



2024 WSSA Travel Enrichment Experience Award

Purpose: The Travel Enrichment Experience (TEE) will provide an opportunity for WSSA graduate students to participate in a five-day, four-night educational experience with professionals in a different WSSA region.

Student Application Deadline: Cara McCauley (cara.mccauley@corteva.com) must receive applications by **May 31, 2024**. Please put “WSSA Travel Enrichment Experience” in the subject line.

Description of Scholarship: Scholarship winners will have a five-day, four-night educational experience of their choosing as described in the “Host Opportunities” table below. These opportunities for broadening each student’s knowledge of weed science include visits with industry, government, or university professionals working in field, lab, or extension settings. Each recipient will be awarded \$2000 from the WSSA to pay for expenses incurred during his/her experience.

Eligibility Requirements: Applicants must meet the following criteria:

1. Enrolled as a current degree-seeking graduate student (M.S. or Ph.D.) in good academic standing at an accredited college or university
2. Currently conducting or recently finished research in weed science
3. An active member of the WSSA at the time of application
4. **Must submit an abstract and present a 10-minute oral presentation about his/her experience at the next WSSA annual meeting.** Specifics will be provided directly to recipients.

Application Procedure: Submission of the following information as a single word file is required.

1. Completed application form (the final page of this document)
2. Cover letter describing applicant’s interest in weed science and the travel enrichment experience (< 1 page)
3. Brief resume or CV summary highlighting recent relevant experiences (< 1 page)
4. Two letters of support, one of which must be from the applicant’s graduate or major advisor
5. Academic transcripts (unofficial copy is acceptable)

Email the application information to Cara McCauley (cara.mccauley@corteva.com) by May 31, 2024 as a single WORD document with “WSSA Travel Enrichment Experience” in the subject line.

Selection Criteria and Process: Applicants will be evaluated based on the contribution of their research to the discipline of weed science and to the WSSA objectives, their academic record and scholarly achievements, and their potential contributions to the future of weed science. One student from each US region and one from Canada will be selected by an independent WSSA panel with no personal or advisory affiliation with the applicants.

Timeline: The selection process will be completed by June 21, 2024. TEE recipients and their host(s) will determine the date in 2024 for the experience to occur. The selection committee will function as a liaison between the recipients and their host(s) throughout the process.

Host Opportunities Organized by Region

Host Name and Institution	Location	Experience
Canadian Weed Science Society		
Agriculture and Agri-Food Canada: Dr. Sara Martin	Ottawa, ON	Whole genome sequencing, population genetics, and evolutionary biology of the mustard family and herbicide-resistant weeds.
Agriculture and Agri-Food Canada: Dr. Andrew McKenzie-Gopsill	Charlottetown, PE	Weed biology, ecology, and management in Atlantic Canada; cover crops; invasive species management; conventional and organic hort and field crops ; novel weed management tactics in horticulture crops.
Agriculture and Agri-Food Canada: Drs. Charles Geddes & Breanne Tidemann	Lethbridge & Lacombe, AB	Weed ecology & IWM on the Canadian Prairies; 2 different research centres; dryland & irrigated cropping systems; herbicide-resistant weed discovery, monitoring & management; resistance mechanisms; novel weed management tactics; HWSC.
North Central Weed Science Society		
Bayer Crop Science: Drs. Matthew Nelson, John Hinz, & Neha Rana	Ames & Huxley, IA STL	Interaction with weed scientists in trait technology and herbicide development in IA and STL, plus exposure to commercial agriculture. Research areas include system-based weed management, new herbicide technologies, and market development. Experience includes opportunity to meet with seed partners, product managers, and research and development team.
University of Illinois: Drs. Aaron Hager & Pat Tranel	Champaign, IL	Herbicide-resistant weed challenges in Midwest corn and soybean production, from the field to the lab.

<p>Purdue University: Drs. Bill Johnson, Bryan Young, & Tommy Butts</p>	<p>West Lafayette, IN</p>	<p>Weed science research and extension in corn and soybeans involving herbicide-resistant weeds, integrated herbicide programs, cover crops, and advanced application technologies.</p>
<p>North Dakota State University: Dr. Joe Ikley</p>	<p>Fargo, ND</p>	<p>Exposure to an Extension weed science program and applied weed control research in corn, soybean, and dry beans in North Dakota. There will be opportunities to visit with other NDSU Weed Scientists and tour weed control research in over a dozen crops across the state of North Dakota.</p>
<p>Michigan State University: Dr. Eric Patterson</p>	<p>East Lansing, MI</p>	<p>Dive into the deep end of molecular biology and bioinformatics and how those things combine to increase our understanding of weedy traits! Also, Brazilian barbeque if the weather is nice, just need to convince my post-docs and students.</p>
<p>University of Wisconsin-Madison: Dr. Rodrigo Werle</p>	<p>Madison, WI</p>	<p>Applied weed management research and Extension in annual cropping systems with focus on biology, ecology and integrated management of troublesome weeds, herbicide resistance distribution and management, and precision herbicide application technologies.</p>
<p>Kansas State University: Dr. Mithila Jugulam</p>	<p>Manhattan, KS</p>	<p>Exposure and experience in understanding of the mechanisms of the target and non-target site herbicide resistance in weeds, including hands-on opportunity to work on whole plant physiology, biochemistry, molecular biology, and molecular cytogenetics. Other focused research areas include the effect of environmental stress on herbicide efficacy and the development of herbicide-tolerant crops.</p>

Michigan State University: Drs. Christy Sprague & Erin Burns	East Lansing, MI	Extension weed science focusing on integrated weed management, biology, and ecology in corn, soybean, sugar beet, dry bean, alfalfa, small grains and potato production.
Corteva Agriscience: Dr. Dawn Refsell	Johnston, IA	From discovery to commercialization, this experience will give you exposure from beginning to end of what it takes and who's involved in bringing a herbicide trait to market. The intertwining of trait technology, herbicide development, and commercial development and support are imperative for success. You will go from the lab bench to the field while meeting with seed partners, product managers, and research and commercial development team.
Corteva Agriscience: Dr. David Simpson	Indianapolis, IN	Interaction with weed scientists in Application Technology, Biological Characterization, Regulatory, and Crop Protection Development and Discovery. Discover how we bring products from the lab to the field.
Northeastern Weed Science Society		
Syngenta: Drs. Larissa Smith & Erin Hitchner	King Ferry, NY	Industry experience in crop protection and field development with Syngenta in the Northeastern US. Students will have the opportunity to visit research nearby sites at Cornell University and Rutgers University.
Virginia Tech: Drs. Shawn Askew, Jacob Barney, & Michael Flessner	Blacksburg, VA	Exposure to multiple disciplines, including environmental, chemical, and cultural effects on weed management in turfgrass (Dr. Askew); propagule pressure and ecological/niche/habitat impacts of invasive species on natural landscapes, as well as perennial grass bioenergy potential (Dr. Barney); and high-residue cover crops for managing herbicide-resistant weeds with consideration for herbicide carry-over from the cash crop to the cover crop (Dr. Flessner).

<p>Virginia Tech: Drs. Shawn Askew & Dr Jeff Derr</p>	<p>Blacksburg, VA</p>	<p>Students will take a turf and ornamental tour where they will visit high-end golf courses, professional athletics venues, and a wide range of industry sponsors that support the industry. The tour will take students across the state of Virginia from our Virginia Tech campus in the western mountains to coastal research stations at Virginia Beach. We would showcase research spanning putting robots to spray drones and demonstrate industry leading equipment from sod-production farms to lawn-care operations.</p>
<p>USDA-ARS: Dr. Steve Young</p>	<p>Beltsville, MD</p>	<p>The USDA Agricultural Research Service (ARS) is a leader in weed science research with over a dozen scientists located all across the United States. The diversity of research includes basic and applied approaches to better understand weeds and invasive plants, thus leading to the development of more sustainable management strategies in crop and non-crop systems. Whether invasive plants, like melaleuca in the Florida Everglades, leafy spurge in the Great Plains of Montana, or cheatgrass in the Great Basin of Oregon, or crop weeds, like Palmer amaranth in cotton and soybean fields of the southeast or velvet leaf in sweet corn cropping systems of the upper Midwest, ARS weed science is working on specific weed species in addition to addressing cutting edge topics, like climate change, cover crops, and automation technology in relation to weeds and invasive plants. At the national level, ARS weed science programs are overseen by National Program Leaders in the Office of National Programs (ONP) in Beltsville, MD, who work across departments and agencies, such as APHIS, EPA, USFS, BLM, DOI, and NIFA, to support the development of grant programs, federal policies, and regulatory oversight. For graduate students interested in the TEE, please consider ARS as an option for developing</p>

		a diverse and intensive program covering multiple research locations and ONP.
Syngenta: Drs. John Abbott, Gordon Vail, & Carroll Moseley	Greensboro, NC	The Syngenta facility in Greensboro features a unique exposure to the weed science industry with Dr. Moseley (Head, State Regulatory) and others.
Rutgers: Dr. Thierry Besancon	Chatsworth, NJ	Students who would like to join us will have the opportunity to work with both Dr. Lynn Sosnoskie at Cornell University and Dr. Thierry Besancon at Rutgers University, and be exposed to a range of specialty crops (veggies, tree fruit, grape, blueberry, cranberry, hops) and innovative weed management technologies such as cover crops, vision-guided herbicide application, robotic equipment, laser and electrical weeding.
Cornell University: Dr. Lynn Sosnoskie	Geneva, NY	Focus weed management in specialty crops including fruits (apples and grapes), vegetables (sweet corn, table beets, cabbage, processing peas, snap beans, and pumpkins), hops, and hemp. Identification, prevention, and control of herbicide resistance in <i>Amaranthus</i> spp., common lambsquarters, and horseweed/marestail. Focus on the evaluation of novel technology for weed suppression including targeted vision-spraying (Weed-It in grapes), electric weeding (Zasso Electroherb in apples, grapes, hops), and autonomous weeding robots (Naio Oz, Farm-ng Amiga, and FarmDroid FD20 in vegetables); creation of extension material on weed identification and management. Student participants will have the opportunity to meet with weed scientists at Cornell University, Rutgers University, and other regional institutions, as well as chemical industry representatives. Students will be exposed to a wide range of cropping systems important to the Northeastern US, including fresh and processing vegetables, fruits, agronomic crops, and horticultural commodities.

<p>Cornell University: Dr. Antonio (Toni) DiTommaso</p>	<p>Ithaca, NY</p>	<p>Experience may include participation in research on the impact of climate change on the biology and ecology of weeds; Weed seedling emergence modeling; Strategies for increasing biodiversity and ecosystem services in cropping systems; Agrivoltaics- growing crops and managing weeds on solar farms. Facilitating interactions with other Cornell weed scientists and agroecologists. Cornell Weed Ecology & Management Lab</p>
<p>Southern Weed Science Society</p>		
<p>Auburn University/USDA-ARS: Dr. Andrew Price</p>	<p>Auburn, AL</p>	<p>Applied research in weed management for conservation vegetable and row crop production systems.</p>
<p>Mississippi State University: Dr. Te-Ming (Paul) Tseng</p>	<p>Starkville, MS</p>	<p>The students will engage in cutting-edge research on herbicide resistance and weed competitive traits. Through interdisciplinary approaches, including molecular biology, genetics, remote sensing, and agronomy, they will explore genetic resistance mechanisms and use remote sensing to detect weeds and assess herbicide crop injury. This hands-on experience offers valuable insights into the forefront of weed science.</p>
<p>BASF Corporation: Drs. Clete Youmans & Greg Stapleton</p>	<p>Dyersburg, TN (Western TN and NE AR)</p>	<p>Cotton, Corn, and Soybean herbicide and fungicide research and demonstrations. Marketing, Sales, and Development experience. Visit and ride with a sales rep, a Tech rep or two, and a Field Biologist. *Best time to visit is June 25-July 15 for herbicide trials.</p>
<p>Texas A&M University: Dr. Muthu Bagavathiannan</p>	<p>College Station, TX</p>	<p>Computer vision and machine learning for weed recognition; drones and ground robots for precision weed control; weed image repository activities; weed ecology, gene flow, modeling and decision-support tools; Non-chemical weed management tactics/IWM.</p>

Bayer Crop Science: Dr. Jay Mahaffey	Scott, MS	Research and demonstration trials in multiple crops and disciplines; field tours; operation of an industry research and demonstration facility.
Blue River Technology: Dr. Lauren Lazaro	TBD	Opportunity to join us at our main office and research farm to learn about the various See & Spray platforms from several disciplines including agronomy, engineering, software, and product management. Focusing on evaluating novel technology.
Mississippi State University: Drs. Darrin Dodds & Dan Reynolds	Starkville, MS	Research, teaching, extension, and administrative experiences that could include use of drones in agriculture (OTM, crop health); assessment of herbicide volatility; use of PWM sprayer technology; use of Canvas / Respondus in teaching and training; measurement of sprays – droplet size and imaging; use of tracer dyes to assess off-target movement; adjuvants in weed science – field and lab; weed control programs in corn, cotton, peanut; UAVs in weed science; role of extension in generating and disseminating information; role of administration in relation to faculty activities
Syngenta: Dr. David Black	Searcy, AR	Work along side me as a R&D Field scientist for a couple of days working in rice, soybean, cotton, and corn field research trials.
Louisiana State University: Dr. Connor Webster	Crowley, LA	Weed management in agronomic crops, including cotton and rice.
Western Society of Weed Society		

<p>Utah State University: Drs. Mirella Ortiz, Corey Ransom, & Eric Westra</p>	<p>Logan, UT</p>	<p>Weed science program working in broad areas including rangeland, natural areas, invasive and aquatic species, agronomic and specialty crops, where we can provide exposure from the field to the lab.</p>
<p>Corteva Agriscience: Dr. Joe Yenish</p>	<p>Billings, MT</p>	<p>Exposure to the life of an industry field development representative. My position covers weed science, entomology, plant pathology and seed applied technology in small grains and grain legumes. Additionally, this prospective host had nearly 15 years' experience as a tenure track/tenured faculty in a Research/Extension Position at Washington State University.</p>
<p>Oregon State University: Dr. Joel Felix</p>	<p>Ontario, OR</p>	<p>Development and support of weed management tactics that address grower economic growth while enhancing environmental stewardship for a viable and sustainable agriculture. Currently, we have ongoing studies on weed management in dry bulb onions, sugar beets, corn, potato, alfalfa, and dry beans in the irrigated fields of Eastern Oregon.</p>
<p>Corteva Agriscience: Dr. Marc Fisher</p>	<p>Sacramento, CA</p>	<p>Inside look at the role of an industry Field Scientist; applied field research in CA specialty crops (tree nuts, tree fruit, rice, leafy vegetables, tomatoes, and many more); field trial establishment, applications and data assessments, meetings with growers and distributor customers, and diagnosing problems.</p>

<p>University of Wyoming: Dr. Andrew Kniss</p>	<p>Laramie, WY</p>	<p>Opportunity to learn more about field research to evaluate weed management strategies in sugar beets, dry beans, small grains, and other agronomic crops grown in the High Plains. Crop-weed interaction research involving shade avoidance and light quality impacts on crops, weeds, and weed seeds under field, greenhouse, and laboratory conditions. Potential to learn about rangeland or forage weed science approaches, data analytics applications in weed science, and networking opportunities depending on student interests and timing of the experience.</p>
<p>Colorado State University: Drs. Franck Dayan & Todd Gaines</p>	<p>Fort Collins, CO</p>	<p>Molecular genetics lab experience includes DNA extraction, genotyping assays, and qPCR for gene copy number; weed genomics for understanding competitiveness and hardiness.</p>
<p>New Mexico State University: Dr. Brian Schutte</p>	<p>Las Cruces, NM</p>	<p>Working with farmers to develop integrated weed management strategies for field and specialty crops in New Mexico.</p>
<p>US Forest Service and Montana State University: Drs. Sarah Ward & Sharlene Sing</p>	<p>Bozeman, MT</p>	<p>Biocontrol-based management of invasive plants in Montana. Explore the role of biocontrol in integrated weed management, focusing on invasive plants in natural areas. Laboratory experience will include assessment of novel biocontrol agents and visiting a secure federal quarantine facility for newly imported biocontrol species. Field trips to map populations and monitor impacts of insect biocontrol on toadflax and tamarisk invasions in the Greater Yellowstone ecosystem surrounding Yellowstone National Park. Some high-elevation backcountry hiking required, encounters with bear and bison possible, spectacular scenery guaranteed.</p>

Scholarship Application Form

Send all documents to Cara McCauley (cara.mccauley@corteva.com) by May 31, 2024 as a single WORD document with “WSSA Travel Enrichment Experience” in the subject line. Applications that are not submitted by the deadline as a single WORD document with the correct subject line may not be considered.

1. Applicant Name:

2. Selection of Host Institution for the WSSA Travel Enrichment Experience:

First Choice: _____

Second Choice: _____

Third Choice: _____

3. Cover Letter (max 1 page):

4. Resume or CV Summary (max 1 page):

5. Academic Transcript (official transcripts NOT required):

6. Include two letters of support, including one from your academic advisor.