

February 3 - 6, 2014



**54th Annual Meeting of the  
Weed Science Society of America**

**and the**  
**67th Annual Meeting of the  
Canadian Weed Science Society/Société  
canadienne de malherbologie  
Vancouver, BC, Canada**





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*All photos courtesy of Tourism Vancouver*

Dear WSSA and CWSS/SCM members,

The 54th annual meeting of the Weed Science Society of America will be held at the Hyatt Regency Vancouver beginning Monday, February 3 through Thursday, February 6, 2014. This year WSSA is holding a joint meeting with the Canadian Weed Science Society/Société canadienne de malherbologie (CWSS/SCM), which will enhance the program for both societies. The hotel, located in the Vancouver city center with many interesting shops, restaurants, and other attractions, is a great venue for our annual meeting.

WSSA Program Chair Joe DiTomaso and CWSS Program Chair Hugh Beckie have been working together for over a year to coordinate the meetings of our two societies into one seamless event. There will be a very interesting general session and awards presentation Monday afternoon, followed by a society reception. There is a single registration fee to attend the conference. For those of you arriving early, there will be two pre-conference tours Sunday afternoon, February 2. One is a British Columbia Wine Tour

and the other will visit the Botanical Garden at the University of British Columbia. Details on these tours can be found elsewhere in this brochure. There will also be a pre-conference workshop on Sunday entitled "Use of Linear and Nonlinear Regression in Physical, Chemical, and Biological Weed Control," organized by Jens Streibig.

There are four outstanding symposia scheduled for the 2014 meeting that directly relate to current issues in weed science. The first will be Tuesday afternoon and is entitled "Turf Wars and the Emergence of Pesticide Bans in Canada and the U.S." This symposium was organized by Jenny Kao-Kniffin and Andy Senesac. There will be two symposia on Wednesday afternoon: the first, organized by David Clements, is entitled "Vulnerability of the Pacific Northwest to Plant Invasions;" the second, organized by Steve Duke and Franck Dayan, is entitled "Bioherbicides: Current Status and the Future Prospects." There will also be a symposium on Thursday morning entitled "Addressing Global

Herbicide Resistance Issues – Industry Perspectives and Initiatives," organized by Mark Peterson, John Soteris, and Harry Streck.

The entire program will be posted on the WSSA web site ([www.wssa.net](http://www.wssa.net)) in advance of the meeting. Printed programs will be mailed to those U.S. attendees pre-registered before January 10, 2014. Please be sure to bring your program with you to the meeting - only Canadian, international attendees and on-site registrants will receive programs at the meeting registration desk. Make your travel plans now for what promises to be an excellent meeting! And, for non-Canadian attendees, don't forget your passport!

Jim Kells  
President, Weed Science  
Society of America

David Clements  
President, Canadian Weed Science Society/  
Société canadienne de malherbologie

## Tentative Schedule of Events

### Saturday, Feb. 1, 2014

8 a.m. – 5 p.m. ....WSSA Board of Directors

### Sunday, Feb. 2, 2014

8 a.m. – Noon .....WSSA Board of Directors

8 a.m. – 4 p.m.....Linear/Nonlinear Regression Workshop

12:30 – 5:30 p.m.....Wine Tour

UBC Botanical Gardens Tour

### Monday, Feb. 3, 2014

7 – 8 a.m. ....WSSA Board/Committee Chairs Breakfast

8 a.m. – 4 p.m. ....WSSA Committee Meetings

CWSS Committee Meetings

8:30 a.m. – 4 p.m. ....CWSS Board of Directors Meeting

4 – 6 p.m. ....Joint General Session/WSSA Awards/CWSS

Fellow Award

6 – 6:30 p.m. ....CWSS Board and Graduate

Student Meet & Greet

6 – 8 p.m. ....Joint Welcome Reception

(heavy hors d'oeuvres and cash bar)

### Tuesday, Feb. 4, 2014

7:30 – 8 a.m. ....PUFF Run

8 – 10 a.m. ....Poster Session

(Even-numbered presentations)

10 a.m. – Noon .....CWSS Graduate Student Presentations

10 a.m. – Noon .....Paper Sessions

Noon – 1 p.m. ....WSSA/CWSS Graduate Student Luncheon

1 – 5 p.m. ....Symposia – Turf Wars and the Emergence

of Pesticide Bans in Canada and the U.S.

1 – 5 p.m.....CWSS Graduate Student Presentations

1 – 5 p.m.....Paper Sessions

5 – 6 p.m. ....WSSA Business Meeting

### Wednesday, Feb. 5, 2014

7 – 8 a.m. ....WSSA President's Breakfast with

Regional Presidents

7 – 8 a.m.....CWSS local arrangements breakfast

8 – 10 a.m. ....Poster Session (Odd-numbered presentations)

10 a.m. – Noon .....Paper Sessions

10 a.m. – Noon .....WSSA/CWSS Graduate

Student Workshop

Noon – 1:30 p.m. ....CWSS Awards Luncheon

1 – 5 p.m. ....Symposia – Vulnerability of the Pacific

Northwest to Plant Invasions

1 – 5 p.m.....Symposia – Bioherbicides: Current Status

and the Future Prospects

1 – 5 p.m.....Paper Sessions

7 – 9 p.m.....CWSS Industry Reception

### Thursday, Feb. 6, 2014

6:45 – 8:00 a.m. ....CWSS Business Meeting Breakfast

8 a.m. – Noon .....Symposia – Addressing Global

Herbicide Resistance Issues

8 a.m. – Noon .....Paper Sessions

Noon – 1:30 p.m. ....WSSA Board of Directors

Noon – 3 p.m.....CWSS Board of Directors

### Student Events

#### Monday, February 3

6 – 6:30 p.m. ....CWSS Student/Board of Directors

Meet and Greet

(Open to CWSS student members)

#### Tuesday, February 4

10 a.m. – 5 p.m. ....CWSS Best Student Presentation Contest

(Open to CWSS student members)

Noon – 1 p.m.....Graduate Student Luncheon

(Open to all students registered for the meeting.)

#### Wednesday, February 5

10 a.m. – Noon.....Graduate Student Workshop

(Open to all students registered for the meeting.)





## 4 Tour and Workshop Information



### Tours

Both tours leave the hotel at 12:30 p.m. on Sunday Feb. 2. Please be sure to eat lunch prior to departure as lunch will not be included in the tours and food is not allowed on the busses. A tour may be cancelled if there is insufficient interest to cover bus costs – full refunds will be issued to individuals for tour fees already paid. For tours that are not cancelled, no refunds will be issued after December 31 to individuals wishing to cancel their space.

#### Winery Tour

This tour will visit three British Columbia wineries – all located in Langley, BC – the Vista D'Oro Winery; the Domaine de Chaberton Winery; and the Krause Berry Farms (fruit wines). At Krause Berry Farms there will be pie and ice cream served in addition to the wine tasting. There will also be a brief talk by a grower on weed issues.

#### Botanical Garden at the University of British Columbia (UBC)

This tour includes the Greenheart Canopy Walk in addition to the rest of the gardens. The Greenheart Canopy Walkway is a 308-metre (1010 feet) aerial trail system

that offers a rare perspective of the natural beauty of the west coast forest canopy ecosystem. It is the only one of its kind in Canada. What is a canopy walkway? The aerial trail system allows for interpretation of the tree canopy, providing dynamic new research and learning possibilities. And it's a lot of fun! Canopy walkways allow access to the upper parts of the forest (the canopy) where visitors are introduced to a world of flora and fauna that thrives in this lofty environment. Guests traverse bridges suspended around 50 feet in trees that are over a century old.

### Workshop

#### Use of Linear and Nonlinear Regression in Physical, Chemical and Biological Weed Control

Instructors: Jens Carl Streibig<sup>1</sup>, Christian Ritz<sup>1</sup> & Andrew R. Kniss<sup>2</sup>

Uncertainty happens and we must use statistics to determine how closely data correspond to working hypotheses. Whether you publish in international journals or at local meetings, you present effects of treatments, and you are expected to present statistical analyses to substantiate your results.

If you have ever wondered when to use analyses of variance or regressions then this course is for you. We will try to answer these questions and provide you with guidelines on how to select scientifically and statistically sound analyses without using unnecessary statistical jargon. The course is based on the open source software R that can be downloaded here.

In class we use RStudio, which is a productive user interface for R.

Note R is platform independent so it runs equally well on Window, Linux and Mac.

Documentation, manuals and textbooks are free and available in several languages; one of the best ones can be found in English or Spanish.

If you have any further question do not hesitate to contact Jens C. Streibig at [jcs@life.ku.dk](mailto:jcs@life.ku.dk).

<sup>1</sup> Faculty of Science, University of Copenhagen

<sup>2</sup> University of Wyoming, Laramie

## Hotel Information

A classic, reborn. Hyatt Regency Vancouver, renowned for its exemplary service and attentive staff, now welcomes guests with a fresh new look in its prime location. This gracious hotel in downtown Vancouver boasts well-appointed newly renovated guest rooms with contemporary styling, unmatched meeting and convention facilities and tantalizing dining options. Surrounded by the bustling business center, moments from shops and entertainment, our luxurious downtown Vancouver hotel is the ideal starting point to explore everything this dynamic city offers. Whether attending a conference or enjoying a vacation, discover why we are the unsurpassed choice among hotels in Vancouver, British Columbia.

Help green the planet with a stay at Hyatt Regency Vancouver. The first downtown hotel to be awarded the highest rating of Five Keys by the HAC Green Key Program, our Vancouver Hyatt uses the services of Bullfrog Power (100% green electricity from wind power) for all its meeting rooms.

### All Accommodations Offer

- Hyatt Grand Bed™
- High-speed wired & wireless internet
- 42" high definition LED Television with remote control, cable, pay movies
- Video checkout, video account review
- Voicemail, telephone with message light, two-line data port phones
- Individual climate control
- Electronic door lock
- In-room laptop-sized safe
- Turndown service available upon request
- Full bath amenities; hair dryer; bathrobes
- Coffeemaker
- In-room refrigerator
- Iron/ironing board
- iHome® stereo with MP3 docking station
- Currency exchange at front desk

Let the luxurious Hyatt Regency Vancouver be your ideal starting point to explore everything this dynamic city offers. Freshly updated to reflect the excitement and vibrancy of Vancouver, our hotel is surrounded by the bustling business centre and within close proximity of the unique shops of Robson Street, the greenery of Stanley Park, the Vancouver Convention Centre, and Rogers

Arena, home of the National Hockey League's Vancouver Canucks. For business travel or vacation, reward yourself with a stay at the favored choice of hotels in Vancouver, British Columbia.

The Hyatt Regency is making available 20 student rooms each night at the reduced rate of CAD \$99 single occupancy/\$129 double occupancy. This is first-come, first-served so you need to reserve these early. Student reservations will be cross-checked with the registrant list to ensure that only those who qualify for the rooms obtain them. Valid student IDs will need to be presented upon check-in.

### Reservations

One of the reasons we have been able to retain relatively low meeting registration costs is that we receive free meeting space from the hotel if we achieve our contracted guest room minimum. However, we are charged attrition fees and meeting space rental fees if we do not meet this threshold. Thus, your reservation at the Hyatt Regency Vancouver, rather than another location, ensures the success of the meeting for the Societies and enables us to keep registration rate increases to a minimum in the future.





## 6 Hotel Information, continued

As part of our contract, we've negotiated complimentary guestroom internet for all attendees staying at the hotel—typically a cost of CAD \$9.95/day, along with complimentary access to the Fitness Centre. Additionally, our discounted room rates will be available three days pre- and post-conference (with hotel availability) should you wish to extend your stay in Vancouver.

To make reservations online, visit: <https://resweb.passkey.com/go/wssa2014annualmtg>. If you'd prefer to reserve your room via phone, please call: 1-888-421-1442 (North America) or 1-402-592-6464 (International) – be sure to mention “WSSA” in order to get the discounted rate.

To make student reservations online, visit: <https://resweb.passkey.com/go/student2014wssa>. Use a passcode: student2014wssa. You can also call in to book student reservations.

Our discounted block is available through Monday, January 6, 2014. Reservation requests received after the cut-off date will be based on availability & may be subject to the hotel's prevailing rates.

Check-in time at the Hyatt Regency is 4 p.m. with check-out at Noon. While the hotel does not require a deposit, a credit card will need to be provided as a guarantee. Should you need to cancel your reservation, please do so by 4 p.m. (Pacific time), 24 hour prior to the date of arrival to avoid a penalty charge of one night room and tax.



Room Type	Rate*
Single/Double Occupancy	\$185
Triple Occupancy	\$220
Quad Occupancy	\$255
Student Single Occupancy	\$99
Student Single/Double Occupancy	\$129
View Room	add'l \$25/room/night
Balcony Room	add'l \$30/room/night
Balcony View Room	add'l \$50/room/night
Regency Club	add'l \$75/room/night

\* All rates are in Canadian Dollars per person, per night and do not include the hotel taxes of 10% Provincial Sales Tax, 5% Goods and Services Tax, and 1.5% Destination Marketing Fee

## Travel Information

Taxi service from the Vancouver International Airport generally runs about \$35 CAD. Most taxis accept credit cards.

A low fare option for transportation to/from the airport is the SkyTrain Light Rail. Vancouver's SkyTrain is the oldest and one of the longest automated driverless light rapid transit systems in the world. The Expo and millennium SkyTrain Lines connect downtown Vancouver with the cities of Burnaby, New Westminister and Surrey. The Canada Line connects downtown Vancouver to the Vancouver International Airport (YVR) and the city of Richmond. It's roughly a 30 minute trip between the airport & Hyatt Regency and costs \$9 CAD (passes can be purchased at the SkyTrain station); the return trip is \$4 CAD – you will need to know that you are passing through two zones. The airport's website has information regarding where the train can be accessed; from there you get on the train at the YVR-Airport Station Eastbound to the Waterfront and get off at the City Center station, taking Georgia Street to Burrard Street, where the Hyatt Regency is located.

### Driving Directions

- **From Vancouver International Airport (YVR) 10 miles/16 kilometres):** Take Grant McConnachie Way over the Arthur Lang Bridge. Exit Granville Street and proceed north (about 10 km). Turn left at 16th Avenue. Go down two blocks and turn right on Burrard Street. Proceed on Burrard and over Burrard Street Bridge to Georgia Street (10 blocks). Hyatt Regency Vancouver is on your left.



- **From Seattle (approx 140 miles/225 kilometres):** Proceed on I-5 through Peace Arch border crossing. Continue on Highway 99 on Canadian side and follow it for approximately 20 miles/35 kilometres through the municipalities of Surrey and then Richmond. Highway will turn into Oak Street Bridge and then Oak Street. Follow it to 49th Avenue and turn left. Go right on Granville Street and then follow instructions as above.
- **From Eastern Suburbs:** Exit Highway 1 at 1st Avenue. Hotel is approximately 6 miles/10 kms from exit. Follow 1st Avenue which at Clark Drive turns into Terminal Avenue. Follow Terminal Avenue and turn right on to Main Street. Stay on Main Street for 3 blocks and follow signs to downtown Vancouver. Exit left on to Dunsmuir Viaduct. Follow Dunsmuir past Rogers Arena, stay on Dunsmuir for approximately 10 blocks, and then turn left on Burrard Street. Hyatt Regency Vancouver is one block up on the right.





## Registration Information

### Registration Fees

Please see the registration form for costs on registration. Take advantage of the early bird discounts and register on/before December 9, 2013. Receipt of payment will be included in registration packets to be picked up at the on-site registration desk.

A printable PDF registration form can be found at [www.wssa.net](http://www.wssa.net). Complete the form, including payment information and e-mail to [WSSAmeeting@allenpress.com](mailto:WSSAmeeting@allenpress.com).

**By Fax** (for credit card registrations only)  
Complete the attached registration form, or print one from our website, and fax to 785-843-6153.

### How to Register

#### By Mail

Complete the registration form, include payment, and send to:  
WSSA & CWSS Meeting Registration  
810 East 10th Street  
Lawrence, KS 66044-7065

#### Questions

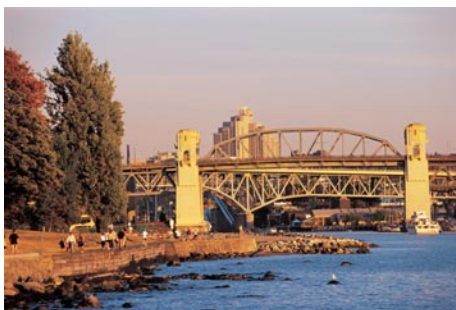
Call 1-800-627-0326 or e-mail us at [WSSAmeeting@allenpress.com](mailto:WSSAmeeting@allenpress.com).

#### Online (for credit card registrations only)

Meeting registration can be accessed and paid for directly online by going to the meeting registration section of the WSSA web site: <http://www.wssa.net>. WSSA members will need to log-in to their account in order to receive the Member registration rate.

#### Cancellation Policy

Written notice of cancellation received on or before January 11, 2014 will be refunded, less a \$50 processing fee. *No refunds will be issued for cancellations after January 11, 2014.* Participants unable to attend the conference can make substitutions.





## Registration Form

Print or type name clearly *as you wish it to appear on your badge*. One form per registrant (only a spouse/guest may be included on the same form). Spouse/guest must be registered in order to attend the joint opening reception, the CWSS Industry reception, and the CWSS Awards luncheon.

First Name \_\_\_\_\_ Last Name \_\_\_\_\_  
 Affiliation \_\_\_\_\_  
 Street Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip/Postal Code \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_ E-mail \_\_\_\_\_  
 Emergency Contact \_\_\_\_\_ Phone \_\_\_\_\_  
 Please Specify Any Special Needs (including dietary restrictions) \_\_\_\_\_  
 Spouse/Guest Name (if registering) \_\_\_\_\_

### Registration Type - All Registration Payments in US Dollars

	Early Bird - Dec. 9	Dec. 10 – Jan. 9	Jan. 10 & after	Sub-Total
___ WSSA Member*	\$425.00	\$475.00	\$525.00	\$ _____
___ CWSS Member*	\$425.00	\$475.00	\$525.00	\$ _____
___ WSSA/CWSS (Member of Both)*	\$425.00	\$475.00	\$525.00	\$ _____
___ WSSA Emeritus/Retired Fellow CWSS Retired***	Complimentary	Complimentary	Complimentary	N/A
___ Non-Member*	\$475.00	\$525.00	\$575.00	\$ _____
___ WSSA Student**	\$125.00	\$125.00	\$125.00	\$ _____
___ CWSS Student**	\$125.00	\$125.00	\$125.00	\$ _____
___ WSSA/CWSS Student (Member of Both)**	\$125.00	\$125.00	\$125.00	\$ _____
___ One Day Registration	\$200.00	\$200.00	\$200.00	\$ _____

\* Registration includes the Joint Opening Reception on Monday evening. For CWSS Members and Students, registration also includes attendance at the CWSS Industry reception.

\*\* Student registration includes attendance at the Joint Opening Reception, the Graduate Student Luncheon and 2014 WSSA online student membership.

\*\*\* Emeritus or Retired Fellows and CWSS retirees may register for the annual meeting without a registration fee. Registration for this group includes the Joint Opening Reception on Monday evening, and for CWSS retirees, the CWSS Industry Reception.

### Special Events - Optional

___ Pre-Conference Workshop: Sunday, February 2, 2014		\$150.00	\$ _____
___ Tours: Sunday, February 2, 2014			
UBC Botanical Garden and Greenheart Canopy Walkway		\$ 45.00	\$ _____
___ British Columbia Wineries Tour		\$ 45.00	\$ _____
___ Guest Registration to Monday Evening's Awards Reception		\$ 50.00	\$ _____
___ CWSS Industry Reception Ticket ( <i>admission already included for CWSS Registrants; this ticket is for CWSS guests &amp; a limited number of WSSA Registrants that may wish to attend.</i> )		\$ 55.00	\$ _____
___ CWSS Awards Luncheon guest ticket		\$ 55.00	\$ _____
		<b>TOTAL</b>	\$ _____

### Forms of Payment

\_\_\_ MasterCard    \_\_\_ VISA    \_\_\_ American Express    \_\_\_ Discover  
 Credit Card Number \_\_\_\_\_ Exp. Date \_\_\_\_\_  
 Print Name on Card \_\_\_\_\_ Signature \_\_\_\_\_

*Do not send cash. Please make checks payable to "WSSA."* All fees must be paid in US funds and drawn on US banks.

### Cancellation Policy

Written notice of cancellation received on or before January 11, 2014 will be refunded minus a \$50 processing fee. No refunds will be issued for cancellations after January 11, 2014. Substitution of registrants is allowed.

### Return Form

To Fax or Email: WSSA & CWSS Meeting Registration • Fax: 785-843-6153 • Email: WSSAmeeting@allenpress.com