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## Important Deadlines for Botany 2000

Conference Early Registration deadline	June 15
Application due for Student audio-visual projectionist	June 15
Request for Refunds deadline	June 30
Field Trip and Workshop reservation deadline	July 5
Conference Late Registration deadline	July 14
Housing reservation deadline	July 14

### QUESTIONS?

visit the Botany 2000 website at URL: <http://www.botany2000.org/>

### CONTACT

Botany 2000 Meeting Coordinator at ph (405)325-5923 or E-mail <elisens@ou.edu>

# WELCOME TO PORTLAND

## *Portland, Oregon: City of Books, Beer, Bikes, and Blooms*



If you're a bibliophile, note that Portland has the nation's largest bookstore, *Powell's City of Books*, which has over one million used, new, and out-of-print volumes in stock.

Portland has more *microbrewery* outlets than any city in the USA. The city's love affair with beer stretches back more than 100 years, when Henry Weinhard proposed pumping ale through the Skidmore Fountain. Today, more than 40 craft breweries and brewpubs have earned Portland the nickname "*Münich on the Willamette*."

Progressive policies and expansive bike-friendly paths have earned Portland the distinction of being labeled recently the No. 1 bicycling city in the USA by *Bicycling* magazine.

Welcome to the "*Rose City*." Portland has an International Rose Test Garden, which is the oldest test garden in the USA. Additionally, Portland is home to the Berry Botanic Garden, Japanese Gardens, Hoyt Arboretum, Crystal Springs Rhododendron Garden, World Forestry Center and Museum, and Forest Park.



Photo courtesy of Wayne Elisens

## PORTLAND QUICK FACTS

(courtesy of the Portland Oregon Visitor's Association)

POPULATION	1.7 million within metro area; 503,000 within city limits
AREA	130 square miles
ELEVATION	173 feet above sea level
LONGITUDE	40 miles east of the 122nd meridian west
LATITUDE	30 miles north of the 45th parallel north
MILES TO THE PACIFIC OCEAN	78
MILES TO A GLACIER	65 (Mount Hood; shown above)
AVERAGE TEMPERATURE	33.5° (January); 79.5° (July)
AVERAGE PRECIPITATION	37" (less than Atlanta, Baltimore, Houston or Seattle)
ACRES OF PARKS IN METRO AREA	37,000, including the 5,000-acre Forest Park
EMERGENCY	Call 911 for police, ambulance, or fire
NEWSPAPERS	The daily paper is <i>The Oregonian</i>
NATIONAL PUBLIC RADIO	KOPB-FM, 91.5 MHZ. Portland, Oregon
TIME	Portland and vicinity are in the Pacific Time Zone

## MEETING INFORMATION

### Location of scientific sessions and exhibits

Oregon Convention Center (OCC)  
777 NE Martin Luther King Jr. Blvd.  
Portland, OR 97232  
Exhibit Hall A; all lower level Meeting Rooms

### Location of host hotel

Site of society council meetings, Plenary and Outreach Lectures, All-Society Mixer, and most food functions

Doubletree/Lloyd Center Hotel  
1000 N. E. Multnomah  
Portland, OR 97232

### Botany 2000 Plenary Lecture

#### "Genes, Genomes, and Plant Developmental Biology"

Dr. Elliot Meyerowitz, California Institute of Technology, Pasadena, CA  
Sunday, August 6. 7:30 pm.  
Cascade Ballroom, Doubletree/Lloyd Center Hotel  
Presiding: Dr. Douglas Soltis, BSA President

### Botany 2000 Outreach Lecture

#### "Habitat of Hope: Our Northwest in the 21<sup>st</sup> century"

Mr. William Dietrich, Science Reporter, The Seattle Times, Seattle, WA  
Monday, August 7. 8:00 pm  
Lloyd Center Ballroom, Doubletree/Lloyd Center Hotel  
Presiding: Dr. Jeffrey Osborn, BSA Program Director

### All-Society Mixer

Sunday, August 6. 8:30 pm to 10:00 pm  
following Plenary Lecture; Lloyd Center Ballroom, Doubletree/Lloyd Center Hotel.  
All registrants are invited to a welcoming mixer. Cash bar and complimentary refreshments.

### Contributed Paper & Symposium Sessions

Contributed Paper and Symposium sessions will be held in the lower meeting rooms of the OCC: A, B, and C series. A 35-mm slide projector, overhead projector, screen, pointer, and audio amplification equipment will be provided in all rooms. Only rooms scheduled for symposia will be provided with LCD projectors in addition to 35-mm and overhead projectors.

### Posters and Poster Sessions

Posters will be on display for the duration of the meeting in the OCC, Exhibition Hall A, from 10:00 am to 5:00 pm, Monday, August 7 through Wednesday, August 9. Poster boards 4' high by 8' wide will be provided for all poster presenters.

Materials may be secured with push pins or Velcro. Push pins are provided.

Poster **set up** time is Monday, 7 August from 8:00 am to 12:00 pm.

Poster **take down** time is Wednesday, 9 August from 2:00 pm to 5:00 pm.

Poster presentations and Poster Sessions for all societies are at the same time on Tuesday, 8 August from 12:30 pm to 2:00 pm.

*Neither the OCC, Botany 2000 management, or GES Exposition Services is responsible for any poster materials remaining after 5:30 pm, Wednesday, August 9.*

### Workshops

Four workshops will be presented on Sunday, August 6 and on Thursday, August 10 in Science Buildings 1 and 2 at Portland State University. Workshops are ticketed events; tickets may be purchased during registration. If you participate in a workshop before picking up your registration packet on-site, please bring your 'registration confirmation notice' so that you have a record of your ticket purchase. Please refer to the Workshop descriptions in this brochure for full discussion of activities and a listing of workshop leaders.

Workshop fees include transportation between the Oregon Convention Center (OCC) and Portland State University. Transportation to morning workshops departs the OCC at 8:30 am; transportation to afternoon workshops departs the OCC at 12:30 pm. The location for passenger pickup at Portland State University for return to the OCC will be communicated to workshop participants by the bus driver.

### Scientific Field Trips

Eighteen Scientific Field Trips are scheduled to take place before or after the scientific program from Saturday, August 5 through Monday, August 14. Scientific Field Trips are ticketed events; tickets may be purchased during registration. If you participate in a Scientific Field Trip before picking up your registration packet on-site, please bring your 'registration confirmation notice' so that you have a record of your ticket purchase. Please refer to Scientific Field Trip descriptions in this brochure for full discussion of trip destinations, trip leaders, logistics, special notes, and expected expenses for multi-day trips.

Scientific Field Trip fees include transportation and lunch where indicated. Except for FT 17, which has a return to PDX airport, all field trips depart from and return to the OCC at the times indicated in the Field Trip description.

## Exhibition Hall and Exhibitors

Please visit the outstanding array of commercial and scientific exhibits offered in the Oregon Convention Center, Exhibit Hall A. The Exhibit Hall will be open from 10:00 am to 5:00 pm, from Monday, August 7 through Wednesday, August 9.

## Local Tours

Eight Local Tours are scheduled to take place during the meeting from Sunday, August 6 through Wednesday, August 9. Local Tours are ticketed events; tickets may be purchased during registration. For those who pre-register, tickets will be included in the registration packet, which will be distributed on-site at the Registration Area. Please refer to the Local Tour descriptions in this brochure for full discussion of destinations and activities. Local Tours are offered through a local agency.

Local Tour fees include transportation, ancillary fees, and lunch where indicated. Local Tours are for adults and for children accompanied by adults.

## Society and Association Ticketed Events

A listing of society and group events requiring tickets are printed in this brochure. To purchase tickets for those requiring paid admission, please check the appropriate box on the Registration Form and add the cost to your other fees. For those who pre-register, event tickets will be included in your registration packet, which will be distributed on-site at the Registration Area. Event tickets also will be available for purchase separately at the Registration Booths on-site at the meeting.

## Final Program and Publication of Abstracts

The Final Program will be distributed along with registration materials on-site at the registration desks at the OCC. The Final Program will contain all events and information for the meeting. Abstracts of symposia, special lectures, contributed papers, and posters will be printed in the *American Journal of Botany*, vol. 87, no. 6.

## Cyber Café

E-mail accessibility will be available in the Cyber Café, which will be located in the OCC lower level just outside the entrance to Exhibition Hall A and adjacent to the Registration Area. In addition to computer availability, a technical staff person will be present, and a few jacks will be available for personal laptops brought to the OCC. The Cyber Café will be in operation from 8:00 am to 6:00 pm, from Monday, August 7 through Wednesday, August 9. The Cyber Café is provided courtesy of Portland State University.

## Food Court and Coffee Break Central

Within the OCC, Exhibition Hall A is designed to accommodate the Exhibitors, the Poster Displays, and to provide an area where food and beverages may be purchased by meeting attendees. Cafés will be accessible from within and outside of the Exhibition Hall; they will be open morning to afternoon daily, from Monday, August 7 through Wednesday, August 9. Food Court tables are located in the Exhibition Hall. A Coffee Kiosk will be available in the MLK lobby, and will be available from Monday, August 7 through Wednesday, August 9 from 7:30 am until 3:00 pm daily.

# GENERAL INFORMATION

## Registration

Full instructions on how to register by mail, fax, or on-line (discounted) are given on the Registration Form: 1) in this brochure, 2) as a form available for downloading at the Botany 2000 website, URL: <<http://www.botany2000.org>>, and 3) on the direct on-line registration site also accessible from the Botany 2000 website. A confirmation of your registration will be faxed or mailed to you within 7 business days of receipt. Tickets for events, a copy of the Final Program, and an official name badge will be included in your packet of registration materials available at the Registration Area at the conference.

PLEASE BRING THE REGISTRATION  
CONFIRMATION NOTICE WITH YOU  
TO THE CONFERENCE.

Registration fees cover four days of the meeting, including the Plenary and Outreach Lectures, the All-Society Mixer, all Scientific Sessions, Poster Displays, and the Exhibition Hall. An official name badge will be required for admission to all Scientific Sessions and the Exhibition Hall. Registration fees must be paid to obtain the official name badge.

## Registration Payment

Checks or credit cards are the only acceptable form of registration payment. Purchase orders and wire transfers are not accepted.

## Registration Area and Time of Operation

On-site registration, pickup of registration packets for those who have pre-registered, and late purchase of social event tickets can be done at the Registration Area, which will be located in the OCC lower level just outside the entrance to Exhibit Hall A and adjacent to the Cyber Café.

## REGISTRATION AREA TIMES OF OPERATION

Sunday, August 6	10:00 am to 6:00 pm
Monday, August 7	7:30 am to 5:00 pm
Tuesday, August 8	7:30 am to 5:00 pm
Wednesday, August 9	7:30 am to 12:00 pm

## Refund and Cancellation Policy

Requests for fee refunds will be honored if received in writing before June 30, 2000 to: Botany 2000, P.O. Box 75013, Cleveland, OH 44101-2199. Registration fee refunds will be subject to a \$50 processing fee. Multi-day fieldtrips may be subject to a penalty if cancelled after June 15, 2000. Full fee refunds will be granted for Social Events, Scientific Field Trips, Local Tours, and Workshops if they exceed maximum enrollment, do not meet minimum enrollment, or if cancelled for any reason. ALL refunds will be issued AFTER the conference.

## Federal Tax Identification Number

The Federal Tax-Exempt Identification Number is 62-0671591 (Botanical Society of America).

## Housing

Botany 2000 has contracted with a number of hotels convenient to the Oregon Convention Center. We appreciate and need your patronage of the hotels designated in the Botany 2000 Housing Form. All housing arrangements must be received and guaranteed with a credit card by July 14, 2000.

The **Doubletree/Lloyd Center Hotel** is the **host hotel** for the Botany 2000 conference. Their support ensures successful staging of society council meetings, most ticketed social events, the Plenary and Outreach Lectures, and the All-Society Mixer. Additional hotel blocks have been secured at the Best Western Downtown, the Hawthorne Inn & Suites, and the Holiday Inn Downtown.

A few double occupancy dormitory rooms have been reserved at Portland State University for attendees at Botany 2000. Dorms are not close to meeting activities, but they are served by public transportation. Because of the limited number of dorm rooms, they are intended primarily for student use. If all dorm spaces are filled, you will be booked into the next lowest-priced hotel available.

## Special Services

If you require special accommodations, assistance or services during Botany 2000, please check the box provided on the registration form and a Botany 2000 representative will contact you.

## Child Care

If you require child care during your stay, Botany 2000 can provide you with a list of local providers. Attendees are responsible for making their own arrangements with the provider. Botany 2000 assumes no responsibility for any difficulties or consequences arising from the use of a child care provider and recommends that the provider be screened carefully.

## Room Sharing Service

Botany 2000 will maintain a list of individuals interested in sharing rooms during the conference. Botany 2000 will not be responsible for assigning roommates, but it will maintain a list of registrants who have submitted their names and who can be contacted individually.

To be included on the list, please submit your name and e-mail contact information on the Botany 2000 website at URL: <<http://www.botany2000.org>>. Attendees are responsible for contacting individuals on the list and for making their own arrangements. Only one roommate should make the hotel reservation. It is recommended that you make your hotel reservation early. Botany 2000 assumes no responsibility for any difficulties or consequences arising from a shared room and recommends that potential roommates be screened carefully.

## Student Projectionists

Graduate students who work up to 10 hours (two sessions) as a projectionist can have their registration fees refunded. Experience with 35 mm slide and overhead projectors is desirable but not necessary. In return for attending a training session on Sunday, August 6 and for successfully serving as a projectionist for two sessions during the meeting, the conference student registration fee will be refunded. Fee waivers are not granted. Student projectionists must register for the meeting and pay registration fees.

A mandatory training session will be held on Sunday afternoon at 3:00 pm in the lower level of the Oregon Convention Center.

If you are interested in serving as a Student Projectionist, please fill out the "Application to serve as a Student Audio-Visual Projectionist", which is printed below.

# APPLICATION TO SERVE AS A STUDENT AUDIO-VISUAL PROJECTIONIST

Deadline for application: June 30, 2000

## Rules for serving as a student AV projectionist

1. If you are attending scientific sessions, you must register and pay registration fees. Fee waivers are not granted.
2. You must attend the mandatory training session for projectionists on Sunday, August 6 at 3:00 pm in the lower level of the Oregon Convention Center, pre-function area A near the Registration Area.
3. You must serve as a projectionist for two scientific sessions, up to 10 hours of work.
4. Upon submission of a workform that must be signed by the presiders of your assigned scientific sessions, \$75 will be refunded to you after the meeting. This amount is the equivalent of fees for early student electronic registration.
5. Student projectionists MUST work BOTH assigned sessions to receive the refund. No partial refunds will be issued for work for less than two complete sessions. Incomplete work assignments will result in forfeiture of the \$75 refund.
6. Scientific sessions will be assigned to you, although every effort will be made to match your preferred sessions to your assigned sessions.
7. For additional work over and above two complete sessions or 10 hours of total labor, student AV projectionists will receive compensation of \$7.50 per hour of work.

Note: You will be contacted before the conference to request your preferred session assignments and to pre-schedule your hours.

Name (Last, First, middle initial) _____		
Institution _____		
Address _____		
City _____	State or province _____	Country _____
Daytime phone _____		Fax _____
E-mail _____		
Society membership(s)	<input type="checkbox"/> ABLS	<input type="checkbox"/> AFS
	<input type="checkbox"/> ASPT	<input type="checkbox"/> BSA
		<input type="checkbox"/> IAPT

☐ I am presenting a paper or poster.  
List day and time for all presentations: \_\_\_\_\_

✓ Days which you are willing to work    ☐ Monday, Aug 7    ☐ Tuesday, Aug 8    ☐ Wednesday, Aug 9

☐ I am interested in working more than 10 hours

✓ I have experience working with    ☐ overhead projectors    ☐ 35 mm projectors    ☐ LCD projectors

I WISH TO APPLY FOR WORK AT THE BOTANY 2000 CONFERENCE AS A STUDENT AUDIO-VISUAL PROJECTIONIST. I AGREE TO ABIDE BY ALL RULES LISTED ABOVE ON THIS FORM, WHICH ARE A PART OF THIS APPLICATION.

Print Name \_\_\_\_\_ Date \_\_\_\_\_

Signature \_\_\_\_\_

SEND completed form before June 30, 2000 to: Wayne Elisens, Botany 2000 Meeting Coordinator, c/o Department of Botany & Microbiology, 770 Van Vleet Oval, University of Oklahoma, Norman, OK 73019.  
Phone (405) 325-5923; fax (405) 325-7619; E-mail <elisens@ou.edu>.

## TRAVEL INFORMATION

### DISCOUNTED AIR TRAVEL

Botany 2000 is pleased to offer conference attendees discounted airfares on United Airlines and Delta Airlines. These airlines are the two major carriers into Portland.

If you choose **United Airlines**, your travel agent or the *Meeting Plus* Reservation Center at 1-800-521-4041 can make arrangements for your United flight, using the code **580PH**. United will provide a 5% discount off any United, United Shuttle, or United Express fare. An additional 5% discount is available when tickets are issued 60 days prior to travel.

If you choose **Delta Air Lines**, your travel agent or the *Meeting Network®* Reservation Center at 1-800-241-6760 can make arrangements for your Delta Flight using the code **161814A**. Delta Air Lines is offering a 5% discount off Delta's published round-trip fares. By purchasing your ticket 60 days or more prior to your departure date, you can receive an additional 5% bonus discount.

### DISCOUNTED CAR RENTAL

Botany 2000 is pleased to offer conference attendees discounted rates on car rental with **Avis Rent A Car**. Your travel agent or the *Meeting Reservation and Information Desk* at 1-800-331-1600 can make arrangements for your car rental using the Avis Worldwide Discount (AWD) number **J955218**. On-line booking is available at <www.avis.com>. Discounted rates are guaranteed from one week before to one week after the Botany 2000 conference.

### PORTLAND INTERNATIONAL AIRPORT (PDX)

The Portland International Airport (PDX) is 11 miles from downtown and is serviced by 18 passenger airlines with direct or non-stop service to more than 120 cities worldwide. PDX is served by several modes of ground transportation.

The **GROUND TRANSPORTATION CENTER** -- the pickup area for taxis, town cars, shuttle vans, and other providers -- is located on the west side of the parking garage. The taxis, town cars, airport parking, hotel vans, and the Gray Line Airport Express shuttle buses are located in the center section of the terminal's lower roadway (baggage claim/departure level). The airporter shuttles, Tri-Met bus service, off airport rental car shuttles and reserved vehicles are in the section of the lower roadway closest to the garage.

### AIRPORT GROUND TRANSPORTATION OPTIONS

The following fare information is provided by the transportation providers and is subject to change without notice.

#### 1. Airport Downtown Shuttle (Grayline Express).

Scheduled shuttle bus service is available to many downtown hotels, but it does **NOT** include service to the Holiday Inn Downtown, the Hawthorne Inn & Suites, or the Best Western Downtown. Shuttles depart PDX every 30 minutes, 5:00 am to midnight. Fare per person: \$12 one way; \$22 round-trip. Discounts for seniors and children. Travel time: 20-45 minutes.

#### 2. Taxis (metered rate)

Five taxi companies serve PDX, available 24 hours per day, 7 days per week. Average fare per vehicle: \$22 to \$28, one-way to downtown area.

Travel time: 20-40 minutes to downtown.

#### 3. Hotel Courtesy Vans

For those staying at the **Doubletree Hotel**, there is **complimentary shuttle** service to and from PDX and the Doubletree/Lloyd Center from 5:30 am to 11:30 pm. Upon arrival at PDX, please use the Courtesy Phone in the Baggage Claim Area. Advance Shuttle Reservations can be made at (503) 281-6111.

The **Holiday Inn Downtown** also has courtesy van service every 30 minutes from 6:30 am to 9:30 pm. There is a courtesy phone in the baggage claim area.

#### 4. Rental Cars

Avis, Budget, Hertz, Dollar, and National are located in the rental car center on the first floor of the parking garage. Alamo, Thrifty, and Enterprise have kiosks near the rental car center. Avis is the official car rental agency for the Botany 2000 conference.

#### 5. Tri-Met City Bus

Available from 5:30 am to 11:30 pm daily. Fare: \$1.15 one-way to downtown. There are discounts for seniors and children.

Travel time: 45-60 minutes to downtown.

#### **PDX Airport to OCC or Doubletree/Lloyd Center Hotel via public transportation**

Tri-Met City Bus *Line 12 Sandy Blvd* from PDX to Hollywood Transfer Center, transfer to MAX light rail to Hillsboro, and get off at Lloyd Center Station or Oregon CC Station.

#### **PDX Airport to Portland State University via public transportation**

Tri-Met cityBus *Line 12 Sandy Blvd* serves the PSU campus.

#### **Between Portland State University and the OCC via public transportation**

Board Tri-Met City Bus *Lines 1, 5, or 8* at SW 6<sup>th</sup> Avenue stops, and ride to Rose Quarter Transit Center. Walk 2 blocks east to the OCC.

**GREYHOUD BUS TERMINAL** near Union Station  
Portland is serviced by Greyhound buses. The Greyhound Bus Terminal is located close to Union Station at 550 NW Sixth Ave; the phone number is (503) 243-2333. Greyhound information can be accessed on-line at <[www.greyhound.com](http://www.greyhound.com)>.

#### **AMTRAK TRAIN SERVICE - Union Station**

Portland Union Station is serviced by scheduled Amtrak passenger train service. Union Station is located downtown at 800 NW Sixth Ave; the phone number is (503) 273-4865. Amtrak scheduling information can be accessed at <[www.amtrak.com](http://www.amtrak.com)>.

#### ***Union Station area to Portland State University via public transportation***

From sheltered stop on 5th Ave and Irving, board buses 54 or 56 to Market & 4th; OR board any bus at 5th Ave & Irving and transfer at Yellow Rose Transit Center to *Lines 1, 5, 8, or 12.*

#### ***Union Station area to the OCC or Doubletree/Lloyd Center Hotel via public transportation***

1a) Tri-Met City bus service is available at 5th & Irving to make a connection to the MAX light rail stations in the heart of downtown on SW Yamhill St...

OR

1b) Walk 7 blocks to the Old Town/Chinatown MAX light rail station at NW 1st and Everett...

Then, 2) board MAX light rail to Gresham and get off at Oregon CC station or Lloyd Center station.

#### **AUTOMOBILE TRAVEL**

##### **Directions to the OCC from I-5 and I-84**

I-5 Northbound: Take Rose Quarter, Broadway/Weidler Street Exit (**Exit 302A**), go right on Weidler, and right on Martin Luther King Jr. Blvd.

I-5 Southbound: Take Rose Quarter/City Center Exit 302A, go across Broadway, then left on Weidler, and right on Martin Luther King Jr. Blvd.

From I-84: Take Lloyd Blvd. Exit (**Exit 1**), stay on Lloyd Blvd. all the way to the OCC.

##### **Directions to the OCC from PDX airport**

Take 205 South to I-84 West to Portland; from I-84 take Lloyd Blvd. (**Exit 1**); stay on Lloyd Blvd. all the way to the OCC.

##### **Parking at the OCC**

The Oregon Convention Center's parking lot (adjacent to the building) has 675 spaces at a \$6 daily fare.

##### **Directions to the Doubletree/Lloyd Center Hotel**

I-5 Northbound: Take Rose Quarter/City Center **Exit 302A**. At the first light, take a right on Weidler. Go to 9th Avenue and take a right. Go to the second light and the hotel is on the left.

I-5 Southbound: Take Rose Quarter-City Center **Exit 302A**. Take a left at the second light (Weidler). Go to 9th Avenue and take a right. Go to the second light and the hotel is on the left.

##### **Directions to the Doubletree/Lloyd Center Hotel from PDX Airport**

Follow Airport way to I-205 South to I-84 West to Portland. Go approximately 5 miles to Lloyd Blvd. (**Exit 1**). Go to the second light off the exit and take a right. Go 1 and 1/2 blocks; Lloyd Center is on the left.

##### **Parking at the Doubletree/Lloyd Center Hotel**

A hotel parking garage is located adjacent to the hotel. Parking fees are \$6 during the day or \$2 per hour. Overnight parking or parking per 24 hour period is \$15.

#### **PUBLIC TRANSPORTATION WITHIN PORTLAND**

##### **Tri-Met City Bus and MAX Light Rail**

Public Transportation in Portland is represented by an integrated regional transit system, the Tri-Met (Tri-County Metropolitan District) bus system, and the MAX (Metropolitan Area Express) light rail system. Routes to and from major transportation centers and the OCC and Doubletree/Lloyd Center Hotel are listed in this brochure. Routes and times can be accessed on-line at <[www.tri-met.org](http://www.tri-met.org)>.

Fares: There are 3 fare zones. \$1.15 is the basic fare; add 30¢ for each additional zone.

Paying on the Tri-Met bus: Place your exact fare or ticket in the farebox when you board. The driver will give you a transfer. Keep it until you have completed your trip. If you have a pass, show the driver your pass and have a seat. If you have a transfer, use your transfer to switch from bus to bus or from bus to MAX within the time limit of the transfer.

Paying on MAX: Before boarding, you will need a validated ticket (ticket machines stamp the time and date on your ticket), pass, or transfer. Make sure that you have purchased enough fare for the zones through which you will travel. Simply board and keep that ticket, pass or transfer until you get off. Fare inspectors randomly check fares on the MAX. **YOU MUST HAVE RECEIPT OF PAYMENT WHILE ON MAX.** Up to 3 children 6 years and under ride FREE with a fare-paying rider.

##### **Fareless Square**

On Tri-Met and MAX, passengers can ride for free throughout the 300 block downtown "Fareless Square". The square is bordered on the West and South by I-405, on the North by Irving Street, and on the East by the Willamette River.

##### **Vintage Trolley on track**

Four turn-of-the-century trolleys connect downtown Portland to the Lloyd Center district. The trolleys run on the MAX light rail line every 30 minutes from 10 am to 6:00 pm on weekends; 9:30 am to 3:00 pm on weekdays. They operate daily in August. There is **NO CHARGE** for riding on the Vintage Trolley.



## Symposia, Addresses, and Special Lectures

### BSA President's Symposium: *New Frontiers in Botany*

Organizer: Carol Baskin

Speakers: Peter Crane, Michael Donoghue, Tamara Ledley, Douglas Schemske

### Symposium: *Open Space*

Organizer: Bruce Kirchoff

Speakers: various speakers

### Symposium: *Botany in the Age of Mendel*

Organizer: Vassiliki Betty Smocovitis

Speakers: David Jones, Lee Kass, Barbara Kimmerlman, Vassiliki Betty Smocovitis

### Symposium: *Biology & Conservation of the Ophioglossaceae: A tribute to Warren 'Herb' Wagner*

Organizers: Donald Farrar, Cindy Johnson-Groh, and Warren Hauk

Speakers: Kathleen Ahlenslager, Donald Farrar, Warren Hauk, Ann Hoefferle, Laura Schoessler, Cindy Johnson-Groh, Colleen Matula, James Montgomery, Mary Stensvold, James Watkins, Dean Whittier, Piter Zika

### Symposium: *Historical Biogeography of the Northern Hemisphere*

Organizers: Michael Donoghue and Paul Manos

Speakers: Michael Donoghue, Steven Manchester, Paul Manos, Bruce Tiffney, Ziu-Yun Xiang

### Symposium: *New Frontiers in Plant Systematics - The Next 50 years*

Organizers: Wayne Elisens and Tod Stuessy

Speakers: Vernon Heywood, Elizabeth Kellogg, John McNeill, Barbara Schaal, Pamela Soltis, Kenneth Sytsma, Hugh Wilson

### Symposium: *Scientific Outreach for the Next Millennium*

Organizer: Andrea Wolfe

Speakers: Gregory Anderson, Nan Broadbent, Bill Dietrich, Richard Hill, Ghilleen Prance, Andrea Wolfe

### Symposium: *Using Educational Technology to Foster Learning Centered Pedagogies*

Organizers: Donald Buckley and David Kramer

Speakers: Donald Buckley, Sam Donovan, James Mickle, Richard Niesenbaum, Scott Russell, Margaret Waterman

### Address of the BSA President-Elect

*Plants, Fossils, and Evolution: Lessons from the Fossil Hunters* Dr. Patricia Gensel

Wednesday, August 9. Address at the BSA banquet, 7:00 to 10:00 pm, Lloyd Center Ballroom, Doubletree/Lloyd Center Hotel

### Address of the ASPT President-Elect

*Botanizing in the mountains of Haiti* Dr. Walter Judd

Tuesday, August 8. Address at the ASPT banquet, 7:00 to 10:00 pm, Hoffman Hall, Portland State University.

### Special Lecture of the BSA Economic Botany section

*Pharmacology of neotropical plants: Research among the Aguaruna Jívara of Amazonian Peru*

Dr. Walter Lewis

Tuesday, August 8. Address at the Economic Botany Luncheon, 11:30 am to 1:00 pm., OCC.

## Plenary Lecture

Sunday, 6 Aug., 7:30 pm; Cascade Ballroom, Doubletree/Lloyd Center Hotel

### *Genes, Genomes, and Plant Developmental Biology*

Dr. Elliott Meyerowitz, California Institute of Technology, Pasadena, CA



Dr. Meyerowitz was born in Washington DC and grew up in the Maryland suburbs of Washington. He graduated from Columbia with an B.A. in biology in 1973, went to graduate school at Yale (Ph.D. in biology, 1977) and did postdoctoral research in biochemistry at the Stanford University School of Medicine from 1977 to 1979. Since then he has been a faculty member in the Biology Division at the California Institute of Technology.

His work has focused on the problems of developmental biology. How can an organism start as a single fertilized cell, and end up as a complex collection of a very large numbers of cells that are all the appropriate type for their position and role in functioning organs? His graduate work used the fruit fly *Drosophila* to answer questions about cell-cell communication in the developing nervous system. His postdoctoral research also used *Drosophila*, and addressed cell type-specific

and hormonally regulated gene expression. After joining Caltech in 1980, he became interested in plants because of the simplicity of their structure and development as compared to that of animals. His lab chose the small mustard *Arabidopsis thaliana* as a plant substitute for *Drosophila*, and spent several years developing the genetic and molecular technologies necessary to use this plant for studies in developmental genetics. After participating in the establishment of *Arabidopsis* as an experimental system, the Meyerowitz lab has worked to understand its development. This work started with the formulation of the "ABC" model for the genetic control of flower development. This model accurately predicts the effects of changes in several classes of regulatory genes on flower structure. Subsequent cloning of the genes allowed the design and growth of flowers with any combination of organ types. The Meyerowitz lab also provided the first understanding of the molecular mechanisms by which plant hormones function. In this work the receptor proteins for the plant hormone ethylene were identified, and their function demonstrated, thus giving a molecular and biochemical explanation for the action of a plant growth substance. Current work in the Meyerowitz lab has resulted in the discovery of a signaling system used by cells in the growing tips of plant shoots to coordinate their activities. This system involves protein ligands and transmembrane receptor kinases of a type so far found only in plants.

Dr. Meyerowitz has received numerous awards for his work, including the Pelton Award of the BSA and the Conservation and Research Foundation (1994), the Gibbs Medal of the American Society of Plant Physiologists (1995), the Genetics Society of America Medal (1996), the Mendel Medal of the British Genetical Society (1997), the International Prize for Biology from the Japan Society for the Promotion of Science (1997) and the Richard Lounsbery Award from the U.S. National Academy of Sciences (1999). He has served as President of the International Society for Plant Molecular Biology (1995-1997) and of the Genetics Society of America (1999), and serves as an editor of several journals in developmental and molecular biology, including *Development*, *Trends in Genetics*, *Current Biology*, *Current Opinion in Plant Biology*, *Genome Biology*, and *Cell*. He has been elected to membership in the American Academy of Arts and Sciences (1991), the National Academy of Sciences (1995), and the American Philosophical Society (1998).

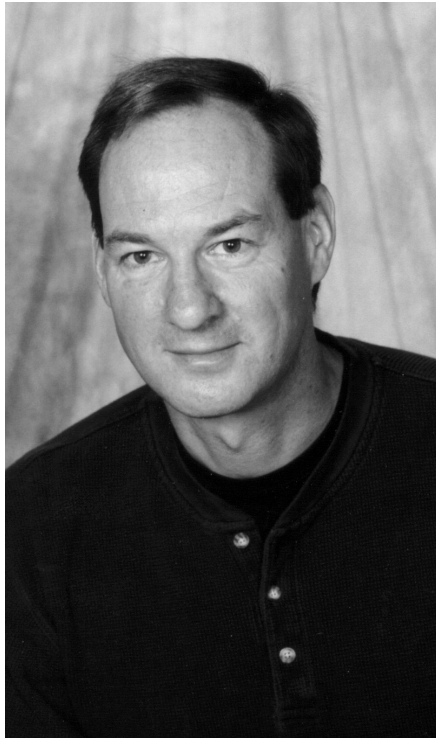
## Outreach Lecture

Monday, 7 Aug., 8:00 pm; Lloyd Center Ballroom, Doubletree/Lloyd Center Hotel

### *Habitat of Hope: Our Northwest in the 21st Century*

Mr. William Dietrich, Science Reporter and winner of the Pulitzer Prize, *The Seattle Times*

William Dietrich is an award-winning author and journalist who lives in Anacortes, WA. He is the author of two non-fiction books, "The Final Forest: The Battle for the Last Great Trees of the Pacific Northwest" (1992) and "Northwest Passage: The Great Columbia River" (1995). His first novel, "Ice Reich," (1998) was a World War II adventure set in Antarctica and has been translated into four foreign languages. His second novel, "Getting Back," a wilderness story set in Australia, was published in February. He is under contract for a third novel. Dietrich was a newspaper reporter for 25 years, specializing in science and environment before switching in 1997 to freelance and books. He writes monthly natural history features for the Seattle Time Pacific Northwest Sunday Magazine called "Our Northwest."



Dietrich is a native of Tacoma, WA., and graduated from Fairhaven College at Western Washington University in 1973. In February he was honored as one of the 21 outstanding graduates of the university of the 20<sup>th</sup> century. In 1990, he shared a Pulitzer Prize in national reporting for coverage of the Exxon Valdez oil spill. He was a Nieman Fellow at Harvard University in 1987-1988, won two National Science Foundation fellowships to Antarctica in 1994 and 1996, and a Marine Biological Lab fellowship to Woods Hole and Alaska in 1996. He speaks and volunteers on Northwest environmental issues and science education and is a board member of the North Cascades Institute and the Skagit Land Trust.

## TICKETED SOCIETY AND ASSOCIATION EVENTS

The following society and group events require tickets. Tickets may be purchased in advance or on-site at the Registration Area. Event tickets will be included in the registration packet, which will be distributed on-site at the Registration Area.

ABLS Breakfast	\$20	Monday, August 7	7:00 am to 8:30 am	Doubletree/Lloyd Center Hotel
AFS Luncheon	\$16	Monday, August 7	noon to 1:30 pm	Windows Lounge, Holiday Inn
Paleobotany Banquet	\$37.50	Monday, August 7	6:30 pm to 8:00 pm	Doubletree/Lloyd Center Hotel
Missouri Botanical Garden Breakfast	\$15	Tuesday, August 8	7:00 am to 8:30 am	Doubletree/Lloyd Center Hotel
Economic Botany Luncheon	\$20	Tuesday, August 8	11:30 am to 1:00 pm	Oregon Convention Center
ASPT Banquet	\$35	Tuesday, August 8	6:00 pm to 9:30 pm	Portland State University
BSA Banquet	\$35	Wednesday, August 9	7:00 pm to 10:00 pm	Doubletree/Lloyd Center Hotel

## SCIENTIFIC FIELD TRIPS

Field trip fees include transportation and lunch where indicated. All field trips depart from the Oregon Convention Center. Please read the 'Refund and Cancellation Policy.' Scientific Field Trips are ticketed events; tickets may be purchased while registering. Field trip tickets will be included in the registration packet, which will be distributed on-site in the Registration Area. If you participate in a field trip before you pick up your registration packet, please bring your 'registration confirmation notice' so that you have a record of your purchased ticket.

### Saturday, 5 August

#### *FT 1 The Botany of Beer: Touring and Sampling at Some of Portland's Microbreweries*

**\$35** Sat., 5 Aug. Trip departs at 11:00 am and returns at 5:30 pm. Lunch on your own. BSA.

*Trip leader: Robert S. Wallace, Department of Botany, Iowa State University, 353 Bessey Hall, Ames, Iowa 50011-1020, Phone: 515-294-0367 FAX: 515-294-1337 E-mail: [rwallace@iastate.edu](mailto:rwallace@iastate.edu)*

Portland deservedly has earned the title of 'Microbrew Capital of the World' due in no small part to many dedicated brewers choosing to brew there and its location near sources of quality malted barley, superb hops, and pure water. This field trip will serve as an introduction to the brewing industry, the plants and plant products used in the brewing of beer, and will provide an outstanding introduction to several different beer styles. The breweries to be toured are all established regional brewing industry leaders and produce beers of high quality. The trip will begin with a brief overview of all of the plants and plant products used in the brewing industry presented as a short (but fun) lecture by the field trip leader. The group will then get a tour of three of Portland's major microbreweries, including interactive sessions with brewing staff and with an experienced local 'brew tour-guide'. Cost includes bus transportation to three microbreweries and arrangements with the breweries to be toured. Note that lunch is not included in the trip cost, but may be purchased on site (approx. \$10-15) at one of the breweries where we will eat our mid-day meal and partake of the freshly-crafted beers. Ample time is planned for sampling several beers at each microbrewery following the tour given at each one. Participants should dress comfortably, appropriate for the weather, and be prepared to enjoy themselves.

#### *FT 2 Ferns of the Columbia River Gorge*

**\$45** Sat., 5 Aug. Trip departs at 8:00 am and returns at 5:00 pm. Lunch provided. AFS.

*Trip leader: David H. Wagner, Northwest Botanical Institute, P. O. Box 30064, Eugene, OR 97403-1064.*

*Phone: 541-342-4169*

*E-mail: [davidhwagner@compuserve.com](mailto:davidhwagner@compuserve.com)*

Visit the Columbia Gorge with its spectacular landscape, visiting sites from the wet western end to the dry eastern end.

*Special considerations: easy to moderate difficulty, could be warm. Bring extra water. Poison oak present in some locations.*

#### *FT 3 Exploring the mouth of the Columbia River*

**\$45** Sat., 5 Aug. Trip departs at 8:00 am and returns at 7:00 pm. Lunch provided; museum admission (\$5.00) not included. ASPT.

*Trip leader: Richard Peterson, Department of Biology, Portland State University, Portland, OR 97207. Phone: 503-725-4241 E-mail: [petersenr@pdx.edu](mailto:petersenr@pdx.edu)*

Astoria, at the northern tip of the Oregon Coast is about 70 mi from Portland. This trip will explore the Columbia River from Portland to its mouth. At historic Fort Clatsop we will tour the Lewis & Clark Museum where these explorers spent a cold and damp winter after reaching the Pacific. Displays include artifacts, herbarium vouchers and diary excerpts. The fort sits only 1/2 mile from the beach. Other stops of interest include the Tilamook burn, an old growth douglas fir stand, an estuary and historic Astoria.

### Sunday, 6 August

#### *FT 4 Ferns of Larch Mountain*

**\$45** Sun., 6 Aug. Trip departs at 8:00 am and returns at 4:00 pm. Lunch provided. AFS.

*Trip leader: David H. Wagner, Northwest Botanical Institute, P. O. Box 30064, Eugene, OR 97403-1064. Phone: 541-342-4169, E-mail: [davidhwagner@compuserve.com](mailto:davidhwagner@compuserve.com)*

Travel to the summit of Larch Mountain just NW of Mount Hood. At just over 4000'/1220m, it has a good arctic-alpine element.



*Special considerations: easy to moderate difficulty; could be warm. Bring extra water. Poison oak present in some locations.*

*FT 5 Bryophytes of the Columbia River Gorge*

**\$45** Sun., 6 Aug. Trip departs at 7:30 am and returns at 3:00 pm. Lunch provided. ABLIS.

*Trip leaders: John Christy and Judith A. Harpel.*  
*Contact: Judith A. Harpel, Gifford Pinchot National Forest, 10600 NE 51<sup>st</sup> Circle, Vancouver, WA 98682. Phone 360-891-5121 E-mail: [harpel@csci.clark.edu](mailto:harpel@csci.clark.edu) or [harpel\\_judith\\_a/r6pnw\\_gp@fs.fed.us](mailto:harpel_judith_a/r6pnw_gp@fs.fed.us)*

Explore the Columbia River Gorge. This area offers spectacular views, dry rocky southern slopes, cool damp northern slopes and a wide diversity of species. We will make several stops throughout the Gorge to explore some of these sites. The necessary permits will be obtained to allow people to make small collections for personal use.

*Special considerations: easy to moderate difficulty, could be warm. Bring extra water. Poison oak present in some locations.*

*FT 6 Vascular Plants of the Columbia River Gorge*

**\$45** Sun., 6 Aug. Trip departs at 8:00 am and returns at 5:00 pm. Lunch provided. ASPT.

*Trip leader: Richard Halse, Cordley Hall 2082, Department of Botany and Plant Pathology, Oregon State University, Corvallis, OR 97331-2902. Phone 541-737-5297, E-mail: [halse@bcc.orst.edu](mailto:halse@bcc.orst.edu)*

The spectacular Columbia River Gorge is a nearly sea level cut directly across the Cascade Range of Oregon and Washington. The elevational range in the Gorge varies from less than 100 feet at the river to over three thousand feet on both sides of the Gorge. This creates a feature for which the Gorge is famous - its magnificent waterfalls. The Columbia River Gorge is also known for its great diversity of plant life. There is a transition from the mesophytic Douglas fir-western hemlock forests on the west end to a xerophytic ponderosa pine-Garry oak forest on the east end that corresponds to the differences in the amount of precipitation between the two ends. The Gorge is home to over 800 different species of vascular plants, many of them endemics. A one-day trip with a limited number of participants. Brief stops will be made at various sites to permit short hikes.

*Special considerations: We will encounter poison ivy and perhaps ticks.*

*FT 7 Berry Botanic Garden*

**\$20** Sun., 6 Aug. Trip departs at 1:00 pm and returns at 4:00 pm. Lunch on your own. BSA.

*Trip leader: Keith Karoly, Biology Department, Reed College, Portland, OR 97202. Phone: 503-771-1112 ext 7846; E-mail: [kkaroly@reed.edu](mailto:kkaroly@reed.edu)*

Visit the Berry Botanic Garden, a non-profit, private botanic garden located in the hills of southwest Portland. Founded in 1977, the six and one half acre site includes a native woodland, a collection of species rhododendrons, a half acre rock garden and alpine collection, unusual perennials and woodland plants, and specimen shrubs and trees. The garden also plays a significant role in the conservation of rare and endangered native plant species of the Pacific Northwest. Garden staff will provide a guided tour, with additional time available for individual wandering.

Related web sites: <<http://www.berrybot.org/>>

*FT 8 Bonney Meadows, Mt. Hood*

**\$45** Sun., 6 Aug. Trip departs at 9:00 am and returns at 5:00 pm. Lunch provided. ASPT.

*Trip leaders: Lisa Kaarst and Carol Wilson*  
*Contact: Carol Wilson, Biology Department, Portland State University, P. O. Box 751, Portland, OR 97207. Phone 503-725-3859, E-mail: [bwcw@pdx.edu](mailto:bwcw@pdx.edu)*

Bonney Meadows is a gently sloping, subalpine meadow that follows a meandering creek. It is at about 70 mi from Portland on the east side of Mount Hood at about 1700m. At the time of our visit this species rich meadow should be in full bloom. In addition to typical meadow dominants such as *Polygonum* and *Tolfieldia* expect to see sundew, several orchid genera and *Viola macloskeyi*. From Portland we will travel through forest ecotypes from montane, douglas fir/ western hemlock to subalpine, whitebark pine/mountain hemlock. Our return trip is through the orchard region of Hood River and along the Columbia River. Stops of interest include historic Timberline Lodge, sites of conifer diversity and the Columbia River.

*Special considerations: rough road*

*FT 9 Cascade Head, Oregon coast*

**\$45** Sun., 6 Aug. Trip departs at 7:00 am and returns at 6:00 pm. Lunch provided. BSA.

*Trip leader: Susan Kephart, Department of Biology, Willamette University, Salem, OR 97301. Phone: 503-370-6481; E-mail: [skephart@willamette.edu](mailto:skephart@willamette.edu)*

Cascade Head Scenic Research Area and Nature Conserancy Preserve is a spectacular coastal headland located at the base of the Salmon River Estuary, about 7 miles north of Lincoln City, Oregon. Noted for its biotic diversity and outstanding scenic beauty, the 9670 acre area was protected by Congress in 1974 and includes ungrazed coastal prairie and Pacific temperate rainforest areas that are part of a UNESCO biosphere reserve. The rich flora and habitat diversity harbor old growth Sitka spruce up to 7 feet in diameter and many rare or endemic plants. Native fescues and forbs support populations of the Oregon Silverspot butterfly, and experimental restoration and burn programs are in place in portions of the headland. The well-marked trail climbs gradually for about 1200 feet to a basaltic promontory which offers a panoramic view of the north and south coast, estuary, and interior coastal mountains. Parts of the trail are somewhat steep and rocky, but not excessively difficult for those with good aerobic conditioning. One-day hiking field trip with brief stops at coastal dune and tide pools if time permits.

## Thursday, 10 August

### *FT 10 Saddle Mountain*

**\$45** Thurs., 10 Aug. Trip departs at 8:00 am and returns at 5:00 pm. Lunch provided. ASPT.

*Trip leaders: Ken Chambers and Aaron Liston.*

*Contact: Aaron Liston, Department of Botany and Plant Pathology, Oregon State University, 2082 Cordley Hall, Corvallis, OR 97331-2902. Phone: 541-737-5301; E-mail: [listona@bcc.orst.edu](mailto:listona@bcc.orst.edu)*

Saddle Mountain State Park features an emergent basaltic peak whose rich flora contains many unusual species. A hiking trail climbs 1500 feet from the trailhead to the summit at 3283 feet. Although mostly a gentle grade, the trail has some steep areas, especially near the summit. The flora of over 280 vascular plants contains many cold-loving species having relationships northward to the Olympics and Cascades. Starting in coastal rain-forest at the base, the trail passes through moist herbaceous thickets, to rock cliffs, dry gravelly slopes, and subalpine shrub thickets. A one-day trip with limited number of participants.

*Related web site: <http://slm-dbserve.prd.state>*

### *FT 11 Berry Botanic Garden*

**\$20** Thurs. 10 Aug. Trip departs at 1:00 pm and returns at 4:00 pm. BSA.

*Trip leader: Keith Karoly, Biology Department, Reed College, Portland, OR 97202. Phone: 503-771-1112 ext 7846; E-mail: [kkaroly@reed.edu](mailto:kkaroly@reed.edu)*

Visit the Berry Botanic Garden, a non-profit, private botanic garden located in the hills of southwest Portland. Founded in 1977, the six and one half acre site includes a native woodland, a collection of species rhododendrons, a half acre rock garden and alpine collection, unusual perennials and woodland plants, and specimen shrubs and trees. The garden also plays a significant role in the conservation of rare and endangered native plant species of the Pacific Northwest. Garden staff will provide a guided tour, with additional time available for individual wandering.

*Related web site: <http://www.berrybot.org/>*

### *FT 12 Conservation Biology at the Berry Botanic Garden*

**\$20** Thurs., 10 Aug. Trip departs at 2:00 pm and returns at 5:00 pm. BSA.

*Trip leader: Keith Karoly, Biology Department, Reed College, Portland, OR 97202. Phone: 503-771-1112 ext 7846; E-mail: [kkaroly@reed.edu](mailto:kkaroly@reed.edu)*

The Berry Botanic Garden is a founding member, and the participating institution in the Pacific Northwest, of The Center for Plant Conservation. One main focus of the garden's conservation effort has been the establishment of a seed bank for rare and endangered plants of the Pacific Northwest. The conservation staff at the garden will provide a tour of their research facilities and describe their ongoing activities which are directed at conserving native plant species of the Pacific Northwest.

*Related web site: <http://www.berrybot.org/cons.htm>*

### *FT 13 Wind River Canopy Crane Research Facility*

**\$70** Thurs., 10 Aug. Trip departs at 6:00 am and returns at 5:00 pm. Lunch provided. Includes lift fee. BSA.

*Trip leaders: David Dalton, John Davis, David Shaw.*

*Contact: David Dalton, Biology Dept., Reed College, Portland, OR 97202-8199 Phone 503-771-1112 ext 7474, E-mail: [ddalton@reed.edu](mailto:ddalton@reed.edu)*

Visit the Wind River Canopy Crane Research Facility, a 90 m tall construction crane located in the Thornton. T. Munger Research Natural Area, deep within the southern Washington Cascade Range at 355 m elevation. The crane's gondola provides researchers with access to a 4ha plot within a canopy dominated by 400 to 500 year old Douglas-fir (*Pseudotsuga menziesii*) and western hemlock (*Tsuga heterophylla*). This trip will include an opportunity to travel to the canopy in the

crane's gondola (weather permitting) as well as visits to other local sites of botanical interest.

*Related web site:* <http://depts.washington.edu/wrccrf/>

#### *FT 14 Wildflowers of the Cascades*

**\$45** Thurs., 10 Aug. Trip departs at 7:30 am and returns at 5:00 pm. Lunch provided. BSA.

*Trip leaders:* Keith Karoly and Richard Halse.

*Contact:* Keith Karoly, Biology Department, Reed College, Portland, OR 97202. Phone: 503-771-1112 ext 7846; E-mail: [kkaroly@reed.edu](mailto:kkaroly@reed.edu)

Come view the forest and meadow wildflowers of the western Cascade Mountains. We will visit the Iron Mountain and Cone Peak area at 4,000' elevation in a region which is noted for its diversity of summer wildflowers (as well as its concentration of 17 conifer species). The visit will involve a 4 mile round-trip hike (approximately 800 foot elevation gain), with opportunities to explore further.

*Related web site:* [http://www.sweet-home.or.us/forest/sh\\_ranger\\_district/lrMt.html](http://www.sweet-home.or.us/forest/sh_ranger_district/lrMt.html)

#### Multi-day; leaving Thursday, 10 Aug

#### *FT 15 Lichens & bryophytes from steppe to coast*

**\$335** Thurs.-Mon., 10-14 Aug. Trip departs at 9:00 am Thursday, 10 August, and returns at 1:00 pm Monday, 14 August. Multi-day; includes lodging; includes meals except for day 1 and breakfast of day 2. ABLs.

*Trip leader:* Bruce McCune, Dept. of Botany and Plant Pathology, Cordley Hall 2082, Oregon State University, Corvallis, OR 97331-2902 Phone 541-737-1741  
E-mail: [mccuneb@ava.bcc.orst.edu](mailto:mccuneb@ava.bcc.orst.edu)

Explore the rich bryophyte and lichen communities of Oregon in a wide range of climates, including: Artemisia steppe east of the Cascades in Oregon, basalt rimrock, cliffs and talus; old montane forests in Cascade Range, old lava flow in oceanic climate, coastal headlands and dunes; one night in motel, three nights at field station on coast near Coos Bay.

*Special considerations:* Moderate hiking, raingear always a good idea in Oregon, possible rattlesnake encounters

*Related web site:*  
<http://mgd.NACSE.ORG/hyperSQL/lichenland/>

#### *FT 16 Steens Mountain: an oasis of botanical diversity in the high desert of the American West*

**\$480** Thurs.-Mon., 10-14 Aug. Trip departs 8:00 am Thursday 10 August, and returns at 5:00 pm Monday, 14 August. Multi-day; includes lodging and all meals. BSA.

*Trip leaders:* Sherry Spencer and Mary Pfauth.

*Contact:* Mary Pfauth, Dept. of Biology, Portland State University, Portland, OR 97207, Phone 503-281-9795 (home), E-mail: [h2mp@pdx.edu](mailto:h2mp@pdx.edu)

Steens Mountain rises from the high, arid desert of the Great Basin area of southeastern Oregon. Its uniqueness lies in its great diversity of habitats within a relatively small area. As we progress from 1200 m to 2700m elevation we will visit marshes and riparian areas, wet meadows, alpine scree, rocky ledges, and mountain lakes. In addition to its botanical riches, Malheur National Wildlife Refuge and Steens Mountain furnish great birding opportunities and, if you want to bring your telescope, the stargazing is fantastic too. The Malheur Field Station will serve as our base for exploring the Steens Mountain and neighboring areas.

*Related web site:*  
<http://www.eosc.osshe.edu/~dkerley/malheur.htm>

#### *FT 17 Fossil Forests of Central Oregon*

**\$385\*** Thurs.-Mon., 10-14 Aug. Trip departs at 8:30 am Thursday, 10 August and returns at noon Monday, 14 August to the Portland International Airport. Multi-day; includes lodging and all lunches plus 1 evening meal. BSA. Reservations must be made by 15 June 2000.

**\*Note: Cancellations after 15 July 2000 will receive only a 50% refund because of fixed cost of lodging reservations.**

*Trip leader:* Steve Manchester, Florida Museum of Natural History, Department of Natural Sciences, University of Florida, Gainesville, FL 32611. Phone: 904-392-1721; E-mail: [steven@flmnh.ufl.edu](mailto:steven@flmnh.ufl.edu)

This 4-1/2-day excursion will explore the rich fossil plant record preserved in the rugged high desert terrain east of Oregon's Cascade Mountains with visits to classic Paleozoic and Tertiary paleobotanical sites. The trip will depart through the magnificent Columbia River Gorge, examine local stratigraphy and fossil plant localities of northcentral Oregon, and return to Portland via Mount Hood. Highlights include visits to the Pennsylvanian Spotted Ridge and to Eocene, Oligocene, and Miocene floral sites of the Clarno, John Day, and Mascall

Formations in and around John Day Fossil Beds, National Monument.

*related web sites:* <http://www.nps.gov/joda/> and <http://www.omsu.edu/educprogs/camps/sites/hancock/>

## Friday, 11 August

### *FT 18 Mt. St. Helens*

**\$55** Fri., 11 Aug. Trip departs at 7:00 am and returns at 6:00 pm. Lunch provided. BSA.

*Trip leaders:* John Bishop and Keith Karoly.  
*Contact:* Keith Karoly, Biology Department, Reed College, Portland, OR 97202. Phone: 503-771-1112 ext 7846; E-mail: [kkaroly@reed.edu](mailto:kkaroly@reed.edu)

Visit the Mt. St. Helens National Volcanic Monument, scene of a catastrophic eruption in May of 1980. We will travel into the National Monument from the west-entrance, stopping at visitor centers and ending at the award-winning Johnston Ridge Visitor Center which provides a spectacular view into the crater which was formed by the 1980 eruption. In the afternoon there will be opportunities for self-guided interpretive hikes near the VC, as well as the option of a strenuous hike into the blast-zone and the Monument's backcountry (led by a botanist with ongoing research investigating the monument's plants).

*Related web sites:*  
<http://vulcan.wr.usgs.gov/Volcanoes/MSH/framework.html>, <http://www.fs.fed.us/gpnl/mshnvm/>

## WORKSHOPS

Workshop fees include transportation between the Oregon Convention Center (OCC) and Science Building #1 and #2 at Portland State University. Please read 'Refund and Cancellation Policy.' Workshops are ticketed events; tickets may be purchased while registering. Workshop tickets will be included in the registration packet, which will be distributed on-site in the Registration Area. If you participate in a workshop before you pick up your registration packet, please bring you 'registration confirmation notice' so that you have a record of your purchased ticket.

### *WS 1 Using World Wide Web technologies to enhance teaching and learning*

**\$20** Sunday, 6 August. Time: 9:00 am to noon. Transportation departs OCC at 8:30 am. BSA. Room 469, Science Bldg. #2, 1719 SW 10<sup>th</sup> Street.

*Organizer:* Steven J. Wolf, Department of Biological Sciences, California State University at Stanislaus, Turlock, CA 95382. Phone: 209-667-3489; FAX: 209-667-3694; E-mail: [swolf@arnica.csustan.edu](mailto:swolf@arnica.csustan.edu)

The World Wide Web has spawned a number of essentially free, cross-platform, non-proprietary technologies and the Web browser has become a valuable teaching tool. This presentation will demonstrate how Web materials such as text, images, 3D models, animations, movies, VRML, Java applets, streaming audio and video, interactive databases and threaded discussions may be used to enhance teaching and learning both within and outside of the classroom, and with or without an Internet connection. Creation of such materials, as well as the use of a stand-alone, i.e. non-Internet connected Web server, will also be demonstrated.

### *WS 2 Integrating computer-based data acquisition and analyses systems into undergraduate biology laboratories*

**\$45** Sunday, 6 August. Time: 1:00 pm to 4:30 pm. Transportation departs OCC at 12:30 pm. Includes lab manual with CD. BSA. Room 424, Science Bldg. #1, 1025 SW Mill Street.

*Organizers:* M. C. Hirrel and J. S. Choinski, Jr.  
*Contact:* John Choinski, Dept. of Biology, University of Central Arkansas, Conway, AR 72035-5003. Phone: 501-450-5918, FAX 501-450-5914, E-mail: [john@mail.uca.edu](mailto:john@mail.uca.edu)

A method for integrating data acquisition and analyses systems (Vernier Software) into biology laboratories will be presented. The focus will be on how to organize laboratories that enable students to participate in the scientific process and take responsibility for their education. A variety of probes/sensors will be used including pH, conductivity, CO<sub>2</sub> gas, pressure, and temperature. Participants will learn to use the software and various probes by doing a directed investigation of environmental effects on photosynthesis. Participants will also design their own experiment, then collect and analyze the data. Prior experience with computers is desirable, but not required.



### *WS 3 Bringing your herbarium into the electronic age*

**\$20** Sunday, 6 August. Time: 1:00 pm to 4:00 pm. Transportation departs OCC at 12:30 pm. BSA. Room 469, Science Bldg. #2, 1719 SW 10<sup>th</sup> Street.

*Organizer: Steven J. Wolf, Department of Biological Sciences, California State University at Stanislaus, Turlock, CA 95382. Phone: 209-667-348; FAX: 209-667-3694; E-mail: [swolf@arnica.csustan.edu](mailto:swolf@arnica.csustan.edu)*

For centuries herbaria have been accumulating millions of plant specimens. Regardless of size, each possesses unique and valuable information for the systematics community. Although the advent of quick modes of transportation and reliable postal services has greatly facilitated the dissemination of specimens, vast amounts of data remain accessible only via on-site visits. In addition, many herbaria have unique methods of information storage, making it difficult to share and/or consolidate that information with others. The advent of powerful, low cost personal computers, inexpensive and easy to use software, and high speed Internet access now provide an easy means for sharing such information. Dynamic, searchable and/or updateable databases of specimens, text and/or images may be published on the Internet in minutes. Full size screen images of herbarium specimens and/or microscope images may be broadcast, in real time and with viewer interaction, over the Internet. This workshop will demonstrate the construction, use, and publishing of web-based databases using inexpensive hardware and software that require absolutely no knowledge of programming. A live and interactive Internet broadcast of herbarium specimens and microscope images also will be demonstrated.

### *WS 4 Using ISSR Markers in Studies of Natural Populations*

**\$30** Thursday, 10 August. Time: 9:00 am to noon. Transportation departs OCC at 8:30 am. Price includes lab manual. ASPT. Room 424, Science Bldg. #1, 1025 SW Mill Street.

*Organizer: Andrea D. Wolfe, Dept. of EEOB, 1735 Neil Avenue, The Ohio State University, Columbus, OH 43210. Ph: 614-292-0267; FAX: 614-292-2030; E-mail: [wolfe.205@osu.edu](mailto:wolfe.205@osu.edu)*

Inter-simple sequence repeat markers are generated from single-primer PCR reactions where the primer is designed from di- or tri-nucleotide repeat motifs with a 5'- or 3'-anchoring sequence of one to three nucleotides. The amplified regions represent the nucleotide sequence between two SSR priming sites oriented on opposite DNA strands. The premise is that SSR regions are scattered evenly throughout the genome and the chances of amplifying between two adjacent regions within the limits of Taq Polymerase processivity is high enough that a large number of polymorphic bands should be generated. ISSR markers are inherited in a dominant or codominant Mendelian fashion. They are interpreted as dominant markers similar to RAPD data. The absence of a band is interpreted as primer divergence or loss of a locus through the deletion of the SSR site or chromosomal rearrangement. The utility of ISSR markers has recently been demonstrated for use in studies of natural populations for a range of applications from population-level to interspecific studies. The objective of this workshop is to introduce researchers into the use of ISSR markers for studies of natural populations. An overview of the method will be given with an emphasis on data interpretation and analysis.

## LOCAL TOURS

Local Tour fees include transportation from and return to the Oregon Convention Center (OCC) and lunch where indicated. Ticket prices are for adults and children unless otherwise stated. Please note that local tours require a minimum number of individuals. Please read 'Refund and Cancellation Policy'. Local Tours are ticketed events; tickets may be purchased while registering. Local Tour tickets will be included in the registration packet, which will be distributed on-site in the Registration Area.

### *LT 1 Oregon Museum of Science and Industry & Willamette Jet Boat Tour*

**\$57 (adults) \$42 (children and infants)**  
Sunday, August 6. 1:00 pm to 6:00 pm.

The tour includes a visit to the Oregon Museum of Science and Industry. OMSI not only provides the best westward viewing of the City of Roses, but also boasts

a new facility that challenges old and young alike to explore and foster understanding of the computer, space, and earth sciences. Demonstrations and interactive and traveling exhibits make the museum a full-scale science education center. After enjoying a couple of hours exploring, your next adventure takes off from the riverside dock adjacent to the museum. Prepare to get a little wet as you jet along the Willamette River on this ultimate adventure. At the OMSI dock you will board the Willamette Jet Boat.

Discover Portland's skyline, historic bridges, world-class shipyards, and scenic waterways. Watch as blue herons skim the water; glimpse the very elusive bald eagle or osprey that nest along the river; experience the grandeur of the riverfront homes along the Willamette River; and visit Willamette Falls, stopping just yards from the cascading water. USCG certified pilots will share their vast knowledge of the river, Native American, and maritime history as well as fun pieces of trivia on this 2-hour excursion. There will be plenty of stops to take up-close photographs or simply enjoy the many spectacular sites. It's a SPLASH!

#### *LT 2 The Oregon Coast at Cannon Beach*

**\$35** Monday, August 7. 9:00 am to 5:00 pm.  
Lunch on your own.

Travel through fir forests and the Coastal Mountain Range, to Cannon Beach. This artist's community, often referred to as the "Carmel of the North," is the site of Haystack Rock, the third largest monolith in the world. Explore the beach and visit many unique art galleries and shops. You can spend your time with the "coastal pursuit" of your choice: tide pool exploring, beach combing, picnicking on the beach, eating one of the many excellent restaurants, or shopping. This is a day on your own to enjoy putting your "toes" in the Pacific Ocean. This is a tour for all ages.

#### *LT 3 Mount Hood, Timberline Lodge Tour*

**\$38** Mon. August 7. 9:00 am to 4:00 pm. Lunch on your own; includes chair lift ride.

Visit the 6,000-foot level of majestic, snow-capped Mt. Hood, site of Timberline Lodge. This huge stone castle and its furnishings were completely handcrafted works inspired by pioneer, Native American, and wildlife themes. An optional chairlift ride up the mountain may be included during the visit. Children 12 and older will enjoy this trip more than younger children. Lunch is on your own at one of several food outlets and restaurants at the lodge. Hiking boots are recommended for those wanting to walk the wildflower trails around the lodge.

#### *LT 4 Oregon Wine Country Tour*

**\$55** Tuesday, August 8. 10:00 am – 4:00 pm.  
Includes Gourmet Box lunch and all tastings.

Journey by mini-bus through one of the most scenic areas in the region, Yamhill County, past rolling hillsides, picturesque vineyards, and tidy orchards and discover the wines of this world-renowned wine growing region. Visit and sample wines at several favorite wineries and take a tour to learn more about the winemaking process. Like the great wine regions of France and Germany, Oregon's wine country is

blessed with a long, moderate growing season, which has proven ideal for such grapes as Pinot Noir, Chardonnay, and White Rieslings. Yamhill County's winemakers consistently produce wines which receive the highest honors in many American and international wine competitions. Adults only.

#### *LT 5 Central Oregon Coastal Tour and Whale Watching Excursion*

**\$60** Tuesday, August 8. 8:00 am to 6:00 pm.  
Includes lunch and whale watching.

This trip is designed to give visitors a complete experience of the natural beauty of Oregon's unique coastal terrain. It is a long day trip, but packed with interesting opportunities. Travel west through picturesque vineyards, orchards, forests, and discover the rugged Pacific Ocean, along with charming villages and sandy beaches. There will be several stops for picture taking and a visit to Lincoln City, the kite flying capital of the world, walk along the beach. Enjoy a spectacular Whale Watching excursion on a boat departing from Depoe Bay, "the world's smallest harbor," and shop in the quaint oceanside shops and restaurants.

#### *LT 6 Canoeing and/or Kayaking: Waterfowl and River Scenery on the Willamette River*

**\$50** Wednesday, August 9. 6:30 am to 10:30 am.  
For beginners in reasonable shape.

Join us for a scenic 3-hour flatwater tour on the Willamette River or on one of the many rivers and lakes in the Portland area. We often see great blue herons, osprey, kingfishers, and other wildlife such as beaver and nutria along these rivers.

#### *LT 7 Mount St. Helens Tour*

**\$50** Wednesday, August 9. 9:00 am to 5:00 pm.  
Includes lunch.

See the dramatic landscape surrounding the Mt. St. Helens volcano, comprising three distinct ecosystems. Visit Coldwater Ridge Visitor Center, which offers educational exhibits and a view of the mountain and the Johnston Ridgetop for the most spectacular of views and experience.

#### *LT 8 White Water Rafting Tour*

**\$99** Wednesday, August 9. 10:00 am to 5:00 pm.  
Includes lunch.

Travel through the beautiful Columbia River Gorge to the White Salmon River for a day of rafting Class I through Class 4. Recommended for adults and children 12 and over. All equipment provided, including life vests and wet suits.

## NOTES

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