, Guillaume Besnard*	The evolution of a key adaptive innovation in an experimental population of *E. coli*: a tale of contingency and cooption Zachary D. Blount, Christina Z. Borland, Richard E. Lenski, Jeffrey E. Barrick, Sean C. Sleight	Evolution of cleptoparasitism, eusocial behavior and shifts in diversification rates in apid bees (Hymenoptera: Apidae) Sophie Cardinal, Jakub Straka, Bryan N. Danforth
The evolutionary origin of flatfish asymmetry Matt Friedman	Can interspecific competition promote geographic isolation? Insights from GIS-based niche modeling, with an example using mouse opossums (genus *Marmosa*) Eliecer E. Gutierrez, Robert P. Anderson	Patterns of molecular evolution and the origin of selfing in *Caenorhabditis* Asher D. Cutter	Optimal foraging by bacteriophages Richard H Heineman, Rachael L. Springman, James J. Bull	Multigene analysis of phylogenetic relationships and divergence times of primate sucking lice (Phthiraptera: Anoplura) Jessica E Light, David L Reed
Body size evolution in the aquatic environment: how body size and its associated traits have evolved across the whales and dolphins (Cetacea) Samantha A. Price	Ecological niche modeling of Great Basin montane mammals: examining past & present connectivity of species across basin and ranges Eric C Waltari, Robert P Guralnick	Molecular evolutionary genetics of the transition to hummingbird pollination in morning glories David L. Desmarais, Mark D. Rausher	Quantifying the decanalizing effects of spontaneous mutations Charles F. Baer	Mimetic color pattern evolution in bumble bees Heather M Hines, Sydney A Cameron
High turnover explains global diversification patterns in jawed vertebrates Michael E. Alfaro, Luke Harmon J., Chad D Brock, Hugo Alamillo, Alex Dornburg	The evolution of North American deserts based biogeography of arid-adapted mammals Stacy J. Mantooth, David J. Hafner, Brett R. Riddle	Evolution of estrogen receptor function June Keay, Joseph W. Thornton	Effects of spontaneous mutations in diploid yeast on multiple components of fitness David W. Hall, Sarah B. Joseph	Let it Bee: phylogeny of the *Biareolina, Scrapteropsis,* and *Trachandrena* subgenera of *Andrena* (Hymenoptera: Andrenidae) based on six molecular loci Sarah P. Guilinger, Leah L. Larkin
Phylogeny and time-frame for stickleback fish diversification based on new molecular and fossil evidence Guillermo Orti, Chenhong Li, Wei-Jen Chen, Michael A. Bell	Spatial genetic structure of the wolverine in North America with an emphasis on peripheral populations Jose A Frances, Joseph A. Cook	Evolutionary origin of the bacterial flagellum Nicholas J Matzke	Growth regulation and genome reduction in *Escherichia coli* adapted to an unnatural nutritional requirement Jeffrey E. Barrick, John A. Dover, Richard E. Lenski	Data partitioning and molecular phylogenetics of metalmark moths (Lepidoptera: Choreutidae) Jadranka Rota
Rates and patterns in the evolution of snake-like body form in squamate reptiles Matthew C Brandley, John J. Wiens	Serpentine soils host diverse and specialized fungal communities Sara Branco	Evolutionary origin of beetle luciferase Yuichi Oba, Satoshi Inouye	How optimal is adaptation of bacteriophage lysis time? Rick H. Heineman, Lynne Chantranupong*, James J. Bull	Phylogeny of the bush cricket genus *Poecilimon*: tracing the evolution of calling song patterns and male cerci morphology Berit Ullrich, Klaus Reinhold, Oliver Niehuis, Bernhard Y. Misof

Sunday, June 22 3:30 - 5:15 pm					
	Willey 175		Willey 125	Anderson 370	Anderson 270
	SSE Symposium: Education			**Life History Evolution II**	**Natural Selection & Contemp. Evol. III**
3:30 PM	Learning about evolution and the nature of science using digital organisms Robert T. Pennock	3:30 PM		Antagonistic, stage-specific selection on defensive chemical sequestration in a toxic butterfly James A. Fordyce, Chris C. Nice	Spatial mapping of neutral and adaptive evolution in an African rainforest lizard Adam H. Freedman, Henri A. Thomassen, Wolfgang Buermann, Thomas B. Smith
		3:45 PM		Genotype-environment variation in life history traits mediated by larval nutrition in *Drosophila melanogaster* Alan O Bergland, Marc Tatar	Evolution of alkaloid profiles in poison frogs Juan C. Santos
	Ted Mann Concert Hall	4:00 PM		Evolution of condition-dependent sex allocation with local resource competition Geoff Wild, Stuart A. West	The maintenance of variation for shell color in the flat periwinkle snail *Littorina obtusata* Megan Phifer-Rixey, Paul S. Schmidt
4:00 PM	The art of seduction: sex, evolution, and the public Olivia Judson	4:15 PM		Free-living *Sinorhizobium meliloti* bet-hedge when faced with starvation Will Ratcliff, R. Ford Denison	Color change plasticity in colonizing freshwater sculpin populations following rapid deglaciation Andrew R. Whiteley, David A. Tallmon
		4:30 PM		Modeling the evolution of phenotypic plasticity in resource allocation Elizabeth G King, Derek A. Roff	The cost of contemporary evolution: demographic effects of selection against migrants in Trinidadian guppies Dylan Weese, Michael T. Kinnison
		4:45 PM		Impact of the indirect effects of predators on life history evolution in a Trinidadian killifish Matthew R Walsh, David N Reznick	A change in the timing of diapause between years: can selection be the explanation? Wade Hazel, Richard Smock
		5:00 PM		The genetic basis of an adaptive life-history phenotype in striped ground cricket, *Allonemobius socius* Diana L. Huestis, Jeremy L. Marshall	Latitudinal clines in cuticular hydrocarbons in native and introduced *Drosophila* Francesca D Frentiu, Stephen F Chenoweth

Sunday, June 22 3:30 - 5:15 pm				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Macroevolution III	**Biogeography II**	**Theoretical Pop. Genetics I**	**Adaptation I**	**Systematics IV**
Genomic phylostratigraphy: a novel approach in macroevolutionary studies Tomislav Domazet-Loso, Josip Brajkovic, Diethard Tautz	Did tectonic activity stimulate Oligo-Miocene speciation in the Indo-West Pacific? Suzanne T Williams, Thomas F. Duda	Homage to Theodosius Dobzhansky: why are there so many different kinds of alleles? Hamish G. Spencer, Meredith V Trotter, Bastiaan Star	Genome duplication alters evolvability Sara L. Martin, Brian C. Husband	Biogeography of the Australian Arid Land: insights from the Bynoe's gecko (*Heteronotia binoei*, Gekkonidae) Matthew K Fujita, Jimmy A. McGuire, Stephen C Donnellan, Craig Moritz
Oligocene CO2 decline promoted C4 photosynthesis in grasses Pascal-Antoine Christin, Guillaume Besnard, Nicolas Salamin	Did Gondwanan continuity facilitate the expansion of the macadamia nut family (Proteaceae) across the southern hemisphere? Austin Mast, Peter Weston, Herve Sauquet, Greg Jordan, Eric Jones	The selective evolution of the nearly-neutral model Bastiaan Star, Hamish G. Spencer	The role of genetic variation in niche evolution via individual specialization Deepa Agashe, Daniel I. Bolnick	Evolutionary relationships and genetic identification within *Rattus* Judith H. Robins, Melanie Hingston, Elizabeth Matisoo-Smith, Howard A. Ross
Associations between global temperature and the Phanerozoic fossil record Peter J. Mayhew	From Africa to South America: origin of a large genus of Neotropical lowland trees (*Guatteria*; Annonaceae) Roy H.J. Erkens, Lars W. Chatrou, Jan W. Maas, Michael D. Pirie	Frequency-dependent selection with mutation from existing alleles Meredith V Trotter, Hamish G. Spencer	Closing in on a general model for phenotypic evolution Stevan J. Arnold, Josef C Uyeda	Molecular systematics and biogeography of the true seals: a novel multi-gene perspective Tara L. Fulton, Curtis Strobeck
Diversification of *Phytomyza* leaf-mining flies (Diptera: Agromyzidae): biotic vs. climatic correlates Isaac S. Winkler, Charles Mitter, Sonja J. Scheffer	Biogeography and diversification of *Rulingia* and *Commersonia* (Malvaceae) in southwestern Australia Barbara A. Whitlock, Amanda M. Hale	Evolutionary consequences of duplications in regulatory gene networks Tiago Paixao, Ricardo, Azevedo	The effect of population genetic structure on climatic niche breadth in plants Brad J. Oberle, Ivan Jimenez, Trisha Consiglio	Phylogenetic and biogeographic relationships within *Thylamys* (Didelphimorphia) with description of new species R Eduardo Palma, Ricardo A Cancino, David Flores, Ulyses FJ Pardinas, Enrique Rodriguez-Serrano, Dusan Boric-Bargetto, Horacio Zeballos
Phylogenetic patterns in extinction risk at small spatial scales Susanne Fritz, Andy Purvis	Assessing present and future diversity hotspots for the Cape Proteaceae: does phylogenetic diversity make a difference? Dorothea V. Pio, Nicolas Salamin, Olivier Broennimann, Wilfried Thuiller, Tony Rebelo, Antoine Guisan	Overwhelmed by gene flow? A theoretical exploration of adaptive constraint. Sam Yeaman	Color traits are extremely labile in an aposematic species: a phylogenetic analysis of color evolution in the strikingly polymorphic strawberry poison-dart frog Ian J. Wang, Brad Shaffer	Nuclear gene phylogeny and postive selection of the bovid genus *Capra* Steve Jordan, Saeid Naderi, Hamid Rezaei, Gordon Luikart, Pierre Taberlet
Untangling macroecological correlates of extinction risk: path analysis of fossil bivalves Paul G. Harnik	Ensuring taxonomic and geographic breadth in samples of biodiversity Thomas R Meagher, Neil Brummitt, Rafael Govaerts, Alan Paton, Eimear Nic	Local adaptation with variable migration Anthony Papadopoulos, Sean H. Rice	Evolutionary genetics of floral anthocyanin production in *Iochroma* (Solanaceae) Stacey D. Smith, Mark D. Rausher	Multilocus systematics of treeshrews (Mammalia; Scandentia): concatenation, coalescence, or consensus? Trina E. Roberts, Eric J. Sargis, Link E. Olson
Tolerating extinction threat and diversity in primates Anthony S Waldron	Regional phylogeography predicts alpha and beta diversity of tropical invertebrate communities Susan E Cameron		The genomic basis of adaptation to serpentinic soils Thomas L. Turner, Eric J. von Wettberg, Sergey V. Nuzhdin	

Monday, June 23 8:00 - 10:00 am					
	Willey 175		Willey 125	Anderson 370	Anderson 270
	ASN Symposium		**Natural Selection & Contemporary Evol**	**Phylogeography IV**	**Ecological Genetics III**
	Evolution of Sex	8:00 AM	Selection on trichome production in *Arabidopsis lyrata* subsp. *kamchatica* Janette A Steets, Naoki Takebayashi, Diana E. Wolf	A phylogeographic exploration of host constraints on the post-glacial migration of a parasitic plant, *Epifagus virginiana* Yi-Hsin E Tsai, Paul S Manos	Genetic differentiation of White Proteas in the Western Cape, South Africa Rachel Prunnier, Kent E. Holsinger
		8:15 AM	Natural variation at a single locus leads to changes in life history and climate space in *Arabidopsis* Amity M Wilczek, Johanna Schmitt	Geographic variation in genetic structure of an Atlantic coastal forest endemic reveals regional differences in habitat stability Sarah W. Fitzpatrick, Kelly R. Zamudio	Genetic consequences of long distance dispersal onto lava flows by the neotropical orchid, *Epidendrum radicans* Dorset Trapnel
8:30 AM	Sex in diploids: the advantages of segregation Aneil F. Agrawal	8:30 AM	Stabilizing/correlational selection on conserved floral traits Jeffrey K. Conner, Keith Karoly, Christy Stewart, Vanessa A. Koelling, Heather Sahli, Frances Knapczyk	Post-glacial colonization by the redside shiner, a widespread western North American minnow Derek D. Houston, Dennis K. Shiozawa, Brett R. Riddle	Genetic variation in beach mice: incipient speciation? Lynne M. Mullen, Hopi E. Hoekstra, Sacha N. Vignieri, Jeff Gore
		8:45 AM	The severity of inbreeding depression over seven years in the self-incompatible, long-lived plant, *Echinacea angustifolia* Ruth G. Shaw, Charles Geyer, Stuart Wagenius	Cryptic lineages and phylogeography of *Zapus princeps* in western North America Jason L. Malaney, Joseph A. Cook	Species cohesion with range-wide differentiation in the high-elevation endemic *Mimulus tilingii* Carrie A. Wu
9:00 AM	The evolutionary enigma of sex Sarah P. Otto	9:00 AM	Natural selection on the physiology of *Avena barbata* in contrasting moisture environments Hafiz Maherali, Robert G. Latta	Congeneric phylogeography in the *Cicindela sylvatica* species group of North American tiger beetles Daniel P. Duran, Daneil J. Funk	Living in sympatry: evidence from genetic lineages of Caribbean marine taxa Hernan Torres-Pratts, Nikolaos Schizas
		9:15 AM	Natural selection on photosynthetic physiology varies with resource availability in a perennial grass Mark Sherrard, Hafiz Maherali	Speciation in a western (US) woodland songbird (Bushtit, *Psaltriparus minimus*): comparing patterns and processes inferred from mtDNA and 19 anonymous nuclear loci Garth M. Spellman, John Klicka	Population structure of 40 species across a complex seascape Ryan P. Kelly, Stephen R. Palumbi
9:30 AM	Empirical explorations of the effect of sex on rugged fitness landscapes Arjan de Visser	9:30 AM	Recurrent evolution of weediness in US red rice Michael Reagon, Yulin Jia, Kenneth M Olsen, Ana L Caicedo	Biogeography and phylogenetic dating of the holarctic bee genus *Andrena*: Evidence for a North Atlantic land bridge? Leah L. Larkin, Sebastien Patiny	Landscape genetics across a species range: modeling population connectivity in Rocky Mountain tailed frogs (*Ascaphus montanus*) Christopher Drummond, Jack Sullivan, Lisette Waits
		9:45 AM	Divergent selection in the Gold-breast Splitfin, *Ilyodon furcidens* Meribeth Huizinga, Cameron Ghalambor	Phylogeography of *Aedes albopictus* in the northeastern US Camilo Khatchikian, Todd Livdahl	Landscape genetic gradients: Testing phylogeographic hypotheses in a Sonoran Desert euphorb without abrupt population boundaries Ryan C. Garrick, John D. Nason, Rodney J. Dyer

Monday, June 23 8:00 - 10:00 am				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Empirical Pop Genetics I	**Comparative Biology I**	**Speciation & Sexual Selection**	**Phenotypic Plasticity I**	**Conservation Biology**
Molecular evolution in antarctic notothenioid fishes Jillian Pennington	Diversification of hummingbirds at altitude: physiological challenges of flight shape hummingbird evolution at high elevations Jimmy A. McGuire, Christopher C. Witt, Douglas L. Altshuler, Robert Dudley	Reinforcement of gametic reproductive isolation in *Drosophila* Daniel R Matute	Genes, networks, and the evolution of phenotypic plasticity: first insights from genomic approaches in horned beetles Emilie C. Snell-Rood, Amy C. Cash, Teiya Kijimoto, Armin P. Moczek, Justen Andrews	Differences in cranial morphology between wild and captive golden hamsters *Mesocricetus auratus* M. Elsbeth McPhee, Bora Yoon, Robert Johnston
New to the neighborhood: genetic characterization of the Saban Island anole. Bryan Falk, Susan L. Perkins	Color evolution in the hummingbird genus *Coeligena* Juan Luis Parra	Assortive mating under biased mate choice regimes may facilitate adaptive speciation: a genetical model R. Tucker Gilman	Evolution and plasticity of developmental trajectories in *Manduca sexta* Joel G. Kingsolver, Travis Gaydos, Sarah E. Diamond	A look into the temporal variation of nesting beach contribution to a Loggerhead sea turtle (*Caretta caretta*) feeding assemblage Adena N Leibman, Mark A Roberts, Mike D Arendt, Joseph M Quattro, Al Segars, Chris Anderson
Genetic structure and variability of the Anacapa Island deer mouse populations before and after rat eradication Fusun Ozer, Mary V. Ashley	Comparative thermal biology of three morphologically similar sympatric lizards (Scincidae: Plestiodon) Charles M Watson, Laura Gough	Male vs female mate choice in sexual selection and reinforcement Maria R Servedio	Gene expression and the evolution of phenotypic plasticity in *Arabidopsis thaliana* Lisa A. Dorn, Matthew J. Rubin, Janelle Johnson, Yanina Vignoni	Temporal and spatial variation in the genetic diversity of the endangered Hawaiian Petrel (*Pterodroma sandwichensis*) Andreanna J. Welch, Helen F. James, Robert C. Fleischer
Genetic differentiation among perennial lotus (Fabaceae) taxa on San Clemente Island Mitchell E. McGlaughlin, Kaius Helenurm	Ongoing speciation between a brush-legged and non-ornamented *Schizocosa* wolf spider Kasey D Fowler-Finn, Eileen A Hebets	Sexual selection opposes divergent natural selection in Trinidadian guppies Amy K Schwartz, Andrew P. Hendry	Determining the epigenetic basis for inheritance of trichome patterning in *Mimulus guttatus* (yellow monkeyflower) Lena C. Hileman, Laryssa L. Baldridge, Liza M. Holeski, John K. Kelly	Community genetics of Pecos river fishes (Cyprinidae) Megan J Osborne, Tracy A Diver, Thomas F Turner
Latitudinal changes in the genetic structure of the Yellow-spotted Amazon river turtle (*Podocnemis unifilis*) from the Orinoco and Amazon basins. Tibisay Escalona, Nicole Valenzuela, Tag N Engstrom, Omar Hernandez, Brian Bock	Evolutionary origins of polymorphic color pattern in the Australian Common Froglet (*Crinia signifera*) Rebecca Symula	Assortative mating in poison dart frogs based on an ecologically important trait R.Graham Reynolds, Benjamin M. Fitzpatrick	Ancestral plasticity and ecotypic divergence in the Threespine Stickleback radiation Matthew A. Wund, John A. Baker, Brendan Clancy, Justin L. Golub, Susan A. Foster	Morphological and genetic evidence for hybridization between a rare and common lady's-slipper orchid, *Cypripedium candidum* and *C. parviflorum* (Orchidaceae) Anne C. Worley, Bruce A. Ford, Habibollah Ghazvini, Lauren Sawich
Contrasting patterns of mitochondrial and nuclear genetic structure in black-backed woodpeckers Jennifer C. Woolf, Fred W. Allendorf, Michael K. Schwartz	Placentation, maternal investment and neonatal brain size in mammals Isabella Capellini, Robert A. Barton	Sex differences in mate recognition and conspecific preference in species with mutual mate choice Janette W. Boughman, Genevieve M. Kozak, Melissa Reisland	Developmental plasticity: the value of information in a cue depends on the structure of errors Matina C. Donaldson-Matasci, Carl T. Bergstrom, Michael Lachmann	Effects of inbreeding on different life history stages, and the interactions between environmental and demographic parameters in a New Zealand passerine Rebecca J Laws, Ian G Jamieson
The uncommon loon: population genetics and type E botulism in *Gavia immer* Amy M. McMillan	Multiple origins of diurnality in geckos and opsin evolution Tony Gamble, Aaron M. Bauer, Andrew M. Simons	Sexual isolation via assortative phonotaxis preference in the Hawaiian cricket *Laupala* Jaime L. Grace, Kerry L. Shaw	Environmental grain and the evolution of generalists and specialists Josh Van Buskirk	Habitat fragmentation: do you know it when you see it? Lesley G. Campbell, Moreko Griggs, Megan Burger, Sergio Jaramillo, Christopher Gonzales Halley Cazort Aditya Juloori Kisurb Choe
The changing genetic structure, mating behaviors and dispersal habits of a collared pika (*Ochotona collaris*) population from the southwest Yukon. Jessie M Zgurski, David S Hik	Evolution of behavioral traits in the scallops (Bivalvia: Pectinidae) Jeanne M. Serb, Louise Puslednik	Modes of mate choice within and between species of *Timema* walking-sticks Devin Arbuthnott, Bernard J. Crespi	Environmental heterogeneity, phenotypic plasticity, and limits of phenotypic plasticity in island populations of the common frog. Martin I Lind, Frank Johansson	Vanishing relics: comparing ancient and contemporary DNA in the conservation genetics of a highly threatened New Zealand songbird, the mohua Lisa T Hegg, Ian G Jamieson

Monday, June 23 10:30 am- 12:00 pm					
	Willey 175		Willey 125	Anderson 370	Anderson 270
	ASN: Evolution of Sex		**Molecular Evolution V**	**Phylogeography V**	**Ecological Genetics IV**
10:30 AM	Inbreeding, genetic drift, and the evolution of sex Denis Roze	10:30 AM	Impact of bacterial uptake sequences on genomes and proteomes Wendy A. Findlay	Phylogeny and population structure of African *Agama* lizards: insights into the biogeography of Africa Adam D. Leaché	Non-neutral patterns of protein polymorphism in the acorn barnacle (*Semibalanus balanoides*) Patrick A. Flight
		10:45 AM	The coevolutionary dynamic of LTR-retrotransposons in maize Regina S. Baucom, James C Estill, Jeffrey L. Bennetzen	Phylogeny and biogeography of a cryptically diverse assemblage of Wallacean geckos (*Cyrtodactylus*) Rebecca A. Chong, Jimmy A. McGuire	Genetic mapping in a natural population of collared flycatchers Niclas Backstrom, Hans Ellegren
11:00 AM	Through the magnifying glass: revisiting the red queen hypothesis Marcel Salathe, Roger D. Kouyos, Sebastian Bonhoeffer	11:00 AM	Retrotransposon diversity and genome size changes in esociform fishes Juan Andres Lopez, Monica Arakaki, Petr Rab	Monsoon-driven speciation in the freshwater isopod genus Eophreatoicus (Crustacea), northern Australia George (Buz) Wilson, Donald J. Colgan, Christopher L. Humphrey	Genetic basis of color polymorphism in garter snakes Michael F. Westphal, Theodore J. Morgan
		11:15 AM	Evidence for widespread horizontal transfer of transposable elements between fruitflies and their parasitic wasps. Neil Milan, Todd A Schlenke*	Testing models of diversification in Andean rodents Lucía Luna	The genetic basis of thelytoky and its consequences in the aphid parasitoid *Lysiphlebus fabarum* Christoph Sandrock, Christoph Vorburger
11:30 AM	Through the looking glass: host-parasite coevolution and sex Curtis M. Lively	11:30 AM	Massive horizontal gene transfer in bdelloid rotifers Eugene A Gladyshev, Matthew S Gladyshev, Irina R Arkhipova	Comparative phylogeography of neotropical trees- discerning Pliocene and Pleistocene impacts Monica F Poelchau, James L Hamrick	Field estimates of heritability of traits important for the microevolution of temperature dependent sex determination in the Painted turtle, *Chrysemys picta* Suzanne E. McGaugh, Rachel M. Bowden, Fredric J. Janzen
		11:45 AM	Intron gain/loss and size evolution in *Daphnia pulex* populations Wenli Li, Michael Lynch	Biogeography of the livebearing fish *Poecilia gillii* in Costa Rica: are phylogeographic breaks congruent with fish community boundaries? Jared Lee, Jerald B. Johnson	Reptilian uncoupling proteins: molecular evolution and gene expression in cold acclimation Tonia S. Schwartz, Shauna Murray, Frank Seebacher

Monday, June 23 10:30 am- 12:00 pm				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Empiricial Pop. Genetics II	**Comparative Biology II**	**Sexual Selection III**	**Experimental Evolution II**	**Phenotypic Plasticity II**
Population genetics of *Porthetes hispidus* (Coleoptera; Curculionidae) probable pollinator of the African cycad *Encephalartos friderici-guilielmi* Doug A. Downie	Model clades: The next frontier in evolutionary biology? Scott M. Lanyon	Intersexual convergence, not mimicry, in a case of "intersexual mimicry" Idelle A. Cooper	Temporally changing species interactions in a simple bacterial community Minna H Pekkonen, Jouni T Laakso	Competition induced plasticity in a tadpole, is it adaptive? Jeff D. Arendt
Evaluating changes in effective population size (Ne)m in Atlantic salmon (*Salmo salar*) in relation to a fishery closure Friso P. Palstra, Michael F. O'Connell, Daniel E. Ruzzante	Phylogenetic relationships and the evolution of sequential hermaphroditism in the fish family Labridae Erem Kazancioglu	Sexual swellings in the Amboseli baboons: a test of the reliable indicator hypothesis Courtney L Fitzpatrick, Jeanne Altmann, Susan C. Alberts	Evolution in fluctuating environments Tim F Cooper	Ontogeny of body growth plasticity in a tropical river turtle Claudia Ceballos, Nicole Valenzuela, Omar E. Hernandez P.
Contributions of inbreeding depression, genetic variation, and demographic stochasticity to evolvability in small populations Yvonne Willi, Ary A Hoffmann	Exploring the multivariate pattern of adaptive radiations Paul A. Hohenlohe, Stevan J. Arnold	The evolution of male courtship behavior in mimetic tiger moths (Arctiidae: Euchromiini) Rebecca B Simmons, Susan J. Weller, Sarah J Johnson	Evolving dynamics of microbial communities Robert P Goldman, Lauren Ancel Meyers, Michael Travisano	Response of two species to an environmental change: an insight in sources of variations and constraints for functional trait response Fabrice Grassein, Irene Till-Bottraud, Sandra Lavorel
Population genetics of the Hessian fly, a wheat pest, in the southeastern United States Philip K. Morton, Carolyn Foley, Alisha J. Johnson, Brandon J. Schemerhorn,	Localizing shape variation in *Drosophila* wings across the family tree David Houle	Brood reduction in a sex-role reversed Pipefish Kimberly A Paczolt, Sunny K. Scobell, Randall Carter, Adam G. Jones	Experimental evolution of crossfeeding between bacteria William R Harcombe	Predator induced morphological defence is not induced directly by predators! Frank Johansson
Population structure and genetic diversity of vegetative compatibility groups in the aflatoxin-producing fungal plant pathogen *Aspergillus flavus* Lisa C Grubisha, Peter J Cotty	GIGO: Implications of cryptic diversity, fundamental niches, and biotic interactions for desktop modeling of species ranges Joseph Bernardo	Male preference functions based on female size in the sailfin molly, *Poecilia latipinna*: bigger is not always better Caitlin R. Gabor, Andrea S. Aspbury	Rapid evolution of infection rate in experimental populations of *Rhizobia* Maren L. Friesen	From adaptive plasticity to rapid adaptation: evolution of daphnia gene expression in response to an introduced predator Alison G Scoville, Michael E. Pfrender
Fibrillin 2: The first candidate gene for Canine Hip Dysplasia Lan Zhu	A comparison of genes, morphology, and geography in a radiation of turtles Erin M. Myers	Speciation by drift in female mating preferences Josef C Uyeda, Stevan J. Arnold, Paul A. Hohenlohe	Microbial experimental evolution in the squid-vibrio symbiosis William Soto	Hot flies run fast: selection on thermotolerance changes locomotor performance Luke A. Hoekstra, George W. Gilchrist

Monday, June 23 1:30 - 3:00 pm					
	Willey 175		Willey 125	Anderson 370	Anderson 270
	SSE Symposium:		**Adaptation II**	**Phylogeography VI**	**Ecological & Quantative Genetics**
1:30 PM	**Evolution of Recombination Rates** Introduction Bret A. Payseur	1:30 PM	Phylogeny, floral evolution, and biogeography in North American Lilium (Liliaceae) Thomas Givnish, Benjamin Van Ee, Mark W Skinner	Shelf to shelf: genetic connectivity of gag, *Mycteroperca microlepis*, across the Gulf of Mexico Nathaniel K. Jue, Thierry Brule, Christopher C. Koenig, Felicia C. Coleman	Structural equations and QTLs reveal shifting selection foci Stephen J. Tonsor, Tarek W. Elnaccash, Samuel M. Scheiner
1:40 PM	How recombination evolves by facilitating adaptation: a review of the theory Nicholas Barton	1:45 PM	The relationship of bill morphology to ectoparasite diversity and abundance in Darwin's finches Jennifer A.H. Koop, Sarah K. Huber, Sarah Bush, Dale H. Clayton	Large-Scale geographical patterns in the bacteria domain Eric L. Miller	QTL-analysis of maternally influenced seed traits across multiple competitive environments in RILs of *Brassica rapa* Jennifer M Dechaine, Marcus T. Brock, Cynthia Weinig
		2:00 PM	Differing patterns of morphological and neutral genetic variation reveal a potential pattern of natural selection in populations of *Peromyscus* mice Dou-Shuan Yang, G. J. Kenagy	Population genetic differentiation of New Guinea lowland rainforest moths Kathleen J. Craft, Steffen U Pauls, Karolyn Darrow, Scott E. Miller, Paul D. N. Hebert, George D. Weiblen	Genetic analysis of standing variation for floral morphology and fertility components in a natural population of *Mimulus guttatus* Young Wha Lee, John H. Willis, John K. Kelly
2:20 PM	Broad and fine-scale variation in human recombination rates Graham Coop	2:15 PM	Convergence in a mechanically complex phenotype: detecting structural adaptations for crushing in cichlid fishes C. Darrin Hulsey	Microsatellite genetic differentiation among populations of the Trinidadian guppy Ho Young Suk, Bryan D. Neff	Genetics of constitutive and induced trichome density in *Mimulus guttatus* (yellow monkeyflower) Liza M. Holeski, R. Chase Alone, John K. Kelly
		2:30 PM	Evolution of genetic integration between dispersal and colonization ability in a bird Renee A. Duckworth	Why are there so many species of mite harvestmen in New Zealand? Sarah L. Boyer	The genetic basis of quantitative variation in floral morphology Marcus T. Brock, Cynthia Weinig
2:40 AM	Modifiers, hotspots, and r, oh my: bringing molecular and evolutionary models of recombination together Andrew Peters	2:45 PM	Genetic divergence in life history, body shape, swimming performance, and mating behaviour between lake and stream stickleback. Andrew P. Hendry, Kate Hudson, Jeff Walker, Lauren Chapman, John A. Baker, Katja Rasanen, Diana Sharpe, Daniel Berner, Matthieu Delcourt	Molecular diversity of the freshwater medusa *Craspedacusta sowerbii* (Hydrozoa, Olindiidae) Santiago Herrera, Allen G. Collins, Stephen Cairns, Thomas Jankowski, Terry Peard, Cheryl Lewis	Joint analysis of survival and reproduction over 12 years in *Echinacea angustifolia* plants originating from 21 remnant prairies Stuart Wagenius, Ruth G. Shaw, Charles Geyer

Monday, June 23 1:30 - 3:00 pm			
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**
Development & Evolution III	**Molecular Evolution VI**	**Phylogenetic Theory & Methods I**	**Systematics V**
Population Genetics of cis-regulatory elements in *Drosophila* Ian Dworkin, Lisa Goering, Greg Gibson	Evolution and expression of conotoxin gene families of predatory marine snails *Conus* Dan Chang	The effects of homoplasy on size-specific clade support Dan L Warren, Matthew C Brandley, Adam D Leaché, Jimmy A. McGuire	Morphology and mushrooms: defining phylogenetic groups in Psathyrellaceae Mahajabeen Padamsee
Horns, Hox and Hedgehogs: Insights into expression and function in a novel and diverse structure, *Onthophagus* beetle horns Bethany R Wasik, Armin P. Moczek	Molecular evolution of venom neurotoxins from black widow spiders. Jessica E. Garb, Konrad Zinsmaier, Cheryl Y. Hayashi	Putting real adaptation into comparative tests of adaptive hypotheses Steven H Orzack, Thomas F. Hansen	Molecular phylogeny of the Mucorales and the Mortierellales (Mucoromycotina, Fungi): re-classification and the exploration of new taxa Kerstin Hoffmann, Grit Walther, Tamas Papp, Csaba Vagvolgyi, Kerstin Voigt
Environmental and genetic control of flowering time in *Aquilegia formosa* Evangeline S. Ballerini, Elena M. Kramer	Population variability of the major histocompatibility complex in the guppy Bonnie A. Fraser, Bryan D. Neff	On phylogenetic tests of irreversible evolution Boris Igic, Emma E. Goldberg	The utility of cpDNA and nrDNA sequences for phylogeny reconstruction in Aichryson (Crassulaceae): toward an understanding of the evolution and biogeography of this recently diverged lineage. Thomas R O'Leary, Mark E. Mort, Arnoldo Santos-Guerra
High diversity in early developmental genes consistent with population genetics of maternal effect genes Tami Cruickshank, Michael J. Wade	Balancing selection at a frog antimicrobial peptide locus: allelic cycling of immune effector molecules? Jacob A. Tennessen, Michael S. Blouin	Model based phylogenetic analyses of over 12,000 insertion/deletion characters from multiple avian genes Tamaki Yuri, Edward L. Braun, Rebecca T. Kimball, Michael J. Braun, Rauri C. K. Bowie, Jena L. Chojnowski, Shannon Hackett, Kin-Lan Han, John Harshman, Christopher J. Huddleston, Ben D. Marks, Kathleen J. Miglia, William S. Moore, Sushma Reddy, Frederick H. Sheldon, David W. Steadman, and Christopher C. Witt	Evolutionary relationships among sea anemones (Cnidaria: Actiniaria: Hormathiidae) symbiotic with hermit crabs Luciana Gusmao, Marymegan Daly
Investigating the role of CYCLOIDEA-, RADIALIS- and DIVARICATA-like genes in evolution of Veronicaceae stamen and petal developmental patterning Jill C Preston, Matthew A Kost, Lena C. Hileman	Geographic variation in adaptation at the molecular level: a case study of plant immunity genes David A. Moeller, Peter Tiffin	Identifying appropriate partitioned models for phylogenetic inference via posterior prediction Joseph W. Brown	Phylogeny of sea anemones (Cnidaria: Anthozoa: Actiniaria) Marymegan Daly, Luciana Gusmao, Estefania Rodriguez
Microevolution of the CLAVATA genes in *Arabidopsis thaliana* Kristen A. Shepard, Dana Greenfield, Karin Isaacson, Varuni Prabhakar, Jaime Wesker	Effects of geographically varying selection on nucleotide diversity and linkage disequilibrium: insights from deer mouse globin genes Jay F. Storz, John K. Kelly	The expansion of zones where the most likely gene trees disconcord with the species tree Huateng Huang, Bernard Chan, L. Lacey Knowles	Phylogeny of Sponges (Porifera) Martin Dohrmann, Oliver Voigt, Kerstin Pick, Dirk Erpenbeck, Gert Woerheide, Geoscience Centre Goettingen

	Monday, June 23 3:30 - 5:15 pm				
	Willey 175		**Willey 125**	**Anderson 370**	**Anderson 270**
	SSE Symposium		**Adaptation III**	**Phylogeography VII**	**Molecular Evolution VII**
3:30 PM	**Evolution of Recombination Rates** Evolution of recombination rate in mammals Bret A. Payseur	3:30 PM	Potential impacts of climate change on locally adapted maize landraces in Mexico Kristin L. Mercer, Hugo Perales	Phylogeographic patterns in the Brown-backed Solitaire (*Myadestes occidentalis*) using nuclear and mitochondrial loci. Brian R. Barber, John Klicka	High spontaneous rate of gene duplication in *Caenorhabditis elegans* Ulfar Bergthorsson, Kendra J. Lipinski, Kelly A. Fitzpatrick, Vaishali Katju
		3:45 PM	Pleiotropy and adaptation in Cave Fish Richard L. Borowsky	Phylogeography of the *Chionaspis pinifoliae* complex (Hemiptera: Diaspididae) across North America Rodger A. Gwiazdowski, Benjamin B. Normark	On the protein expression noise and gene duplicability Wenfeng Qian, Jianzhi Zhang
4:00 PM	Hot spots of recombination in mice and humans Norman Arnheim	4:00 PM	Assessing local adaptation in lifespan through the metabolic theory of ecology Santiago Salinas, Stephan B. Munch	Molecular phylogeography of the peritrichous ciliate *Carchesium polypinum* in the North American Grand River basin inferred from nuclear and mitochondrial markers Eleni Gentekaki	Duplicate gene expression evolution in polyploid cotton Lex E. Flagel, Joshua A. Udall, Dan Nettleton, Jonathan F. Wendel
		4:15 PM	Natural selection, sexual selection and the models of sexual dimorphism Krushnamegh Kunte	Population structure in a radiating planthopper lineage from the island of Hawaii Kari R. Goodman, Stephen C. Welter, George K. Roderick	Gene expression regulation after whole genome duplication David Anderson, Ben J Evans
	Fisher Prize Lecture	4:30 PM	Consequences of specialization: host plant quality and larval performance in laboratory and field populations of *Manduca sexta* Sarah E. Diamond, Sarah Hawkins, Joel G. Kingsolver	Molecular signatures of introduction and colonization in a Pacific Island radiation of skinks Alison M. Hamilton, George R. Zug, Christopher C. Austin	Differential expression and the differentiation of venoms of predatory gastropods Thomas F. Duda
4:30 PM	Phenotypic diversification and ecological speciation in *Gambusia* fishes R. Brian Langerhans	4:45 PM	Character displacement in song and morphology of two related African barbets Alexander N.G. Kirschel, Daniel T. Blumstein, Thomas B. Smith	Nuclear and mitochondrial sequences confirm complex colonization pattern and clear species boundaries for flightless weevils in the Galápagos archipelago Andrea S. Sequeira, M. Sijapati, A. A. Lanteri, L. Roque Albelo	Parallel cis-regulatory evolution at diverse neuroectodermal loci Albert J. Erives
		5:00 PM	Diversification via paedomorphosis in the Oklahoma salamander, *Eurycea tynerensis* Ronald M. Bonett	Historical Biogeography of the Western Archipelago Indonesia: Insights from the flying lizards Draco (Iguania: Agamidae) Shobi Z. Lawalata	Cis-regulatory architecture in the Metazoa Cristian I. Castillo-Davis

Monday, June 23 3:30 - 5:15 pm				
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**	**Blegen 150**
Coevolution III	**Quantitative Genetics III**	**Evol of Ecological Communities**	**Speciation & Genomics**	**Systematics VI**
Plant sex and the evolution of plant defenses against herbivores Marc T.J. Johnson, Stacey Smith, Mark D. Rausher	Breaking a strong genetic correlation for a sexually dimorphic trait: why was it possible? Lynda F. Delph, Janet Steven, Edmund D. Brodie III	A common tendency for phylogenetic overdispersion in mammalian assemblages Natalie Cooper, Jesus Rodriguez, Andy Purvis	Patterns of gene expression in the sperm storage organs of *Drosophila melanogaster* Adrianne Prokupek, Stephen Kachman, Lawrence Harshman	Phylogeny of Castilleae (Moraceae): Investigating the evolutionary history of the figs' closest relatives Wendy L. Clement
Resistance to parasite in *Daphnia* Pierrick Labbe, Tom Little	A quantitative genetic analysis of maternal inheritance in a natural plant population Julie R. Etterson, Laura F. Galloway	North American forest tree phylogenetic community structure at multiple scales Kevin M. Potter, Frank H. Koch	Genetics analysis of hybrid lethality between *D.melanogaster* and *D. simulans* Shanwu Tang, Daven C. Presgraves	Systematics of Trichocereeae (Cactaceae) and population genetics of *Haageocereus* Monica Arakaki, Douglas E. Soltis, Pamela S. Soltis
The molecular biology and evolution of candidate genes involved in *Drosophila*'s melanotic encapsulation of parasitic wasps. Erin S Keebaugh, Todd A Schlenke	Linked selection shapes phenotypic variation in *C. elegans* Matthew Rockman	Inferring the evolution of climatic niches in ferns Harald Schneider, Nadia Bystriakova	A hybrid zone revisited: molecular analysis of the maintenance, movement, and evolution of a Great Plains avian (Cardinalidae: *Pheucticus*) hybrid zone Raeann Mettler, Garth M. Spellman	Phylogenetics and evolution in *Nicotiana* (Solanaceae): homoploids and polyploids Laura J. Kelly, James J. Clarkson, Andrew R. Leitch, Mark W. Chase
Antagonistic pleiotropy and coevolution following gene duplication of fungal Hsp70s Krista G. Reitenga, Barry L. Williams, Jaroslaw Marszalek, Elizabeth A. Craig	Cryptic GxE interactions and metabolic disease in *Drosophila* Laura K. Reed	Frequent evolution of theft in fungus-farming beetles (Curculionidae: Scolytinae) Jiri Hulcr	Does reproductive asynchrony and self-fertilization promote coexistence in the fig-fig wasp mutualism? Daniel Gates, John D. Nason, John O. Stireman	Systematics of *Solanum* section *Gonatotrichum* Stephen R. Stern, Lynn A. Bohs
Evolution of major fungal agricultural systems in ants Sean G. Brady, Ted R. Schultz	Aster models and fitness landscapes Charles Geyer, Ruth G. Shaw	Patterns of phenotypic variation in multi-species salamander communities: convergence or divergence? Dean C. Adams, James Church, Audri Weaver, Meredith Zipse	The genetic mosaic suggests a new role for hitchhiking in ecological speciation Sara Via	Phylogeny and evolution of *Monanthes* (Crassulaceae) from the Canary Islands inferred from chloroplast and nuclear DNA sequences Mark E. Mort, Jenny K. Archibald, Arnoldo Santos
Ancient antibiotic use in fungus-growing ants Michael Poulsen, Cameron R Currie	Hypothesis testing in comparative studies of function-valued traits Cortland K. Griswold, Nancy Heckman, Richard Gomulkiewicz	Diversification on an ecologically constrained adaptive landscape Gary A Wellborn, Richard E Broughton	A heteromorphic sex chromosome system in an Australian turtle, *Emydura macquarii* Pedro Martinez, Tariq Ezaz, Nicole Valenzuala, Arthur Georges, Jennifer Marshall Graves	Reticulate phylogeny of an Asian *Elymus* (Poaceae) allopolyploid species group Roberta J. Mason-Gamer, Marianna Naum, Melissa M. Burns
Competition promotes the evolution of host generalists in a vertebrate parasite Kevin P. Johnson, Jael Malenke, Dale H. Clayton	Phylogenetic comparative analysis of genetic constraint Liam J. Revell, Luke J. Harmon	Patterns of continuous trait evolution during adaptive radiations Christopher A. Searcy, Rose L. Carlson	The origins and evolution of novel photosensitivity pathways in animals: tree-thinking reveals duplication and divergence plus co-option David C. Plachetzki	The systematics and historical biogeography of the arctic flowering plant species *Chrysosplenium tetrandrum* Nicholas D Levsen, Mark E. Mort

Tuesday, June 24 8:00 - 10:00 am

	Willey 175		Willey 125	Anderson 370	Anderson 270
	SSB Symposium		**Species Interactions II**	**Adaptation IV**	**Hybridization III**
8:00 AM	**Estimating Species Trees from Gene Trees** What to do when gene trees and species trees don't match? L. Lacey Knowles	8:00 AM	Dynamics of a Sonoran fig wasp community: a graphical modeling approach A. Bradley Duthie, John D. Nason	Adaptation of *C. elegans* populations to a laboratory environment: different finish lines for the same race? Sara Carvalho, Suzanne Estes, Henrique Teotonio	Widespread mito-nuclear discordance caused by introgressive hybridization and selective sweeps Zachariah Gompert, Matthew L. Forister, James A. Fordyce, Chris C. Nice
		8:15 AM	Host specificity of dioecious fig pollinators in Papua New Guinea Annika Moe	Experimental reverse evolution reveals natural selection on standing genotypic variation Henrique Teotonio, Ivo M. Chelo, Martina Bradic, Michael R Rose, Anthony D Long	Geographic patterns of mito-nuclear discordance in *Nothonotus* darters (Teleostei: Percidae) Benjamin P. Keck, Thomas Near
8:25 AM	Gene tree discordance, phylogenetic inference, and the multispecies coalescent Noah Rosenberg	8:30 AM	Phylogenetic patterns in a plant galling midge and its fungal symbiont Eric M. Janson, Patrick Abbot	Dissecting the mechanism and physiological basis of a parallel adaptive mutation of *Methylobacterium extorquens* AM1 in a metal-limited environment Hsin-Hung Chou, Julia Berthet, Christopher J. Marx	Genetic introgression in natural populations of butternut (*Juglans cinerea* L.) a threatened North American forest tree Sean M Hoban, Jeanne Romero-Severson
		8:45 AM	Phylogenetics and population structure of *Aceria parapopuli* on *Populus* across the Western US Luke M. Evans, Gerard J. Allan, Thomas G. Whitham	Genetic mapping and population genetics of *Drosophila* reproductive diapause Chen-Tseh Zhu, Walt F. Eanes, Paul S. Schimidt	The origins and maintenance of an admiral butterfly hybrid zone involving mimicry. Sean Mullen
8:50 AM	Dectecting phylogenetic discordance among loci on a genome-wide scale Cecile Ane	9:00 AM	Evolution of host preference in Hawaiian tephritid flies Jonathan M. Brown	Ecological genomics of species invasions: understanding hybridization and adaptation in yellow starthistle (*Centaurea solstitialis*) through expressed sequence variation Katrina M. Dlugosch, Michael S. Barker, Zhao Lai, Loren H.	Testing hypotheses for bimodal hybrid zones Kerry L. Shaw
9:15 AM	Estimating species trees using multiple-allele DNA sequence data Liang Liu	9:15 AM	When caterpillars attack: phylogeny and life history evolution of the Miletinae (Lepidoptera: Lycaenidae) Zofia A. Kaliszewska, Naomi E. Pierce	Genomic targets of selection during habitat invasions Carol Eunmi Lee	Genomic assays of introgression between species of hybridizing reef corals using gene sequences and high density microarrays Stephen R. Palumbi, Jason Ladner
		9:30 AM	Parasitoids mediate the fitness benefits of enemy-free space in a leafmining fly Akane Uesugi	Metabolic cold adaptation and developmental plasticity in metabolic rates among species in the *Fundulus notatus* complex Jake Schaefer	Microsatellite variation identifies hybridization between two ecologically divergent *Populus* species: where do we go from here? Erika I Hersch, Gerard J. Allan, Thomas G. Whitham
9:40 AM	Gene tree discordance, phylogenetic inference, and the multispecies coalescent Noah Rosenberg	9:45 AM	Evolution of host specialization in parasitoids: the role of host phylogeny George E. Heimpel, Nicolas Desneux, Roger Blahnik	Floral niche models best explain proboscis length evolution in long-tongued, bloodsucking pollinators (Diptera: Tabanidae). Shelah Morita	Reproductive isolation in a warbler hybrid zone: rapid speciation or mitochondrial capture? Alan Brelsford, Darren E. Irwin

Tuesday, June 24 8:00 - 10:00 am			
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**
Life History Evolution III	**Biogeography III**	**Behavior & Social Evolution IV**	**Plant Mating Systems III**
Discordant longitudinal clines in flowering time and flowering time genes Katy D. Heath, Karen E. Samis, John R. Stinchcombe	Surprising genetic structure over a small spatial scale in the highly mobile marine mammal: the case of the bottlenose dolphin on the continental shelf of the southeastern United States Patricia E. Rosel	Testing alternative hypotheses for the origin of unicoloniality in invasive ants Miriam Brandt, Ellen van Wilgenburg, Mario Mariotti, Neil D. Tsutsui	Pollen capture and the evolution of uni-ovulate flowers in wind-pollinated plants Jannice Friedman, Spencer C. H. Barrett
Molecular mechanisms underlying seed dormancy growth-related traits and adaptation to climates in *Arabidopsis thaliana* Marilyne M. Debieu, Sigi S. Effgen, Maarten M. Koornneef, Juliette J. de Meaux	Molecular phylogenetics and biogeography of wobbegong sharks (Orectolobiformes: Orectolobidae) Shannon L Corrigan, Luciano B Beheregaray	Workers are reproductive and reproductives are not: the origin of castes in social wasps James H. Hunt	The association between polyploidy and self-compatibility in the Solanaceae Kelly A. Robertson, Boris Igic
A time to grow and a time to die: a new analysis of the dynamics of size, light and age of tropical trees C. Jessica E. Metcalf, Carol C. Horvitz, Shripad Tuljapurkar	Testing a ring-species hypothesis in a Caribbean *Euphorbia* species complex N. Ivalu Cacho, David A. Baum	Deconstructing the superorganism: the genetic basis of honey bee queen-worker dimorphism Timothy A. Linksvayer, Osman Kaftanoglu, Robert E. Page	The role of mating system and self-compatibility on local adaptation in angiosperms Joe Hereford
The joint evolution of reproductive effort and sex allocation in plants that compete for the attention of frugivores Jay M. Biernaskie, Peter A. Abrams	Diversification within Amazonia: lakes, rivers, refuges, and the evolution of *Psophia* (Aves; Gruiforms) Camila C. Ribas, Alexandre P. Aleixo, Cristina Y. Miyaki, Joel L. Cracraft	The evolution of sexual size dimorphism in social insects Else J. Fjerdingstad, Ross H. Crozier	The origin of female-biased sex ratios in a dioecious seagrass: Implications for life history strategies and genetic structure. Andrew O Shelton
Dynamic heterogeneity in life-histories Ulrich K Steiner, Shripad Tuljapurkar, Steven H Orzack	Mode and tempo of phyllostomid neotropical invasion Liliana M Davalos	Social evolution by gene duplication: soldier-specific lipocalin proteins and social communication in termites. Toru Miura	Variable expression of partial male sterility in a gynodioecious plant Andrea L Case, Christina M. Caruso
Ontogenetic patterns in genetic variation depend on environmental conditions Cait Dmitriew, Locke Rowe, Mark W. Blows	Phylogenetic analysis of myrmicine ants (Myrmicini): combining molecules, time and biogeographical scenarios Gunther Jansen, Riitta Savolainen	Evolution of different worker caste systems in four pheidole ants and the potential adaptive advantage of having a range of major worker sizes Ming Hua Huang, Diana Wheeler	The effect of pollinator type and plant spatial structure on pollen mediated gene flow. Karsten Holmquist, Johanne Brunet
Is polycarpy adaptive in a short-lived, polycarpic perennial, *Plantago lanceolata*? Richard P. Shefferson, Deborah A. Roach	Repeated colonization of Hawaiian bark lice Emilie Bess, Kevin P. Johnson	Unrelated reproductives in the basal termite *Zootermopsis nevadensis*: evolution of eusociality Philip M. Johns, Kenneth Howard, Nancy L. Breisch, Barbara L. Thorne	Quantitative genetics of a complex mating system: genetic load and variability in *Mimulus guttatus* Tara N. Marriage, John K. Kelly
Evolution of extreme polyphagy in armored scales, a multi-locus survey Jeremy C. Andersen, Jin Wu, Matthew E. Gruwell, Rodger A. Gwiazdowski, S. Santana, S. N.M. Feliciano, G.E Morse, and Benjamin B. Normark	Timing the radiation of Hawaiian *Schiedea* across islands and habitats using a multiple-locus molecular clock and soft calibration boundaries Ann Willyard, Lisa Wallace, Warren L. Wagner, Stephen G. Weller, Ann K. Sakai, Molly Nepokroeff Molly	Cuticular hydrocarbons correlate with fertility, not dominance, in a paper wasp, *Polistes dominulus* Amanda S. Izzo, Michael Wells, Zachary Huang, Elizabeth A. Tibbetts	Self-incompatibility in seed plants: distribution among species Elizabeth W Boyd

Tuesday, June 24 10:30 am - 12:00 pm					
	Willey 175		Willey 125	Anderson 370	Anderson 270
	SSB Symposium		**Species Interactions III**	**Systematics VII**	**Hybridization IV**
10:30 AM	**Estimating Species Trees from Gene Trees** A species tree from 2000 gene trees of rice (*Oryza*) Karen Cranston, Michael J. Sanderson, Bonnie Hurwitz, Rod Wing	10:30 AM	Microbial diversity across the ants Jacob A. Russell, Corrie S. Moreau, Benjamin Goldman-Huertas, Naomi E. Pierce, Mikiko Fujiwara	Gene trees, morphology, and species delimitation in snubnose darters (Teleostei: Percidae) Richard C. Harrington, Thomas J. Near	Faster recovery from outbreeding depression in hybrid swarms under stress: molecular and fitness assays from a multiple generation experiment. Ann Marie S. Hwang, Suzanne Edmands
		10:45 AM	Evolution of host resistance in a toxin-producing bacterial–fungal alliance Imke Schmitt, Laila P. Partida-Martinez, Robert Winkler, Kerstin Voigt, Esra Einax, Franziska Dolz, Sabine Telle, Johannes Wostemeyer, Christian Hertweck	Phylogenetic placement of the enigmatic sturgeon parasite *Polypodium hydriforme* Nathaniel M Evans, Paulyn Cartwright	Patterns of hybridization between native red elm and invasive Siberian elm in Wisconsin Juan E. Zalapa, Johanne Brunet
10:55 AM	Novel algorithmic techniques for gene tree reconciliation in bacterial genomes Luay Nakhleh	11:00 AM	Ecological and evolutionary consequences of bacterial accumulation in aphids Nicole M Gerardo, Nicholas Crowder	Phylogenetics of notothenioid fishes inferred from mitochondrial and nuclear gene sequences Kristen L Kuhn, Thomas J. Near	Asymmetrical reproductive isolation between terminal forms of the salamander ring species *Ensatina eschscholtzii* Tom J. Devitt
11:20 AM	Gene tree-species tree relationships under the coalescent process with hybridization Laura Kubatko	11:15 AM	Effect of genetic drift in arbuscular mycorrhizal fungi (AMF) on plant growth and fungal colonization Angelard Caroline, Ian Sanders	Fast and wet: extreme rates of molecular evolution in a clade of Neotropical coral reef fishes Ron I. Eytan, Michael E. Hellberg	Recent divergence-with-gene-flow in Tennessee cave salamanders (Plethodontidae: *Gyrinophilus*) inferred from gene genealogies Matthew L Niemiller, Benjamin M. Fitzpatrick, Brian T. Miller
		11:30 AM	Cleaning mutualism in a bee-mite symbiosis Natalia B. Biani, Ulrich G. Mueller, William T. Wcislo	Phylogeny and evolution of chemosynthetic sea anemones (Anthozoa: Actiniaria) Estefania Rodriguez, MaryMegan Daly	Hybridization between genetically distinct *Oleria onega* butterfly subspecies Lisa de Silva, James Mallet
11:45 AM	Species trees: a new paradigm for molecular systematics? Scott V. Edwards	11:45 AM	Microbial mutualism with plant roots R. Ford Denison, E Toby Kiers, Will Ratcliff, Ryoko Oono, John K. Compton	Challenges and surprises in the diversification of avian schistosomes: evidence for adaptive speciation? Sara V Brant, Eric S. Loker	Hybridization and incomplete reproductive isolation between two *Enallagma* damselfly species Melissa S. Callahan, Mark A. McPeek

Tuesday, June 24 10:30 am - 12:00 pm			
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**
Life History Evolution IV	**Evolutionary Theory III**	**Sexual Selection IV**	**Plant Mating Systems IV**
Ecological speciation in Arctic charrs and whitefishes Ross Tallman	Cytoplasmic incompatibility in age-structured populations Michael Turelli	Interpopulation variation in structures used in mate recognition by *Enallagma* damselflies Laurel B. Symes, Mark A. McPeek	A field test of a model for the stability of androdioecy Stephen C. Weeks, Sadie K. Reed, Chiara Benvenuto
Selection does not favor larger body size at lower temperature in a seed-feeding beetle R. Craig Stillwell, Jordi Moya-Larano, Charles W. Fox	Crossing fitness valleys Daniel Weissman, Michael M. Desai, Daniel S. Fisher, Marcus W. Feldman	Male by female interactions and the role of natural variation in male reproductive genes Anthony C. Fiumera	Mating system evolution via selection for viability Crispin Y Jordan, Sarah P. Otto
Divergent life history strategies among the livebearing fish *Poeciliopsis baenschi* Laura E. Scott, Jerald B. Johnson	Closing in on a general model for phenotypic evolution Stevan J. Arnold, Josef C Uyeda	Sexual and natural selection on multivariate genetic variation for male ornamentation in guppies: Y matters Erik Postma, Robert C. Brooks	Mixed mating, inbreeding depression, and the dynamics of plant mating system evolution Alice A. Winn, Elizabeth Elle, Susan Kalisz
Evolution of life histories in garter snakes: physiological evolution and mechanisms of aging Anne Bronikowski, Kylie Robert	Four questions on ecological speciation addressed with individual-based simulations Xavier Thibert-Plante, Andrew P. Hendry	Divergent mating strategies drive sperm competition in deermice Heidi S. Fisher, Anna C. Bree, Hopi E. Hoekstra	Divergent among-population selection on mating-system-associated traits Elizabeth Elle
Evidence for the re-evolution of complex traits in close relatives of *Hydra* Annalise M. Nawrocki, Marcos S. Barbeitos, Paulyn Cartwright	Gene movement and the two rules of speciation Leonie C. Moyle, Matthew W. Hahn, Christopher D. Muir, Mira V. Han	Large weapons or big testes? The importance of primary and secondary sexual characters for reproductive success in the leaf beetle *Acromis sparsa* Paula A. Trillo	Selection for mixed mating by sexually transmitted diseases and other enemies Diana E. Wolf, Janette A Steets, Naoki Takebayashi
Genetic mapping of latitudinal growth differences in threespine stickleback fish (*Gasterosteus aculeatus*) Stephen A. Arnott, Sarita Balhabhadra, Declan Tobin, Dianne I Greenfield, Eduardo San Miguel Carlos Fernandez Bjarni Jonsson Christopher Secombes David M. Kingsley	How should evolutionary biologists differentiate species in multidimensional morphospace? Thomas H G Ezard, Andy Purvis, Paul N Pearson	Effects of a feminizing environmental contaminant on the mating behavior of a sex-role reversed pipefish Charlyn G Partridge, Anne A. Boettcher, Adam G. Jones	The role of inbreeding depression in the evolution of distyly from tristyly Jennifer Weber, Stephen G. Weller, Ann K. Sakai, Cesar A Dominguez, Francisco E Molina-Freaner, Juan Fornoni

Tuesday, June 24 1:30 - 3:00 pm					
	Willey 175		**Willey 125**	**Anderson 370**	**Anderson 270**
	Dobzhansky Prize		**Phylogenetic Theory & Methods II**	**Speciation IX**	**Phylogeography VIII**
1:30 PM	Evolutionary dynamics of cancer Franziska Michor (2007 Recipient)	1:30 PM	TreeTapper: Finding methodological holes Brian C O'Meara	Contrasting patterns of fine-scale population genetic structure in Lake Tanganyika's cichlid fishes Catherine E Wagner	Evolution of endemism in the Sea of Cortez: speciation and phylogeography of the estuarine goby genus *Gillichthys*. Ryan A. Ellingson, David K. Jacobs
		1:45 PM	MorphDBase: the linguistic problem of morphology and the need for a common taxon-independent ontology for morphology Peter Grobe, Lars Vogt*	Dynamics of genetic diversification in endemic amphipod crustacans from Lake Baikal Mikhail E. Daneliya, Risto Väinölä	Comprehensive rangewide phylogeography of mule deer Emily K. Latch, James R. Heffelfinger, Olin E. Rhodes, Jr.
2:00 PM	Ecological explanations for (failed) speciation Patrick Nosil (2008 Recipient)	2:00 PM	When trees grow too long: wildly incorrect branch length estimates in some bayesian phylogenies Jeremy M. Brown, Shannon M. Hedtke, Alan R. Lemmon, Emily Moriarty Lemmon	Cryptic speciation and genealogical relationships in the sea squirt *Ciona* (Ascidiacea) Marie L Nydam, Richard G. Harrison	Comparative phylogeography and hybridization of blue-footed and Peruvian boobies Scott A. Taylor, David J. Anderson, Carlos B. Zavalaga, Vicki L. Friesen
		2:15 PM	Exploring multigenic genealogical congruence in a fractal genetic system Marshal Hedin, James Starrett, Cheryl Y. Hayashi	Cryptic speciation of reef fishes in the Gulf of California Hsiu-Chin Lin, Philip A. Hastings	Evolution and maintenance of divergent lineages in an endangered freshwater fish, *Macquaria australasica* Leanne K Faulks, Luciano B Beheregaray, Dean M Gilligan
2:30 PM	**ASN Young Investigator's Symposium**	2:30 PM	Can we replace manual alignment for rRNA? An assessment of two new programs Karl M. Kjer, Roman R. Stocsits, Harald O Letsch , Bernhard Y. Misof	Investigating speciation and endemicity in Madagascar: a molecular, geographic and ecological approach Benjamin Isambert, Alfried P. Vogler	Moray eels (Muraenidae): The most widely dispersing coral reef fish? Joshua Reece
	Changing environments, species interactions, and adaptation to novel selection agents Jennifer Lau	2:45 PM	A concept of historical natural kinds Lars Vogt	Zillions of mouse lemur species: biological reality or conservation politics? Anne D. Yoder, Dave Weisrock, Rodin Rasolarison, Peter Kappeler	Modes of diversification in *Etheostoma zonale*, a widespread fish species of the North American central highlands Dominik Halas

Tuesday, June 24 1:30 - 3:00 pm			
Anderson 250	**Anderson 230**	**Anderson 210**	**Ferguson 225**
Theoretical Pop. Genetics II	**Ecological Genetics V**	**Evolution of Sex III**	**Late-Breaking Evolution I**
A fundamental relationship between genotype frequencies and fitnesses Joseph Lachance	The evolution of freeze tolerance in a historically tropical genus (*Melampus*) Alice B Dennis, Michael E. Hellberg	Sex in unexpected places: natural variation in male frequency and its role in adaptation to a novel environment in *C. elegans* Jennifer L. Anderson, Sara Carvalho, Henrique Teotonio, Patrick C. Phillips	Comparative phylogeography of the Puerto Rican frogs *Eleutherodactylus portoricensis* and *E. antillensis* (Anura:Brachycephalidae) reflects the history of distinctive habitats Brittany S. Barker, Javier A. Rodriguez-Robles, Robert B. Waide, Joseph A. Cook
Maximum likelihood estimates under the K-allele models with selection can be unstable Erkan O. Buzbas, Paul Joyce	History of polyploid evolution in a herbaceous plant, *Chamerion angustifolium* Yvette Roy, Brian C. Husband	The maintenance of sex - was Fisher right? Leonard Nunney	Comparative morphology of the concave mirror eyes of scallops Dan Speiser
Invalidity of codon-based tests for positive selection Austin L. Hughes, Robert Friedman	Testing for selectively driven divergence in a Caribbean cricket Christopher G Oakley	Evolutionary feedbacks between sex and mutation rate Daniel B Sloan, Vijay G Panjeti	TBA
Gene genealogies under strong purifying selection John R. Wakeley	Recent ecological divergence with migration in sockeye salmon (*Oncorhynchus nerka*) Scott A Pavey, Jennifer L. Nielsen, Troy R. Hamon, Felix Breden	Does meiosis facilitate a mechanism that can directly remove point mutations from an organism's germline? Virgil Reese	TBA
A dynamically restructured coalescent model of selection at many sites Jon Seger	Phylogeography of brown and red-footed boobies: can foraging range restrict gene flow in pelagic seabirds? James A. Morris-Pocock, Tammy E. Steeves, David J. Anderson, Vicki L. Friesen	The evolution of sex in artificial gene networks Ricardo BR Azevedo, Rolf Lohaus, Christina L Burch	TBA
Determining patterns of host-endosymbiont association: an identity-by-descent approach Maria E. Orive, John R. Wakeley	Population declines of North American bumble bees: insights into historical distributions and genetic diversity from natural history collections Jeffrey D Lozier, Sydney A Cameron	Viral complementation as a form of sex: when is it good and for whom? Lilach Hadany, Vladimir Leontiev	TBA

Tuesday, June 24 3:30 - 5:15 pm					
	Willey 175		**Willey 125**	**Anderson 370**	**Anderson 270**
	ASN Young Investigator's Symposium		**Phylogenetic Theory & Methods III**	**Speciation X**	**Phylogeography IX**
3:30 PM	The evolution of sex chromosomes and sexual dimorphism Judith E. Mank	3:30 PM	Evaluation of absolute model Fit using the parametric bootstrap Jennifer Ripplinger	Speciation by "hopeful monsters" in fraternal supertwins Jianyi Zhang	Phylogeography of the ant *Myrmica rubra* and its social parasite, a plausible incipient species Jenni M. Leppänen, Riitta Savolainen, Kari Vepsäläinen
		3:45 PM	Evaluating the impact of historical events on rates of diversification: a bayesian approach using cross-validation predictive densities Brian R Moore, Michael J Donoghue	Recent sympatric diversification in brood parasitic indigobirds: setting an upper limit on speciation times. Michael D Sorenson, Heather C Shull, Jeffrey M DaCosta, Kristina M Sefc, Christopher N. Balakrishnan, Robert B Payne	Phylogenetic analyses and comparative population structure of North American echinostome parasites Jillian T. Detwiler, David H. Bos, Dennis J. Minchella
4:00 PM	The impact of cannibalism and size-structure on the dynamics of communities Volker H. W. Rudolf	4:00 PM	Predicting phylogenetic signal and noise from molecular evolutionary rates Jeffrey Townsend	The consequences of allopatry for the *D. americana D. novamexicana* species pair Yasir H. Ahmed, Bryant F. McAllister	Climate control on ancestral population dynamics: insight from Patagonian fish phylogeography Daniel E. Ruzzante, Sandra J Walde, John C Gosse, Evelyn Habit, Victor E Cussac
		4:15 PM	Improved maximum likelihood analyses of protein sequences Edward L. Braun, Rebecca T. Kimball	A model of global climate change and sympatric speciation in migratory birds Alicia M Frame, Maria R Servedio	Clades within clades within clades: the scale of phylogeographic signal in the western fence lizard (*Sceloporus occidentalis*) James W. Archie, Marc Oliver Quijano
4:30 PM	Prey evolution across a complex selection mosaic Mark C. Urban	4:30 PM	Predicting elevated molecular clock rates at short time scales Grant I Peterson, Joanna Masel	Within-Island genetic divergence in Darwin's Finches: implications for speciation on a single Island Luis Fernando De Leon, Andrew P. Hendry, Eldredge Bermingham, Jeffrey Podos	Multi-locus analyses of molecular divergence in herpetofauna of the Australian wet tropics Rayna C Bell, Jason B MacKenzie, Craig Moritz
		4:45 PM	Estimating divergence time priors with complete fossil occurrence data Michael Nowak, Derrick J Zwickl, Carl Simpson	Testing the parapatric speciation hypothesis in *Eurosta solidaginis* Timothy P. Craig, Joanne K. Itami	Lineage divergence in web-toed salamanders (*Hydromantes*) Sean M. Rovito
		5:00 PM	A simple method for bracketing absolute divergence times on molecular phylogenies using multiple fossil calibration points Charles R Marshall	Genetic evidence for sympatric host races of parasitic wasps (*Diachasma alloeum*) attacking Rhagoletis flies Jeffrey L. Feder, Andrew A. Forbes	

Tuesday, June 24 3:30 - 5:15 pm 24 3:30 - 5:15		
Anderson 250	**Anderson 230**	**Anderson 210**
Molecular Evolution VIII	**Late-Breaking Evolution II**	**Late-Breaking Evolution III**
Transposable elements and promoter evolution in *Drosophila*: are heat-shock genes exceptional? Robert A. Haney, Rafal Sobota, Martin E. Feder	Phylogenetic diversification, host specificity and character evolution in *Idarnes* (Hymenoptera), exploiters of the fig-figwasp mutualism Kevin Day	TBA
Fine-scale mapping of recombination rate in *Drosophila* refines its correlation to diversity and divergence Mohamed A.F. Noor, Rob J Kulathinal, Sarah M Bennett, Courtney L Fitzpatrick	Multi-year study of multivariate linear and nonlinear phenotypic selection on floral traits of hummingbird-pollinated *Silene virginica* Richard Reynolds, Michele R. Dudash, Charles B. Fenster	TBA
Causes of autocorrelation in population genetic data: observations from *D. simulans* genomes and simulation. Phillip Nista, Matthew W. Hahn	TBA	TBA
Chromosomal rearrangements in *Drosophila americana*: geographic and DNA sequence variation Paulina A Mena, Bryant F. McAllister	TBA	TBA
Molecular population genetics of the segregation distorter complex in *Drosophila melanogaster* Daven C. Presgraves	TBA	TBA
High nucleotide divergence in developmental regulatory genes controlling chemosensory neuron subtype in *Caenorhabditis* Richard Jovelin	TBA	TBA
The evolutionary assembly of steroid receptor-hormone interactions Sean M. Carroll	TBA	TBA

Poster Sessions

Sunday June 22, 8:00-10:30 pm

Animal Mating Systems		
1	Female experience influences polyandry in tree swallows	Peter O Dunn, Linda A. Whittingham
2	The hermaphroditic freshwater snail *Helisoma trivolvis*: a model system for studying the evolutionary biology of growth and reproduction	Cynthia G. Norton
3	Whose my feathery neighbour? Fine-scale spatial genetic structure in an arid-adapted African bird	Angela Ribeiro, Penn Lloyd, Rauri C. K. Bowie
4	Depth Preference for Egg Placement in the Bluefinned Killifish (*Lucania goodei*) and subsequent effects of UV light	Benjamin A. Sandkam, Rebecca C. Fuller
5	A field test of the hypothesis that extended paternal care in *Nicrophorus* (burying beetle) yields delayed benefits	Rosemary J. Smith
Behavior & Social Evolution		
6	Dynamic polyp behavior in *Anthopleura elegantissima*: How the agent influences the group	Anthony E. D'Orazio, MaryMegan Daly, Tom Waite
7	The effect of predator diet and prey experience on antipredator behavior in the aquatic salamander *Eurycea nana*	Kristen J. Epp, Caitlin R. Gabor
8	Symmetrical Isolation: A Tale of Two Species	Celeste Espinedo
9	Variation in social development among natural isolates of the bacterium *Myxococcus xanthus*	Susanne A. Kraemer, Gregory J. Velicer
10	Using ontologies in the comparative study of behavior	Peter E. Midford
11	Does multiple mating allow social insect queens to build more diverse worker forces? - assessing the genetic and environmental components of worker size variance in French and English *Lasius niger* ant	George Papacharalambous, George W. Jackman, Else J. Fjerdingstad
12	The evolution of sex-role reversal: Do hormones mediate role-reversed sexual behavior?	Sunny K. Scobell, Adam G. Jones
Comparative Biology		
13	Comparative myology of two fish groups reflects diet and habitat diversity	W. Cal Borden
14	Phenotypic variation in the clonal killifish, *Krytolebias marmoratus*	Janet Campbell, Ryan L. Earley
15	Evolutionary shape changes in the skull of fruit-eating bats (Genus *Artibeus*): evidence from fossil and extant taxa	M. Raquel Marchán, Rich E. Strauss, Jose A. Guerrero, Carlos A. Mancina, Robert J. Baker

Development & Evolution		
16	Comparative development of tail vertebral morphology in three salamander species	Alison A. Case, Kurt. E. White, Janet L. Vaglia
17	Dietary shifts in snake evolutionary history	Timothy J. Colston, Laurie J. Vitt
18	Linking evolutionary morphology to genomics using ontologies	Paula M. Mabee, Jim Balhoff, Wasila Dahdul, Hilmar Lapp, John Lundberg, Peter E. Midford, Todd Vision, Monte Westerfield
19	Functions of the duplicate genes teashirt and tiptop during eye specification in *Drosophila melanogaster*	Rhea R. Datta, Justin P. Kumar
20	Patterns of evolutionary change in cypriniform fishes: gill arch development character coding and variability	Jeffrey M. Engeman, Ericka A. Grey, Paula M. Mabee
21	Skeletal functional morphology in tamarins (*Saguinus*) and marmosets (*Callithrix*)	Luci Ann P. Kohn
22	Evolution of placentally-expressed growth hormones in primates	Zack Papper, Natalie M. Jameson, Derek E. Wildman
23	Origin of an evolutionary novelty: the winghearts in insects	Toegel Markus, Achim Paululat, Guenther Pass
24	Evolution of shell loss in Opisthobranch Gastropods: sea hares (Opisthobranchia, Anaspidea) as a model system	Zer Vue, Christian Voolstra, Andreas Heyland, Leonid Moroz, Mónica Medina
25	Tail elongation and patterns of regional growth in three salamander species	Kurt E. White, Alison A. Case, Janet L. Vaglia
Ecology & Evolution of Disease		
26	Molecular evolution of foot-and-mouth disease virus (FMDV)	Jessica N. Cooke, Kristi M. Westover
27	Bacteria associated with the cactophilic species *Drosophila aldrichi* and *D. arizonae*	Vanessa Corby-Harris, Jorj Wager, Therese A. Markow
28	The isolation of anthrax-related candidate genes in Burchell's Zebra (*Equus quagga*) of Southern Africa.	Pauline L. Kamath
29	Social heterosis, HIV social genomes, and the onset of AIDS	Karen M. Kapheim, Peter Nonacs
30	Evolution of avian malarial parasites in geographically structured host species: a phylogenetic approach	Jess M. Moser, Garth M. Spellman
31	Vitamins and environmental entanglement	Adrian C. Williams

Education		
32	Iowa State ADVANCE program: multiple approaches to recruit and retain a diverse faculty	Bonnie S. Bowen, Fredric J. Janzen, Diane M. Debinski
33	Understanding the nature of science, a vital component to teaching evolution	Jennifer A. Collins, Judith Scotchmoor, Allen G. Collins
34	Integrating math and biological science into K-6 curricula	Susan J. Weller, Kevin Williams, Lesa Clarkson
Evolution of Sex		
35	Environmental stress and sex in geothermal bryophytes: sperm lifespan	Sarah M. Eppley, Todd Rosenstiel
36	How much does it cost a parasitoid to be unmated?	Richard F. Green
37	Sex-linkage and reproductive fitness variation in *Drosophila americana*	Rebecca A. Hart-Schmdit, Bryant F. McAllister
38	Plant life cycle evolution and the costs of sex	Jeffrey P. Hill
39	Red Queen Hypothesis supported by the distribution of male snails in New Zealand streams	Kayla C. King, Curtis M. Lively
40	Does heritable variation in body composition affect dietary preference in a freshwater snail (*Potamopyrgus antipodarum*)?	Madelyn E. Mayry, Maurine Neiman, Katherine M. Theisen, Adam D. Kay
Experimental Evolution		
41	Effects of selection for thermotolerance on the cost of mating in *Drosophila melanogaster*	Amy L. Dapper, George W. Gilchrist
42	Cockroaches drunkards and climbers: modeling the evolution of simple movement strategies using digital organisms	Wesley R. Elsberry, Laura M. Grabowski, Robert T. Pennock
43	Cellular network dynamics and evolution: a stochastic model of gene regulation in yeast	Alex K. Lancaster, Mark L. Siegal, Joanna Masel
Genomics & Proteomics		
44	Regulatory evolution of anaerobiosis in the Enterobacteria	Jennifer Apodaca, Jeremy D. Glasner, Patricia J. Kiley, Nicole T. Perna
45	Comparative genomics hybridization: approaching genomic differences in *Astyanax mexicanus* cave and surface morphs	Martina Bradic
46	Recombination rate divergence among closely related species	Beth L. Dumont, Bret A. Payseur
47	Global microsatellite variations correlate with neurological and morphological features that distinguish humans and chimpanzees	Cristi L. Galindo, Michael A. Skinner, Randy Gelhausen, Neil Kumar

48	Exon divergence in *Gossypium*	Joshua A. Udall, Lex E. Flagel, Jonathan F. Wendel
49	Will your favorite genome be sequenced?	Jeffrey L. Boore, Susan I. Fuerstenberg
Invasive Species		
50	Suppression of mayapple pollination success by garlic mustard: a third way in competition for pollination	James E. Crants, Beverly J. Rathcke
51	Genetic variation of clonal invasive water weed, *Elodea canadensis*	Tea Huotari, Helena Korpelainen
52	Evolution of anti-predator defenses in larvae of a native frog (*Pseudacris regilla*) in response to an invasive predator	Katherine M. Pease, Robert K. Wayne
53	Genetic characterization of species, invasion, and hybridization: a bittersweet (*Celastrus* spp.) story	David N. Zaya, Stacey Leicht-Young, Noel B. Pavlovic, Mary V. Ashley
Life History Evolution		
54	Evolution of life histories in garter snakes: interactions of sex and behavior with genes for fast and slow growth	Jeremy Chamberlain, Anne Bronikowski
55	Competition and life history variation between two topminnow species in a mesocosm experiment	David D., Duvernell, Leah Gaines, Mallory Miller, Brian Kreiser, Jake Schaefer
56	Maternal effects influence life history evolution: Cross-generation associations between flowering phenology and timing of germination	Laura F. Galloway, Kevin S. Burgess
57	Does developmental rate affect optimal maternal investment? Matrotrophy explored with a dynamic model.	Rebecca E. Hale, Joseph Travis
58	Natural variation in the reproductive lifespan in *Erysimum capitatum* (Brassicaceae)	Eunsuk Kim, Kathleen Donohue
59	Mast flowering in three dominant prairie grasses: a 22-year record from Konza prairie	Mark J. McKone, Amy O. Alstad, David S. Smith, Hannah M. Specht
60	Evolution of life histories in garter snakes: morphology, performance and fitness	Matthew Morrill, Anne Bronikowski
61	Quantitative genetics of sexual dimorphism in bighorn sheep: ontogenic patterns	Jocelyn Poissant, Alastair J. Wilson, Marco Festa-Bianchet, David W. Coltman
62	*Caenorhabditis remanei* as the perfect "aging" organism: genetic variation in lifespan, oxidative stress response, and the insulin signaling pathway	Rose M. Reynolds, Richard Jovelin, Jennifer Comstock, Tyrel Love, Patrick C. Phillips
63	Functional genomics of intermediary metabolism in a wing polymorphic cricket	Rudolf J. Schilder

64	Effects of predation on morphology and life history traits in the livebearing fish *Poecilia gillii*	Nicole Schoonmaker, Greg Kiene, Jared Lee, Jerald B. Johnson
Phylogeography		
65	Temperature variability and the effectiveness of topographic barriers in the tropics: a case study in Andean mice	Diego F. Alvarado-Serrano
66	A preliminary assessment of multi-species phylogeographic signal in the central corridor of the Brazilian Atlantic rainforest	Roberta P. Damasceno
67	Phylogeography of the Ozark Minnow (*Notropis nubilus*); post glacial expansion in the Paleozoic Plateau	Jason F. Dugan, Peter B.-Z. Berendzen
68	Monopolization hypothesis in freshwater ponds: is the large bank of resting stages the key feature?	Diego Fontaneto, Timothy G. Barraclough, Elisabeth A. Herniou, Katherine Castillo, Kimberly Chen
69	Comparative phylogeography of two Antarctic ophiuroids using microsatellite and mtDNA data	Rebecca L. Hunter, Scott R. Santos, Kenneth M. Halanych
70	Ecological niche evolution in the *phyllosoma* and *dimidiata* complexes (Triatominae: Reduvidae: Hemiptera) the major vector groups of Chagas diseases in Mexico	Carlos N. Ibarra-Cerdena, Enrique Martinez-Meyer, A. Townsend Peterson, Victor Sanchez-Cordero, Janine M. Ramsey
71	Understanding cryptic divergence in the common North American ground skink (*Scincella lateralis*)	Nathan D. Jackson, Christopher C. Austin
72	Genetic diversity of flowering Dogwood (*Cornus florida* L.) in the southeastern United States using microsatellites	Denita H. Johnson, Xinwang Wang, Robert N. Trigiano, Benjamin M. Fitzpatrick, Timothy A. Rinehart Bonnie Ownley, Qui-Yun Xiang
73	By land or by sea? A microsatellite analysis of Hawaiian *Megalagrion* damselfly gene flow	Brandon R. Jones, Isabel Junkin, Steve Jordan
74	Phylogeographic relationships among visually polymorphic populations of the Australian common froglet *Crinia signifera*.	Jean Kwon
75	Finding congruence between cranial morphology and mitochondrial phylogeography using multivariate treescan in the common vampire bat *Desmodus rotundus* (Chiroptera, Phyllostomidae).	Felipe Martins, Taylor J. Maxwell, Alan R. Templeton, João S. Morgante
76	Chloroplast DNA variation among populations of American basswood, *Tilia americana*	Diane M. McCarthy, Roberta J. Mason-Gamer
77	Patterns of genetic variation at 20 nuclear introns in Holarctic gadwalls (*Anas strepera*)	Jeffrey L. Peters, Kevin G. McCracken, Kevin Winker

78	A phylogeographic analysis of the Neotropical ant *Cephalotes atratus*	Shauna L. Price, Lucy A. P. Tran, Robert K. Wayne
79	Phylogeography of California Channel Island *Eriogonum*	Lynn Riley, Mitchell E. McGlaughlin, Kaius Helenurm
80	Population genetics of the threatened orchid *Isotria medeoloides*	Judy L. Stone, Phillip A. Crystal,
81	A comparison of genetic variation between populations of pocketbook and pimpleback mussels (Subfamily Ambleminae) above and below the St. Croix Falls dam (Minnesota/Wisconsin, USA)	Suzy C. Szumowski, Sarah L. Boyer, Daniel J. Hornbach, Mark C. Hove
82	Phylogeography and systematics of Baja California pocket gophers	Ana L. Trujano, Sergio T. Alvarez
83	Comparison of larval distribution patterns, geographic range, and genetic variability in North American fiddler crabs (Uca: Ocypodidae)	Alexa R. Warwick, Peter B.-Z. Berendzen, Carl L. Thurman
84	Molecular characterization of a Neotropical vertebrate hybrid zone: the case of the polyphyletic butterfly peacock bass	Stuart C. Willis, Izeni P. Farias, Guillermo Orti
Plant Mating Systems		
85	Differential effects of inbreeding on tolerance to simulated herbivory in two populations of the self-compatible herb *Datura stramonium*	Rafael Bello-Bedoy, Juan Nunez-Fafan
86	Plant size and sex allocation in *Clarkia* species (Onagraceae)	Veronique Delesalle
87	Fitness differences among floral morphs of *Fuchsia encliandra* (Onagraceae) a subdioecious species from central Mexico	Lislie Solis Montero, Cesar Dominguez Perez Tejada
88	Segregation of AFLP markers for mating system analysis in *Delphinium*	C.F. Rick Williams
Sexual Selection		
89	Sex in the city: the frequency and consequences of extrapair behavior in two divergent songbird (*Junco hyemalis*) populations following the recent colonization of a novel environment	Jonathan W. Atwell, Danielle J. Whittaker, Goncalo C. Cardoso, Ellen D. Ketterson
90	Sexual selection in diverging populations of a Caribbean cricket	Tatyana Y. Fedina, L. Lacey Knowles
91	Parasite-mediated sexual selection in the house cricket *Acheta domesticus*	Heather M. Hahn, Kenneth M. Fedorka
92	Good genes and sexual selection in *Drosophila melanogaster*: ancestral and novel environments	Kelsie M. MacLellan, Howard D. Rundle
93	Male behavior and female size in the stream-anadromous stickleback complex	Nick Hamele, Nicole Frey, Jeffrey S. McKinnon

94	The effect of novel male ejaculate on female immune response in *Drosophila melanogaster*	Cheryl A. Pinzone, Kenneth M. Fedorka
95	Sperm competition risk and ejaculate investment in *Drosophila melanogaster*	Brian M. Ware, Kenneth M. Fedorka
96	Sexual dimorphism in the *Drosophila melanogaster* transcriptome	Minyoung J. Wyman, Locke Rowe, Aneil F. Agrawal
97	No evidence for genetic correlations between natural variation in male body size and sperm competition phenotypes in *Drosophila melanogaster*	Rui Zhang, Anthony C. Fiumera
98	Reaction norm variants for male calling song in natural populations of *Achroia grisella* (Lepidoptera: Pyralidae): towards a resolution of the lek paradox	Yihong Zhou, Heidi K. Kuster, Jeffrey S. Pettis, Robert G. Danka, Jennifer M. Gleason, Michael D. Greenfield
Undergraduate Research		
99	Molecular evolution of a *Drosophila* homolog of human BRCA2	Sarah M Bennett, Mohamed A.F. Noor
100	Spine vs. no spine: a genetic comparison of morphological variation in the East African Small Barb, *Barbus paludinosus*	Alexandra M. DeWitt, Kathryn Berge, Peter B.-Z. Berendzen
101	Genetics of red throat coloration in female Threespine Sticklebacks: initial results	Emily Castellanos, Kenneth Formby, Jeffrey S. McKinnon
102	Biogeographic review of sea anemones (Cnidaria: Anthozoa: Actiniaria) endemic to the deep Pacific Ocean and their relationship to major sites of hydrothermal vents and cold seeps	Christopher Castorani, Marymegan Daly, Estefania Rodriguez
103	Evolution of life histories in garter snakes: interactions of sex and behavior with genes for fast and slow growth	Jeremy Chamberlain, Anne Bronikowski
104	Phylogeography and patterns of genetic connectivity of *Siamosquilla laevicaudata* (stomatopod) in the Indo-West Pacific	Samantha Cheng, Paul Barber
105	Phylogeny and biogeography of a cryptically diverse assemblage of Wallacean geckos (*Cyrtodactylus*)	Rececca A. Chong, Jimmy A. McGuire
106	Phylogeny of *Dictostelium discoideum* based on DNA Sequence: verifying a model organism.	Tracy Edwards, Marcus R. Kronforst, Joan Stassman, David C. Queller
107	Between-island speciation of an endemic hawaiian herbivore	Michael Fenster, Jonathan M. Brown
108	Division of labor in the fire ant *Wasmannia auropuntata*	Rafael Fernandez-Casa, Bert Rivera-Marchand
109	A nuclear phylogeny of Hawaiian tephritids	Margaret Funk, Jonathan M. Brown

110	PCA and bird song: a data driven approach	Robert E. Furrow, Rima Izem, Patrick J. Wolfe
111	Effects of habitat on condition and microgeographic distribution of two closely related topminnow species	Patricia A. Gerstenecker, Jake Schaefer, David D. Duvernell
112	Let it bee: phylogeny of the *Biareolina*, *Scrapteropsis*, and *Trachandrena* subgenera of *Andrena* (Hymenoptera: Andrenidae) based on five molecular loci	Sarah P. Guilinger, Leah L. Larkin
113	Population genetics of Caribbean *Drosophila melanogaster*	Roman Yukilevich, Lawrence Jung, John R. True
114	Detecting targets of selection and determining demographic parameters during freshwater invasions by the copepod *Eurytemora affinis*	Brian Metzger, Marijan Posavi, Carol E. Lee
115	Genetic and morphological comparisons of high-elevation endemic *Mimulus tilingii* and widespread *Mimulus guttatus*	Mai Nakamura, Carrie A. Wu, David Lowry, John H. Willis
116	Behavioral plasticity of queens in the little fire ant *Wasmannia auropunctata*	Yarira Ortiz-Alvarado, Bert Rivera-Marchand
117	Mate preference as a form of reproductive isolation in two Topminnow species	Brian D. Schoeneck, David D. Duvernell
118	A jackknife approach to tuning GIS models of species geographic distributions and estimating niche evolution: tests with pocket mice (*Heteromys*) in South America.	Mariya Shcheglovitova, Robert P. Anderson
119	Evidence for changing base composition in human papillomaviruses	Melanie J. Smith, Richard M. Kliman
120	The evolution and design of a unique feeding mechanism: asymmetry in Lake Tanganyika scale eating cichlids	Thomas Stewart, R. Craig Albertson
121	The effect of radiation on immune function in the Madagascar Hissing Cockroach (*Gromphadorhina portentosa*)	L. Jessamine Stone
122	Do small mammals inhabit novel climatic conditions on the Península de Paraguaná in northwestern Venezuela? Insights from GIS modeling.	Darla M. Thomas, Eliecer E. Gutierrez, Robert P. Anderson, Jose Ochoa-G., Marisol Aguilera
123	A multilocus assessment of genetic differentiation within Australian rainforest skinks of the genus *Glaphyromorphus*	Diane Truong, Craig Moritz
124	The Intact LTR Retrotransposons of maize and their non-autonomous counterparts.	Naadirau Upshaw, Regina S. Baucom, Jeffrey L. Bennetzen
125	DNA sequence variation at the CO1 locus of *Strombus gigas* and *S. alatus*	Rachel M. Vereneck, Richard M. Kliman
126	Temporal trends in mercury exposure and stable isotope profiles in a pelagic seabird, the Black-footed Albatross (*Phoebastria nigripes*)	Elaine Vo, Michael Bank, James P. Shine, Scott V. Edwards

127	The effects of swimming on male longevity in Clam Shrimp	Bethany F. Wallace, Stephen C. Weeks
128	Population structure in pooled samples of nematodes collected from sweat bee hosts	Jessica Wignall
129	*Drosophila* as a model for metabolic syndrome: natural variation for genotype by environment interaction underlying hemolymph sugar concentrations	Stephanie Williams, Laura K. Reed, Greg Gibson

Monday June 23, 8:00-10:30 pm

Adaptation		
130	Strength of selection under harsh vs. benign environmental conditions	Sean C.A. Clark, Locke Rowe, Aneil F. Agrawal
131	Evidences for local adaptation in Alpine minnows (*Phoxinus phoxinus*) populations	Helene Collin, Luca Fumagalli
132	Adaptive body shape divergence of various species of pupfish	Michael L. Collyer
133	Adaptive evolution of highly expressed gene in the human placenta from Eutheria divergence leading to human	Zhuocheng Hou, Uddin Hou, Gabor Nandor, Roberto Romero, Derek E Wildman
134	The evolution of novel traits: measurements of selection on floral traits in two species of milkweed	Raffica J. La Rosa, Jeffrey K. Conner
135	Targets of selection during a fundamental niche expansion	Marijan Posavi, Gregory Gelembiuk, Brian Metzger, Brian D. Eads, Carol Eunmi Lee
136	Evolutionary loss of a highly conserved trait: variation in stamen number in native *Arabidopsis thaliana* populations	Anne M. Royer, Jeffrey K. Conner, Douglas W. Schemske
137	The evolution of floral pigmentation in the wildflower genus *Penstemon*	Carolyn A. Wessinger, Mark D. Rausher
138	Evolution of starch synthesis pathway in rice	Guoqin Yu, Kenneth M Olsen, Barbara Schaal
Biogeography		
139	Impact of climate change on Monarch butterflies	Rebecca V. Batalden, Karen S. Oberhauser, A. Townsend Peterson
140	Ecological niche prediction on a continental scale: a test case using an agricultural pest, the plum curculio beetle (Coleoptera: Curculionidae)	Samuel N. Crane
141	Molecular phylogeny and historical biogeography of Touit Parrotlets	Esther Quintero, Camila C. Ribas, Joel L. Cracraft
142	Diversification rates within Neotropical parrots	Erin E. Schirtzinger
Bioinformatics & Phyloinformatics		
143	Genome-based phylogeny of the genus *Prochlorococcus*	Haiwei Luo, Jijun Tang, Robert Friedman
144	Dinucleotide model implementation using conditional pathway method	Wanjun Gu, Todd A. Castoe, Jason De Koning, David D. Pollock
145	Linking evolutionary morphology to genomics using ontologies	Paula A. Mabee, Jim Balhoff, Wasila Dahdul, Hilmar Lapp, John Lundberg, Peter Midford, Todd Vision, Monte Westerfield

146	The CIPRES portal for tree inference	Mark A. Miller, Mark T. Holder, Terri Liebowitz, Tandy Warnow, Lucie Chan, Rutger Vos, Peter Midford, Paul Hoover
147	Glycoside Hydrolase Family 28: A Functional Evolutionary Analysis	Daniel D. Sprockett, Christopher B. Blackwood, Helen Piontkivska
148	SeqCleanR: a tool for scanning, editing and identifying diagnostic characters in large homologous DNA sequence data sets prior to analysis of sequence variation	Taika E. von Konigslow, Daniel Ashlock, Paul D. N. Hebert
149	Abundant indispensable redundancies in cellular metabolic networks	Zhi Wang, Jianzhi Zhang
Coevolution		
150	Temperature dependent parasite effects: Infectivity, growth rate, or both?	Desiree E. Allen
151	The coevolution theory of autumn colors - an update	Marco Archetti
152	Local adaptation and specialization in a plant-fungus pathosystem	Thomas M. Chappell
153	Local adaptation in a complex world	Britt L. Koskella
154	The influence of infection genetics on host shifts	Virginie Poullain, Scott L. Nuismer
155	Physiological resistance of grasshopper mice to bark scorpion venom: have the scorpions countered back?	Ashlee H. Rowe, Matthew P. Rowe
Community Ecology		
156	Physiochemical attributes and branchiopod communities of ephemeral pools of SW Western Australia	Alissa Calabrese, Stephen C. Weeks, Brenton Knott
157	Niche expansion and the niche variation hypothesis: Does the degree of individual variation increases in lower richness assemblages?	Gabriel C. Costa, Daniel O. Mesquita, Guarino R. Colli, Laurie J. Vitt
158	The WPD statistic: A new approach for testing the relative abundance structure of communities in a phylogenetic context	Dean De Cock, Jon C. Gering, Tracey A. Blasingame, Nathan V. Whelan, Bryan Hartwig
159	Application of molecular tools toward understanding patterns and driving forces in marine ciliate assemblages	Mary Doherty, Barbara A. Costas, George B. McManus, Laura A. Katz
Ecological Genetics		
160	Evidence for mitochondrial heteroplasmy in Yellow Monkey Flower (*Mimulus guttatus*)	Eric R. Floro, Andrea L. Case

161	Physiology and genetics of natural variation in thermal preference in *C. elegans*	Bryn E. Gaertner, Michelle D. Parmenter, Jennifer L. Anderson, Patrick C. Phillips
162	Differentiation in venom proteins between populations of *Sistrurus* rattlesnakes	H. Lisle Gibbs, James Chiucchi
163	Gene expression in ecologically meaningful contexts: evolution of plant defenses in competitive environments	Riston H. Haugen, David H. Siemens
164	Detecting selection on drought tolerant candidate gene loci in the climate sensitive species *Pinus edulis*	Greg A. Hitzroth, Amy Whipple
165	Investigating the genetic basis for petal spot polymorphism in *Clarkia gracilis* (Onagraceae)	Talline R. Martins, David A. Baum
166	Experimental light manipulation influences endopolyploidy, morphology and physiology	Kyle S. Snell, Julie R. Etterson
167	The association among body phosphorus, RNA and growth rate in *Potamopyrgus antipodarum*, a New Zealand freshwater snail.	Katherine M. Theisen, Maurine Neiman, Madelyn E. Mayry, Adam D. Kay
168	Adaptive variation in response to climate among populations of *Pinus ponderosa*	Marcus V. Warwell
169	Comparison of two genetic restoration methods - a simulation approach	Tina M. Weier
Empirical Population Genetics		
170	Divergence in host plant use and historical demography in the grasshopper *Hesperotettix viridis*	Jennifer L. Apple, Anthony Joern, Paul St. Amand, Tony Grace, Gregory A. Sword, Samantha M. Wisely
171	Population genetic structure of the prairie dog flea *Oropsylla hirsuta*	Philip H. Jones, Hugh B. Britten, Lisa Wallace
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