

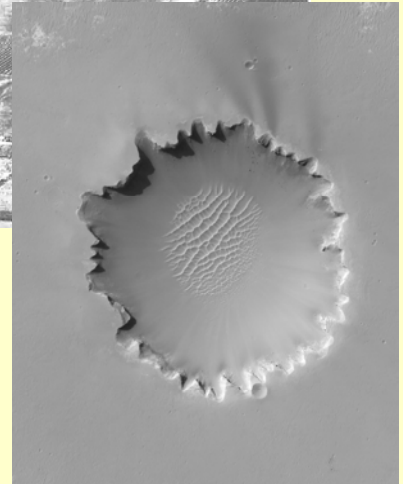
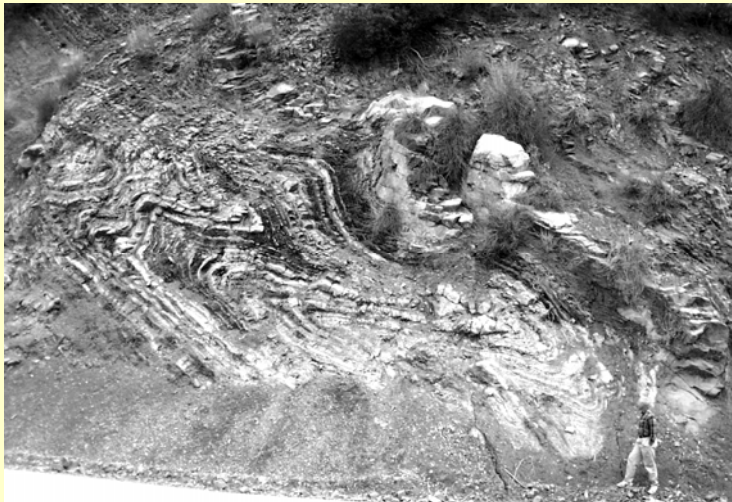
Mt. San Antonio College
Department of Earth Sciences & Astronomy
presents

Geologic Diversity Around Los Angeles and Vicinity
Spring, 2009 Conference of the Far Western Section NAGT
Friday – Sunday
April 17 – 19, 2009

Mario V. Caputo, Organizer
Earth Sciences and Astronomy
Mt. San Antonio College
1100 North Grand Avenue
Walnut, CA 91789

mvcaputo@earthlink.net

(909) 594-5611 x4439



FWS-NAGT Spring 2009 Field Conference

April 17-19, 2009

**Hosted by Department of Earth Sciences & Astronomy
Mt. San Antonio College, Walnut, CA**



Registration Form

Payment of registration fees will earn you: general admission to the conference plus field-trip guidebook; Friday evening social & light meal; Saturday continental breakfast, field trips, lunch, transportation, and post-banquet keynote presentation; Sunday continental breakfast, guest presentation, & walking tour of the Mt. SAC Wildlife Sanctuary. Separate fees are required for the Friday and Sunday teacher workshops and the Saturday night banquet.

Name:

Address:

Employer:

Business Phone #:

Cell Phone #:

Email Address (required for registration confirmation):

Friday Events Please check (√) events you plan to attend:
 Workshop #1: Teaching College-Level Earth Science to High School Students (Van Norden, Harvard-Westlake School)
 4:00 – 6:00 pm SEPARATE FEE REQUIRED. See cost schedule below.
 Registration check-in & social 5:00 – 8:00 pm

Saturday Field Trips
Rank your choice of field trips: 1st, 2nd, and 3rd
 Trip 1 : Evidence for Tertiary Floodplains, Oceans, & Volcanoes in the Santa Monica Mountains (Fritsche, CSU Northridge)
 7:30 am – 6:00 pm
 Trip 2: Martian Analogs in the Mojave Desert (Bridges, JPL)
 7:30 am – 6:00 p.m.
 Trip 3: Geology of the Conejo Valley & Western Santa Monica Mountains, Ventura County (Bilodeau, Cal Lutheran Univ)
 7:30 am – 6:00 pm
 Trip 4: Natural Hazards, Past and Impending, in the Eastern San Gabriel Mountains (Nourse, Cal Poly Univ, Pomona)
 8:00 am – 5:00 pm
 Trip 5: Engineering Geology on the Palos Verdes Peninsula (Steiner, Leighton & Associates)
 7:30 am – 6:00 pm
 Check here for Saturday continental breakfast
 Check here for vegetarian field-trip lunch on Saturday
 Check here for vegetarian meal at Saturday banquet buffet

Sunday Events
Please check (√) events you plan to attend:
 Continental breakfast 8:00 – 9:00 am
 Presentation: The Science of Global Warming (Holt, Gore Climate Project) 9:00 am – 10:00
 Walking Tour of the Wildlife Sanctuary at Mt. SAC: Biologic, Ecologic, & Geologic Features (Sanchez & Munoz, Mt. SAC)
 10:00 am – 12:00 noon
 Workshop #2: When the Classroom Shakes: Strategies For Teaching K-12 Students About Earthquakes in Their Area (Bowman-Weaver, CSUF; Walker, Mt. SAC; de Groot, SCEC, USC)
 10:00 am – 2:00 pm
SEPARATE FEE REQUIRED.
See cost schedule below.

Early General Registration (postmarked by April 3, 2009):	\$ 85.00	
Late or Onsite Registration:	\$105.00	
Student Registration (Full-time students please send photocopy of student ID):	\$ 50.00	
Saturday Night Banquet:	\$ 35.00	
Friday Teacher Workshop #1:	\$ 20.00	
Sunday Teacher Workshop #2:	\$ 20.00	
Make check payable to FWS-NAGT Send to: Karen Bridges, Earth Sciences & Astronomy, Mt. SAC, 1100 N. Grand Avenue, Walnut, CA 91789	TOTAL REMITTANCE:	

Friday, April 17, 2009

Conference Parking All Weekend - Student Parking Lot D immediately south of Lab Sciences Building 60 (see campus map attached)

Teacher Workshop

Teaching College-Level Earth Science to High School Students

Wendy Van Norden (Harvard-Westlake School; wvannorden@hw.com)

Lab Sciences Building 60, room 1306, Mt. San Antonio College

4:00 pm – 6:00 p.m.

- 🌐 Learn about a Geology/Earth Science course for high school Juniors and Seniors for which students can earn 5 credit-hours of college credit. The course receives UC d-laboratory status and honors status.
- 🌐 Participate in hands-on laboratory experiments
 - Crystal Tree
 - Mineral Identification
 - Rocks of the Earth
 - Stream Characteristics
 - Bowen's Reaction Series
 - Carbon Cycle Rice Lab

🌐 ***Receive free rock and mineral samples***

🌐 ***Receive a \$100 stipend***

Registration Check-in, Social, & Vendor Exhibits

Lab Sciences Building 60, Mt. San Antonio College

Registration: hall in front of room 1512

Exhibits: rooms 1512 & 1515

Light meal: room 1511

Fare: turkey and Swiss cheese wraps; shrimp, meat & cheese, & fruit platters; rolls; condiments; water

5:00 – 8:00 p.m.

FWS-NAGT Officers Meeting

Lab Sciences Building 60, room 1306, Mt. San Antonio College

8:00 – 10:00 p.m.

Saturday, April 18, 2009

Lunch Pick-up & Continental Breakfast

Breakfast Fare: yogurt cups, bagels, muffins, instant oatmeal, juices, tea, regular & decaffeinated coffee

Lunch Fare: a choice of: 1) ham & Swiss, 2) turkey & cheddar, 3) chicken Caesar, 4) roast beef & provolone, 5) hummus, lettuce, tomato, & cucumber; condiments, apples, granola bars, cookies, & water

Lab Sciences Building 60, room 1511

6:00 – 7:30 a.m.

Field Trips (all vans depart from and return to Student Parking Lot D; see attached campus map)

1. Evidence for Tertiary Floodplains, Oceans, & Volcanoes in the Santa Monica Mountains, Southern California

A. Eugene Fritsche (CSU Northridge)

7:30 a.m. – 6:00 p.m.

Have you ever wondered how a geologist knows what life was like on Earth millions of years ago? This trip will give you an insight into how rocks reveal their history to the inquisitive geologist. On this trip, we will tap into the secrets of sedimentary and volcanic rocks in the Santa Monica Mountains between Kanan Rd. and Topanga Canyon Blvd. We will make six stops to look at rocks of different ages and histories. At four of the stops, there will be minimal walking required, but walks of a ¼ mile and 1 mile are required in order to see the rocks at stops 4 and 6. The 1-mile walk on a dirt fire road will be uphill going out. Wear comfortable walking shoes and bring a water bottle, hat, and sun screen. We will eat lunch at a park where there are restrooms and a water fountain.

On our quest to decipher geologic history, we will review the classification of sedimentary and volcanic rocks and discuss how the ages of rocks are known. We will look at evidence supporting the existence of an ancient submarine volcano and volcanic island in the Santa Monica Mountains area about 18 million years ago that, in more recent times, has been tipped over on its side and has been mostly eroded away. We will discover how before the volcano, the area was covered by a wide river floodplain with river channels and marshes. We will witness how the river floodplain was covered by a transgressing ocean shoreline and see evidence indicating the deepening of the ocean and then renewed shallowing back to a river environment. Sedimentary rocks on top of the ancient volcano indicate deposition in a very deep ocean basin where turbidity currents and mass slumps developed on the continental slope and slid down into the basin of deposition. And finally, we will see the effects of extreme crumpling of rocks during the last few million years as the Santa Monica Mountains were squeezed and elevated into a mountain range.

2. Martian Analogs in the Mojave Desert

Nathan T. Bridges (Jet Propulsion Laboratory, Pasadena)

7:30 a.m. – 6:00 p.m.

This trip will visit the Amboy Crater and Bristol Dry Lake in the eastern Mojave Desert, with about an hour planned at each stop. The intent of the trip is to look at features in the Mojave that have analogs on the planet Mars. Participants will examine and discuss similarities and differences among landforms that are common to both planets. At Amboy Crater, we will observe the cinder cone, lava textures, ventifacts, and the large wind streak produced by the cone. At Bristol Dry Lake, the emphasis will be on the aqueous origin and mineral content of desert evaporites as they relate to minerals of similar origin as discovered on Mars. Some hiking is planned, so please wear sturdy footwear. Because conditions during spring in the Mojave can be sunny and hot, hats, sunscreen, and sunglasses are recommended.

Saturday, April 18, 2009 (cont.)

Field Trips (all vans depart from and return to Student Parking Lot D; see attached campus map)

3. *Geology of the Conejo Valley & Western Santa Monica Mountains, Ventura County*

William L. Bilodeau (California Lutheran University, Thousand Oaks)

7:30 a.m. – 6:00 p.m.

This field trip will visit exposures of the lower Miocene marine sedimentary and igneous rocks of the western end of the Santa Monica Mountains and the rolling hills of the Conejo Valley area surrounding Thousand Oaks, California. Beginning with the Monterey Formation in Thousand Oaks, the trip will descend the stratigraphic section by investigating classic exposures of the volcanic flows, breccias and intrusive equivalents of the Conejo Volcanics, and the sedimentary rocks of the lower Topanga Formation. The first stop is to examine steeply inclined exposures of the locally folded siliceous shales of the Monterey Formation in the Sunset Hills area of Thousand Oaks. Next we will drive westward, to investigate excellent exposures of porphyritic andesitic basalt lava flows and laharcic breccias and conglomerates of the Conejo Volcanics on the south-facing slopes of Mount Clef Ridge, adjacent to California Lutheran University. A little farther to the west, the field trip continues with a 1.5-2 hour hike on well-maintained trails to see some of the coarser strata in the Topanga Formation, a different suite of mafic rocks in the basal Conejo Volcanics and the spectacular 70-foot Paradise Falls in Wildwood Park in Thousand Oaks. This hike will, at times, be somewhat steep and has a 400-foot elevation gain into and out of the canyon of the Arroyo Conejo (also home to the Thousand Oaks wastewater treatment facility...a bit farther down the canyon). Next on the agenda is a walk up to the top of Tarantula Hill, in the center of Thousand Oaks, for an overview of the Conejo Valley and to collect one of the more interesting intrusive igneous rocks in the area, hornblende dacite porphyry. After a drive to the coast we will stop at Mugu Lagoon to view one of the last natural coastal wetlands comprising a coastal barrier island/lagoon/estuary ecosystem. Just down the road we will examine the broad exposures of fossiliferous lower Miocene marine shelf strata and mafic dikes along the Pacific Coast Highway at Point Mugu. The last stops of the day will be to look for fish scales in marine shales of the Topanga Formation and investigate some extraordinary basalt pillow lava exposures of the basal Conejo Volcanics in the Santa Monica Mountains.

4. *Natural Hazards, Past and Impending, in the Eastern San Gabriel Mountains*

Jonathan A. Nourse (California Polytechnic University, Pomona)

8:00 a.m. – 5:00 p.m.

The eastern San Gabriel Mountains present a spectacular outdoor laboratory for studying the causes and consequences of natural hazards that include earthquakes, floods, landslides, and fires. The first stop is at San Antonio Dam near the intersection of the Cucamonga, San Jose and San Antonio Canyon faults. Working our way up the Mt. Baldy Road, we shall view field evidence of floods, landslides and debris flows resulting from the interplay between steep topography, severe weather conditions, and major earthquakes. Effects of the devastating fire of 2003 are also prominent. We will discuss impacts of the floods of 1938, 1969, and 2005 on human structures. Following lunch at Mt. Baldy Visitor Center, we will hike about 1 mile up the Icehouse Canyon trail to ponder the natural processes that have reduced the number of habitable residential cabins from 119 in the early 1900's to 26 today. The trip closes with view stops in upper San Antonio Canyon. Use comfortable footwear and bring warm clothing for cooler conditions at mountain elevations between 5000 and 6000 feet.

Saturday, April 18, 2009 (cont.)

Field Trips (all vans depart from and return to Student Parking Lot D; see attached campus map)

5. Engineering Geology on the Palos Verdes Peninsula

Edward A. Steiner (Leighton and Associates, Irvine)

7:30 a.m. – 6:00 p.m.

The Pacific coast between Point Vicente and Point Fermin is home to large landslides that have influenced land development practices and legislation for over a half century, especially the Portuguese Bend Landslide which has moved continuously in an urban environment for over 50 years. Large landslides are found on the southwest-facing slopes of the Palos Verdes Hills. They owe their instability to unsupported, seaward-dipping bentonite units of low shear-strength in the underlying folded Monterey Formation (Middle Miocene). Despite several attempts to abate movement, the Portuguese Bend Landslide continues to creep seaward.

This field trip will visit the 2 square-mile area of the Portuguese Bend Landslide, including younger, active portions of the main slide at Abalone Cove. Several hikes, up to a mile long, will traverse landslide terrain and rocky beach in order to examine toes and main body of the active Portuguese Bend Landslide. Although, hiking will be on established dirt trails, they are rocky, steep, and narrow in places, therefore, sturdy footwear with good tread is recommended. Use care to avoid unstable footing. Conditions along the coast can be either warm and dry or windy, damp, and cold, often in the same day. So, it is advisable to bring a jacket, sun hat, sun screen, and water. Because this trip will be mostly within land reserves, all natural features are protected and the use of rock picks is not allowed. Please note that rattlesnakes, poison oak, stinging nettle, ticks, and scorpions may be encountered on hikes.

Post-Field Trip Banquet

Buffet Dinner Fare: carved top round of beef with mushroom Merlot sauce; stuffed chicken breast; mixed salad greens w/ strawberries, walnuts, feta cheese, dressings; rice pilaf & pasta bruschetta; bread basket; cookies, lemon squares, & brownies; iced tea, water, regular and decaffeinated coffee

Founders Hall, Mt. San Antonio College (see campus map attached)

Cash Bar: 6:00 – 8:00 p.m.

Buffet Dinner: 6:30 – 8:00 p.m.

Post-Banquet Keynote Presentation

Reconstructing Southern California

Raymond V. Ingersoll (University of California, Los Angeles)

8:30 – 9:30 p.m., Building and room to be determined

Sunday, April 19, 2009

Continental Breakfast

Breakfast fare: yogurt cups, bagels, muffins, instant oatmeal, juices, tea, regular & decaffeinated coffee

Lab Sciences Building 60, room 1511

8:00 – 9:00 a.m.

Presentation: *The Science of Global Warming*

JoBea Holt (Al Gore Climate Project)

9:00 – 10:00 a.m., Building and room to be determined

Teacher Workshop

When the Classroom Shakes: Strategies For Teaching K-12 Students About Earthquakes in Their Area

Kris Bowman-Weaver (CSU Fullerton), Becca Walker (Mt. San Antonio College), Robert de Groot (Southern California Earthquake Center, USC)

Lab Sciences Building 60, room 1515

10:00 a.m. – 2:00 p.m.; lunch is included

Designed for middle school science teachers, participants in this workshop will learn how to bring local earthquake geology and hazards into their classrooms and explore standards-based classroom activities for teaching earthquakes. All K-12 and pre-service teachers are welcome. Registration cost of \$20 includes lunch and materials. For more information on this workshop, please contact Becca Walker at rwalker@mtsac.edu.

Walking Tour of the Wildlife Sanctuary at Mt. San Antonio College: Biologic, Ecologic, & Geologic Features

Kathryn Sanchez & David Muñoz (Mt. San Antonio College, Walnut)

10:00 a.m. – 12:00 noon; assemble in Parking Lot D

Take an interactive and leisurely stroll through the Mt San Antonio College Wildlife Sanctuary and observe the biologic, ecologic and geologic features. Many topics will be covered such as plant uses and natural history. The stroll includes stops at the lake, swamp, and pond as well as an easy hike to the top of the newly acquired Mt SAC hill. Participants will also visit a riparian woodland, walnut woodland, and oak woodland. Learn how Native Americans utilized the plants around them. What caused a swimming pool at Mt San Antonio College to float like a boat? Comfortable walking shoes are highly recommended as well as a bottle of drinking water.

Lodging (see map on next page)

A block of 25 rooms has been reserved for the conference weekend at a discounted rate on a first-come, first-served basis about 3 miles east of Mt. SAC campus at the:

**Shilo Inn Hotel
3200 Temple Avenue
Pomona, CA 91768**

**reservations: (909) 598-0073
FAX: (909) 598-4627
<http://www.shiloinns.com/>**

Rates:

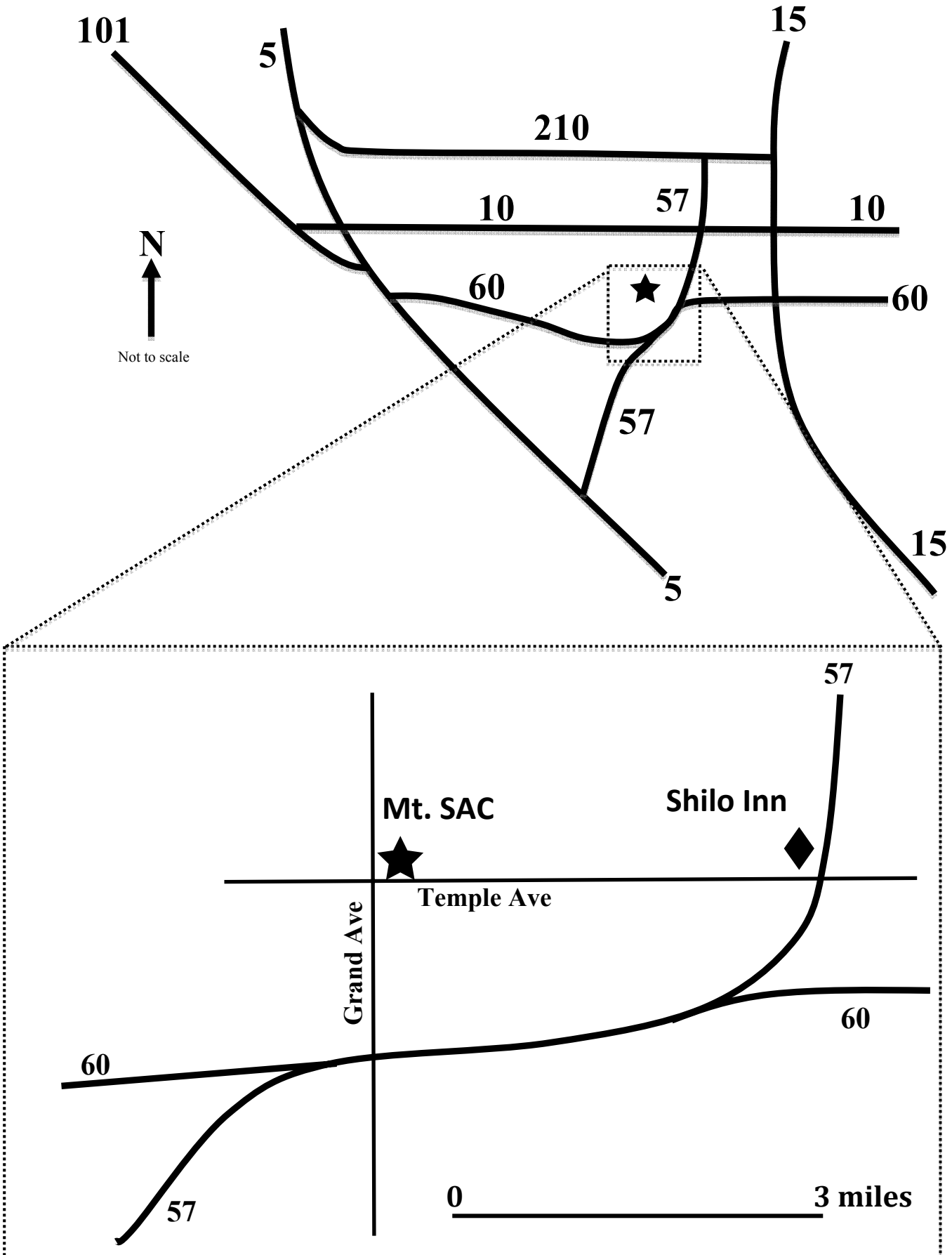
room: single/double occupancy \$86.90 including tax per night

extra person charge: \$20.00 per night

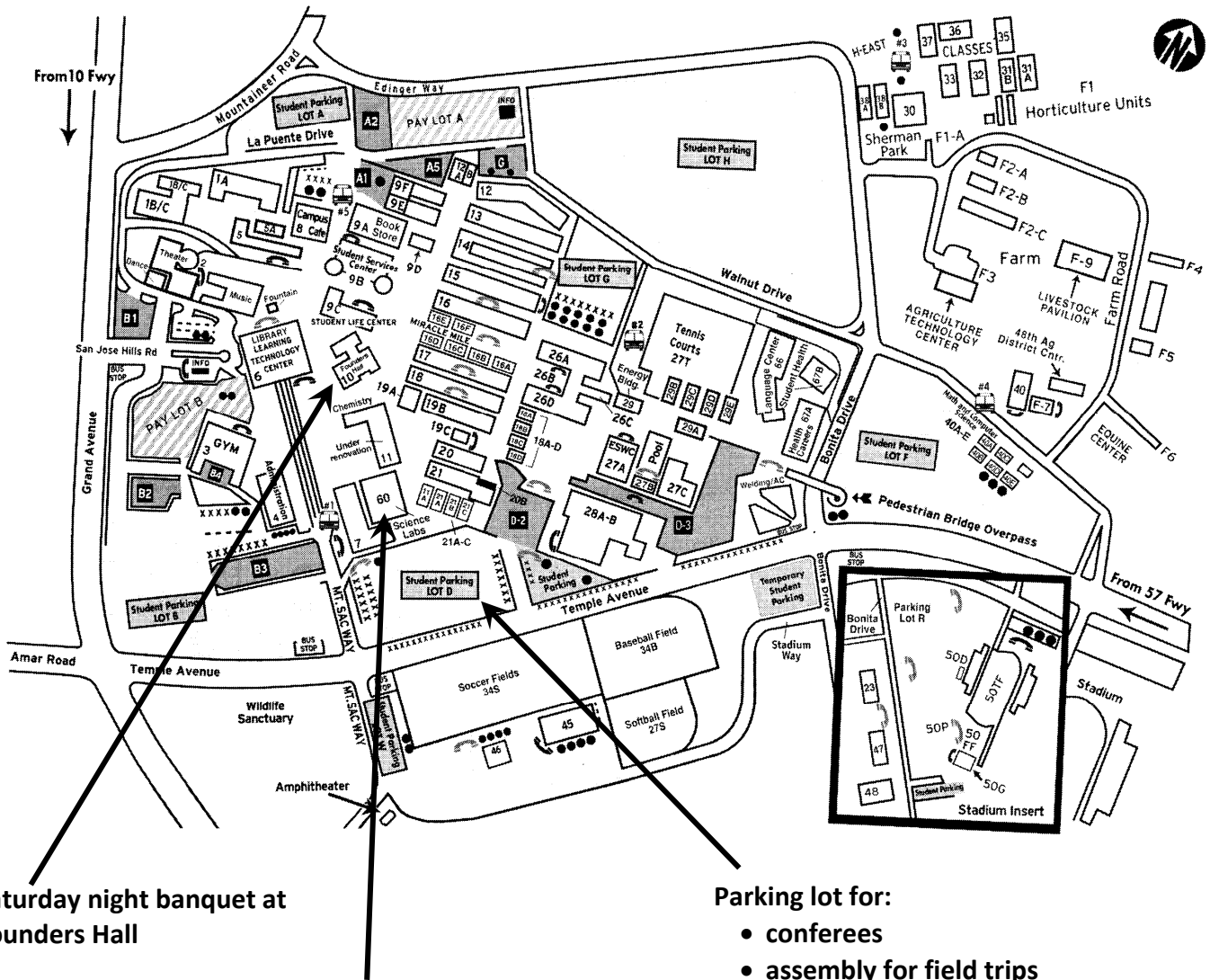
Roll-away charge: \$20.00 per night

TO GUARANTEE A ROOM, PLEASE MAKE YOUR RESERVATION BY APRIL 3, 2009

Map of southern California freeways with inset map for location of Mt. SAC and lodging.



Map of the campus of Mt. San Antonio College



Saturday night banquet at Founders Hall

Laboratory Sciences, Building 60

- Registration
- Friday evening social
- Exhibits
- Saturday & Sunday breakfasts
- Saturday Lunch pick-up for field trips

Parking lot for:

- conferees
- assembly for field trips
- departure & return of field trip vans