



Illinois Indigenous Plants Symposium

Understanding the Research Behind Local Conservation

April 5-7, 2019

John A. Logan College, Carterville, IL

Keynote: Chris Evans
Closing: Justin Schoof

Guided Hikes
April 5 - Atwood Ridge
April 7 - Rocky Bluff

Native Plant Sale on
Saturday, April 6

Register online: <https://ill-ins.org/2019-illinois-indigenous-plants-symposium/>

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SIU Southern Illinois
CARBONDALE University

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Illinois Indigenous Plants Symposium Registration Information and Policies

Please take the time to read through our registration guidelines and policies.

We accept registrations by mail, in person, or online. Registration fee includes a box lunch. We cannot guarantee lunch for registrations at the symposium site. On-line registration can be made at: <https://ill-inps.org/2019-illinois-indigenous-plants-symposium/>

Registration Deadline April 2, 2019

Register early to guarantee your spot and lunch for the conference. Registration and payment must be received by April 2, 2019. Please indicate 'Symposium Registration' on the envelope.

Lunch Options

There are three options for sandwiches, sides, and desserts. Water bottles will be provided.

Sandwich options: (1) ham, salami, provolone on Italian rolls; (2) chicken salad on croissant; (3) three cheese on croissant (vegetarian)

Side options: (1) spinach salad; (2) fresh salad greens; (3) rotini pasta salad

Dessert options: (1) blueberry bar; (2) eight treasure brownie; (3) 2 cookies

Cancellation and Refund Policy

Cancellations will be accepted until Friday March 15, 2019. **NO REFUNDS AFTER MARCH 15, 2019.** Requests for refunds can be made in writing and sent to:

INPS - Southern Chapter

Attn: Symposium Registration
P.O. Box 271
Carbondale, IL 62903

Questions?

Email us at Indigenousplants@hotmail.com

Cost

INPS Members: \$25

Non-Members: \$30

Students: \$15 (please bring student ID on day of event)

Illinois Indigenous Plants Symposium

Understanding the Research Behind Local Conservation

Welcome from the INPS Symposium Committee

Southern Illinois is known to be one of the most biologically diverse places in the Midwest, and the Shawnee National Forest, the related state and federal lands, and our large private holdings contain the most magnificent examples of that diversity. Nearly 10 percent of Illinois' natural areas are found within the Shawnee National Forest alone, making the national forest the second largest landowner in the state of such biological hotspots. About 400 plants and animals that are listed on the state's threatened or endangered species list occur within the forest, as well as federally-listed species. The Shawnee's 79 natural areas include 25 different natural communities, ranging from woodlands and glades to barrens and caves. Numerous other state recognized nature preserves dot the rest of southern Illinois' landscapes.

Many research projects are carried out in our natural areas every year. These are critical for understanding the needs of our Southern Illinois ecosystems and the organisms within them and protecting them for future generations. This symposium is both a celebration of these efforts and an opportunity to share with you the excitement and results of these projects and explain the rationale and methods behind them.

"Our natural areas are gems within the forests of Southern Illinois," says Brendan Cain, the forest supervisor for Shawnee National Forest. "It is great to know that so many people value and love these places. We hope others will discover natural areas through this symposium." One of the two hikes associated with the symposium will be held at Atwood Ridge, one of the wilder sectors in the Shawnee, and the other will be at Rocky Bluff, one of the holdings of U.S. Fish & Wildlife Service.

The annual native plant sale organized by Green Earth will be held on Saturday. Other area organizations will also be on hand to help extend the knowledge of native plants, research, and natural areas.

The symposium is made possible by the southern chapter of the Illinois Native Plant Society in collaboration with John A. Logan College, U.S. Forest Service at the Shawnee National Forest, Southern Illinois University Department of Plant Biology, Green Earth, and University of Illinois Extension.

THE SYMPOSIUM IS SPONSORED BY



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John A. Logan College

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Going Green! Please provide your email address and phone number to receive electronic confirmation of your registration. If you do not have email, confirmation will be by phone. We will not be printing handouts from most of the presentations.

SYMPOSIUM SCHEDULE

UNDERSTANDING THE RESEARCH BEHIND LOCAL CONSERVATION

Friday April 5, 2019

Departure 2:00 p.m.

Atwood Ridge RNA, Shawnee National Forest

Saturday April 6, 2019

8:00 am – 9:00 am

Registration

9:00 am

Opening remarks

9:10 am – 10:00 am

Research Needs for Southern Illinois Native Plants and Natural Areas
Opening Keynote: Chris Evans

10:15 am – 10:15 am

Break

**CHANGES THROUGH
TIME TRACK**

BIODIVERSITY TRACK

10:15 am – 11:00 am

Session
I

*Developing a Land Management Plan for
SIUC's Touch of Nature Environmental
Center*
Dr. Charles Ruffner

Resiliency of Restored Grasslands to Drought
Dr. Sara Baer

11:00 am – 11:15 am

Break

11:15 am – 12:00 pm

Session
II

*Native and Exotic Tree-Killers: Bark and
Ambrosia Beetles*
Dr. John Reeve

*Conserving our Region's Rarest Plants:
Ecological Research, Ex Situ Conservation,
and Building Botanical Capacity*
Dr. Kayri Havens

12:00 pm – 1:00 pm

LUNCH

1:00 pm – 1:45 pm

Session
III

*A Treasure Trove of Biodiversity Revealed
in Southern Illinois Pollinator Inventory*
Dr. Sedonia Sipes

*"Let The Sunshine In" Meets "Priority
Implementation of Oak Ecosystem Recovery"*
Nick Seaton

1:45 pm – 2:00 pm

Break

2:00 pm – 2:45 pm

Session
IV

*Stand Dynamics over 62 Years within a
Protected Old-Growth Hardwood Forest in
Southern IL*
Dr. Jim Zaczek

Dichantheliums: Oh, the Stories They can Tell!
Justin Thomas

2:45 pm – 3:00 pm

Break

3:00 pm – 3:45 pm

Regional Climate Change Projections for Southern Illinois
Closing Plenary: Dr. Justin Schoof

Sunday April 7, 2019

Departure 10:00 a.m.

Rocky Bluff Trail, Crab Orchard National Wildlife Refuge

SESSION DESCRIPTIONS

KEYNOTE ADDRESS

Research needs for southern Illinois Native Plants and Natural Areas

Chris Evans, Extension Forester

Research plays a crucial role in the conservation and management of our native plants and natural areas. Connecting researchers with land managers is important to inform both relevant, applied research as well as directed, effective management. The presentation will discuss some of the major topics that are in need of more research and ways forward.

CHANGES THROUGH TIME TRACK

Developing a Land Management Plan for SIUC's Touch of Nature Environmental Center

Dr. Charles Ruffner

Touch of Nature is dedicated to environmental education and personal growth through experiential learning in the outdoors. Over the last 50 years it has grown to include over 3100 acres of mostly forested rolling hills in Jackson County. I will discuss the need for, and the activities, that we have conducted to develop the Land Management Plan. My talk will include basic descriptions and current conditions of the landscape out there as well as the overall management objectives going into the next decade.

Native and Exotic Tree-Killers: Bark and Ambrosia Beetles

Dr. John Reeve

Bark and ambrosia beetles are commonly found in dead and declining trees, but some are capable of killing healthy ones. I review the biology and ecology of these insects, with emphasis on the southern pine beetle. This native species is a devastating pest of southern forests, and is extending its range northward in response to climate change. I also review the threats posed by exotic bark and ambrosia beetles introduced by global trade.

A Treasure Trove of Biodiversity Revealed in Southern Illinois Pollinator Inventory

Dr. Sedonia Sipes

An inventory of floral visitors focusing on Federal lands in southern Illinois has revealed a rich native bee biodiversity. Our ecologically stratified sampling has yielded, for example, over 30 bee species not present in the INHS state records, as well as several putative species new to science. I will summarize some of our interesting findings and talk about future directions of biodiversity research in my lab.

Stand Dynamics over 62 Years within a Protected Old-Growth Hardwood Forest in Southern Illinois

Dr. Jim Zaczek

Survival and growth of existing trees and that of ingrowth (new trees) and forest tree diversity were measured 8 times over 62 years in an oak-hickory forest located within a protected natural area in southern Illinois. Significant changes in tree species composition, survival, basal area, and diversity as well as growth, stand density, ingrowth, and importance values.

BIODIVERSITY TRACK

Resiliency of restored grasslands to drought

Dr. Sara Baer

One ecosystem attribute ecological restoration aims to achieve is that the restored ecosystem is resilient to a similar extent as a reference system. There is little information on the degree to which restored grasslands are resilient to drought and respond comparably to reference grassland. Aboveground net primary production data collected before, during, and after the 2012 were used to assess resilience of restored grasslands drought in (1) long-term restored prairie compared to never-cultivated prairie; (2) short-term restored prairie established in average

precipitation and drought years; and (3) prairie restored with local and non-local ecotypes across a climate gradient. Data from multiple restoration experiments across space and time demonstrate restorations sown with local ecotypes or cultivars of native grasses exhibited resilience to the 2012 drought, with oldest restorations responding in harmony with native prairie.

Conserving our Region's Rarest Plants: Ecological Research, Ex Situ Conservation, and Building Botanical Capacity

Dr. Kayri Havens

Rare plants are facing a multitude of threats, from habitat loss and invasive species to climate change and more. Effectively conserving these species requires understanding their biology and ecological interactions, addressing threats in situ, creating a safety net by maintaining collections ex situ, and confronting capacity issues. I will discuss both science and policy approaches we are taking to improve plant conservation efforts in the Midwest and beyond.

"Let The Sunshine In" Meets "Priority Implementation of Oak Ecosystem Recovery"

Nick Seaton

As the "Let the Sunshine In" campaign continues into the future, new projects are incorporating management that benefit oak systems and increase species diversity on private lands. Future work is shedding light on endangered and threatened species distributions along with resources to protect them from common forest threats in the Shawnee.

***Dichanthelium* sp.: Oh, the Stories They can Tell!**

Justin Thomas

Dichanthelium is the second largest genus of vascular plants in the eastern half of North America; second only to *Carex*. It is also one of the most frustrating and poorly understood; second to *Rubus*, perhaps. In an attempt to dispel the myths surrounding *Dichanthelium*, expert on the genus, Justin Thomas, will address some of their reproductive behaviors, evolutionary trajectories, ecological affinities, and phytogeographical trends, as they relate to Illinois.

CLOSING REMARKS

Regional Climate Change Projections for Southern Illinois

Dr. Justin Schoof

Climate change is a global issue, but the impacts of environmental changes will occur across spatial scales. This presentation will focus on (1) the process of developing regional climate change projections and (2) describing specific projections for southern Illinois based on state-of-the-art climate modeling techniques.

GUIDED HIKES

Friday, April 5, 2019 at 2:00 p.m.

Trail Hike: Atwood Ridge RNA

The Atwood Ridge RNA contains several relatively undisturbed natural community types, including: barrens, hill prairie, dry upland forest, dry-mesic upland forest, and mesic upland forest. The RNA also contains two Illinois Endangered plants (including panic grass (*Panicum ravenelii*)), and an Illinois Threatened plant species, the chestnut oak (*Quercus prinus*). Several other uncommon and relict plants occur here as well, including the Cucumber-tree (*Magnolia acuminata*) and the rosebud-azalea (*Rhododendrom prinophyllum*), both southeastern species at the northwestern edge of their range. Read more at: <https://www.nrs.fs.fed.us/rna/il/shawnee/atwood-ridge/>

Directions: From Highway 146 west of Jonesboro, take Berryville Road south to Water Plant Lane and drive to the end. The last part of the road is steep with loose gravel, but it's passable in a passenger car if it's dry.

Sunday, April 7, 2019 at 10:00 a.m.

Trail Hike: Rocky Bluff Trail at Crab Orchard National Wildlife Refuge

The Rocky Bluff Trail winds through a wide variety of habitats and some of the most spectacular scenery on the refuge. There are intermittent waterfalls, sandstone cliffs, and some steep, rocky sections of trail may make hiking difficult at times, but very worthwhile. This trail is graced with over 60 varieties of wildflowers such as bluebells, Dutchman's breeches and celandine poppy. A moderately difficult 2.2 mile loop.

Directions: Trail head is located on Tacoma Lake Road, 0.5 miles south of Grassy Road. **Please note: all vehicles must have a visitor pass from Crab Orchard. You can purchase a day pass for \$2 at the visitor's center. You may purchase in advance. Carpooling is encouraged, as parking is very limited at the site.**

THANK YOU TO OUR VENDORS!



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BIOGRAPHIES

Chris Evans is an Extension Forestry and Research Specialist with the University of Illinois. He has worked on conservation issues in southern Illinois for more than a decade and has been involved with the Native Plant Society, serving as a board member for the Southern Chapter.

Dr. Charles Ruffner has taught various forestry courses including Measurements, Mapping and GIS, Fire in Wildland Management, International Forestry, and Historical Ecology since joining the faculty of Southern Illinois University in August 1999. His main academic interests include International Ag Development, Fire History, and Oak Woodland Restoration. His SIUC Fire Dawg crew works closely with local agencies, landowners, and interest groups to reintroduce prescribed burning to forests and prairies of the Central Hardwoods region. He currently serves on the Governing Board of the Oak Woodlands and Forest Fire Consortium, also as Past-President of the Illinois Prescribed Fire Council, and is on his second term as an Illinois Nature Preserves Commissioner.

Nick Seaton works as the Project Coordinator for the River to River Cooperative Weed Management Area in Southern Illinois. He attended SIU for a BA for forestry and is expecting his MS in plant biology in 2019. Nick is currently the caretaker for Audubon's War Bluff Valley Sanctuary in Pope County.

Dr. Kayri Havens holds a B.S. and an M.A. in Botany from Southern Illinois University and a Ph.D. in Biology from Indiana University. She spent three years as the Conservation Biologist at Missouri Botanical Garden before joining the Chicago Botanic Garden in April 1997. She is currently the Garden's Senior Director of Ecology and Conservation and Senior Scientist. Her research interests include the effects of climate change on plant species, restoration genetics, pollination networks, *ex situ* conservation, and invasion biology. She chairs the Non-federal Cooperators Committee of the Plant Conservation Alliance, is active in plant conservation advocacy with elected officials, and collaborates with a variety of academic institutions, agencies and stewardship organizations to help improve conservation efforts for plants and plant communities.

Dr. Sedonia Sipes is an associate professor at SIU whose research has included specialist bee ecology, rare plant breeding systems, and bee evolution. Her lab presently is conducting a pollinator inventory focused on the Crab Orchard National Wildlife Refuge and Shawnee National Forest regions. By sampling different habitats across the flowering season and recording other ecological information like floral associations, she hopes to elucidate patterns of pollinator diversity in southern Illinois.

Dr. Jim Zaczek is a Forest Ecologist and Chair of the Department of Forestry at SIU Carbondale. His research interests include the biology, ecology, and genetics of trees; regeneration and restoration ecology of hardwood forest ecosystems; stand dynamics in old growth hardwood forests; propagation of recalcitrant woody plants especially oaks; ontogenetic changes in trees; giant cane (*Arundinaria gigantea*) and canebrake ecology, restoration, and habitat rehabilitation.

Dr. Sara Baer is a professor and chair of the plant biology department at Southern Illinois University Carbondale. She completed a Ph.D. at Kansas State University. Her research centers on bridging ecological theory with restoration ecology to improve the structure and function of degraded ecosystems. She is particularly interested in the degree to which the recovery of soil microbiological processes, carbon pools, and nitrogen dynamics influence floristic diversity in disturbed, restored, and native ecosystems. Much of her research has focused on agroecosystems restored to tallgrass prairie species. These studies have demonstrated that grassland restorations are dynamic ecosystems belowground, with continual increases in total soil carbon and rapid recovery of labile organic matter pools, while becoming increasing nitrogen limited.

Justin Thomas is the Science Director for NatureCITE (www.naturecite.org) where he oversees and conducts ecological and botanical research and instructs plant identification workshops. He has 22 years of professional field-based experience, and a Master of Science degree in Botany from Miami University (Oxford, Ohio). He teaches Botany and Field Botany at Missouri University of Science and Technology, is the junior author of the Ecological Checklist of the Missouri Flora, and holds a research associateship at Missouri Botanical Garden.

Dr. John Reeve is an associate professor of zoology at Southern Illinois University Carbondale. He completed his Ph.D. at the University of California. His research involves the ecology of bark beetles and their natural enemies, especially the southern pine beetle (*Dendroctonus frontalis*).

Dr. Justin Schoof is a Professor in the Department of Geography and Environmental Resources at SIU Carbondale. He earned a PhD from Indiana University in 2004 and has been at SIU since 2006. His teaching and research interests are in the field of climate science with a focus on understanding regional climate variability and change.

ABOUT US

Illinois Native Plant Society

The Illinois Native Plant Society promotes the study and appreciation of Illinois' natural vegetation and provides educational resources for those that wish to learn or share in our enthusiasm. The purposes of the society are: 1) to promote the study, appreciation and conservation of the native flora and natural communities of Illinois; 2) to provide education as to the value of the native flora and its habitat; and 3) to produce publications that provide an outlet for information, such as the peer-reviewed journal *Erigenia* and the quarterly newsletter, *The Harbinger*.

<https://ill-inps.org>

Southern Illinois University Department of Plant Biology

The Department of Plant Biology offers undergraduate and graduate degrees for students interested in the scientific study of plants. The faculty maintains expertise in plant anatomy, biodiversity, conservation, ecology, evolution, morphology, phylogeny, physiology, phytochemistry and systematics.

Green Earth

Green Earth's mission is to preserve natural areas for the benefit of the people of Carbondale, Illinois. It owns and maintains six natural areas, totaling 220 acres, and nine miles of hiking trails — all open to the public for outdoor recreation and enjoyment. Green Earth was created in 1974 with the purpose of acquiring, preserving and providing public access to natural areas in Carbondale. www.greeneearthinc.org

University of Illinois Extension

University of Illinois Extension is the flagship outreach effort of the University of Illinois at Urbana-Champaign, offering educational programs to residents of all of Illinois' 102 counties — and far beyond. Extension provides practical education to help people, businesses and communities solve problems, develop skills and build a better future. More than 1.5 million Illinois residents take part in Extension programs each year, including nearly 200,000 who participate in 4-H youth programs.

Shawnee National Forest

Administered by the USDA Forest Service, about 1 million people visit Shawnee National Forest each year to connect with nature on its 289,000 acres. Learn more at <http://www.fs.usda.gov/shawnee>.

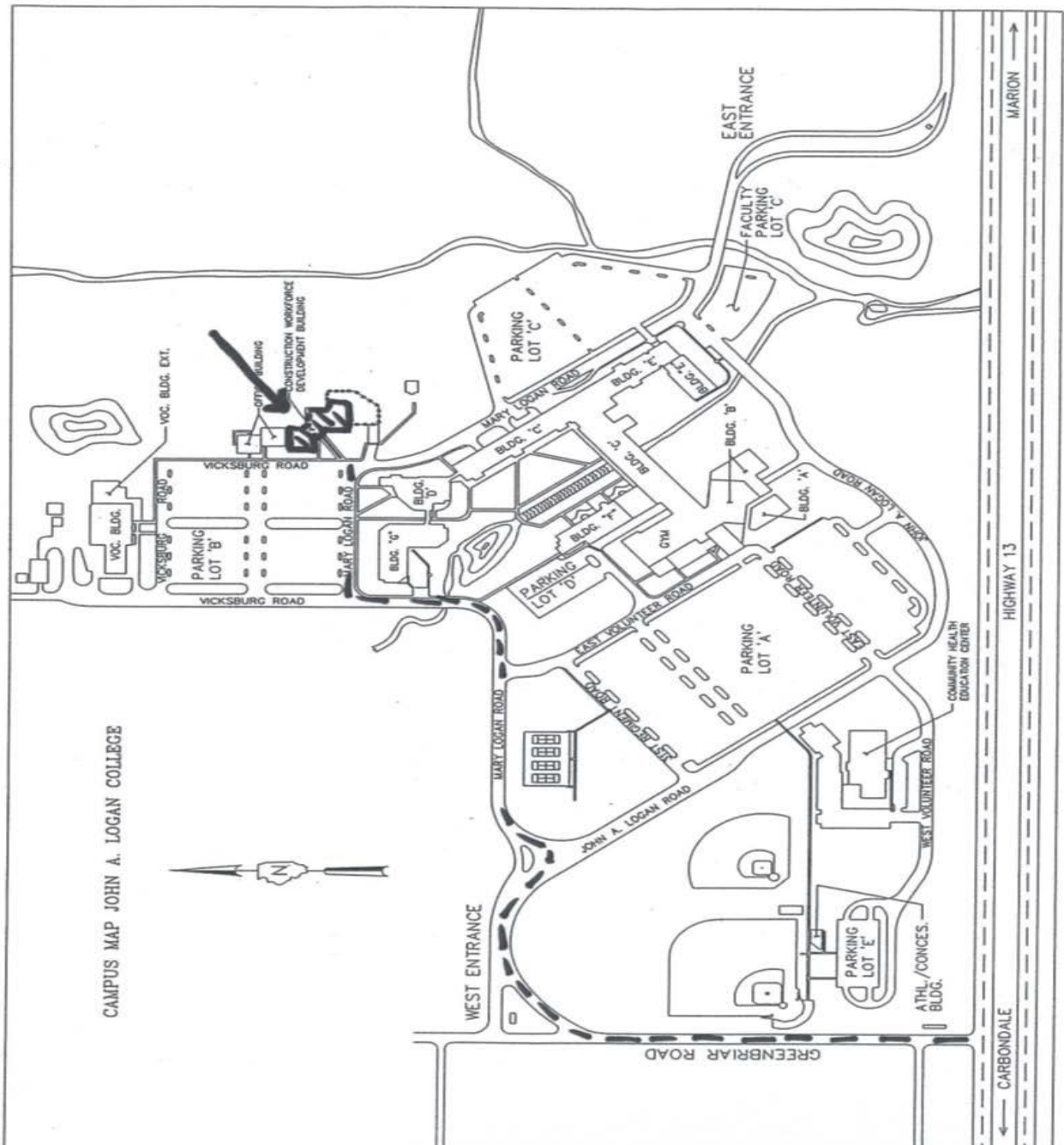
LOCATION AND DIRECTIONS

John A. Logan College Center for Business and Industry
800 Mary Logan Road, Carterville, IL

Directions:

From I-57 in Marion (east), go west on Illinois Route 13. Turn right on Greenbriar Rd— there is a traffic light, school sign. Turn right on Logan College Rd, then make 1st left on Mary Logan Rd. Make the second right on Mary Logan Road. The center is at the end of the parking lot. Follow the signs to the atrium.

From Carbondale (west) go east on Illinois Route 13. Turn left on Greenbriar Rd – at the traffic light, school sign. Proceed same as above.





Registration Form

Illinois Indigenous Plants Symposium | April 5 – April 7, 2019

Registration and payment must be received by April 2, 2019

Cancellation and refund through March 15, 2019

Cost:

INPS Members: \$25

Non-Members: \$30

Students: \$15 (please bring student ID on day of event)

Name (please print) _____

Address _____

City _____ State _____ Zip Code _____

Phone _____ Email _____

You are registered for the opening keynote (9:10 am) and the closing plenary (3:00 pm)

Please choose the sessions you would like to attend for each concurrent time slot.

Time	Changes Through Time Track	Biodiversity Track
10:15 am	<i>Developing a Land Management Plan for SIUC's Touch of Nature Environmental Center</i> Dr. Charles Ruffner	<i>Resiliency of restored grasslands to drought</i> Dr. Sara Baer
11:15 am	<i>Native and Exotic Tree-Killers: Bark and Ambrosia Beetles</i> Dr. John Reeve	<i>Conserving our Region's Rarest Plants: Ecological Research, Ex Situ Conservation, and Building Botanical Capacity</i> Dr. Kayri Havens
1:00 pm	<i>A Treasure Trove of Biodiversity Revealed in Southern Illinois Pollinator Inventory</i> Dr. Sedonia Sipes	<i>"Let The Sunshine In" Meets PIOER</i> Nick Seaton
2:00 pm	<i>Stand Dynamics over 62 Years within a Protected Old-Growth Hardwood Forest in Southern IL</i> Dr. Jim Zaczek	<i>Dichantheleums: Oh, the Stories They can Tell!</i> Justin Thomas

Lunch - Please choose one sandwich type, one side, and one dessert:

Sandwich options:

- ___ Ham, Salami, Provolone on Italian Roll
- ___ Chicken Salad on Croissant
- ___ Three Cheese on Croissant (Vegetarian)

Side options:

- ___ Spinach Salad
- ___ Fresh Salad Greens
- ___ Rotini Pasta Salad

Dessert options:

- ___ Blueberry Bar
- ___ Brownie
- ___ 2 Cookies

You can also register online at: <https://ill-inps.org/2019-illinois-indigenous-plants-symposium/>

Please return this registration form and payment by April 2, 2019 to:

INPS Southern Chapter
Attn: Symposium Registration
P.O. Box 271
Carbondale, IL 62903-271

If your registration is not received by the deadline, we will ask you to pay again at the symposium. Your initial payment will then be returned.