

November 4, 2008

**ANT COURSE 2009**  
<http://www.antweb.org>

Southwestern Research Station (SWRS), Portal, AZ, USA August 6-16, 2009

**DEADLINE FOR APPLICATION: April 1, 2009**

**Application form:**

[http://spreadsheets.google.com/viewform?key=pJ5tAoQvQvQ-GA\\_IFRxxdZA](http://spreadsheets.google.com/viewform?key=pJ5tAoQvQvQ-GA_IFRxxdZA)

**COURSE OBJECTIVES.** – ANT COURSE is designed for systematists, ecologists, behaviorists, conservation biologists, and other biologists whose research responsibilities require a greater understanding of ant taxonomy and field research techniques. Emphasis is on the identification of the ant genera and species occurring in North America. Lectures will include background information on the ecology, life histories and evolution of ants. Field trips are structured to teach collecting and sampling techniques, and associated lab work provides instruction on specimen preparation, sorting and labeling. Information on equipment/supply vendors, literature, and myrmecological contacts are also presented.

**COURSE SIGNIFICANCE.** – Ant Course is a unique opportunity to acquire training that is unavailable elsewhere. This course will provide students with 1) the confidence and skills to identify the ant genera of North America; 2) an understanding of modern specimen processing and curation techniques; 3) an appreciation for the biological diversity of ants, and 4) experience keying to the species level.

**SPONSORS.** –California Academy of Sciences and Museum of Comparative Zoology, with funding in part from National Science Foundation.

**BACKGROUND INFORMATION.** – ANT COURSE will be taught from August 6 – 16, 2009 at the Southwestern Research Station (SWRS) in Portal Arizona (<http://research.amnh.org/swrs/>). The Station is centered amid the richest ant fauna in North America. This is an ongoing course, offered annually.

**PARTICIPANT ACCEPTANCE CRITERIA.** – ANT COURSE is open to all interested individuals. Priority will be given to those students for whom the course will have a significant impact on their research with ants. An entomological background is not required. We aim to include students with a diverse interest in biology, including ant systematics, ecology, behavioral biology, genetics, and conservation. The high instructor to student ratio will allow students to receive individual attention. ANT COURSE is presented in English and limited to 30 participants

**COSTS.** – Tuition for the 10-day COURSE is \$475 for current students and \$675 for non-students. In addition, the Southwestern Research Station (SWRS) fee for this period, covering dormitory room and board, is \$600. Transportation costs between home and Tucson (air) or SWRS (auto) are to be borne by all participants.

**FELLOWSHIPS.** – Four fellowships are available for 2009. Two fellowships cover tuition fees and two fellowships cover station fees. Foreign students may apply for additional fellowships to assist in travel. Those interested in attending the course should seek all possible avenues to secure funding for the course. You should only apply for the Ant Course fellowship if you can not find other support and it is essential for your participation in the course. Beware that if you apply for an ant course fellowship it implies that fellowship funding is essential to your participation in the course. Thus, if you are not selected for a fellowship, you might not be accepted into the course. Please notify the course if your funding request status changes before the application due date.

**COURSE APPLICATION.** – Application and course information at <http://www.antweb.org>. The first step is to fill out a form at: [http://spreadsheets.google.com/viewform?key=pJ5tAoQvdvQ-GA\\_IFRxxdZA](http://spreadsheets.google.com/viewform?key=pJ5tAoQvdvQ-GA_IFRxxdZA) In addition, you must also submit a CV, personal statement, and letter of reference to 2009AntCourse@gmail.com.

**2009 Possible INSTRUCTORS:**

**Brian Fisher (Coordinator)**, Dept. of Entomology, California Academy of Sciences, San Francisco, CA, [bfisher@calacademy.org](mailto:bfisher@calacademy.org)

**Stefan Cover (Coordinator)**, Museum of Comparative Zoology, Harvard University, Cambridge, MA, [cover@oeb.harvard.edu](mailto:cover@oeb.harvard.edu)

**Lloyd Davis**, Gainesville, FL, [ants@gru.net](mailto:ants@gru.net)

**Mark Deyrup**, Archbold Biological Station, P.O. Box 2057, Lake Placid, Florida 33862 USA, [mdeyrupt@archbold-station.org](mailto:mdeyrupt@archbold-station.org)

**Bob Johnson**, Dept. of Biology, Arizona State University, Tempe, Arizona,  
atraj@imap1.asu.edu

**Mike Kaspari**, Dept. of Zoology, University of Oklahoma, Norman OK,  
mkaspari@ou.edu

**Joshua King**, Department of Biological Science, Unit 1, Chieftain Way, Florida  
State University, Tallahassee, FL 32306-4370, jking@bio.fsu.edu

**Jack Longino**, Lab I, The Evergreen State College, Olympia WA,  
longinoj@evergreen.edu

**Corrie Moreau**, Division of Insects, Department of Zoology, Field Museum of  
Natural History, 1400 South Lake Shore Drive, Chicago, IL 60605,  
cmoreau@fieldmuseum.org

**Andrew Suarez**, Departments of Entomology and Animal Biology, University of  
Illinois, Urbana, IL, avsuarez@life.uiuc.edu

**James Trager**, Shaw Nature Reserve, Gray Summit MO,  
James.Trager@mobot.org

**James Traniello** Boston University Department of Biology, 5 Cummington  
Street, Boston, MA 02215 <jft@bu.edu>

**Walter Tschinkel** Department of Biological Science Florida State University  
Tallahassee, FL, tschink@bio.fsu.edu

**Phil Ward**, Department of Entomology, University of California, Davis, CA,  
psward@ucdavis.edu

### **Special Guests**

**Bert Hölldobler**, Dept. of Biology, Arizona State University, Tempe, Arizona

**Raymond Mendez**, Work as Play, Portal AZ, workasplay@vtc.net

**Howard Topoff**, SWRS, P.O. Box 16553, Portal AZ, HTopoff@vtc.net

## **ANT COURSE 2009**

### **APPLICATION FOR ADMISSION**

#### **DEADLINE FOR APPLICATION: April 1**

Application Guidelines: a complete application must include:

(1) Online form:

[http://spreadsheets.google.com/viewform?key=pJ5tAoQvdvQ-GA\\_IFRxxdZA](http://spreadsheets.google.com/viewform?key=pJ5tAoQvdvQ-GA_IFRxxdZA)

(2) Your curriculum vitae;

(3) A letter which describes 1) your research interests and future plans together with 2) a statement of your reasons for wishing to participate in the course;

As this statement will be used to evaluate your suitability as a Course participant, be sure to respond thoughtfully and in some detail. Note: The most important criteria for selecting students is **your** explanation as to how the course will impact your current and future research activities with ants.

(4) One letter of reference from a professor or colleague familiar with your work

CV, statement, and letter of reference must be emailed to 2009AntCourse@gmail.com.

#### **DEADLINE FOR APPLICATIONS: APRIL 1, 2009**

On April 1, you will be notified that your application is complete. If you do not receive a confirmation that your application has been received, please contact Brian Fisher. You will be notified of your acceptance to the Course by APRIL 15.

ANT COURSE is limited to 30 participants. Selection of participants will be carried out by committee, based on your reasons for wishing to take the course at this time. Priority will be given to those students for whom the course will have a significant impact on their research with ants. Because the Course will be offered yearly, and because many well-qualified candidates cannot be accepted because of limited capacity, we urge applicants not selected for this session to apply again the following year.

*Revised November 4, 2008*

## ANT COURSE 2009 LOGISTICS AND PREPARATION

### Overview of Southwest Research Station

A brief account of the SWRS facilities, environment, and other introductory information is provided on the Station's web site at

<http://research.amnh.org/swrs/>. Also, visit the Ant Course yearbook (2001, 2002, 2003, 2005, 2007) for images of the field station, instruction room and dorms: [http://research.calacademy.org/research/entomology/ant\\_course/yearbook.php](http://research.calacademy.org/research/entomology/ant_course/yearbook.php).

NOTE: Four to five participants (of same gender) will be housed in very comfortable, dormitory-style cabin rooms, each with separate bathroom/shower facilities. Individuals who might have a problem with sharing such accommodations should reconsider their involvement in the course. Ear plugs may be a good idea. You may also bring a tent and sleep near the cabins. Those sleeping in tents will be charged the same dormitory station fee, which covers all meals, access to showers, towels, and general use of station facilities.

Misc. information: the Station provides laundry facilities (washer, dryer, and detergent) for free. Your station fees cover three meals a day. Veggie meals can be provided but this *must be arranged in advance* by noting this request on your application. Contact the station directly for addition concerns about food and housing: [swrs@amnh.org](mailto:swrs@amnh.org), tel: 520-558-2396.

### Getting to the Station

ANT COURSE 2009 travel day for arrival is Thursday, August 6. The departure travel day is Sunday, August 16. There are limited pick-up and return times for those wanting a ride from or to the Tucson International Airport on Aug. 6 and August 16, respectively. The Course will provide transportation to and from the station at the scheduled times only. If these times do not work with your travel schedule, we advise you to arrange your own transportation. Driving time between the Tucson International Airport and SWRS is approximately 3 hours one way. If you miss the last shuttle, you must rent a car and drive to the station. Those traveling from outside the USA should consider arriving a day early and spending the night near the airport (see below)

**Flying.**—If you are flying into Tucson International Airport, vans will be waiting for pick-ups at 12 noon and at 4:00 p.m. The meeting area will be in front of the **American Airlines ticket counter on the airport's upper level**. Instructors will be waiting for you there, standing next to "ANT COURSE" sign.

If you encounter difficulty in scheduling an arrival time before 4:00 p.m. on August 6, you may want to consider arriving in Tucson on August 5, staying overnight at one of the nearby airport hotels, and then taking a short taxi ride to the airport the next day. It is much cheaper to stay the night in a hotel the night before than to rent a car for 10 days if you miss the last shuttle. A good hotel is the Best Western Inn at the Airport, 7060 South Tucson Boulevard, Tucson, Arizona 85706; (520) 746-0271. Your other option is to rent a car and drive to the station.

As always happens, planes get delayed. If you encounter significant travel problems on August 2, please contact the Research Station at (520) 558-2396 as soon as you can. Instructors at the airport on the 2nd will be calling the Station to learn of any travel problems. NOTE: Brian Fisher and Stefan Cover will arrive at the Station on August 3, so any problems or questions during the week prior to the course should be directed to them at the Station.

For those flying out of Tucson, transport to the airport will be available on Friday, August 16. Vans will leave the Station at 9:00 a.m. and should arrive at the airport around noon on Aug. 12. Therefore, departing flights should NOT be scheduled that leave before 1:00 p.m.

**Driving.**—If you are driving to the Research Station via Tucson, the Station's web site provides the following instructions: "Interstate Highway 10 to N.M. 80 (Road Forks, N.M.), 25 mi south to turnoff west to Portal (N.M. 533). The Station is 5 mi west of Portal, by paved road, in Cave Creek Canyon, Cochise Co., Arizona." SWRS is approximately 3 hours from Tucson and 5 hours from Phoenix.

**IMPORTANT:** Be sure to take Route 80 off of Highway 10, only AFTER you cross the border from Arizona into New Mexico. This is an easy mistake. \*\* Also, note that the "5 mi west of Portal" is a long 5 miles. The road is narrow and full of curves and turns. The Station will be on the left-hand side of the road and is marked by a sign.

### **Costs**

Note that the course costs exceed tuition paid by students. In effect, all students receive a scholarship thanks to generous ant course donors. Foreign students may apply for additional fellowships.

1. Tuition Fee: \$475 for students and \$675 for nonstudents
2. Station Fee: \$600, covers room and 3 meals a day

3. Transportation to and from Tucson, AZ is additional. Students are expected to make their own travel arrangements.
4. Personal expenses are additional. Snacks, drinks, food at airport. Estimated \$30.

Paying course tuition fees

Tuition fees (\$475 for students and \$675 for nonstudents) should be paid **by July 1**.

Ant Course accepts checks, money orders or visa. We do not accept PO's. Please make checks or money orders (in US currency) payable to California Academy of Sciences- Ant Course Fund. Reminder, PO's are NOT accepted. Receipts and invoices for tuition, if needed, can be obtained during the course or by emailing Jocelyn Ma <jma@calacademy.org>.

Send check or money order payment to:

Jocelyn Ma  
Ant Course Tuition  
Dept. of Entomology  
California Academy of Sciences  
55 Music Concourse Drive  
San Francisco, CA 94118

For VISA payment of tuition, send the following information and your **signature** via fax or pdf to Jocelyn Ma [jma@calacademy.org](mailto:jma@calacademy.org); FAX(415) 379-5715

Card type: Visa/MasterCard/American Express (we only take these 3 types)

Card number: For Visa/MC usually 16 digits long,

American Express 15 digits long

3 digit code on the back of the card

Card expiration date: Month/Year

Name as it appears on the card

Signature of card holder

We ask for the following in order to confirm that the cardholder name, address and zip code match what the issuing card has on file:

Cardholders Street address:

Cardholders Zip Code:

Total dollar amount to charge in US dollars

Paying Station fees

Students are expected to pay Station fees, estimated at \$600 covering room and board (3 meals a day), on the first day at the station Aug 6/7. The Station fees must be paid by cash, credit cards, traveler's checks, cashiers checks or money orders (in U.S. dollars). The station does not accept personal checks.

**Course preparation**

You should: (1) purchase necessary supplies (see below) and (2) review ant terminology. The morphological terminology and ant classification used in the course follows Bolton 1994 (Identification guide to the ant genera of the world. Harvard Univ. Press, Cambridge, MA;.). A copy of the morphology section of Bolton 1994 (pages 191-201) will be sent to students so that students can study the terminology section

**What to bring**

The following supplies will be available to all students for use during the course. Individuals who have supplies of their own are encouraged to bring them.

Point punch

Paper and glue (Franklin Hide glue) for mounting

Pinning block

Pooter

13 microscopes (17 students must bring their own microscope).

The following items are things that you are expected to bring:

Some of the following supplies are available from BioQuip Products (see <http://www.bioquip.com/> for ordering and further information).

2 fine forceps [BioQuip #4524 Rubris #5]

2 featherweight forceps [one Bioquip #4748, and one #4750]

1 aspirator [BioQuip #1135A]

2 insect storage boxes [BioQuip #1009 or #1001]

200 insect pins #3 [BioQuip #1207S or #1202S]

1 indelible ink Pigma pen (for writing labels) [BioQuip #1154E]

Microscope. Students are required to borrow or rent a microscope from their home institution. It is critical that the scope magnifies at least 40x. This is not required for foreign participants. Notify us if extraordinary circumstances

make it impossible for you to bring a microscope and illuminator. There are 13 microscopes and illuminators available at the station. Foreign students will have first priority for use of these scopes during Ant Course.

1 pair scissors, fine point for cutting labels

Sturdy trowel or small shovel

Notebook for course lectures, labs and seminars

Field notebook for use in the field [a small, hardcover notebook works best]

Flashlight or Headlamp [areas of the Station are very dark at night - flashlights are important; Headlamps are useful for black lighting]

Sweater and/or jacket [evenings can get quite cool]

Rugged footwear

Rain gear [when it rains, it pours]

Sun lotion

Alarm clock

Water bottle

Collecting bag or small backpack to carry gear in field.

Small vials for collecting ants

Cash [for local personal purchases; there are no local ATM machines or banks]

The following items are things that you might consider bringing:

Music (CD's tapes) and a boom box will be much appreciated during late night work and end of the course party.

Microscope Stage. A microscope stage of some sort is strongly recommended.

Creighton, 1950, *Ants of North America*

Killing jar for other insects

Black lighting equipment

Basic office supplies (scotch tape, stapler, paperclips).

3-ring notebook for organizing the numerous handouts.

Ziplock plastic bags

Containers to keep live ants

Binoculars [the Station area is renowned for its' bird fauna, so if you want to see the trogons and hummingbirds, bring your binocs]

Swim suit [the Station has an excellent swimming pool]

Large towel for pool [the Station provides towels but you might want a large one for the pool]

Hat

Sunglasses

Swiss Army knife (or something of the sort)

Hand lens (10 x or 20x)

Earplugs (for peaceful sleeping)

### **Misc. supplies and information**

The vans returning to the Station from Tucson airport on August 2 will make a stop at the well-supplied Safeway in Wilcox, Arizona. There you can purchase those items that you manage to forget, e.g., sun lotion, flashlights, as well as any special snacks and/or refreshments that you might want to have at the Station. NOTE: general-use refrigerators are available in the Station's Main House.

The local Portal Store (5 miles from the Station) provides basic amenities. We usually stop there on field trip days to stock up on bottled water and sodas.

The Station's front office sells souvenir items, as well as field guides and local-area history books.

### **Sending parcels to the Station**

To send a parcel of supplies (scope, light etc.) to the station, use the UPS address:  
SWRS

ATT: "your name"- Ant Course

2003 W. Cave Creek Road

Portal, AZ 85632

office phone number - some shippers ask for this (520-558-2396)

Remember to ship supplies to repack lab equipment, including scopes, etc.

When shipping supplies to the station, do NOT to use Fed Ex ground (problems with the subcontractor). Fed Ex air will work ok but UPS works better from the Stations point of view. FedEx will not pick up from the station but UPS will. If you have any shipping questions, contact the station at: tel: 520-558-2396

Letters can be sent through the US Mail to: PO Box 16553, Portal, AZ 85632

### **Specimens collected during the course**

We want students to go home with a diverse collection of ants that is correctly identified to genus and species and properly labeled. We will be generating specimen labels at the Station. Remember that you will be returning with one or two insect boxes and should anticipate this for your return packing. Students who do not want to retain the specimens or all of the specimens that they collect should donate them to the course teaching collection.

**Staying in contact while at the Station**

Remember you are staying at a rugged field station and that communications will be limited. However, two pay telephones are available at the station for public use. Phone cards are a necessity if calling is important to you (you can buy the phone card at the Safeway in Wilcox, on the way to SWRS). Email access is available through the Station office for an additional fee. .

updated November 4, 2008