The 21st century will be a time of choices for the world’s freshwater ecosystems. Human population and economic growth is on a path to greatly increase demands on freshwater resources, which are already unsustainably high in many parts of the world. Will we make good choices that satisfy human needs while sustaining high levels of biodiversity and ecosystem function? Or will we continue to degrade freshwater ecosystems while failing to provide adequate water to the world’s poor? How will freshwater science contribute to the search for good solutions and their implementation?

As one of the world’s leading groups of freshwater scientists, the Society for Freshwater Science has chosen “Our Freshwater Futures” as the theme for its 2015 annual meeting in Milwaukee. Plenary sessions will feature leading freshwater scientists giving their insights into the problems that freshwater ecosystems and human societies are facing, and every special session will include a talk that envisions future directions for the field covered by the special session. We invite you to join us on the shores of Lake Michigan as SFS considers the future of the world’s fresh waters.

ABOUT THE 2015 MEETING LOGO

The 2015 SFS meeting logo features a Hine’s Emerald dragonfly (Somatochlora hineana), a federally-endangered species whose largest breeding population is in Door County, Wisconsin. The “venation” patterns on three of the dragonfly’s wings represent the three major freshwater habitats: riverine (a stream network), lacustrine (a bathymetric map), and palustrine (the USGS map symbol for wetlands). The final dragonfly wing contains the Milwaukee skyline, portraying both the location of the 2015 meeting and the potential future of increasing urbanized influences on freshwater systems. The meeting logo was designed by SFS member and Wisconsin resident Gina Laliberti.
MEETING ORGANIZERS

2015 Meeting Co-Chairs

Steve Francoeur  
Eastern Michigan University

Emily Stanley  
University of Wisconsin Madison

Bob Stelzer  
University of Wisconsin Oshkosh

Additional Members

Dave Feldman  
Montana Department of Environmental Quality

Roger Haro  
University of Wisconsin La Crosse

Jerry Kaster  
University of Wisconsin Milwaukee

Peter Levi  
University of Wisconsin Madison

Eugènia Martí  
Universitat de Barcelona

Ashley Moerke  
Lake Superior State University

AJ Reisinger  
University of Notre Dame

Todd Royer  
Indiana University

Andrew Rypel  
Wisconsin Department of Natural Resources

Sean Sullivan  
Rhithron Associates, Inc.

President

Dave Strayer  
Cary Institute of Ecosystem Studies

Student Resource Committee (SRC) Officers

Chair  
Petra Kranzfelder

Board of Directors Representative  
Dustin Kincaid

Treasurer  
Sarah Whorley

Silent Book Auction  
Hilary Madinger (chair), Andrea Fitzgibbon, Anna Boegehold, Katherine Bailey

SRC Workshop  
Cameron Turner (chair), Halvor Halvorson, Arial Shogren

Student-Mentor Mixer  
Molly Welsh (chair), Matthew Cashman, Kaleb Heinrich

Merchandise  
Sarah Whorley (chair), Sarah (Winnie) Winikoff, Martha Dee, Cecilia Storly

Live Auction  
Joanna Blaszczak, Jim Junker, Erin Looper

Undergraduate Travel Awards  
Kaitlin Farrell (chair), Jane Mazack, Brittany Hanrahan

Public Information & Policy Representatives/Social Media Managers  
Alex Yeung (chair), Jenny Paul

Local Arrangements  
Keith Krukowski

SRC Advisor  
Dr. Jennifer Tank

Website and Social Media

We encourage you to use the meeting website and the detailed online schedule for all current information and to navigate the meeting.

Meeting Website  
sfsannualmeeting.org

Society Website  
freshwater-science.org

Facebook  
www.facebook.com/FreshwaterScience

Twitter  
https://twitter.com/benthosnews

Conference Planner/Meeting Management

USU Conference Services  
Joy Brisighella, CMP  
435-797-9270  
Joy.brisighella@usu.edu

Recording Policy

Please! No recording of individual talks or sessions (oral or poster).

Audio taping, videotaping, or photographing of presentations is not allowed at the meeting.

Thank you for your cooperation.
# MEETING SCHEDULE

All events are at the Wisconsin Center unless otherwise indicated.
*Asterisk designates events at the Hilton. The Hilton is the headquarters for Students/SRC Meetings and Events.

### SATURDAY MAY 16

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>3:00 PM - 6:00 PM</td>
<td>SRC Finance Committee Meeting*</td>
<td>Hilton: Miller Room</td>
</tr>
</tbody>
</table>

### SUNDAY MAY 17

**PRE-MEETING WORKSHOPS AND COMMITTEE MEETINGS:**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>9:00 AM - 3:00 PM</td>
<td>SRC (Student Resources Committee) Workshop/Excursion</td>
<td>offsite</td>
</tr>
<tr>
<td>7:00 AM - 9:00 AM</td>
<td>FWS Editorial Board Committee*</td>
<td>Hilton: McArthur Room</td>
</tr>
<tr>
<td>9:00 AM - 5:00 PM</td>
<td>SFS Board of Directors Meeting</td>
<td>103DE</td>
</tr>
<tr>
<td>9:00 AM - 5:00 PM</td>
<td>Pre-Meeting Workshops</td>
<td>(see detailed agenda)</td>
</tr>
<tr>
<td>1:00 PM - 4:00 PM</td>
<td>INSTARS Orientation</td>
<td>103C</td>
</tr>
<tr>
<td>11:00 AM - 6:00 PM</td>
<td>Stream Resiliency RCN Food Web Modeling Working Group</td>
<td>102C</td>
</tr>
</tbody>
</table>

### ANNUAL MEETING OPENING:

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00 PM - 10:00 PM</td>
<td>REGISTRATION OPEN</td>
<td></td>
</tr>
<tr>
<td>6:00 PM - 10:00 PM</td>
<td>Exhibits open</td>
<td></td>
</tr>
<tr>
<td>7:00 PM - 9:00 PM</td>
<td>SFS Meeting Opening-Awards</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>9:00 PM - 10:00 PM</td>
<td>Welcome Mixer/Reception</td>
<td>Lobby AB/Exhibit Area</td>
</tr>
<tr>
<td>10:00 PM - 11:59 PM</td>
<td>Jam Session at the Hilton*</td>
<td>Monarch Lounge</td>
</tr>
</tbody>
</table>

### MONDAY MAY 18

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM - 10:00 PM</td>
<td>REGISTRATION OPEN</td>
<td></td>
</tr>
<tr>
<td>8:00 AM - 9:00 AM</td>
<td>Endowment Committee*</td>
<td>Hilton: Founders Room</td>
</tr>
<tr>
<td>8:30 AM - 10:00 PM</td>
<td>Exhibits, Silent Auction, SRC merchandise open</td>
<td>Lobby AB/Exhibit Area</td>
</tr>
<tr>
<td>8:30 AM - 4:00 PM</td>
<td>SFS Taxonomic Certification Program-Testing</td>
<td>102A</td>
</tr>
<tr>
<td>8:45 AM - 9:15 AM</td>
<td>Welcome/Announcements</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>9:15 AM - 10:00 AM</td>
<td>Plenary Session 1</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>10:30 AM - 12:00 PM</td>
<td>Concurrent Sessions 1</td>
<td>(see detailed agenda)</td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>Lunch on your own</td>
<td></td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>SFS Committees - Lunch Meeting*</td>
<td>Hilton: Wright Ballroom ABC</td>
</tr>
<tr>
<td>12:00 PM - 1:30 PM</td>
<td>SRC (Student Resources Committee) Lunch Meeting*</td>
<td>Hilton: Crystal Ballroom</td>
</tr>
<tr>
<td>1:30 PM - 3:00 PM</td>
<td>Concurrent Sessions 2</td>
<td>(see detailed agenda)</td>
</tr>
<tr>
<td>3:30 PM - 5:00 PM</td>
<td>Concurrent Sessions 3</td>
<td>(see detailed agenda)</td>
</tr>
<tr>
<td>4:00 PM - 5:00 PM</td>
<td>Taxonomic Certification Committee Meeting</td>
<td>102A</td>
</tr>
<tr>
<td>6:30 PM - 8:30 PM</td>
<td>SFS-SRC Student/Mentor Mixer*</td>
<td>Hilton: Crystal Ballroom</td>
</tr>
<tr>
<td>7:30 PM - 10:00 PM</td>
<td>Conference Mixer and SFS-SRC Live Auction</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>10:00 PM - 11:59 PM</td>
<td>Jam Session at the Hilton*</td>
<td>Monarch Lounge</td>
</tr>
</tbody>
</table>

### TUESDAY MAY 19

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM - 5:00 PM</td>
<td>REGISTRATION OPEN</td>
<td></td>
</tr>
<tr>
<td>7:00 AM - 9:00 AM</td>
<td>SFS Publications Committee*</td>
<td>Hilton: Mitchell Room</td>
</tr>
<tr>
<td>8:00 AM - 5:00 PM</td>
<td>Exhibits, Silent Auction, SRC merchandise open</td>
<td>Lobby AB/Exhibit Area</td>
</tr>
<tr>
<td>9:00 AM - 9:15 AM</td>
<td>Daily Welcome/Announcements</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>9:15 AM - 10:00 AM</td>
<td>Plenary Session 2</td>
<td>Ballroom ABC</td>
</tr>
</tbody>
</table>
### Wednesday May 20

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM-4:00 PM</td>
<td>Registration Open</td>
<td>South Foyer and 102A</td>
</tr>
<tr>
<td>8:00 AM-1:00 PM</td>
<td>Taxonomy Fair Set-Up</td>
<td>South Foyer and 102A</td>
</tr>
<tr>
<td>8:00 AM-4:00 PM</td>
<td>Exhibits, Silent Auction, SRC merchandise open</td>
<td>Lobby AB/Exhibit Area</td>
</tr>
<tr>
<td>9:00 AM-9:15 AM</td>
<td>Daily Welcome/Announcements</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>9:15 AM-10:00 AM</td>
<td>Plenary Session 3</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>10:30 AM-12:00 PM</td>
<td>Concurrent Sessions 7 (see detailed agenda)</td>
<td>(see detailed agenda)</td>
</tr>
<tr>
<td>12:00 PM-1:30 PM</td>
<td>SFS Membership Lunch &amp; Business Meeting – all welcome!</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>1:30 PM-4:00 PM</td>
<td>Poster Session</td>
<td>North and South Foyers</td>
</tr>
<tr>
<td>1:30 PM-4:00 PM</td>
<td>Taxonomy Fair</td>
<td>South Foyer and 102A</td>
</tr>
<tr>
<td>4:00 PM-5:00 PM</td>
<td>Chapter Information Session</td>
<td>101B</td>
</tr>
<tr>
<td>4:00 PM-7:00 PM</td>
<td>Activity - Fun Run</td>
<td>Busses depart from Wisconsin Center</td>
</tr>
<tr>
<td>7:30 PM-11:00 PM</td>
<td>Offsite Social Event – Discovery World Museum at Pier Wisconsin</td>
<td>Busses depart from Wisconsin Center</td>
</tr>
</tbody>
</table>

### Thursday May 21

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM-5:00 PM</td>
<td>Registration Open</td>
<td>Hilton: Founders Room</td>
</tr>
<tr>
<td>7:30 AM-9:00 AM</td>
<td>New Board of Directors Breakfast*</td>
<td>Hilton: Founders Room</td>
</tr>
<tr>
<td>8:00 AM-3:30 PM</td>
<td>Exhibits open</td>
<td>Lobby AB/Exhibit Area</td>
</tr>
<tr>
<td>8:00 AM-5:00 PM</td>
<td>Silent Auction pickup</td>
<td>Lobby AB/Exhibit Area</td>
</tr>
<tr>
<td>(Cashier at Registration Desk)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00 AM-9:15 AM</td>
<td>Daily Welcome/Announcements</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>9:15 AM-10:00 AM</td>
<td>Plenary Session 4</td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>10:30 AM-12:00 PM</td>
<td>Concurrent Sessions 8 (see detailed agenda)</td>
<td>(see detailed agenda)</td>
</tr>
<tr>
<td>12:00 PM-1:30 PM</td>
<td>Lunch on your own</td>
<td></td>
</tr>
<tr>
<td>1:30 PM-3:00 PM</td>
<td>Concurrent Sessions 9 (see detailed agenda)</td>
<td>(see detailed agenda)</td>
</tr>
<tr>
<td>3:30 PM-5:00 PM</td>
<td>Concurrent Sessions 10 (see detailed agenda)</td>
<td>(see detailed agenda)</td>
</tr>
<tr>
<td>3:30 PM-6:00 PM</td>
<td>Exhibit Tear Down, Poster Tear Down</td>
<td></td>
</tr>
<tr>
<td>5:00 PM-7:30 PM</td>
<td>Dinner on your own</td>
<td></td>
</tr>
</tbody>
</table>

### Friday May 22

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00 AM-7:00 PM</td>
<td>Post Event Field trips*</td>
<td>(depart from the Hilton)</td>
</tr>
<tr>
<td>9:00 AM-7:00 PM</td>
<td>Synthesis for SCALER: Scale Consumers and Lotic Ecosystem*</td>
<td>Hilton: Oak Room</td>
</tr>
</tbody>
</table>
ABOUT THE SOCIETY FOR FRESHWATER SCIENCE

SFS is an international scientific organization founded in 1953, whose purpose is to promote further understanding of freshwater ecosystems (rivers, streams, lakes, reservoirs, and estuaries) and ecosystems at the interface between aquatic and terrestrial habitats (wetlands, bogs, fens, riparian forests and grasslands). The society fosters exchange of scientific information among the membership, and with other professional societies, resource managers, policy makers, educators, and the public, sponsoring the journal Freshwater Science. Members come from 26 nations worldwide. Society members study the genetics to community structure of freshwater organisms, freshwater ecosystem function, physical processes that affect freshwaters, and linkages between freshwater ecosystems and surrounding landscapes. Applied aspects of their science include habitat and water quality assessment, conservation, fisheries and invasive species management, integrated water resource management, and restoration. Further information can be found at http://www.freshwater-science.org/.

SOCIETY OFFICERS AND INFORMATION

Executive Committee

Dave Strayer — President
Michelle Baker — Assistant to the President
Randy Fuller — Past-President
Matt Whiles — President-Elect
Mike Swift — Treasurer
Sue Norton — Secretary

Board of Directors

Michelle Baker — Assistant to the President
David Costello — Early Career Delegate
Randy Fuller — Past President
Kim Haag — Finance Committee
Chuck Hawkins — Publications Committee
Dustin Kinkaid — Student Delegate
Sue Norton — Secretary
Mike Paul — Non-Academic Delegate
Chris Robinson — Non-North American Delegate
Emma Rosi-Marshall — Assistant to the President-Elect
Brian Shelley — Assistant to the Past-President
Al Steinman — Academic Delegate
Dave Strayer — President and Chair
Mike Swift — Treasurer
Matt Whiles — President-Elect

REGISTRATION AND CHECK-IN INFORMATION

Registration and check in for the meeting will be available all week in the Main Lobby AB of the Wisconsin Center. Please check in upon your arrival at the meeting in order to receive your name badge and other important materials and information.

REGISTRATION HOURS

Sunday, 17 May 2015 – 4:00 to 10:00pm
Monday 18 May 2015 – 8:00am to 10:00pm
Tuesday 19 May 2015 – 8:00am to 5:00pm
Wednesday 20 May 2015 – 8:00am to 4:00pm
Thursday 21 May 2015 – 8:00am to 5:00pm

MEETING ADDENDUM

Keep up to date with changes by downloading the meeting addendum from the meetings website.

RECEIPTS AND LETTERS OF PARTICIPATION

Your registration confirmation that was emailed to you when you registered for the meeting will serve as your receipt. In keeping with our conservation efforts, we will not provide printed receipts to attendees on site at the meeting. If you have misplaced your original receipt and need another copy emailed to you, visit the Registration Desk for assistance.

MESSAGES

Message boards will be located near registration. Feel free to post messages, CV’s, and job opportunities, as well as to check these boards if you are expecting a message during the meeting.

CHILD CARE - MILWAUKEE CHILD CARE OPTIONS

Sittercity www.sittercity.com
To search for a sitter in Milwaukee, enter the zip code 53203
KEYNOTE/PLENARY SESSIONS

Monday 18 May 2015

PETER ANNIN
University of Notre Dame

Water Tension and the Great Lakes Compact

This presentation delves into the long history of political maneuvers and water diversion schemes that have proposed sending Great Lakes water everywhere from Akron to Arizona. Through the prism of the past, this talk analyzes the future of Great Lakes water diversion management, which is now controlled by the Great Lakes Compact, a legal document released by the Council of Great Lakes Governors in December 2005. The Compact, which prohibits most Great Lakes water diversions, with limited exceptions, was adopted by the eight state legislatures in the Great Lakes region as well as the U.S. Congress before eventually being signed by the president in 2008. A similar agreement relating to Canadian water diversions was adopted by the province of Ontario in 2007 and Quebec in 2009. This presentation analyzes several noteworthy Great Lakes diversions that already exist, and sheds light on potential water diversions of the future, including the water diversion application submitted by Waukesha, Wisconsin in 2010. A decision on the Waukesha water diversion application is expected in late 2015 or early 2016.

A veteran conflict and environmental journalist, Peter Annin spent more than a decade reporting on a wide variety of issues for Newsweek. For many years he specialized in coverage of domestic terrorism and the radical right, including the bombing of the federal building in Oklahoma City and the Branch Davidian standoff outside Waco, Texas. He has spent many years writing about the environment as well, including droughts in the Southwest, hurricanes in the Southeast, wind power on the Great Plains, forest fires in the mountain West, recovery efforts on the Great Lakes, and the causes and consequences of the “dead zone” in the Gulf of Mexico.

In November of 2010, Annin was named managing director of the University of Notre Dame’s Environmental Change Initiative, a key branch of the University’s Strategic Research Investment program that tackles the interrelated problems of invasive species, land use and climate change, focusing on their synergistic impacts on water resources. As managing director of ND-ECI, Annin functions as its chief operating officer and assists Professor David Lodge, ND-ECI’s director, in developing and implementing the Initiative’s intellectual and programmatic vision.

Before joining Notre Dame, Annin worked for a decade as Associate Director of the Institutes for Journalism and Natural Resources, a nonpartisan national nonprofit that organizes educational fellowships for mid-career environmental journalists. In September 2006 he published his first book, The Great Lakes Water Wars, which has been called the definitive work on the Great Lakes water diversion controversy. In 2007 the book received the Great Lakes Book Award for nonfiction. In August, he will become co-director of the Mary Griggs Burke Center for Freshwater Innovation at Northland College in Ashland, WI. Since 2004 Annin has served as the volunteer executive director of Gulf Rock Lightkeepers, a nonprofit dedicated to restoring Gulf Rock Lighthouse, a storied Lake Superior light 2.5 miles off Michigan’s Keweenaw Peninsula. He has a bachelor’s degree in journalism from the University of Wisconsin-Madison, and a master’s in international affairs from Columbia University in New York.
IRENA F. CREED
Western University

**Why Are the Great Lakes Failing to Thrive?**

For over a century, governments on both sides of the Canada-U.S. border have employed various policy instruments and management tools to protect the Great Lakes. Yet this critical freshwater resource continues to show signs of impaired ecosystem health. The Great Lakes Futures Project (GLFP) is a grassroots project that engaged over 100 stakeholders from Canada and the U.S. to suggest areas of governance reform to achieve a sustainable basin using future scenario analysis. Participants created stories considering the following questions: What forces are driving changes? What are the key uncertainties associated with these drivers? How could these forces change the future from its current path? And if the future unfolds as described in the scenarios, then what would we do about it? A consensus emerged that a breakdown is occurring in the policy regime governing the Great Lakes basin which is leading us towards an undesirable “out of control” future. Members of the GLFP recognize the need for scientists and managers to work within existing governance structures to improve the effectiveness and efficiency of management measures. They propose adaptation of an International Organization of Standardization (ISO) risk management standard developed by industry to reduce risk of engineering failures to show how governments can reduce the risk of ecosystem failures. Specifically, they propose a “bowtie analysis” of human activities that drive ecosystem pressures-effects-impacts to link causal pathways to both hard controls (structures based on design criteria set by science and engineering) and soft controls (strategies based on enabling, facilitating, and tracking activities). This will allow governments to shed light on why, despite best intentions, management systems are not working, and enable governments to continually improve the management system until the risk of policy failures are reduced to acceptable levels, bringing new hope to the future of the Great Lakes.

Irena Frances Creed is a Professor and Canada Research Chair in Watershed Sciences at Western University in Canada. Her research leadership and activity have improved our understanding of watershed hydrological and biogeochemical functions under present and predicted climate scenarios. By coupling this understanding with innovative techniques in geographic information systems, remote sensing and modeling to characterize these functions, she has enabled governments to develop planning and regulatory tools in support of innovative policies designed to ensure the sustainability of watershed systems.

Creed is an interdisciplinary scientist, with an appointment in Biology and cross-appointments in Geography and Earth Sciences at Western. On campus, she has leadership roles as former Acting Director of Centre for Environment & Sustainability, member of the Sustainability & Environment Theme Executive for Faculty of Science, Director of the Africa Institute, and member of the President’s Advisory Committee on Sustainability. Nationally and internationally, she was Research Area Leader (Water and Wetlands) for the Scientific Management Team of the Network of Centres of Excellence for Sustainable Forest Management (SFMN), which led to her participation on a US National Academies Scientific Panel Member on Hydrologic Impact of Forest Management. She is a theme leader (Health Forests, Healthy Waters) of the NSERC Canadian Strategic Network on Aquatic Ecosystem Services. She is also the principal investigator on the international NSERC Collaborative Research and Training Program Algal Bloom Assessment Through Science, Technology and Education (ABATE) Project. She was the Vice-Chair (2009) and Chair (2011) of the prestigious Gordon Research Conference on Catchment Sciences, establishing the theme of Catchments as Sentinels of Global Change and selecting an exceptional program led by world leaders in watershed research.

Creed has published over 100 scientific papers, books, monographs, and technical reports. She has provided over 200 presentations to scientific meetings, stakeholder groups and as a participant in “think tank” international workshops intended to define research needs and agendas. She was selected as the 2013 Distinguished Research Professor in the Faculty of Science at Western University, which allowed her to implement collaborative grants, pursue high-risk research, lead unique, time sensitive research avenues with strong potential for significant breakthroughs, and capitalize on new and significant national and international partnerships with academics, government and industry.

Creed is strongly committed to “scientific tithing” and spends a significant amount of her time in service to communities-at-risk in both developed and developing countries. She was a research leader to the Lake Naivasha Sustainability Project (Kenya) and was a recipient of Western’s inaugural Humanitarian Award for her work. Her broad knowledge base allows her to bridge her science with social science, engineering, law, and medicine to develop strategies to ensure sustainability of socio-ecological systems. Creed also leads a major project on the sustainability of the Laurentian Great Lakes and has transformed this work through the Transborder Research University Network (TRUN) on Water Stewardship - a project that received Western University’s Green Award in 2013 for work combining future scenario analysis with risk management analysis to identify scientific and policy gaps and mechanisms to bridge science to policy. You can learn more about her projects, activities, and publications at [http://www.uwo.ca/biology/faculty/creed/](http://www.uwo.ca/biology/faculty/creed/).
Wednesday 20 May 2015

JANE HUGHES
Griffith University

Conservation of Aquatic Biodiversity in a World with Less Water: A Molecular Ecologist’s Perspective

As the world’s population continues to grow, human water needs are growing accordingly, thus reducing the water available for sustaining our freshwater biodiversity. This is likely to be further exacerbated in areas where rainfall will decrease as a result of global climate change. Molecular ecologists have contributed substantially in recent years to our understanding of first, the levels and patterns of current biodiversity and second to understanding patterns of connectivity among populations of aquatic species and their significance for their conservation and management. Both are critical for prioritization of areas for protection and for designing rehabilitation programs. In this talk, I will attempt to synthesize our understandings to date. I will argue that a multi-disciplinary approach that incorporates new technological approaches in acquisition of molecular data is the best way forward for our aquatic biodiversity. Molecular ecologists can contribute by collaborating with other ecologists, especially in the fields of species distribution modeling and conservation planning. This approach will help to prioritize conservation actions for the best possible outcomes.

Jane Hughes is a Professor in the Griffith School of Environment at Griffith University in Brisbane Australia. She is also a Senior Fellow in the Australian Rivers Institute. Jane’s undergraduate and Honours degrees are from the University of Western Australia and her PhD is from La Trobe University in Melbourne. She has been at Griffith University as an academic since 1978, when she began as a Junior Teaching Fellow. Her research is mainly focused on the use of molecular techniques to address questions in ecology and evolution and recently, much of her work has focused on connectivity among populations of aquatic animals in rivers and streams. She and her students have also published a lot of papers on the processes maintaining and producing biodiversity. When not working on freshwater fish and invertebrates, Jane works on the evolution of diversity in Australian birds. Jane is an editor for Freshwater Science, Marine and Freshwater Research, PeerJ and Heredity.

Thursday 21 May 2015

STEVE CARPENTER
University of Wisconsin

Envisioning Freshwater Futures

Freshwaters have never been more important to human well-being. Global policy analyses center on the energy-food-water nexus as the key to sustainability. Yet climate change, hydrologic flow modification, land-use change, chemical inputs, invasive species and harvest are causing massive transformations of freshwater ecosystems and losses of the benefits that they could provide to society. Underlying causes are complex. There is great uncertainty about the efficacy of policies and interventions to protect or restore freshwater ecosystems. Scenarios that employ stories, art and models are one way to assess uncertainty and evaluate options for management of complex systems. The talk will sketch an overview of scenario processes for freshwater ecosystems and present an example from a Wisconsin watershed.

Stephen Russell (Steve) Carpenter is a leader of whole-ecosystem experiments and adaptive ecosystem management focused on freshwaters. Topics include trophic cascades and their effects on production and nutrient cycling, contaminant cycles, freshwater fisheries, eutrophication, nonpoint pollution, ecological economics of freshwater, and resilience of ecosystems and social-ecological systems.

Carpenter serves as the Director of the Center for Limnology at the University of Wisconsin-Madison, where he is the Stephen Forbes Professor of Zoology. He is a member of the U.S. National Academy of Sciences, a Fellow of the American Academy of Arts and Sciences, and a foreign member of the Royal Swedish Academy of Sciences. Carpenter is the 2011 laureate of the Stockholm Water Prize. Other notable awards include a Pew Fellowship in Conservation and Environment, the G. Evelyn Hutchinson Medal of the American Society of Limnology and Oceanography, the Robert H. MacArthur Award from the Ecological Society of America, the Excellence in Ecology Prize from the Ecology Institute, and the Naumann-Thienemann medal of the International Society for Limnology.

Carpenter is Chair of the Science Committee for the Program on Ecosystem Change and Society of the International Council of Science. He is co-Editor in Chief of Ecosystems, and a member of governing boards for the Beijer Institute of Ecological Economics and the South American Institute for Resilience and Sustainability Studies. Carpenter is a fellow of the Ecological Society of America, and founding member and Fellow of the Resilience Alliance. From 2000-2005 he served as co-chair of the Scenarios Working Group of the Millennium Ecosystem Assessment. He led the North Temperate Lakes Long-Term Ecological Research program at U.W.-Madison from 1999-2009. He is a former President of the Ecological Society of America. Carpenter has published 5 books and more than 300 scientific papers, book chapters, reviewed reports and commentaries. He received a B.A. from Amherst College (1974), M.S. from University of Wisconsin-Madison (1976), and Ph.D. from U.W. Madison (1979). From 1979-1989 he served as Assistant and then Associate Professor at the University of Notre Dame. He joined the U.W.-Madison faculty in 1989. A full biographical sketch, publication list and contact information are posted on http://limnology.wisc.edu/personnel/carpenter/.
2015 AWARD RECIPIENTS

SFS 2015 Award of Excellence

PROFESSOR MARGARET A. PALMER

Professor Margaret Palmer, of the University of Maryland, College Park, has been chosen to receive the Award of Excellence from the Society for Freshwater Science for 2015. Margaret has a distinguished record of research and a remarkable range of achievements in translating science into the public domain. The progression of Margaret’s career from her early, seminal work on habitat heterogeneity at fine scales to her current work on the consequences of global climate change for freshwaters represents an extraordinary journey of excellence as a scientist. She began her career as a marine biologist, earning a Ph.D. in coastal oceanography from the University of South Carolina where she studied benthic invertebrates in estuaries. Transplanted to the Midwest in her first faculty position at Wabash College, Palmer shifted her focus to the stream benthos, pursuing questions about the roles of disturbance and organism transport in determining the composition of freshwater communities. As her career progressed, she continued to ask questions about aquatic community structure but with an increasing focus on the drivers and consequences of environmental heterogeneity at ever larger scales. Margaret continues to direct an active research program gathering field data on stream ecosystem processes, but as her career has matured, much of her work – with astonishing productivity and impact – has focused on synthesis science intended to have direct application to safeguarding and restoring the health of stream ecosystems.

Recognizing that environmental science cannot catalyze change in a vacuum Margaret has helped conceive and design new ways of merging social and environmental sciences in a common quest for an improved environment. Her long-term efforts in this regard, first conceived as a Leopold Leadership Fellow and honed while drafting a joint action plan for the Ecological Society of America, have now culminated in the NSF-funded Socio-Environmental Synthesis Center which Margaret directs. Along the way she has engaged even more actively as an advocate for environmental science, most notably in her role as an expert on the environmental impacts of mountaintop removal coal mining in federal district court trials and in congressional testimony. Margaret’s combination of scientific expertise and her unflappable quick wit have made her an effective spokesperson at the science-policy interface. Although Margaret increasingly finds herself in the public eye, she has no interest in self-promotion; Margaret simply wants to push the most capable people into situations where their skills make a difference in protecting, managing or repairing ecosystems. Margaret has a great talent for identifying and promoting the skills of everyone she works with. She not only shares, but also pushes her protégés into the limelight whenever possible.

In recognition of Margaret’s contributions to our scientific understanding of how rivers work and her tireless devotion to translating the knowledge of our field to the public in every conceivable way we are pleased to announce Margaret A. Palmer as the recipient of the 2015 Award of Excellence from the Society for Freshwater Science.

SFS 2015 Environmental Stewardship Award

STEPHEN K. HAMILTON

The SFS Award Committee is pleased to award the 2015 Environmental Stewardship Award to Dr. Stephen K. Hamilton of Michigan State University’s Kellogg Biological Station. Steve’s accomplishments as an academic researcher and environmental steward of local (e.g., Kalamazoo River), regional (e.g., Great Lakes), and global (e.g., tropical rivers and wetlands in South America and Australia) watersheds make Steve deserving of this recognition. The Awards committee grants this award to Steve, to not only honor his accomplishments, but to highlight an outstanding scientist and steward of freshwater resources. His work inspires both young and accomplished researchers in the field of environmental remediation to embrace and integrate environmental stewardship in their careers.
**SFS 2015 Distinguished Service Award**

**DR. JOHN C. MORSE**

An active member of SFS since the early 1970s (first as MBS, then NABS), John Morse has contributed to the mission and scope of the Society in countless ways throughout his professional career. John’s research interests focus on the systematics and biogeography of the Trichoptera of the world, the biology and ecology of all aquatic arthropods, species diversity, endangered species, and water quality monitoring. Although John retired in 2008, he remains involved in an active research program, serving as Professor Emeritus of Entomology at Clemson University, as Director Emeritus of the Clemson University Arthropod Collection, and teaching short courses in taxonomy and systematics. Recently, John and his wife Suzanne established The John C. & Suzanne E. Morse Endowed Chair in Arthropod Biodiversity at Clemson.

John has been an active participant in nearly every annual society meeting since graduate school, regularly presenting research findings, organizing special sessions including the annual taxonomy fairs, serving as judge for student presentations, assisting society officers, and participating in executive committee sessions. In addition to service on several standing and ad-hoc committees, John was a founding member of the SFS Taxonomic Certification Program (2003); his guidance and direction of this new program resulted in the initial offering of certification tests at the society’s annual meeting in Anchorage, AK (2006). He currently serves with Bern Sweeney as co-chair of the SFS Taxonomic Certification Committee. Recently, John led the TCC in restructuring the testing procedures and protocols, and creating a written petition option for those recertifying after their initial 5-year certification. In 2014, John and his imaging team at Clemson developed the genus-level TCP certification test for EPT taxa based on high quality digital images rather than actual specimens. Soon, his imaging team will initiate compilation of digital images for the freshwater mollusk test. As one nominator for this award stated (supported in comments from all who wrote letters of nomination): “…John is the ultimate team player with it comes to SFS business.”

John has long served the global scientific communities, teaching students and working closely with colleagues in Mongolia, People’s Republic of China, Thailand, Taiwan, South Korea, Far East Russia, Indonesia, India, Singapore, Iraq, Poland, and other countries to increase the taxonomic skills of biologists and assist scientists in the development of water quality assessment protocols for streams and rivers.

The SFS DSA is awarded to a Society member who has made a genuine and lasting contribution to the betterment of the Society. Those of us who have been fortunate to have learned from and collaborated with John – under the umbrella of Society business and also during a variety of collaborations in all things aquatic biology – can certainly agree that John communicates his expertise and love for science very effectively while remaining humble and always respectful of others. His true legacy – beyond his past and present dedication to SFS and to arthropod taxonomy and the study of aquatic biology – is emulated by and will continue to grow through the young scientists he has mentored, and with the support of their programs that have expanded and improved because of his unselfish gifts through education, kindness, and understanding.

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**SFS 2015 Hynes Award**

**DR. CARLA L. ATKINSON**

Dr. Carla Atkinson is a community and ecosystem ecologist who is interested in how species traits maintain essential ecosystem functions and how land use and climate change may interact to impact a species’ role and its survival within the ecosystem. Her research has focused on the importance of species traits on ecosystem processes, effects of species loss on ecosystem function (i.e. nutrient cycling and storage), and the consequences of land use change on aquatic ecosystems. Dr. Atkinson worked with Dr. Alan Covich at the University of Georgia for her masters studying trophic niche overlap of native and invasive bivalves. In 2013 she obtained her PhD from the University of Oklahoma under the advisement of Dr. Caryn Vaughn where her dissertation research focused on the impact of freshwater mussels, one of the world’s most imperiled faunal groups, on nutrient cycling in streams. As a postdoc under Dr. Alexander Flecker at Cornell University from 2013-2014, she examined the functional traits of tropical and temperate stream insects including body stoichiometry, trophic ecology, and excretion rates under physiological stress due to simulated climate change. She is now an Assistant Professor in the Department of Biological Sciences at the University of Alabama.
FUTURE MEETINGS
The 2016 Society for Freshwater Science meeting will be held May 21-26 at the Sacramento Convention Center in Sacramento, California. Please visit the SFS booth for further details concerning the meeting or visit the SFS website.

MEETING SITE INFORMATION
The Wisconsin Center
Welcome to the Wisconsin Center, one of the world’s most architecturally exhilarating and technologically robust convention facilities, located in the heart of downtown Milwaukee, Wisconsin. Opened in 1998 and completed by the end of 1999, the Wisconsin Center has 188,695 square feet of contiguous, state-of-the-art exhibit space and a 37,506 square-foot ballroom with capacity for 3,150 diners and ample utilities for corporate theater. An additional 39,364 square feet of meeting space can be partitioned into as many as 28 meeting and breakout rooms equipped for satellite links, video teleconferencing, data transmission and other telecommunications and audio-visual technology.

Other innovations and tried-and-true technologies have been applied to heating, ventilation, air conditioning, lighting, security and electronic signage systems. Our goal has been to create a flexible environment that anticipates the technical expectations of 21st century customers, controls costs, and facilitates hassle-free move-in, show operation and move-out.

Extensive use of glass provides elegant pre-function and reception spaces and makes the building feel friendly and accessible, while actual access to event areas can be well controlled. Attractive and durable finishes, fixtures and amenities are used throughout, and the Wisconsin Center District invested over $1 million in integrated and commissioned artworks for the building. It is home to the $1.2 million Burke Family Collection of commissioned and integrated art, and some of the most advanced and IT infrastructure anywhere.

Concessions
Various food items can be found in the Coffee Corner located by the main entrance.

Breaks and Refreshments
Breaks with coffee service will be available Monday through Thursday mornings from 10:00-10:30 am and afternoons from 3:00 – 3:30 pm in Lobby areas.

Internet Service
Complimentary High Speed Wireless service will be available from May 17th Sunday, until the conclusion of the meetings on May 21st Thursday. This High Speed WiFi will be available throughout the entire first floor of the Wisconsin Center.

To access the internet from your device simply select SSID “SFS2015” from the list of available Wi-Fi networks on your laptop, phone, or tablet. No password will be required.

ATM Machines and Visitor Information at Wisconsin Center
An automated teller machine and visitor information is located by the Main Entrance to the Wisconsin Center.
PARKING

The Wisconsin Center parking lot is located at 500 W. Wells Street, Milwaukee, WI – Parking is $15/day. No overnight parking.

There are abundant sources of available parking downtown which can be found at: www.parkmilwaukee.com

Special SFS Rate of $6 at impark 615 N. Plankton.

1) Do NOT push the button for a ticket.
2) At the entrance, hold the QR code by the red scanner towards the bottom of the machine.
3) A ticket will automatically print and should read: “Welcome: SFS 2015”.

TRANSPORTATION

Milwaukee offers a wide variety of convenient transportation options that make it easy to get from A to Z and all points in between. When it comes to getting around, there’s no comparison between Milwaukee and its larger metropolitan counterparts. Whether you’re looking to travel into or out of the city, or just around downtown, Milwaukee offers a multitude of choices that make transportation hassle free.

GENERAL MITCHELL INTERNATIONAL AIRPORT

• Just eight miles from downtown
• Ranked among the top fastest growing airports in the world
• U.S. Department of Transportation data ranks Mitchell’s average fare significantly less than the nation’s average.
• Ranked by Conde Nast as one of the top five business airports three years in a row
• Eight on-premise auto rental agencies
• Taxi fare from airport to downtown hotels is approximately $21 each way
• Convenient, low-cost airport shuttle services are available 24 hours through Go Riteway Transportation, see www.goriteway.com

MILWAUKEE INTERMODAL STATION (AMTRAK, GREYHOUND, WISCONSIN COACH LINES TO O’HARE)

• Amtrak – Just 90 Minutes from Chicago, see http://www.amtrak.com
• Only five blocks from the Frontier Airlines Center. Recent $17 million renovation featuring a glass-enclosed galleria
• Convenient, multiple round trips daily between Milwaukee and Chicago’s Union Station.

CONNECTIONS CAN BE MADE AT CHICAGO TO MORE THAN 500 CITIES NATIONWIDE.

• General Mitchell International is one of the few U.S. airports to include an Amtrak station. A free shuttle bus connects rail passengers to the airport.
• Greyhound hub, see http://www.greyhound.com
• Bus service to Chicago airports: Wisconsin Coachlines provides a relaxing and stress-free ride to Midway or O’Hare Airports. http://www.coachusa.com/wisconsincoach/

Getting Around Town – Easy and Convenient

With city streets laid out in a grid pattern, finding your way between convention center, hotels and downtown attractions is hassle free for even the first-time visitor. Downtown Milwaukee offers affordable and convenient parking in and around the Frontier Airlines Center for day meeting attendees.

• The City of Milwaukee ranks among the nation’s most walkable cities, according to www.walkscore.com, earning Milwaukee’s city center the designation of “Walker’s Paradise”.

FERRY

The Lake Express Ferry is a state-of-the-art vessel linking Milwaukee with Muskegon, Michigan. The two-hour trip offers passengers a faster and more direct route than driving south around Lake Michigan through the Chicago area. http://www.lake-express.com

CAR

Milwaukee is conveniently located 100 miles north of Chicago at the intersection of I-94 and I-43. The award-winning $810 million Marquette Interchange completed in 2008 assures optimal downtown highway traffic flow.

Emergencies/First Aid

The registration team at Conference Registration will have detailed information on how to handle various emergencies and first aid. For life threatening emergencies: Call WCD Public Safety at Extension 6165 and report the locations and symptoms of the victim.
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U.S. GEOLOGICAL SURVEY
United State Department of the Interior
Reston, VA 20192
usgs.gov/ecosystems/fisheries

Ecosystem Science for Now and the Future: Fisheries

Healthy watersheds and thriving fish populations are vital to the wellbeing of American society, providing clean water, food, and recreation—yet almost 40 percent of the Nation’s freshwater fish species are considered at risk or vulnerable to extinction.

United States Geological Survey’s Fisheries Program conducts cutting-edge research to protect, restore, and enhance our Nation’s fisheries and their habitats. Our world-class scientists provide expertise and science to address local, regional, and national questions on aquatic species, communities, and habitats which supports Department of Interior bureaus, state and federal partners, non-governmental organizations, and native tribes in their decision-making.

U.S. Department of the Interior
U.S. Geological Survey
http://www.usgs.gov/ecosystems/fisheries
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THE WATER COUNCIL
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EXHIBITORS
WORKSHOPS

The Leaf Pack Experiment Training Workshop For Teachers
Saturday, May 16, 9 am-4 pm
UW-MILWAUKEE SCHOOL OF FRESHWATER SCIENCES
Stroud Water Research Center and the SFS Education and Diversity Committee are excited to provide the third consecutive Leaf Pack workshop for teachers and environmental educators at the SFS annual meeting. The Leaf Pack Experiment is a fun, hands-on research and outreach tool for non-scientists which demonstrates how our actions on land impact life and water quality in streams. Leaf Pack promotes inquiry-based interdisciplinary watershed education and engages diverse audiences in conducting their own experiments, gathering relevant ecological data, exploring food webs, learning classification skills, using technology to share data, comparing data with those of other communities and applying that information to protect local watersheds. During this workshop participants will receive an overview of stream ecology and watershed concepts based on research done at the Stroud Water Research Center. Taking our boots to the stream, we’ll then experience hands-on examination of leaf packs with live aquatic macroinvertebrates, including their identification and a look at the Leaf Pack Network® web-site and database. Contact Tara Muenz (tmuenz@stroudcenter.org, 610.268.2153 ext. 301).

Introduction To R
Sunday, May 17, 9:00 am-5:00 pm
WISCONSIN CENTER – ROOM 102AB
The R computing environment has become a leading computational freeware for data analysis and display. This workshop is intended to introduce participants to the “R” computing environment. Participants will learn to import, export and transform data to run statistical tests and data summaries. Instructors will demonstrate several functions of R and associated packages increasing the understanding and use of the R environment. Students will be expected to bring their own computer, and will be provided with many additional resources for exploring and learning in the R environment. A basic understanding of statistics and statistical tests is required.

Identification Of Odonata Nymphs
Sunday, May 17, 9:00 am-5:00 pm
WISCONSIN CENTER – ROOM 102DE
The workshop will focus on identification of nymphs of Odonata of the Upper Midwest. Most attention will be given to our six families of Anisoptera but we will broad-brush our three families of Zygoptera as well. Each student will examine nymphs or exuviae of all nine families under magnification. The instructor, Bob DuBois, has authored over 3 dozen articles relating to the conservation management, ecology and taxonomy of Odonata. He currently curates the Wisconsin Department of Natural Resources’ Odonata collection and oversees the monitoring efforts of the Wisconsin Odonata Survey.

SRC (Student Resources Committee) Workshop/Excursion
Sunday, May 17, 9:00am-3:00pm
We’re partnering with Milwaukee Riverkeeper, Milwaukee Kayak Company, and the Urban Ecology Center to provide a kayak paddling tour of the Milwaukee River and a workshop on human/environment interfaces explored from scientific and societal perspectives. Local experts will guide us through the river’s unique combination of built and unbuilt environments, highlighting current issues such as fish passage, dam removal, and water quality. We’ll put in just below the Estabrook Dam and paddle downstream to Riverside Park for a workshop and panel discussion at the Urban Ecology Center - a 20,000-sq.-ft. green building and community-based nature center. Here we’ll eat lunch while we learn about successes, challenges, and opportunities for aquatic scientists working to make discoveries and find solutions where humans interact with the freshwater environment. After the workshop we’ll get back on the water and continue down to finish at the Rock Bottom Brewery pier, just 3 blocks away from the conference venue. The event will last approximately 6 hrs (1 hr transport to the start, 2-3 hrs paddling, 2 hrs lunch/workshop). Kayaks, safety equipment, and safety training will be provided. Depending on seasonal water levels the location of this event may change.

Meeting time and place: 9:00 AM at the Wisconsin Center (conference venue) to take public transit with the group, or 10:00 AM at Estabrook Dam in Estabrook Park. GPS coordinates of the dam: 43°06’06.3000”, -087°54’43.4844”

Ending time and place: 3:00 PM at Rock Bottom Brewery pier; GPS coordinates: 43°02’23.3088”, -087°54’40.3956”

SFS Taxonomic Certification Program

Specimen Testing
Specimen Tests -Monday, May 18, 8:30 am-4:00 pm
WISCONSIN CENTER, ROOM 102A

Online Image Testing
Computer Image Tests (Eastern and Western EPT) – Monday, May 18, 12:30 pm-4:00 pm
BRYANT & STRATTON COLLEGE, W. WISCONSIN AVE. CAMPUS COMPUTER LAB

Taxonomic Certification Committee Meeting
The TCC will meet in Room 102A , May 18, 4pm – 5pm.
Taxonomy Fair

Wednesday, May 20, 1:30-4:00 pm
Wisconsin Center, South Foyer and Room 102A

The Taxonomy Fair at the Annual Society for Freshwater Sciences meeting is an opportunity for students and professionals alike to interact with leading experts in the fields of invertebrate and algal taxonomy. The Technical Issues Committee has gathered over 10 experts in taxonomy and systematics to assist participants in difficult and unique taxa. Taxonomic experts will gather at the Taxonomy Fair during the Wednesday evening poster session. Please bring your difficult, unknown or interesting specimens to the taxonomy fair and have them verified by experts in the field. This is an opportunity to discuss your findings with other taxonomists, collaborate on new research and learn about new advances in systematics. The Taxonomy Fair is an open session allowing for intimate one on one interaction with taxonomic experts.

Please bring any specimens you wish to discuss, and remember to abide by any restrictive guidelines for traveling with specimens and EtOH.

Technical Issues Committee
Participating Taxonomic Experts:

<table>
<thead>
<tr>
<th>Participant</th>
<th>Taxonomic Group</th>
<th>Affiliation</th>
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<tbody>
<tr>
<td>Sylvia Lee</td>
<td>Diatoms</td>
<td>Cary Institute of Ecosystem Studies</td>
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<td>Rob Dillon</td>
<td>Gastropods</td>
<td>College of Charleston</td>
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<td>Luke Jacobus</td>
<td>Mayflies</td>
<td>IUPUC</td>
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<td>Robert Dubois</td>
<td>Odonata</td>
<td>Wisconsin DNRC</td>
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<td>Mark Wetzel</td>
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<td>Ed DeWalt</td>
<td>Plecoptera</td>
<td>Illinois Natural History Survey</td>
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<tr>
<td>Julie Heinlein</td>
<td>Soft Algae</td>
<td>Michigan State University</td>
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<tr>
<td>Jason Robinson</td>
<td>Trichoptera</td>
<td>Illinois Natural History Survey</td>
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<td>Rebecca Winterringer</td>
<td>Mollusks</td>
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<td>D. Christopher Rogers</td>
<td>Crustacea</td>
<td>Kansas Biological Survey</td>
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<td>Bohdan Bilyj</td>
<td>Chironomidae</td>
<td>BioTax Consultants</td>
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<tr>
<td>Fredric Govedich</td>
<td>Hirudinea</td>
<td>Southern Utah University</td>
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SFS 2015 FIELD TRIPS

FRIDAY, MAY 22

Lake Michigan Research Cruise

The Lake Michigan field trip will be aboard the R/V Neeskey. The 21.6 m Neeskey is the School of Freshwater Sciences’ primary research vessel. “Neeskey” is derived from the language of the Ho-Chunk, a Wisconsin Native American tribe, and translates as “pure, clean water.” It provides year-round access to the Great Lakes and has a fully functional research platform and floating laboratory. This exploration will cruise to Lake Michigan’s Green Can reef where oceanographic scale sampling will be undertaken including ROV deployment followed by bottom samples collected with the box corer, benthos corer, and PONAR grabs. Since no “weather day” can be scheduled we will plan to sample within the harbor if really big winds & waves are present. One group will be accommodated on half-day trip: a Morning Cruise from 8:00 am-12:00 pm. The bus departs the Hilton Milwaukee Downtown at 7:30 am. On-board meals will be provided. Contact: Jerry Kaster, University of Wisconsin Milwaukee School of Freshwater Sciences; jlk@uwm.edu or 262-949-0842. Bus departs from the Hilton.

Aldo Leopold Legacy Center, Shack And Farm

The Aldo Leopold Foundation, executor of Aldo Leopold’s historic property and literary legacy, is headquartered at the Aldo Leopold Legacy Center, Baraboo, WI and 1 mile from the famous Leopold Shack. This full-day tour weaves together Aldo Leopold’s personal history, his famous Shack, the landscape of A Sand County Almanac, and the foundation’s local, regional and international work advancing Leopold’s land ethic. The Aldo Leopold National Historic Landmark (Leopold’s Shack) annually attracts thousands from around the world. Admirers want to see and understand the land Leopold and his family restored to health as they aspired to a land ethic. Their history and experiences come alive with historic photos, family stories and landscape history. The Aldo Leopold Foundation, started in 1982 by the five children of Aldo and Estella Leopold, fosters the land ethic through the legacy of Aldo Leopold. The foundation’s work tangibly connects to the Leopold tradition of seeking deeper understanding and taking action. The Leopold-Pine Island Important Bird Area, 12,000 acres surrounding Leopold’s Shack, is a model for collaborative conservation. This collaborative involves federal, state, non-profit and private lands using at-risk birds as indicators of progress toward planned ecosystem conditions. Birds as indicators, conservation planning, adaptive management, restoration, invasive species control, prescribed burning, and much more help this landscape tangibly serve regional and national conservation plans. The bus departs from the Hilton Milwaukee Downtown at 7:30 am and will return by 5 pm. Box lunches will be provided. Contact and Group Leader: Bob Stelzer, University of Wisconsin Oshkosh; Phone 920-424-0845, email: stelzer@uwosh.edu. Bus departs from the Hilton.
The Preserves of Mukwonago River Watershed and Historic Lapham Peak

The Mukwonago River is one of the healthiest in southeastern Wisconsin. The watershed is located approximately 40 miles southwest of downtown Milwaukee in the southeast glacial plains of Wisconsin. A sizable portion of the watershed is managed as a preserve by the Wisconsin Department of Natural Resources and The Nature Conservancy (TNC). Surrounded by ground-moraines and outwash gravel terraces, the watershed includes important habitat for rare fish and mussels; the Mukwanago River is believed to harbor the largest assemblage of native mollusk species in Wisconsin. Natural areas in the watershed include the Lulu Lake Preserve (203 ha), the Crooked Creek Preserve (112 ha), Pickerel Lake Fen (54 ha), and the Newell and Ann Meyer Nature Preserve (264 ha). We will explore the preserves by foot and canoe. The field trip will provide an opportunity to learn how the TNC manages the preserves to maintain rare natural communities and how the organization works with individuals and organizations to promote long-term conservation within the watershed. We will have lunch at a local eatery in the town of Mukwonago. On the way back to Milwaukee we will stop at historic Lapham Peak, one of the first National Weather Service signal stations. There we will climb a 45-foot observation tower atop the highest point in Waukesha County to view the topography of this post-glacial landscape. If time permits we will stop for a cold beverage at the Water Street Brewery in nearby Delafield. Please wear walking shoes and dress for the weather. Participants should also bring a bottle of water to drink while canoeing. Food and beverage costs are not included in the fee. Bus departs the Hilton Milwaukee Downtown at 8:30 am and returns at 4:30 pm. Contact and Group Leader: Roger Haro, University of Wisconsin La Crosse (email: rharo@uwlax.edu). Bus departs from the Hilton.

Stream Restoration for Aquatic Connectivity in the Milwaukee River and Lake Michigan Watersheds

This field trip will focus on stream restoration to improve aquatic connectivity in the Milwaukee River and Lake Michigan Watersheds. The trip will highlight the successful efforts of the Ozaukee County Planning and Parks Department’s Fish Passage Program. Since 2006, the Program has identified and remediated over 230 impediments to fish passage. This work has reconnected over 100 stream miles and thousands of acres of high-quality habitat which has supported long-term efforts to re-establish self-sustaining native populations of threatened and special-concern fish. Target species include lake sturgeon (a species of special concern in Wisconsin), walleye and northern pike. Program activities have received national awards and recognition and are supported by a variety of federal, state, and local grants including funding from the NOAA/ARRA, USEPA/GLRI, and the USFWS. Field trip sites will include a natural fishway allowing aquatic species passage past the Mequon Thiensville Dam; the Lime Kiln Dam and Newburg Dam removal and restoration sites; a large scale habitat enhancement project on Ulao Creek; and a road/stream crossing replacement in Ehlers Park. Participants will have lunch at the Water Street Brewery. The bus departs from the Hilton Milwaukee Downtown at 8 am and will return at 4 pm. Contact and Group Leader: Andrew T. Struck, Director of Ozaukee County Planning and Parks Department. (Phone 262-238-8275, email: astruck@co.ozaukee.wi.us). Bus departs from the Hilton.
MEETINGS

Saturday
SFS FINANCE COMMITTEE
Saturday, May 16, 3:00 pm-6:00 pm
Hilton Hotel, Miller Room, 4th Floor

Sunday
FWS EDITORIAL BOARD COMMITTEE
Sunday, May 17, 7:00 am-9:00 am
Hilton Hotel, McArthur Room, 4th Floor
SFS BOARD OF DIRECTORS MEETING
Sunday, May 17, 9:00 am-5:00 pm
Wisconsin Center, Room 103DE
INSTARS ORIENTATION
Sunday, May 17, 1:00-4:00 pm
Wisconsin Center, Room 103C
STREAM RESILIENCY RCN FOOD WEB MODELING WORKING GROUP
Sunday, May 17, 11:00 am-6:00 pm
Wisconsin Center, Room 102C
This meeting is intended to provide instruction and training in the utility, structure, development, and application of empirical and theoretical models to stream food webs.

Monday
SFS ENDOWMENT COMMITTEE
Monday, May 18, 8:00 am-9:00 am
Hilton Hotel, Founders Room, 5th Floor
SFS COMMITTEES – LUNCH MEETINGS
Monday, May 18, 12:00 pm-1:30 pm
Hilton Hotel, Wright Ballroom, 4th Floor
ALL COMMITTEES not otherwise listed.
SFS SRC LUNCH MEETING
Monday, May 18, 12:00 pm-1:30 pm
Hilton Hotel, Crystal Ballroom, 5th Floor
TAXONOMIC CERTIFICATION COMMITTEE MEETING
Monday, May 18, 4:00 pm-5:00 pm
Wisconsin Center, Room 102A

Tuesday
SFS PUBLICATIONS COMMITTEE
Tuesday, May 19, 7:00 am-9:00 am
Hilton Hotel, Mitchell Room, 4th Floor
2016 HYDROLOGY WORKSHOP PLANNING GROUP
Tuesday, May 19, 12:00 pm-1:30 pm
Hilton Hotel, Mitchell Room, 4th Floor

THE STREON EXPERIMENTAL PROGRAM: STATUS, UPDATES, AND GROUP DISCUSSION
Tuesday, May 19, 12:30 pm-1:30 pm
Hilton Hotel, Walker Room, 4th Floor
The STReams Experimental Observatory Network (STREON) is an experimental initiative that is part of the aquatic program at the National Ecological Observatory Network (NEON). This open-access experiment spans sites across North America, and is designed to manipulate stream nutrient concentrations and the presence/absence of large-bodies consumers at 10 NEON aquatic sites, from Puerto Rico to Arctic Alaska. This session is designed to provide an update on the status of STREON and provide a forum for STREON working group discussions. Open to all attendees, lunch is not provided.
Contact: Stephanie M. Parker, Ph.D., Aquatic Ecologist, National Ecological Observatory Network, sparker@neoninc.org

Wednesday
SFS MEMBERSHIP LUNCH
Wednesday, May 20, 12:00 pm-1:30 pm
Wisconsin Center, Ballroom ABC
CHAPTER INFORMATION SESSION
Wednesday, May 20, 4:00 pm-5:00 pm
Wisconsin Center, Room 101B

Thursday
NEW BOARD OF DIRECTORS BREAKFAST
Thursday, May 21, 7:30 am-9:00 am
Hilton Hotel, Regency Ballroom, 5th Floor

Friday
SYNTHESIS FOR SCALER: SCALE CONSUMERS AND LOTIC ECOSYSTEM RATES
Friday, May 22, 9:00 am-5:00 pm
Hilton Hotel, Oak Room, 5th Floor
Contact: Walter Dodds.
We will explore methods for scaling measurements of ecosystem metabolism and nitrogen uptake from patches, to reaches and whole watersheds. The influence of consumers on those rates and how they scale will be assessed, and a framework for comparisons of scaling across biomes will be developed. We will use data from recently completed experiments to initiate these efforts. Approaches taken will include whole-watershed modeling compared to synoptic sampling and statistical approaches such as structural equations modeling compared across scales.
EVENTS AND ACTIVITIES

Opening Reception
Sunday, May 17, 8:00-10:00 pm
Wisconsin Center Lobby ABC
A welcome reception to the 2015 SFS Annual Meeting will be held on Sunday, 17 May 2015 in the Wisconsin Center Lobby ABC immediately following the SFS Meeting Opening-Awards. Conference registration will be open prior to the reception to allow you to pick up your conference materials. Light hors d’oeuvres and a cash bar will be available.

Jam Sessions
Sunday - Tuesday, May 17-19, 9:00-11:59 pm
Monarch Lounge at the Hilton
Come join fellow attendees turned musicians for a fun and lively evening. No need to sign up. Watch for more details to be released at the meeting.

SFS Student-Mentor Mixer
Monday, May 18, 6:30-8:30 pm
Hilton Hotel, Crystal Ballroom

SFS Mixer And Live Auction
Monday, May 18, 7:30-10:00 pm
Wisconsin Center Ballroom ABC

SFS Mixer Honoring Retirees
Tuesday, May 19, 5:00-7:00 pm
Wisconsin Center Lobby ABC
Come to the Tuesday Mixer and self-identify as a new or existing SFS retiree and get your EMERITUS ribbon and a drink ticket.

SFS Endowment Reception
Tuesday, May 19, 5:30 pm-7:00 pm
Hilton Hotel, Regency Ballroom

Social Event And Tour At UWM School Of Freshwater Science
Tuesday, May 19, 7:00 pm-10:00 pm
(Busses depart the Wisconsin Center at 6:30 p.m.)
Join the School of Freshwater Sciences (the “other” SFS) for an evening of social exchange, freshwater interactive displays, research ship tours, and visit research laboratories, and dedicated labs such as the freshwater robotics laboratory (remotely operated vehicles!). The School of Freshwater Sciences is located at the edge of the largest freshwater system on the Earth’s surface--the Great Lakes. Re-dedicated in 2009 as the SFS, the school expands a tradition of freshwater studies at UWM that began in 1966 with the Center for Great Lakes Studies and continued as the Great Lakes WATER Institute in 1998. As the only graduate school in the U.S. dedicated to the study of freshwater, its research and education programs are integrated across four major areas: freshwater ecosystem dynamics; human and ecosystem health; freshwater technology; and freshwater economics, policy, and management. No charge for tour and transportation. Cash bar. Busses depart from the Wisconsin Center beginning at 6:30 pm.

SFS Membership Lunch
Wednesday, May 20, 12:00 pm-1:30 pm
Wisconsin Center, Ballroom ABC

Poster Session
Wednesday, May 20, 1:30-4:00 pm
Wisconsin Center, North and South Foyers

Chapter Information Session
Wednesday, May 20, 4:00 pm-5:00 pm
Wisconsin Center, Room 101B

Fun Run
Wednesday, May 20, 4:00 pm-6:00 pm
The SFS Annual 5k Run will be along the beautiful shore of Lake Michigan, starting near Discovery World and looping south through Lake Shore State Park. The start/finish area is located exactly 1 mile due east of the convention center and the course has very little change in elevation. Flat and fast! A shuttle will depart from the Wisconsin Center to transport runners to the park from 3:45-4:30 pm and the race will start around 5-5:15 pm. There will be refreshments at the finish and the run will be chip timed with results posted online afterward. Runners will also receive a Fun Run t-shirt.

DISCOVERY WORLD – Offsite Social Event
Wednesday, May 20, 7:30 pm-11:00 pm
Busses depart from the Wisconsin Center
Join us for a reception-style evening event at the Discovery World Science and Technology Center for the SFS evening social event. Take a journey from the Great Lakes to the Caribbean when you step into the Reiman Aquarium. You’ll have an opportunity to experience the hydrologic cycle via an interactive cloud, view submerged habitats, and manage the flow of water at the Great Lakes Future exhibit.
SPECIAL OPPORTUNITIES AND INFORMATION FOR STUDENTS AND POST-Docs

Outstanding Student Presentation Awards

SFS will provide recognition and awards for the 2015 outstanding student presentations at the 2016 SFS Annual Meeting. All eligible presentations will be evaluated in consideration of awards’ criteria.

2014 Award Winners

JOANNA BLASZCZAK  
Duke University  
Best Oral Presentation in Applied Research for her talk  
“Is all impervious surface created equal? A study of variation in stream chemistry across 10% impervious surface watersheds”

JESSICA CORMAN  
Arizona State University  
Best Oral Presentation in Basic Research for her talk  
“A shading experiment to study how calcium carbonate deposition influences nutrient limitation”

CHRISTOPHER DALTON  
Cornell University  
Runner-up for Best Oral Presentation in Basic Research for his talk  
“Predators alter nutrient recycling of prey by reducing feeding rates and metabolism”

EMILY DAVIS  
University of Washington  
Runner-up for Best Oral Presentation in Applied Research for her talk  
“Wildfire effects on stream metabolism across gradients of time and fire severity in an Idaho wilderness watershed”

KEELEY MACNEILL  
Cornell University  
Best Poster Presentation in Basic Research for her poster  
“Assessing nutrient uptake along an elevation gradient in Ecuador using multiple techniques”

CAMERON TURNER  
University of Notre Dame  
Best Presentation Emphasizing Methodology for his presentation  
“Concentrations of aqueous and sedimentary environmental DNA (eDNA) reflect fish abundance”

MISHA WARBANSKI  
University of Victoria  
Best Presentation by an Undergraduate Student for her presentation  
“A multi-elemental analysis of freshwater and marine three-spined stickleback (Gasterosteus aculeatus) from coastal British Columbia”

STACEY WENSINK  
Oakland University  
Best Poster Presentation in Applied Research for her poster  
“Riprap alters the structure and function of Lake St. Clair shorelines”

SRC Student-Mentor Mixer

Monday, May 18, 2015, 6:30-8:30 pm  
Hilton Hotel - Crystal Ballroom

The SFS Student-Mentor Mixer, conducted during the annual conference, is designed to facilitate interactions between students and experienced professionals in the field of freshwater science. Mentors may include professors, research associates, post-doctoral researchers, government employees, and private consultants. The SFS Annual Student-Mentor Mixer is open to all undergraduate students, graduate students, and post docs, however, registration is required. The Student-Mentor mixer provides students with the opportunity to make connections with professionals who share similar interests, gain insight into future career opportunities, and receive valuable advice on navigating through the scientific research process. Mixers provide students a great opportunity to network and engage in lively conversation with mentors and peers in a relaxed environment. Those pre-registered will receive a group assignment and complimentary drink ticket with your conference registration materials.

Student Volunteer Training

Sunday 17 May 2015, 9:00 am – 5:00 pm  
Wisconsin Center Main Lobby AB

Check in at the registration desk for instructions and details for the sessions and tasks for which you’ve volunteered.

SFS Student Resource Committee Lunch Meeting

Monday, 18 May 2015, 12:00 – 1:30 pm  
Hilton Crystal Ballroom

If you are an undergraduate or graduate student in SFS, please join the Student Resource Committee (SRC) for our annual luncheon meeting. Learn about the SRC’s activities and how you can become more involved in the society. We will also be electing leadership positions for the coming year.
Instars is a program sponsored by the Society for Freshwater Science for undergraduates from under-represented groups interested in the study of freshwater. This program teaches undergraduate students about the many disciplines of freshwater science through interactions with other undergraduates, graduate student mentors, and professional SFS members. The core of the program is attending the 2015 SFS Annual Meeting. Instars activities include:

- A half-day, pre-meeting Instar orientation workshop open only to SFS Instar Fellows.
- A special Instars session open to all attendees on Monday, May 18 from 10:30 am – 12:00 p.m. in room 101A, featuring some of the leading professionals on the study of freshwater ecosystems.
- Networking activities with peers and mentors during the meeting.
- Attending plenary sessions and a wide choice of special, contributed, and poster sessions.
- Opportunities to present undergraduate research in general sessions with friendly review from professional aquatic ecologists.
- Post-meeting networking and linking to research and educational opportunities in aquatic science.

SFS sponsors a number of Instars Fellows by providing meeting registration fees, travel, and lodging for the pre-meeting activities and the annual meeting.

This is the fifth Instar class! Several previous Fellows are presently in graduate school and will participate as mentors. Photos of previous classes, details of Instars activities, application materials and additional web communications are posted regularly on the SFS website.

Instar workshops, with the exception of the orientation workshop on Sunday, are open to all students or mentors attending the meeting; however, pre-registration is encouraged for planning purposes.

MORE INFO

- https://www.facebook.com/pages/Instars

Faculty and students are encouraged to contact any members of the organizing committee for other information

DR. CHECO COLON-GAUD  
Georgia Southern University  
jccolongaud@georgiasouthern.edu

DR. TAMARA SLUSS  
Kentucky State University  
tamara.sluss@sysu.edu

DR. PATINA MENDEZ  
University of California, Berkeley  
patina.mendez@berkeley.edu

DR. JUDY LI  
Oregon State University  
judyl@comcast.net

DR. MARCELO ARDON-SAYAO  
East Carolina University  
ardonsayaom@ecu.edu

DR. KRISTA CAPPS  
University of Maine  
Krista.capps@main.edu

SFS Instars Mentoring Workshop Orientation  
(Invitation Only)

Sunday, 17 May 2015, 1:00 - 4:00 pm  
Wisconsin Center – Room 103C

This is the fifth year that the Society for Freshwater Science (SFS) is sponsoring the Instars Mentoring Program for undergraduates from under-represented groups who are interested in the study of freshwaters. The program is open to students sponsored through Instars Fellowships and others from under-represented minorities. During the annual meeting opportunities for networking among graduate students, faculty and professionals will be promoted as we strive to encourage diversity in our discipline. This workshop is only for Instar Fellows.
**PRESENTER INFORMATION**

**Concurrent Sessions – Orals**

Ten concurrent sessions will be held in the first floor of the Wisconsin Center in the meeting rooms labeled 101, 102, and 103. Each session room will be equipped with a projector, screen, PC laptop, and microphone. Wireless internet access has been arranged throughout the facility and in all the meeting rooms.

You must access the abstract system to upload your presentation so that it can be pre-loaded on the laptop in your room. Upload your final presentation no later than midnight the day prior to your scheduled presentation (i.e., 11:59 pm Monday for a Tuesday presentation).

**Link for uploading**
http://sfsannualmeeting.org/Papers.cfm

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**NEW THIS YEAR**

All session presentations will be downloaded from the online system, not manually loaded at the presentation room onsite, however a speaker ready room and speaker management team will be on hand if you need assistance.

The speaker ready room hours are the same as the registration hours for the conference. Check in at the registration desk and you will be directed to a speaker management team member to assist you if needed.

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**Session Chair Information**

Please arrive 30 minutes early to familiarize yourself with the meeting room and AV equipment. The presentation files for each session will be pre-loaded on the laptop in the room in a folder by date and time. Once the presentation is launched, the presenter will control the program from the podium using a handheld slide advancer/laser pointer (provided). Alternately, the presenter may use the computer mouse or the up/down/right/left keys on a keyboard for navigation. The session chair or other room monitor will serve as a timer and indicate reminder times. We must keep on time! Do not allow speakers or Q&A sessions to run over time. Start sessions on time; do not delay while people return from breaks. If a presenter ends early or a talk is cancelled, wait until the scheduled start of the next presentation before continuing.

Talks are 12 minutes long with 2 minutes for questions and a 1-minute period for changing rooms (except for some special session talks scheduled for 30 minutes). Please briefly introduce the speaker, their affiliation, and the title of their talk - no biographical elaboration is necessary.

To keep talks on schedule, the session chair will use a timer (provided) to keep track of session times. We will use the following timing conventions; at 10 minutes past the start of the talk, notify the speaker that there are 2 minutes left. At 12 minutes, indicate it is time to begin any questions; At 14 minutes indicate that the talk and questions are over. The session chair or room monitor will be provided with three cards: A yellow card to indicate there are 2 minutes left; a green card to indicate it is time for questions; and a red card to indicate that the talk and questions are over. Note that if you are chairing a 30-minute talk in a special session, the talk and any questions still must end at the same time as a second concurrent 15 minute talk would.

**Poster Session**

The Poster Session will take place on Wednesday, May 20 from 1:30 to 4:30 pm on the North and South Foyers on both sides of the exhibitor and ballroom areas. Posters can be set up on Tuesday, May 19 from 8:00 am to 5:00 pm. To optimize viewing and interaction opportunities we encourage presenters to leave their posters in place until Thursday when they need to be removed by 6:00 pm.

Posters will be mounted on poster boards (provided) and must be no larger than 45 inches high by 41 inches wide. If your poster exceeds this size, it may be subject to removal. Posters will adhere to the boards using push pins that will be provided.
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<td>103DE</td>
</tr>
<tr>
<td>09:00 - 17:00</td>
<td>WORKSHOP</td>
</tr>
<tr>
<td></td>
<td>‘Identification of Odonata Nymphs’</td>
</tr>
<tr>
<td></td>
<td>102DE</td>
</tr>
<tr>
<td>13:00 - 16:00</td>
<td>INSTARS Orientation</td>
</tr>
<tr>
<td></td>
<td>103C</td>
</tr>
<tr>
<td>18:00 - 21:00</td>
<td>SFS Meeting Opening - Awards</td>
</tr>
<tr>
<td></td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>20:00 - 22:00</td>
<td>Welcome Mixer/Reception</td>
</tr>
<tr>
<td></td>
<td>Lobby ABC</td>
</tr>
<tr>
<td>21:00 - 23:59</td>
<td>Jam Session</td>
</tr>
<tr>
<td></td>
<td>Hilton: Monarch Lounge</td>
</tr>
</tbody>
</table>
MONDAY, MAY 18, 2015

All events located at the Wisconsin Center unless otherwise noted.

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION</th>
</tr>
</thead>
</table>
| 08:00 - 09:00 | Endowment Committee  
               Hilton: Founders                                                       |
| 08:00 - 17:30 | Taxonomic Certification Testing                                        102A          |
| 08:45 - 09:15 | Daily Welcome/Announcements                                              Ballroom ABC |
| 09:15 - 10:00 | PLENARY I  
                   ‘Water Tension and the Great Lakes Compact’  
                   Peter Annin  
                   Ballroom ABC                                                      |
| 10:00 - 10:30 | Coffee Break                                                           Main Lobby AB |
| 10:30 - 12:00 |  
                   101A  
                   101B  
                   101CD  
                   102B  
                   102DE  
                   102C  
                   103AB  
                   103C  
                   103DE  
                   S01: SS: Freshwater Futures - Undergrads (Continued Tues 15:30)  
                   S02: SS: Species  
                   S03: SS: Species Interactions, Ecolhydrology, and Ecogeomorphology  
                   S04: SS: Acid Deposition  
                   T01: Food Webs  
                   T02: Biogeochemistry  
                   T03: Climate Change  
                   T04: Aquatic Ecosystems  
                   T05: Large River Ecology                                             |
| 12:00 - 13:30 | Lunch On Your Own                                                       |
| 12:00 - 13:30 | SFS Committees Lunch Meeting                                             
                   Hilton: Wright ABC                                                  |
| 12:00 - 13:30 | SRC Student Lunch Meeting                                                
                   Hilton: Crystal Ballroom                                             |
| 13:30 - 15:00 |  
                   101A  
                   101B  
                   101CD  
                   102B  
                   102DE  
                   102C  
                   103AB  
                   103C  
                   103DE  
                   T06: Invasive Species  
                   S05: SS: Nutrient Reaction Rates and Residence Times  
                   S06: SS: Invertebrate Systematics and Faunistics  
                   T07: Ecotoxicology  
                   T01: Food Webs  
                   T02: Biogeochemistry  
                   T03: Climate Change  
                   S07: SS: David Allan  
                   T05: Large River Ecology                                             |
| 15:00 - 15:30 | Coffee Break                                                            Main Lobby AB |
| 15:30 - 17:00 |  
                   101A  
                   101B  
                   101CD  
                   102B  
                   102DE  
                   102C  
                   103AB  
                   103C  
                   103DE  
                   T06: Invasive Species  
                   S05: SS: Nutrient Reaction Rates and Residence Times  
                   S06: SS: Invertebrate Systematics and Faunistics  
                   T07: Ecotoxicology  
                   T01: Food Webs  
                   T02: Biogeochemistry  
                   T08: Organic Matter Processing  
                   S07: SS: David Allan  
                   S08: SS: Accounting for Variability                                   |
| 18:30 - 20:30 | SRC Student/Mentor Mixer                                                 
                   Hilton: Crystal Ballroom                                             |
| 19:30 - 22:00 | SFS Mixer  
                   Main Lobby AB  
                   Live Auction  
                   Ballroom ABC                                                        |
| 21:00 - 23:59 | Jam Session                                                            Hilton: Monarch Lounge |
TUESDAY, MAY 19, 2015
All events located at the Wisconsin Center unless otherwise noted.

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>07:00 - 09:00</td>
<td>Publications Committee</td>
</tr>
<tr>
<td></td>
<td><em>Hilton: Mitchell</em></td>
</tr>
<tr>
<td>08:00 - 09:00</td>
<td>Co-Publisher Review Team</td>
</tr>
<tr>
<td></td>
<td><em>101B</em></td>
</tr>
<tr>
<td>09:00 - 09:15</td>
<td>Daily Welcome/Announcements</td>
</tr>
<tr>
<td></td>
<td><em>Ballroom ABC</em></td>
</tr>
<tr>
<td>09:15 - 10:00</td>
<td>PLENARY II</td>
</tr>
<tr>
<td></td>
<td><em>‘Why Are The Great Lakes Failing To Thrive?’</em></td>
</tr>
<tr>
<td></td>
<td><em>Irena F. Creed</em></td>
</tr>
<tr>
<td></td>
<td><em>Ballroom ABC</em></td>
</tr>
<tr>
<td>10:00 - 10:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td></td>
<td><em>Main Lobby AB</em></td>
</tr>
<tr>
<td>10:30 - 12:00</td>
<td>101A 101B 101CD 102B 102D 102E 102C 103AB 103C 103DE</td>
</tr>
<tr>
<td></td>
<td><em>T06: Invasive Species</em></td>
</tr>
<tr>
<td></td>
<td><em>S09: SS: Dynamics of Carbon</em></td>
</tr>
<tr>
<td></td>
<td><em>T09: Conservation and Restoration</em></td>
</tr>
<tr>
<td></td>
<td><em>S10: SS: Quantifying Ecological Traits</em></td>
</tr>
<tr>
<td></td>
<td><em>S11: SS: Biotic Response to Flow</em></td>
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<tr>
<td></td>
<td><em>S08: SS: Accounting for Variability</em></td>
</tr>
<tr>
<td></td>
<td><em>T10: Landuse and Non-point Source Impacts</em></td>
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<tr>
<td></td>
<td><em>T11: Algae and Primary Production</em></td>
</tr>
<tr>
<td></td>
<td><em>T12: Bioassessment</em></td>
</tr>
<tr>
<td></td>
<td><em>T13: Population and Community Ecology</em></td>
</tr>
<tr>
<td>12:00 - 13:30</td>
<td>2016 Hydrology Workshop Planning Group</td>
</tr>
<tr>
<td></td>
<td><em>Hilton: Mitchell</em></td>
</tr>
<tr>
<td></td>
<td>Lunch On Your Own</td>
</tr>
<tr>
<td>13:30 - 15:00</td>
<td>101A 101B 101CD 102B 102D 102E 102C 103AB 103C 103DE</td>
</tr>
<tr>
<td></td>
<td><em>T14: Ecology of Fish and Other Aquatic Vertebrates</em></td>
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<tr>
<td></td>
<td><em>S09: SS: Dynamics of Carbon</em></td>
</tr>
<tr>
<td></td>
<td><em>T09: Conservation and Restoration</em></td>
</tr>
<tr>
<td></td>
<td><em>S10: SS: Quantifying Ecological Traits</em></td>
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<td><em>S11: SS: Biotic Response to Flow</em></td>
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<td><em>S08: SS: Accounting for Variability</em></td>
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<td><em>T10: Landuse and Non-point Source Impacts</em></td>
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<td><em>T11: Algae and Primary Production</em></td>
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<td><em>T12: Bioassessment</em></td>
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<td></td>
<td><em>T13: Population and Community Ecology</em></td>
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<tr>
<td>15:00 - 15:30</td>
<td>Coffee Break</td>
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<td></td>
<td><em>Main Lobby AB</em></td>
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<tr>
<td>15:30 - 17:00</td>
<td>101A 101B 101CD 102B 102D 102E 102C 103AB 103C 103DE</td>
</tr>
<tr>
<td></td>
<td><em>T14: Ecology of Fish and Other Aquatic Vertebrates</em></td>
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<tr>
<td></td>
<td><em>S09: SS: Dynamics of Carbon</em></td>
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<tr>
<td></td>
<td><em>S12: SS: Ozaukee Fish Passage Program</em></td>
</tr>
<tr>
<td></td>
<td><em>T13: Disturbance</em></td>
</tr>
<tr>
<td></td>
<td><em>S11: SS: Biotic Response to Flow</em></td>
</tr>
<tr>
<td></td>
<td><em>S01: SS: Freshwater Futures - Undergrads</em></td>
</tr>
<tr>
<td></td>
<td><em>T10: Landuse and Non-point Source Impacts</em></td>
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<tr>
<td></td>
<td><em>N/A</em></td>
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<tr>
<td></td>
<td><em>T12: Bioassessment</em></td>
</tr>
<tr>
<td></td>
<td><em>T13: Population and Community Ecology</em></td>
</tr>
<tr>
<td>17:00 - 19:00</td>
<td>Conference Mixer</td>
</tr>
<tr>
<td></td>
<td><em>Hilton: Regency Ballroom</em></td>
</tr>
<tr>
<td>17:30 - 19:00</td>
<td>SFS Endowment Reception</td>
</tr>
<tr>
<td></td>
<td><em>Hilton: Regency Ballroom</em></td>
</tr>
<tr>
<td>19:00 - 22:00</td>
<td>School of Freshwater Science Social Event &amp; Tour</td>
</tr>
<tr>
<td></td>
<td><em>Offsite</em></td>
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<tr>
<td>21:00 - 23:59</td>
<td>Jam Session</td>
</tr>
<tr>
<td></td>
<td><em>Hilton: Monarch Lounge</em></td>
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</tbody>
</table>
### WEDNESDAY, MAY 20, 2015

All events located at the Wisconsin Center unless otherwise noted.

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>08:00 - 13:00</td>
<td>Taxonomy Fair Set-up</td>
</tr>
<tr>
<td></td>
<td>South Foyer and 102A</td>
</tr>
<tr>
<td>09:00 - 09:15</td>
<td>Daily Welcome/Announcements</td>
</tr>
<tr>
<td></td>
<td>Ballroom ABC</td>
</tr>
<tr>
<td>09:15 - 10:00</td>
<td>PLENARY III</td>
</tr>
<tr>
<td></td>
<td>‘Conservation of Aquatic Biodiversity in a World With Less Water: A Molecular Ecologist’s Perspective’</td>
</tr>
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<td></td>
<td>Jane Hughes</td>
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<td></td>
<td>Ballroom ABC</td>
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<tr>
<td>10:00 - 10:30</td>
<td>Coffee Break</td>
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<tr>
<td></td>
<td>Main Lobby AB</td>
</tr>
<tr>
<td>10:30 - 12:00</td>
<td>SESSION</td>
</tr>
<tr>
<td>101A</td>
<td>T16: Urban Ecology</td>
</tr>
<tr>
<td>101B</td>
<td>T17: Lakes and Wetlands</td>
</tr>
<tr>
<td>101CD</td>
<td>T15: Disturbance</td>
</tr>
<tr>
<td>102B</td>
<td>T18: Invertebrate Ecology</td>
</tr>
<tr>
<td>102DE</td>
<td>T09: SS: Dynamics of Carbon</td>
</tr>
<tr>
<td>102C</td>
<td>T19: Land-water Interfaces</td>
</tr>
<tr>
<td>103AB</td>
<td>T12: Bioassessment</td>
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<tr>
<td>103C</td>
<td>T03: Population and Community Ecology</td>
</tr>
<tr>
<td>103DE</td>
<td></td>
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<tr>
<td>12:00 - 13:30</td>
<td>SFS Membership Lunch</td>
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<tr>
<td></td>
<td>Ballroom ABC</td>
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<tr>
<td>13:30 - 16:00</td>
<td>POSTER SESSION</td>
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<td></td>
<td>North and South Foyers</td>
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<tr>
<td>16:00 - 17:00</td>
<td>Chapter Information Session</td>
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<td></td>
<td>101B</td>
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<tr>
<td>16:00 - 19:00</td>
<td>Fun Run</td>
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<td></td>
<td>Offsite</td>
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<tr>
<td>19:30 - 23:00</td>
<td>Discovery World Offsite Evening Event</td>
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<tr>
<td></td>
<td>Offsite</td>
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**Running on Empty:**

**Increasing Demands on Freshwater Resources in the face of a Changing Climate**

In many regions of the developed and developing world, large human populations live in arid environments that out of necessity depend on scarce or imported water. This is certainly true in California and the Western US where a complex infrastructure of dams, canals, and groundwater extraction provide freshwater for some of the world’s most productive farms and some of the world’s most opulent living conditions. Compounding this insatiable demand for freshwater is the effects that variable environmental conditions of a warming climate, changing precipitation, and increasing frequency and severity of droughts have on over-taxed water supplies.

While water resource managers contemplate these issues, the farms and cities keep consuming, despite dwindling supplies. The 2016 meeting of the Society for Freshwater Science will be held in Sacramento California at a time when the State is experiencing the worst drought in its modern history. Although droughts are not uncommon in the Western US and other semi-arid regions of the world, expanding human populations have accelerated the loss of freshwater resources and the impacts to aquatic organisms. The theme of the 2016 meeting of the Society for Freshwater Science will focus on declining freshwater availability and explore issues of freshwater depletion, the consequences for freshwater ecosystems, and potential solutions.
## THURSDAY, MAY 21, 2015

All events located at the Wisconsin Center unless otherwise noted.

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION</th>
</tr>
</thead>
</table>
| 07:30 - 09:00 | New Board of Directors Breakfast  
*Hilton: Regency Ballroom* |
| 09:00 - 09:15 | Daily Welcome/Announcements  
*Ballroom ABC* |
| 09:15 - 10:00 | PLENARY IV  
‘Envisioning Freshwater Futures’  
Stephen R. Carpenter  
*Ballroom ABC* |
| 10:00 - 10:30 | Coffee Break  
*Main Lobby AB* |
| 10:30 - 12:00 |  
| 101A | 101B | 101CD | 102B | 102DE | 102C | 103AB | 103C | 103DE |
| 12:00 - 13:30 | Lunch On Your Own |
| 13:30 - 15:00 |  
| 101A | 101B | 101CD | 102B | 102DE | 102C | 103AB | 103C | 103DE |
| 15:00 - 15:30 | Coffee Break  
*Main Lobby AB* |
| 15:30 - 17:00 |  
| 101B | 102B | 102DE | 103C |

## FRIDAY, MAY 22, 2015

<table>
<thead>
<tr>
<th>TIME</th>
<th>SESSION</th>
</tr>
</thead>
</table>
| 08:00 - 19:00 | Field Trip  
‘ALDO LEOPOLD LEGACY CENTER, SHACK AND FARM’  
Field Trip  
‘LAKE MICHIGAN RESEARCH CRUISE’  
Field Trip  
‘STREAM RESTORATION FOR AQUATIC CONNECTIVITY IN THE MILWAUKEE RIVER AND LAKE MICHIGAN WATERSHEDS’  
Field Trip  
‘THE PRESERVES OF MUKWONAGO RIVER WATERSHED AND HISTORIC LAPHAM PEAK’ |
MONDAY, MAY 18 ORALS

S01: SS: Freshwater Futures - Undergrads

**Chair(s):** Carla L. Atkinson, Zacchaeus Compson
(carlalatkinson@gmail.com)

**Location:** 101A

**10:30**
**Dodds, Walter**
**FRESHWATER FUTURES: ECOSYSTEM SERVICES, MULTIDISCIPLINARY APPROACHES, AND HOW FUTURE STREAM ECOLOGISTS CAN HELP SAVE THE WORLD**

**10:45**
**Rosi-Marshall, Emma; Lee, Sylvia; Kelly, John; Kaushal, Sujay**
**PHARMACEUTICAL AND PERSONAL CARE PRODUCTS IN URBAN STREAMS AS AN UNDERSTUDIED DIMENSION OF FUTURE FRESHWATERS**

**11:00**
**Hoellein, Timothy**
**OUR FRESHWATER FUTURES: GARBAGE**

**11:15**
**Kominoski, John**
**DROUGHT AND SALTWATER INTRUSION IN FRESHWATER ECOSYSTEMS: EMERGING THREATS THAT TAKE THE FUTURE OF OUR SCIENCE BELOWGROUND**

T06: Invasive Species

**Chair(s):** Donna Kashien, Eric Benbow

**Location:** 101A

**13:30**
**Hallidayschult, Thayer; Hambright, K. David**
**EVALUATING THE INVASIVE HARRIS MUD CRAB AS A PREDATOR OF ZEBRA MUSSELS**

**13:45**
**Nowicki, Carly; Kashian, Donna**
**MECHANISMS OF TOLERANCE AND DISTRIBUTION: COMPARING THE OXIDATIVE STRESS RESPONSE IN TWO INVASIVE DREISSEND MUSSELS UNDER DIFFERENT ENVIRONMENTAL STRESSORS**

**14:00**
**Boegehold, Anna; Kashian, Donna; Alame, Karim; Johnson, Nicholas**
**ARE QUAGGA MUSSELS SENSITIVE TO MICROCYSTIS AERUGINOSA BLOOMS? A COMPARISON WITH SENSITIVE DAPHNIA PULEX**

**14:15**
**Johnson, Erica; Tucker, Taaja; Farha, Steven; Wigren, Paige; Riley, Stephen**
**DIET PREFERENCES OF ROUND GOBY (NEOGOBIOUS MELANOSTOMUS) NEAR SLEEPING BEAR DUNES NATIONAL LAKE SHORE**

**14:30**
**Bailey, Katherine; Haynes, James**
**HAS THE BENTHIC MACROINVERTEBRATE COMMUNITY OF SOUTHWESTERN LAKE ONTARIO CHANGED SINCE THE ROUND GOBY INVASION? 1983 TO 2014**

**15:30**
**Turschak, Benjamin; Bootsmajer, Harvey; Moraska Lafrancois, Brenda**
**ASSESSING THE POTENTIAL ROLE OF ROUND GOBY AS A CONDUIT FOR AVIAN BOTULISM IN LAKE MICHIGAN**

**15:45**
**O'Malia, Elon; Hoffman, Joel**
**LAND-USE PROXIES FOR AQUATIC SPECIES INVASIONS IN THE LAURENTIAN GREAT LAKES**

**16:00**
**Keller, Reuben; Cole, Ellen; Garbach, Kelly**
**ASSESSING THE VALUE OF OUTREACH TO BOATERS AS A TOOL FOR REDUCING INTRODUCTION AND SPREAD OF INVASIVE AQUATIC SPECIES**

**16:15**
**Larson, Eric; Kreps, Timothy; Lodge, David**
**POPULATION COLLAPSE OF INVASIVE RUSTY CRAYFISH IN NORTHWOODS LAKES OF WISCONSIN, USA**

**16:30**
**Frauendorf, Therese C.; Marques, Piatã S.; Warbanski, Misha; Phillip, Dawn; El-Sabaawi, Rana**
**SPECIES INTRODUCTION ALTERS NUTRIENT RECYCLING PATTERNS OF INTRODUCED GUPPY FISH AND RESIDENT KILLIFISH SPECIES IN TRINIDAD**

**16:45**
**Marzolf, Nicholas; Shivers, Stephen; Covich, Alan; Golladay, Stephen**
**ABIOTIC EFFECTS ON SPATIAL DISTRIBUTION AND ABUNDANCE OF TWO HIGHLY HIGHLY INVASIVE SPECIES IN A NOVEL LAKE ECOSYSTEM**

S02: SS: Species Distribution Models

**Chair(s):** Mathias Kuemmernlen, Sami Domisch
(mkuemmernlen@senckenberg.de)

**Location:** 101B

**10:30**
**Wenger, Seth; Som, Nicholas**
**IMPROVED METHODS FOR WEIGHTING SPECIES DISTRIBUTION MODELS TO IMPROVE ENSEMBLE MODEL PREDICTIONS**

**10:45**
**Kuemmernlen, Mathias; Stoll, Stefan; Sundermann, Andrea; Haase, Peter**
**DISTRIBUTION PREDICTIONS IN THE GERMAN LITER-SITE RHINE-MAIN-OBSERVATORY: LONG-TERM MONITORING DATA MEET HIGH-RESOLUTION, CATCHMENT-BASED SDMS**
11:00  Domisch, Sami; Amatulli, Giuseppe; Jetz, Walter  
**NEW NEAR-GLOBAL 1 KM SPATIALLY CONTINUOUS FRESHWATER ENVIRONMENTAL VARIABLES FOR BIODIVERSITY ANALYSES AND SPECIES DISTRIBUTION MODELING**

11:15  Hawkins, Charles; Vander Laan, Jacob  
**ASSEMBLAGE PREDICTABILITY AND BETA DIVERSITY IN STREAM ECOSYSTEMS: MACRO-SCALE EFFECTS OF ENVIRONMENTAL HETEROGENEITY, ISOLATION, AND PRODUCTIVITY**

### S05: SS: Nutrient Reaction Rates and Residence Times

**Chair(s):** Dirk Koopmans, Val Klump  
(koopmans@uwm.edu)  

**Location:** 101B

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:30</td>
<td>Weber, Larry</td>
<td>IOWA FLOOD CENTER AND IOWA NUTRIENT RESEARCH CENTER: CRITICAL RESOURCES FOR IMPROVED FLOOD AND NUTRIENT MONITORING, MODELING AND FORECASTING</td>
</tr>
<tr>
<td>13:45</td>
<td>Ward, Adam; Prior, Kara; Davis, Caroline; Burgin, Amy; Loecke, Terrance; Riveros-Iregui, Diego; Schnoebelen, Douglas; Just, Craig; Thomas, Steven; Weber, Larry; St. Clair, Martin; Spak, Scott; Dalrymple, Kajsa</td>
<td>IN-STREAM NITROGEN PROCESSING AND DILUTION IN AN AGRICULTURAL STREAM NETWORK</td>
</tr>
<tr>
<td>14:15</td>
<td>Packman, Aaron; Li, Angang; Aubeneau, Antoine</td>
<td>COMBINED EFFECTS OF HYPOHIC METABOLISM &amp; POREWATER FLOW ON REACH-SCALE NUTRIENT UPTAKE: DO CONSERVATIVE TRACERS CAPTURE DISTRIBUTIONS OF HYPOHIC METABOLISM?</td>
</tr>
<tr>
<td>14:45</td>
<td>Parker, Samuel P.; Bowden, William; Arndt, Kyle A.; Benes, Joshua P.; Jent, Derrick G.; Giles, Courtney D.; Flinn, Michael</td>
<td>SIZE MATTERS: THE EFFECT OF SUBSTRATE PARTICLE SIZE ON BENTHIC AMMONIUM AND PHOSPHATE UPTAKE RATES IN HIGH LATITUDE STREAMS</td>
</tr>
<tr>
<td>15:30</td>
<td>Reisinger, Alexander J.; Tank, Jennifer L.; Hoellein, Timothy; Hall, Robert O.</td>
<td>USING MIMS TO MEASURE RIVERINE SEDIMENT, WATER-COLUMN, AND OPEN-CHANNEL DENITRIFICATION</td>
</tr>
</tbody>
</table>

### S03: SS: Species Interactions, Ecohydroecology, and Ecogeomorphology

**Chair(s):** Lindsey K. Albertson, Daniel C. Allen, Melinda D. Daniels  
(lalbertson@stroudcenter.org)  

**Location:** 101CD

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:30</td>
<td>Rice, Stephen; Mathers, Kate; Johnson, Matthew; Wood, Paul; Reeds, Jake; Longstaff, Holly; Extence, Chris</td>
<td>ALIEN ECOCHEMORPHOLOGY: IMPACTS OF AN INVASING ECOSYSTEM ENGINEER ON RIVER SEDIMENT DYNAMICS AND TROPHIC INTERACTIONS</td>
</tr>
<tr>
<td>10:45</td>
<td>Albertson, Lindsey; Daniels, Melinda</td>
<td>ARE ENGINEERING EFFECTS OF CRAYFISH ON GRAVEL BED MORPHOLOGY MEDIATED BY SPECIES IDENTITY, BEHAVIOR, AND BODY SIZE?</td>
</tr>
<tr>
<td>11:00</td>
<td>Barnard, Holly; Adams, Hallie; Loomis, Alexander</td>
<td>TOPOGRAPHY ALTERS TREE GROWTH – CLIMATE RELATIONSHIPS IN A SEMI-ARID FORESTED CATCHMENT</td>
</tr>
<tr>
<td>11:15</td>
<td>Perkin, Josh; Gido, Keith; Falke, Jeffrey; Crockett, Harry; Sanderson, John; Johnson, Eric; Fausch, Kurt</td>
<td>GROUNDWATER DEPLETION IN WESTERN GREAT PLAINS PROJECTED TO DRY 250 STREAM-KM OF FISH HABITAT IN THE NEXT 45 YEARS</td>
</tr>
</tbody>
</table>
11:30 Allen, Daniel  
**EFFECT OF STREAM HYDROLOGY AND RIPARIAN VEGETATION ON TERRESTRIAL ARTHROPOD COMMUNITY STRUCTURE AND WATER VS ENERGY LIMITATION IN DRYLAND FLOODPLAINS**

11:45 Kennedy, Ted; Muehlbauer, Jeffrey; Dodrill, Michael; Copp, Adam; Yard, Michael  
**BIG FLOOD, SMALL FLOOD, SPRING FLOOD, FALL FLOOD: HOW CONTROLLED FLOOD TIMING AFFECTS FOOD WEB RESPONSE IN THE GLEN CANYON DAM TAILWATER**

**S06: SS: Invertebrate Systematics and Faunistics**  
Chair(s): Sean Sullivan  
(ssullivan@rhithron.com)  
Location: 101CD

13:30 Jacobus, Luke M.  
**GEOGRAPHIC PATTERNS OF MAYFLY DIVERSITY IN THE UNITED STATES, CANADA AND GREENLAND (INSECTA: EPHEMEROPTERA)**

13:45 Morse, John C.; Stark, Bill P.; Jacobus, Luke M.  
**SPECIES OF SOUTHEASTERN USA MAYFLY, STONEFLY, AND CADDISFLY LARVAE**

14:00 Grubbs, Scott; Baumann, Richard; Sheldon, Andrew  
**REDISCOVERY OF ZAPADA CHILA IN THE GREAT SMOKY MOUNTAINS NATIONAL PARK AND A REVIEW OF THE EASTERN MEMBERS OF THE GENUS**

14:15 Robinson, Jason  
**EVIDENCE FOR RAPID MORPHOLOGICAL EVOLUTION IN A SMALL CLADE OF RHACOPHILA SPECIES IN THE EASTERN USA**

14:30 DeWalt, R Edward  
**EPT TAXA OF UPPER GREAT LAKES NATIONAL PARK UNITS**

14:45 Wetzel, Mark J.  
**ANNELIDICALLY SPEAKING – 2015**

15:30 Govedich, Fredric; Bain, Bonnie  
**FRESHWATER LEECHES OF NORTH AMERICA**

15:45 Dillon, Jr., Robert T.  
**THE CONCEPT OF INCIDENCE RARITY, ILLUSTRATED BY THE FRESHWATER GASTROPOD FAUNA OF U.S. ATLANTIC DRAINAGES**

16:00 Rogers, Christopher  
**AN INTRODUCTION TO SAFIT; THE SOUTHWEST ASSOCIATION OF FRESHWATER INVERTEBRATE TAXONOMISTS**

16:15 Ditsche, Petra;Michels, Jan; Kovalev, Alexander; Koop, Jochen; Gorb, Stanislav  
**MORE THAN JUST SLIPPERY - THE IMPACT OF BIOFILM ON THE ATTACHMENT OF RUNNING WATER SPECIES EPEORUS ASSIMILS**

**S04: SS: Acid Deposition**  
Chair(s): Randy Fuller, Barry Baldigo  
(rfuller@colgate.edu)  
Location: 102B

10:30 McDowell, William G.; Webster, Katherine; Nelson, Sarah; McDowell, William H.; Haney, James  
**REGULATION AND RESULTS: BIOTIC AND ABIOTIC CHANGES TO NORTHEASTERN LAKES FOLLOWING TIGHTENING OF AIR EMISSIONS RULES**

10:45 Baldigo, Barry; Roy, Karen  
**RESPONSE OF FISH ASSEMBLAGES TO CHANGING ACID-BASE CHEMISTRY IN ADIRONDACK LONG TERM MONITORING LAKES, 1984-2012.**

11:00 Albers, Ben; Charifson, David; Stanson, Valerie; Stern, Erich; Thompson, John; Richardson, David  
**FISH INTRODUCTION, FACILITATED BY UNEXPECTED RECOVERY FROM ACIDIFICATION, CAUSES A TROPHIC CASCADE IN LAKE MINNEWASKA, NY**

11:15 Wingerter, Natasha  
**EFFICACY OF DIRECT APPLICATION LIMING FROM A METAPOPULATION PERSPECTIVE**

11:30 Kraft, Clifford; Josephson, Daniel; Jirka, Kurt  
**CHEMICAL AND BIOLOGICAL RECOVERY FROM ACID DEPOSITION WITHIN THE HONNEDAGA LAKE WATERSHED, NEW YORK, USA**

11:45 Fuller, Randy; Haines, Grant; Paris, James; Morgan, Wesley  
**NUTRIENT UPTAKE DYNAMICS IN ACID-STRESSED AND LIME AMENDED ADIRONDACK MOUNTAIN STREAMS**
## T07: Ecotoxicology

**Chair(s):** Sally Entrekin, Michael Griffith  
**Location:** 102B

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td>13:30</td>
<td><strong>Griffith, Michael</strong></td>
<td><strong>EPITHELIAL ION TRANSPORTERS: A PHYSIOLOGICAL MODEL FOR ION EFFECTS ON FRESHWATER ANIMALS</strong></td>
</tr>
<tr>
<td>13:45</td>
<td><strong>Riera, Steven; Cohen, Risa A.</strong></td>
<td><strong>ALKYL POLYGLUCOSIDE-CONTAINING COMPOUND ALTERS PLANKTON COMMUNITY COMPOSITION IN BLACKWATER POND MESOCOSMS</strong></td>
</tr>
<tr>
<td>14:00</td>
<td><strong>Courtwright, Jennifer; Miller, Scott; Plunkett, Chris</strong></td>
<td><strong>EFFECTS OF ROTENONE CONCENTRATIONS ON ZOOPLANKTON AND BENTHIC MACROINVERTEBRATES IN ALPINE LAKES AND STREAMS</strong></td>
</tr>
<tr>
<td>14:15</td>
<td><strong>Tyree, Meredith; Clay, Natalie; Entrekin, Sally</strong></td>
<td><strong>SALT IN OUR STREAMS: EVEN SMALL SODIUM ADDITIONS HAVE NEGATIVE EFFECTS ON DETRITIVORES</strong></td>
</tr>
<tr>
<td>14:30</td>
<td><strong>Snyder, Heather; Woller-Skar, Megan; Boyer, Gregory</strong></td>
<td><strong>QUANTIFICATION OF MICROCYSTIN AMONG VARIOUS FISH SPECIES ACROSS MICHIGAN: A STUDY FOCUSED ON SAFE FISH CONSUMPTION</strong></td>
</tr>
<tr>
<td>14:45</td>
<td><strong>Tweedey, Brent; Vaughn, Caryn C.</strong></td>
<td><strong>DO FRESHWATER MUSSELS AFFECT MERCURY CONTAMINATION OF AQUATIC FOOD WEBS?</strong></td>
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<tr>
<td>15:00</td>
<td><strong>Shoults-Wilson, Aaron; Fritts, Andrea; Unrine, Jason; Fritts, Mark; Casper, Andrew</strong></td>
<td><strong>HISTORIC MUSSEL SHELLS ILLUMINATE LEGACY CONTAMINANT PATTERNS OVER THE PAST 1000 YEARS</strong></td>
</tr>
<tr>
<td>15:30</td>
<td><strong>Ndimele, Prince Emeka; Owodeinde, Fatai Gbolahan; Whenu, Olusegun Olufemi; Ndimele, Chinatu Charity</strong></td>
<td><strong>HEAVY METAL CONTENT OF WATER, SEDIMENT AND FISH (CHRYSTICHYS NIGRODIGITATUS, LACÉPÈDE, 1803) FROM INDUSTRIAL EFFLUENT-POLLUTED AQUATIC ECOSYSTEM IN LAGOS, NIGERIA</strong></td>
</tr>
<tr>
<td>16:00</td>
<td><strong>Sumner, Alexandra; Johnston, Tom; Gunn, John</strong></td>
<td><strong>POTENTIAL EFFECTS OF CLIMATE ON THE BIOACCUMULATION OF MERCURY IN TWO LARGE-BODIED FISH SPECIES IN NORTHERN ONTARIO</strong></td>
</tr>
<tr>
<td>16:15</td>
<td><strong>Izegaegbe, Joshua</strong></td>
<td><strong>ASSESSMENT OF MANGANESE, COPPER, NICKEL AND ZINC IN MUSCLE AND LIVER OF THE AFRICAN CATFISH (CLARIAS GARIEPINUS) IN ILUSHI RIVER, SOUTHERN NIGERIA</strong></td>
</tr>
<tr>
<td>16:30</td>
<td><strong>Reátegui-Zirena, Evelyn; Fidder, Bridgette; Olson, Adric; Bilbo, Thomas; Dawson, Dan; Salice, Christopher</strong></td>
<td><strong>EFFECTS OF CADMIUM ON THE REPRODUCTION AND OFFSPRING OF THE GREAT POND SNAIL LYMANCEA STAGNALIS</strong></td>
</tr>
<tr>
<td>16:45</td>
<td><strong>Chu, Binh; Peterson, Christopher; Vigen, Erika; Tong, Tiezheng; Gray, Kimberly; Gaillard, Jean-Francois; Kelly, John</strong></td>
<td><strong>EFFECTS OF NANO TITANIUM ON BENTHIC MICROBIAL COMMUNITIES IN ARTIFICIAL STREAMS</strong></td>
</tr>
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## T02: Biogeochemistry

**Chair(s):** Noah Lottig, Natalie Griffiths, Ashley Helton, Nora Casson, Erin Hotchkiss  
**Location:** 102C

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<tr>
<th>Time</th>
<th>Presenter(s)</th>
<th>Title</th>
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<tr>
<td>10:30</td>
<td><strong>Hoellein, Timothy; Zarnoch, Chester; Bruesewitz, Denise</strong></td>
<td><strong>FRESHWATER MUSSELS INCREASE SEDIMENT DENITRIFICATION IN AN URBAN RIVER</strong></td>
</tr>
<tr>
<td>10:45</td>
<td><strong>Bender, Bree; Herrman, Kyle</strong></td>
<td><strong>SEASONAL DENITRIFICATION AND NITROGEN REMOVAL CAPACITY OF SMALL RESERVOIRS</strong></td>
</tr>
<tr>
<td>11:00</td>
<td><strong>Welsh, Molly; McMillan, Sara; Vidon, Philippe</strong></td>
<td><strong>ENVIRONMENTAL DRIVERS OF DENITRIFICATION IN NORTH CAROLINA STREAMS AND RIPARIAN ZONES</strong></td>
</tr>
<tr>
<td>11:15</td>
<td><strong>Tomasek, Abigail; Hondo, Miki; Kozarek, Jessica; Sadowsky, Michael</strong></td>
<td><strong>QUANTIFYING THE EFFECTS OF ENVIRONMENTAL VARIABLES ON THE COMPOSITION AND ACTIVITY OF DENITRIFYING MICROBIAL COMMUNITIES</strong></td>
</tr>
<tr>
<td>11:30</td>
<td><strong>Madinger, Hilary; Kunza, Lisa; Hall, Robert O.; Haueter, Jaime</strong></td>
<td><strong>COMPARISON OF DIEL NITROGEN FIXATION FLUX MEASUREMENTS</strong></td>
</tr>
<tr>
<td>11:45</td>
<td><strong>Findlay, Stuart; Bernot, Melody</strong></td>
<td><strong>SALINITY EFFECTS ON NITROGEN CYCLING IN TIDAL WETLANDS OF THE HUDSON RIVER</strong></td>
</tr>
<tr>
<td>13:30</td>
<td><strong>Helton, Ashley M.; Ardon-Sayao, Marcelo; Bernhardt, Emily</strong></td>
<td><strong>BIOGEOCHEMICAL REGIME SHIFTS IN COASTAL LANDSCAPES: EFFECTS OF SALTMAR INTRUSION ON CARBON AND NITROGEN CYCLING IN A COASTAL PLAIN FRESHWATER WETLAND</strong></td>
</tr>
</tbody>
</table>
13:45  Kinsman-Costello, Lauren; Sheikh, Cody; Burton, Allen; Sheldon, Nathan; Dick, Gregory
SEDIMENT MICROBIAL COMMUNITY COMPOSITION AND BIOGEOCHEMISTRY ALONG VERTICAL GRADIENTS IN A HIGH SULFUR SUBMERGED SINKHOLE IN LAKE HURON, MI

14:00  Reinhold, Ann Marie; Poole, Geoffrey; Helton, Ashley M.; Payn, Robert; Izurieta, Clemente; Bernhardt, Emily; Burgin, Amy
SIMULATING CONCURRENT METABOLIC PATHWAYS IN BIOGEOCHEMICAL SYSTEMS

14:15  Kincaid, Dustin; Briggs, Martin; Hamilton, Stephen K.; Zarnetske, Jay
HYDROLOGIC CONTROLS ON BIOGEOCHEMICAL GRADIENTS IN THICK LAYERS OF FLOCCULENT ORGANIC SEDIMENTS IN A THROUGH-FLOW WETLAND

14:30  Krukowski, Keith; Garcia, Antonio; Fields-Sommers, Laura; Al-Wathiqi, Mishal; DeVilbiss, Stephen; Schierenbeck, Timothy; Neureuther, Nicklaus; Teber, Tarek
TRACING HAWAIIAN STREAM HYDROCHEMISTRY ACROSS AN EXTREME PRECIPITATION GRADIENT

14:45  Mineau, Madeleine; Wollheim, Wil; Stewart, Robert; Hunt, Christopher; Kicklighter, David
DEVELOPING A REGIONAL TO CONTINENTAL SCALE MODEL OF DISSOLVED ORGANIC CARBON FLUX AND PROCESSING IN RIVER NETWORKS

15:30  Carey, Richard; Wollheim, Wil; Mulukutla, Gopal
VARIABLE COUPLING OF CARBON, NITROGEN, AND PHOSPHORUS CONCENTRATIONS DURING BASEFLOW AND STORMS IN A SUBURBANIZING WATERSHED

15:45  Manning, David; Rosemond, Amy D.; Benstead, Jonathan P.; Kominoski, John; Bumpers, Phillip M.
WATERSHED LAND USE EFFECTS ON COUPLED NITROGEN AND PHOSPHORUS RELATIONSHIPS IN U.S. STREAMS AND RIVERS

16:00  Hein, Catherine
LONG-TERM PHOSPHORUS TRENDS IN WISCONSIN LAKES

16:15  Hall, Robert O.; Madinger, Hilary
STATISTICAL AND ANALYTICAL METHODS FOR ESTIMATING OPEN-CHANNEL METABOLISM IN HIGH-ENERGY STREAMS

T01: Food Webs

Chair(s): Allison Moody, Scott Collins
Location: 102DE

10:30  Garcia, Erica; Lacksen, Katherine; McMaster, Damien; King, Alison; Douglas, Michael
SPATIAL SCALE VARIATION IN TOP-DOWN EFFECTS

10:45  Fahimipour, Ashkan; Anderson, Kurt; COLONISATION RATE AND ADAPTIVE FORAGING CONTROL THE EMERGENCE OF TROPHIC CASCADES

11:00  Guo, Fen; Kainz, Martin; Sheldon, Fran; Bunn, Stuart
THE EFFECTS OF PERiphyton FATTY ACIDS ON GRAZER LIPID COMPOSITION AND GROWTH IN SUBTROPICAL STREAMS

11:15  Grubaugh, Catharina; Wehr, John
RELATIONSHIP BETWEEN ECOLOGICAL STOICHIOMETRY AND BIOCHEMICAL COMPOSITION IN A LAKE PHYTOPLANKTON COMMUNITY.

11:30  Bumpers, Phillip M.; Rosemond, Amy D.; Maerz, John C.; Benstead, Jonathan P.
EXPERIMENTAL NUTRIENT ENRICHMENT OF HEADWATER STREAMS ALTERS FOODWEB PATHWAYS TO LARVAL SALAMANDERS

11:45  Farrell, Kaitlin; Rosemond, Amy D.; Maerz, John C.; Bumpers, Phillip M.
ASSESSING THE EFFECTS OF ALTERED LARVAL SALAMANDER DENSITY ON ECOSYSTEM PROCESSES IN A HEADWATER STREAM

13:30  Collins, Scott; Wahl, David
INVASIVE BIGHEAD CARP ALTER ORGANIC MATTER EXCHANGES WITHIN AND BETWEEN ECOSYSTEMS

13:45  Erdozain, Maitane; Kidd, Karen; Kreutzweiser, Dave; Sibley, Paul
EFFECT OF FOREST CONDITION ON FOOD WEB STRUCTURE IN HEADWATER STREAMS IN DIFFERENT REGIONS OF CANADA

14:00  Terui, Akira; Akasaka, Takumi; Negishi, Junjiro; Uemura, Fumihiro; Nakamura, Futoshi
FOOD WEB COMPLEXITY STABILIZES SEASONAL VARIABILITY IN RIVER–TERRESTRIAL LINKAGES

14:15  Collins, Sarah M.; Kohler, Tyler; Thomas, Steven; Fetzer, William; Flecker, Alexander
THE IMPORTANCE OF TERRESTRIAL SUBSIDIES IN STREAM FOOD WEBS VARIES ALONG A STREAM SIZE GRADIENT
14:30  Siders, Adam; Compson, Zachaeus; Marks, Jane
FLUXES OF CARBON AND NITROGEN FROM
ISOTOPICALLY-ENRICHED LEAF LITTER TO A
SHREDDING CADDISFLY REVEAL DIFFERENCES
IN LITTER QUALITY

14:45  Compson, Zachaeus; Hungate, Bruce; Whitham,
Thomas; Koch, George; Rakestraw, David; Schuettene-
berg, Alexa; Jacobs, Ryan; Allred, Kiel; Sayer, Chelsea;
Maestas, Jesse; Marks, Jane
DOES RECALCITRANT LEAF LITTER PROVIDE
MORE ENERGY TO THE MACROSCOPIC
FOOD WEB? A TEST USING THE POPULUS
HYBRIDIZING SYSTEM

15:30  Walters, David; Raikow, David; Hammerschmidt, Chad;
Mehling, Molly; Kovach, Amanda; Oris, James
PRIMARY PRODUCTIVITY REDUCES
METHYLMERCUry BIOACCUMULATION IN
EXPERIMENTAL STREAM FOOD WEBS

15:45  Yeager-Armstead Ph.D, Mindy
OBSERVATIONS ON VARIABILITY IN
SELENIum BIOACCUMULATION RATES AND
IMPLEMENTATION OF TISSUE CRITERIA

16:00  Heald, Emily; Lawson, Zach J.; Hrabik, Thomas R.;
Vander Zanden, Jake M.; Carpenter, Stephen R.
EXPERIMENTAL MIXING OF A NORTH-
TEMPERATE LAKE: EXAMINATION OF
VARIABILITY IN SPATIAL AUTOCORRELATION
IN FISH AND ZOOPLANKTON POPULATIONS

16:15  Faithfull, Carolyn; Bergström, Ann-Kristin;
Deininger, Anne
WHY IS PHYTOPLANKTON PRODUCTION AND
ZOOPLANKTON BIOMASS LOWER IN HUMIC
LAKES?

16:30  Murphy, Christina; Arismendi, Ivan; Johnson, Sherri
UNDERSTANDING POTENTIAL CHANGES IN
TROPHIC RELATIONSHIPS USING STABLE
ISOTOPES RATIOS FOLLOWING EXTREME
RESERVIOR DRAWDOWN

16:45  Riney, Michael; Yak, Charlie; Ostertag, Rebecca; Ting-
gley, Ralph; Frauendorf, Therese C.
THE IMPACTS OF REDUCED STREAM FLOW ON
FOOD WEBS IN STREAMS ON THE ISLAND OF
HAWAII

10:30  Bohall, Charles; Fitzgerald, Michael; Vance, Jesse;
Roehm, Charlotte; Goodman, Keli; Parker, Stephanie;
McLaughlin, Brandon; Stewart, Jenna
THE NEON AQUATIC NETWORK:
STANDARDIZING DEPLOYMENT OF AQUATIC
INSTRUMENT SYSTEMS ACROSS CONTINENTAL
ECOSYSTEMS

10:45  Parker, Stephanie
NEON AQUATIC ORGANISMAL SAMPLING:
STRATEGIES AND LESSONS LEARNED FROM
YEAR ONE

11:00  Devlin, Shawn; Ellis, Bonnie; Stanford, Jack
HEATING UP FLATHEAD LAKE: MODELING
THERMAL PROPERTIES UNDER A CHANGING
CLIMATE

11:15  Parr, Thomas; Inamdar, Shreeram; Miller, Matthew
COUPLED CHANGE: EXTREME WEATHER AND
LAND USE IMPACTS ON WATER QUALITY AND
DRINKING WATER UTILITIES

11:30  Bierwagen, Britta; Julius, Susan; Hamilton, Anna;
Witt, Jonathan
THE 411 ON VULNERABILITY ASSESSMENT –
SPECIFIC LESSONS FROM CLIMATE CHANGE
ASSESSMENTS IN STREAMS

11:45  Hamilton, Anna; Wardrop, Denice H.; Nassry, Michael;
West, Jordan M.; Julius, Susan; Bierwagen, Britta;
Holcomb, Megan
A FRAMEWORK FOR EVALUATING RELATIVE
WETLAND VULNERABILITIES TO CLIMATE
CHANGE

13:30  Follstad Shah, Jennifer; Kominoski, John; Ardon-Sayao,
Marcelo; Dodds, Walter; Gessner, Mark; Griffiths, Na-
talie A.; Johnson, Sherri; Lecerf, Antoine; LeRoy, Carri;
Manning, David; Rosemond, Amy D.; Swan, Chris;
Webster, Jack; Zeglin, Lydia
GLOBAL META-ANALYSIS OF TEMPERATURE
EFFECT ON LEAF LITTER BREAKDOWN RATES
IN STREAMS

13:45  Mustonen, Kaisa-Riikka; Mykrä, Heikki; Sarrejemejane,
Romain; Hawkins, Charles; Marttila, Hannu;
Muotka, Timo
MODELING OF STREAM MACROINVERTEBRATE
COMMUNITIES UNDER CLIMATE CHANGE

14:00  Kendrick, Michael; Hershey, Anne; Huryn,
Alexander D
LONG-TERM (1978–2012) PATTERNS OF INSECT
COMMUNITIES IN AN ARCTIC RIVER
14:15  Tronstad, Lusha; Hotaling, Scott; Bish, Cody  
ASSESSING AQUATIC INVERTEBRATES ALONG ELEVATION GRADIENTS IN GRAND TETON NATIONAL PARK, WYOMING

14:30  Yak, Charlie; Tingley, Ralph; Apwong, Maybeleen; Akau, James; Foulk, Patra; MacKenzie, Richard  
POTENTIAL IMPACTS OF CLIMATE CHANGE ON REPRODUCTION AND DISPERSEL OF NATIVE ATOYIDA BISULCATA SHRIMP IN HAWAIIAN HEADWATER STREAMS

14:45  Penaluna, Brooke  
VULNERABILITY OF COASTAL CUTTHROAT TROUT TO CHANGES IN STREAM TEMPERATURE AND FLOW IN COASTAL STREAMS OF THE PACIFIC NORTHWEST OF NORTH AMERICA

16:45  Shogren, Arial; Tank, Jennifer L.; Mueller, Joseph; Jerde, Christopher; Bolster, Diogo  
INVESTIGATING FINE PARTICLE TRANSPORT AND SUBSTRATE HETEROGENEITY USING THE NOTRE DAME LINKED EXPERIMENTAL ECOSYSTEM FACILITY (ND-LEEF)

17:00  Kominoski, John; Brock, Jim; McCoy, Christopher  
SPATIOTEMPORAL VARIATION IN ECOSYSTEM HETEROPTROPY IN CARBONATE SUBTROPICAL WETLANDS IS DRIVEN BY FLOCCULENT ORGANIC MATTER

**T04: Aquatic Ecosystem Management**

Chair(s): Al Steinman

Location: 103C

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<tr>
<td>10:30</td>
<td>Maxwell, Bryan</td>
<td>FURTHER DOWN THE RIVER: A NOVEL, SPECTROPHOTOMETRIC, IN-SITU TECHNOLOGY IMPROVING SPATIAL AND TEMPORAL DATA RESOLUTION TO ADDRESS HETEROGENEITY IN AQUATIC SYSTEMS.</td>
</tr>
<tr>
<td>10:45</td>
<td>Ndimele, Chinatu Charity; Chukwuka, Kanayo, Stephen; Whenu, Olusegun Olufemi; Erondu, Ebere Samuel; Ndimele, Prince Emeka</td>
<td>PHYTOREMEDIATION OF HEAVY METAL-POLLUTED AQUATIC ECOSYSTEM (OLOGE LAGOON) BY WATER HYACINTH (EICHORNIA CRASSIPES [MART.] SOLMS) AND THE SOCIO-EGOLOGICAL IMPLICATIONS</td>
</tr>
<tr>
<td>11:00</td>
<td>Castro, Antonio J.; Vaughn, Caryn C.; Julian, Jason P.</td>
<td>CHARACTERIZING ECOSYSTEM SERVICE BUNDLES FOR ANALYZING TRADEOFFS IN WATERSHED MANAGEMENT</td>
</tr>
<tr>
<td>11:15</td>
<td>Steinman, Alan; Ogdahl, Mary; Weinert, Maggie; Gillett, Nadia</td>
<td>COMBINING RESULTS FROM FIELD OBSERVATIONS AND EXPERIMENTS TO INFORM MANAGEMENT STRATEGIES FOR A HEAVILY USED LAKE WITH LOTS OF PROBLEMS</td>
</tr>
<tr>
<td>11:30</td>
<td>Sheehan, Ken; Wollheim, Wil; Farrell, Kaitlin; Song, Chao; Kominoski, John; Trentman, Matt; Dodds, Walter; Rosemond, Amy D.; Ballantyne, Ford; Rueegg, Janine</td>
<td>BEYOND OUR REACH? EXTRAPOLATING NETWORK-SCALE AQUATIC METABOLISM FROM REACH-SCALE OBSERVATION</td>
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</tbody>
</table>
S07: SS: David Allan
Chair(s): Pete McIntyre, Alex Flecker
(pm McIntyre@wisc.edu)
Location: 103C

13:30  Palmer, Margaret
FROM DISPERSAL ACROSS SYSTEMS TO RESTORATION ACROSS THE U.S.

13:45  Peckarsky, Barbara
ECOLOGY OF PLACE: CONTRIBUTIONS OF J. DAVID ALLAN TOWARD UNDERSTANDING THE ROLE OF PREDATION IN OPEN SYSTEMS

14:00  Flecker, Alexander
DAVE ALLAN’S LEGACY AND THE EMERGENCE OF EXPERIMENTAL STREAM ECOLoGY: UNDERSTANDING THE FUNCTIONAL ROLE OF FISHES IN RUNNING WATER ECOSYSTEMS

14:15  Poff, LeRoy
THE NATURAL FLOW REGIME: PAST, PRESENT AND FUTURE

14:30  Khoury, Mary
SERVICE BEYOND THE UNIVERSITY: DAVID ALLAN’S MANY CONTRIBUTIONS TO THE WORK OF THE NATURE CONSERVANCY

14:45  Abell, Robin
DEFINING PROTECTION FOR THE WORLD’S RIVERS: A NEW GLOBAL METRIC

15:30  Esselman, Peter; Melstrom, Richard; Stevenson, Jan; Lupi, Frank; Riseng, Catherine; Wiley, Mike
VALUING FISH BIOMASS PRODUCTION AS A PROVISIONING SERVICE OF MICHIGAN RIVERS

15:45  McIntyre, Dr. Peter; Reidy Liermann, Catherine; Reveenga, Carmen
THE ROLE OF FRESHWATER FISHERIES IN MAINTAINING FOOD SECURITY AND BIODIVERSITY

16:00  Johnson, Lucinda; Allan, David; Cai, MeiJun; Danz, Nicholas; Uzarski, Don
USE AND INTERPRETATION OF HUMAN DISTURBANCE GRADIENTS FOR CONDITION ASSESSMENT IN GREAT LAKES COASTAL ECOSYSTEMS

16:15  Fausch, Kurt
FOR THE LOVE OF RIVERS: THE POWER OF STORY IN ENGAGING THE PUBLIC IN OUR FRESHWATER FUTURES

16:30  Allan, Brian
A CASCADE OF ECOLOGICAL CONSEQUENCES FOR WEST NILE VIRUS TRANSMISSION WHEN AQUATIC MACROPHYTES INVADE ANTHROPOGENIC STORMWATER HABITATS

16:45  Allan, David
LAKES TO LANDSCAPES, FISHERIES TO PHOSPHORUS, AND ASSEMBLAGES TO ASSESSMENTS: A 40-YEAR JOURNEY THROUGH (MOSTLY) RUNNING WATERS

T05: Large River Ecology
Chair(s): Andrew Casper, Andrew Rypel
Location: 103DE

10:30  Vance, Jesse; Fitzgerald, Michael; Parker, Stephanie; Roehm, Charlotte; Goodman, Keli; Bohall, Charles; Utz, Ryan
NEON: A NEW PLATFORM FOR LARGE RIVER ECOLoGY

10:45  Fritts, Andrea; Fritts, Mark; Haag, Wendell; Rypel, Andrew; DeBoer, Jason; Casper, Andrew
WINDOWS INTO THE PAST: MUSEUM COLLECTIONS OF FRESHWATER MUSSELS FOR THE STUDY OF LONG-TERM WATERSHED DISTURBANCE

11:00  Mehler, Knut; Karatayev, Alexander Y.; Burlakova, Lyubov E.
DIVERSITY AND COMMUNITY STRUCTURE OF BENTHIC INVERTEBRATES BASED ON GIS-DERIVED HABITAT MAPS IN THE NIAGARA RIVER

11:15  McTammany, Matthew; Wilson, Matthew; Walters, Elizabeth; Reilly, Meghan
SPATIAL AND TEMPORAL PROCESSES INFLUENCE STRUCTURE OF LARGE RIVER BENTHIC COMMUNITIES

11:30  Haro, Roger
QUANTIFYING THE PROCESSING OF LARGE WOODY DEBRIS BY LARVAL CADDISFLIES IN THE UPPER MISSISSIPPI RIVER

13:30  Collier, Kevin; Garrett-Walker, Jeremy; Górski, Konrad
EFFECTS OF CONNECTIVITY ON FLOODPLAIN MACROINVERTEBRATE COMMUNITIES ON A LARGE NEW ZEALAND RIVER SYSTEM

13:45  Pyron, Mark; Becker, Jesse; Wyatt, Kevin; DeColibus, Dawn; Etchison, Luke; Minder, Mario; Murry, Brent; Broadway, Kyle; Logsdon, Rebecca; Chaubey, Indrajeet
ASSEMBLAGE CHANGE IN A LARGE RIVER ECOSYSTEM: HISTORICAL AND RECENT FOODWEB COMPARISONS

14:00  Bowes, Rachel; Thorp, James; Delong, Michael
HISTORICAL CHANGES IN FOODWEB STRUCTURE OF THE MISSISSIPPI AND OHIO RIVERS IN RESPONSE TO DAMMING
14:15  Douglass, Sarah; Stodola, Alison; Fritts, Andrea
INVESTIGATION OF FRESHWATER MUSSEL
GLOCHIDIA PRESENCE ON ASIAN CARP AND
NATIVE FISHES OF THE ILLINOIS RIVER

14:30  Tumolo, Ben; Flinn, Michael
ANALYSIS OF LONG TERM PRIMARY
PRODUCTION DATA IN KENTUCKY LAKE: CAN
WE DETECT INVASIVE ASIAN CARP?

14:45  Casper, Andrew; Hinz, Collin J.; Pendleton, Richard M.
ECOSYSTEM RESPONSES TO ASIAN CARP
INVASION AND CONTROL: PATTERNS OF
RIVERINE ZOOPLANKTON ABUNDANCE,
BIOMASS, AND COMPOSITION

16:30  Rhoades, Chuck; Johnson, Sherri; Sebestyen, Steve;
Greathouse, Effie; Ice, George; Knoepp, Jennifer;
Amatya, Devendra; Argerich, Alba; Campbell, John;
Edwards, Pam; Groffman, Peter; Likens, Gene; Wohl-
gemuth, Peter
EXAMINING STREAM NUTRIENT VARIABILITY
IN REFERENCE CATCHMENTS AT US FOREST
SERVICE EXPERIMENTAL FORESTS RELATIVE
TO PROPOSED NUTRIENT CRITERIA

16:45  Munn, Mark; Konrad, Christopher; Miller, Matthew
THE USE OF CONTINUOUS WATER QUALITY
SENSORS FOR ASSESSING TEMPORAL
VARIABILITY IN LARGE-SCALE SYNOPHTIC
STUDIES

S08: SS: Accounting for Variability
Chair(s): Camille Flinders Doug McLaughlin
(cflinders@ncasi.org)
Location: 103DE

15:30  Zeglin, Lydia; Cooper, Scott; Utz, Ryan; Ardon-Sayao,
Marcelo; Bixby, Rebecca; Burdett, Ayesha; Dodds,
Walter; Griffiths, Natalie A.; Harms, Tamara; Johnson,
Laura; Johnson, Sherri; Jones, Jeremy; Kominoski,
John; McDowell, William H.; Rosemond, Amy D.;
Trentman, Matt; Follstad Shah, Jennifer; Van Horn,
David; Ward, Amy
SYNTHESIS OF STREAM ECOSYSTEM
RESPONSES TO NUTRIENT ENRICHMENT AT
MULTIPLE TROPHIC LEVELS

15:45  Miltner, Robert
CHOOSING A MODEL FOR MANAGING
NUTRIENTS IN RUNNING WATERS: FORWARD
SELECTION OR BACKWARDS ELIMINATION?

16:00  McLaughlin, Douglas
THE YES, NO, AND MAYBE OF DATA-DRIVEN
WATER RESOURCES MANAGEMENT DECISIONS:
LESSONS FROM NUMERIC CRITERIA
DEVELOPMENT AND USE

16:15  Wooten, Matthew; Hawley, Robert; MacMannis,
Katherine; Fet, Elizabeth; Korth, Nora
DATA DRIVEN STORM WATER MANAGEMENT
FOR STREAM INTEGRITY: AN IMPLEMENTATION
TOOL AND STRATEGY
TUESDAY, MAY 19 ORALS

T06: Invasive Species
Chair(s): Donna Kashien, Eric Benbow
Location: 101A

10:30 Heinrich, Kaleb; Baxter, Colden
OF OLIVES AND CARP: INTERACTIVE EFFECTS OF TWO INVADERS ON LINKED STREAM-RIPARIAN FOOD WEBS

10:45 McNeish, Rachel E.; Benbow, M. Eric; McEwan, Ryan W.
REMOVAL OF THE INVASIVE SHRUB, LONICERA MAACKII, FROM RIPARIAN FORESTS INFLUENCES HEADWATER STREAM BIOTA AND ECOSYSTEM FUNCTION

11:00 Diesburg, Kristen M.; Sullivan, S. Mazeika P.
STREAM ECOSYSTEM RESPONSES TO THE TERRESTRIAL INSECT INVADER, HEMLOCK WOOLLY ADELGID

11:15 Milanovich, Joseph; Barrett, Kyle; Crawford, John
IS BIGGER ALWAYS BETTER? TADPOLES GROW LARGER AND FASTER, BUT WITH LOWER SURVIVAL WHEN RAISED WITH AN INVASIVE PLANT

11:30 Greene, Robin
DOES SPECIES MATTER? COMPARING THE EFFECTS OF INTRODUCED AND NATIVE TADPOLES ON AQUATIC ECOSYSTEM FUNCTION

11:45 Shupryt, Michael; Ferry, Maureen
IMPACTS OF NEW ZEALAND MUDSNAILS (POTAMOPYGRUS ANTIPODARUM) ON ECOSYSTEM METABOLISM IN A COLD WATER STREAM IN WISCONSIN, USA.

14:00 Lisi, Peter; McIntyre, Dr. Peter; Hogan, Derek; Blum, Michael; Gilliam, Jim
LIFE-HISTORY RESPONSES OF AMPHIDROMOUS FISH TO HYDROLOGIC VARIATION AMONG HAWAIIAN STREAMS

14:15 Kuzniar, Zach; VanKirk, Rob; Snyder, Eric; Luttenton, Mark
ADULT RAINBOW TROUT HABITAT SELECTION IN THE HENRY’S FORK OF THE SNAKE RIVER, IDAHO

14:30 Matthys, Tony; Huckins, Casey
IS IT WORKING? USING FISH MOVEMENT TO ASSESS EFFECTS OF SMALL SCALE FISH HABITAT RESTORATION

14:45 Walker, Richard; Walters, Annika
SHIFTS IN FISH POPULATION DYNAMICS RELATED TO ENERGY DEVELOPMENT AND HYDROLOGY IN HEADWATER STREAMS OF THE WYOMING RANGE

15:00 Williams, Meghan; Schrank, Candy; Murphy, Elizabeth; McCann, Pat; Anderson, Henry
FISH FAT FACTS: OMEGA-3 FATTY ACIDS IN SPORT FISH FROM THE GREAT LAKES BASIN

15:15 Hedden, Skyler; Gido, Keith
HABITAT COMPLEMENTARITY OF INTRODUCED FLATHEAD CATFISH (PYLODICTIS OLIVARIS) AND THEIR POTENTIAL IMPACT ON NATIVE FISHES IN THE UPPER GILA RIVER BASIN, NM.

15:45 Richardson, Bradley; Flinn, Michael
OVERLAP IN THE DIETS OF FOUR SYMPATRIC GAR SPECIES OF WESTERN KENTUCKY

16:00 Marques, Piata; Takahashi, Talita; Warbanski, Misha; Phillip, Dawn; El-Sabaawi, Rana; Fraudendorf, Therese C.
POPULATION AND INDIVIDUAL INTRASPECIFIC VARIATION IN TRINIDADIAN GUPPIES

16:15 Blumenshine, Steve; Spaulding, Taylor; Pearson, James; Portz, Don
JUVENILE CHINOOK SALMON GROWTH AND DIET PATTERNS IN MAINSTEM HABITATS WITHIN THE SAN JOAQUIN RIVER RESTORATION PROGRAM

16:30 Denny, Lytle; Baxter, Colden
A HIERARCHICAL INVESTIGATION OF FACTORS INFLUENCING THE SPATIAL ECOLOGY OF JUVENILE CHINOOK SALMON IN A PACIFIC NORTHWEST RIVERSCAPE.
S09: SS: Dynamics of Carbon
Chair(s): Zhengzhen Zhou, Laodong Guo
(zhou9@uwm.edu)
Location: 101B

10:30 McKnight, Diane; Gabor, Rachel; Burns, Margaret; Barnard, Holly
FROM THE HILLSLOPE TO THE STREAM: RAPID TRANSFORMATION OF DISSOLVED ORGANIC MATTER QUALITY IN HEADWATER REACHES OF A MOUNTAIN CATCHMENT

11:00 Slaveykova, Vera; Dranguet, Perrine; Le Faucheur, Séverine; Cosio, Claudia
HG SPECIATION AND PERiphyton COMPOSITION MATTER IN HG ACCUMULATION TO PERiphytic COMMUNITIES OF CONTAMINATED RIVER

11:15 Golub, Malgorzata; Desai, Ankur R.; Remucal, Christy K.; McKinley, Galen A.; Stanley, Emily
THE EFFECT OF RANDOM PARAMETER ERRORS ON PREDICTABILITY OF LONG-TERM CHANGE IN FRESHWATER PCO2 CALCULATED FROM THERMODYNAMIC EQUILIBRIA

11:30 Jiang, Helong
UTILIZATION AND ENVIRONMENTAL IMPACT OF ORGANIC CARBON FROM CYANOBACTERIAL BLOOM BIOMASS IN A EUTROPHIC LAKE

11:45 Cuhel, Russell; Aguilar, Carmen
CLIMACTIC CHANGE IN LAKE MICHIGAN: BIG EVENTS, BASIN-WIDE IMPACT

13:30 Zhou, Zhengzhen; Guo, Laodong
VARIATIONS IN COMPOSITION AND SIZE OF DISSOLVED ORGANIC MATTER ACROSS THE RIVER-LAKE INTERFACE IN SOUTHWEST LAKE MICHIGAN

13:45 DeVilbiss, Stephen; Zhou, Zhengzhen; Klump, Val; Guo, Laodong
CHARACTERIZATION OF BULK AND CHROMOPHORIC DISSOLVED ORGANIC MATTER IN GREEN BAY, LAKE MICHIGAN

14:00 Kelso, Julie; Epstein, Dave; Baker, Michelle
CHARACTERIZATION OF RIVERINE ORGANIC MATTER IN AN URBAN LANDSCAPE

14:15 Guo, Laodong; Zhou, Zhengzhen; Minor, Elizabeth
CHARACTERIZATION OF DISSOLVED ORGANIC MATTER IN THE LAURENTIAN GREAT LAKES USING FLUORESCENCE EEM AND PARAFAC TECHNIQUES

14:30 Loken, Luke; Crawford, John; Casson, Nora; Butitta, Vincent; Stanley, Emily
SPATIAL VARIABILITY IN A EUTROPHIC LAKE DURING FALL TURNOVER

14:45 Rodriguez-Cardona, Bianca; McDowell, William H.
INFLUENCES OF DOC ON NITRATE UPTAKE IN SUBURBAN STREAMS

15:30 Zhang, Yixin; Xiang, Hongyong
TWO SIDES OF CROSS-ECOSYSTEM SUBSIDY FLUX IN AQUATIC AND TERRESTRIAL HABITATS

15:45 Lin, Peng; Klump, Val; Guo, Laodong
CHEMICAL SPECIATION OF PHOSPHORUS IN THE WATER COLUMN AND SEDIMENT IN GREEN BAY

16:00 Aguilar, Carmen; Cuhel, Russell
FROM THE BENTHOS. BOTTOM-UP TO PHYTOPLANKTON: DECOMPOSITION HAS BEEN TRUMPED BY EXCRETION OF N AND P IN MODERN LAKE MICHIGAN

16:15 Drummond, Jen; Wright-Stow, Aslan; Franklin, Paul; Quinn, John; Packman, Aaron
TRANSPORT DYNAMICS OF DISSOLVED AND PARTICULATE NUTRIENTS IN RESPONSE TO WOOD ADDITIONS WITHIN AN AGRICULTURALLY IMPACTED STREAM

16:30 Waples, James; Klump, Val
WHAT IS FUELING THE “RING OF FIRE”?

T09: Conservation and Restoration
Chair(s): Peter Levi
Location: 101CD

10:30 Miller, Michael
AN ASSESSMENT OF BARRIERS TO FISH PASSAGE IN STREAMS AND RIVERS OF THE UPPER MIDWEST U.S. CAUSED BY ROADWAY CULVERTS AND BRIDGES

10:45 Moody, Allison; Neeson, Thomas; Guyette, Margaret; Diebel, Matthew; Herbert, Matthew; Khoury, Mary; Yacobson, Eugene; Doran, Patrick; Ferris, Michael; O’Hanley, Jesse; McIntyre, Dr. Peter
RULES OF THUMB FOR PRIORITIZING BARRIER REMOVALS EMERGING FROM COMPREHENSIVE ANALYSIS OF GREAT LAKES TRIBUTARIES
11:00  Neesen, Thomas; Moody, Allison; Guyette, Margaret; Diebel, Matthew; Herbert, Matthew; Khoury, Mary; Yacobson, Eugene; Doran, Patrick; Ferris, Michael; O’Hanley, Jesse; McIntyre, Dr. Peter
PRIORITIZING BARRIER REMOVALS TO RESTORE NATIVE FISH MIGRATIONS IN GREAT LAKES TRIBUTARIES

11:15  Lambert, Timothy; Hinz Jr., Leon; Cao, Yong
PRIORITIZING STREAMS FOR PROTECTION AND RESTORATION USING A HOUSE-NEIGHBORHOOD FRAMEWORK: A CASE STUDY IN COOK COUNTY, ILLINOIS

11:30  Wright, Kristopher
DOES SITE-SCALE STREAM RESTORATION MAKE A DIFFERENCE OVER TIME?

11:45  Gerlock, Kimberly; Roark, Shaun; Lynch, Jennifer
THE USE OF BENTHIC INVERTEBRATE TOLERANCE VALUES IN COLORADO’S 2014 SEDIMENT GUIDANCE

13:30  Morgan, Joseph; White, Jeffrey; Royer, Todd
BIOGEOCHEMICAL FUNCTIONS MUST BE CONSIDERED INDIVIDUALLY WHEN EVALUATING STREAM RESTORATION OUTCOMES

13:45  Fulgoni, Jessica; McLaran, Kerry; Whiles, Matt; Rantala, Heidi; Beattie, Alicia
IMPACTS OF RESTORATION ON ECOSYSTEM PROCESSES IN MIDWESTERN STREAMS

14:00  Drerup, Sam; Johnson, Kelly; Vis, Morgan
STABLE ISOTOPE FOODwebs SUGGEST INCOMPLETE RECOVERY IN ACID MINE DRAINAGE REMEDIATED STREAMS

14:15  Amerson, Byron; Poole, Geoffrey; O’Daniel, Scott; Lambert, Michael
USE OF ANNUAL HYDROGENIC TEMPERATURES SIGNALS TO EVALUATE THE EFFECTS OF CHANNEL REALIGNMENT

14:30  Levi, Peter S.; Macchiavelli, Sofia I.; McIntyre, Dr. Peter
FROM CONCRETE CHANNELS TO RESTORED REACHES: EVALUATING THE ECOLOGICAL STATE OF RE-NATURALIZED STREAMS IN URBAN WATERSHEDS

S12: SS: Ozaukee Fish Passage Program
Chair(s): Matt Aho
(maho@co.ozaukee.wi.us)
Location: 101CD

15:30  Struck, Andrew
AQUATIC CONNECTIVITY AND HABITAT RESTORATION – FUTURE DIRECTIONS

15:45  Nenn, Cheryl
ADVANCING FISH PASSAGE IN THE MENOMONEE RIVER WATERSHED

14:00  Jähnig, Sonja C.; Poff, LeRoy
QUANTIFYING ECOLOGICAL TRAITS TO PREDICT SPECIES, COMMUNITY AND ECOSYSTEM RESPONSES TO CHANGING ENVIRONMENTS

10:30  Jähnig, Sonja C.; Poff, LeRoy
QUANTIFYING ECOLOGICAL TRAITS TO PREDICT SPECIES, COMMUNITY AND ECOSYSTEM RESPONSES TO CHANGING ENVIRONMENTS

10:45  Yetter, Susan
RESPONSES OF RIVERINE MACROINVERTEBRATE COMMUNITIES TO ANTHROPOGENIC DISTURBANCE: IMPLICATIONS FOR BIOASSESSMENTS AND TRAITS-BASED MONITORING

11:00  Boersma, Kate; Siepelski, Adam
ENVIRONMENTAL DRIVERS OF TRAIT VARIATION IN DAMSSELFIES

11:15  Vadeboncoeur, Yvonne; Rooney, Thomas; Lodge, David
REINTEGRATING THE AUTOTROPHIC BASE OF LAKES: FUNCTIONAL CONSEQUENCES OF CONTRASTING RESPONSES OF PHYTOPLANKTON AND PERiphyton COMMUNITY STRUCTURE TO FERTILIZATION
11:30  Short, Terry; Hornberger, Michelle  
TRAIT CHARACTERISTICS AS DETERMINANTS OF METAL EXPOSURE AND UPTAKE IN STREAM INVERTEBRATES

11:45  Pardo, Isabel; Garcia, Liliana  
WATER SCARCITY AND FLOW REDUCTION: UNFORESEEN INDUCED ANOXIA AND HYPOXIA EFFECTS ON STREAM INVERTEBRATES

13:30  Shah, Alisha; Ghalambor, Cameron  
USING THERMAL TOLERANCE TRAITS TO PREDICT THE RESPONSE OF AQUATIC INSECTS TO WARMING: IS THERE GEOGRAPHIC VARIATION?

13:45  Füreder, Leopold  
SPECIES TRAITS COMPOSITION AND VARIABILITY INDICATE ENVIRONMENTAL CONDITIONS AND CHANGE IN ALPINE RUNNING WATERS

14:00  Gill, Brian; Kondratieff, Boris; Encalada, Andrea; Ghalambor, Cameron; Simmons, Mark; Funk, Chris; Poff, LeRoy  
MEASURING ELEVATION RANGE SIZES TO TEST THE CLIMATE VARIABILITY HYPOTHESIS AND ASSESS LATITUDINAL DIFFERENCES IN SPECIES VULNERABILITY TO CLIMATE CHANGE

14:15  Atkinson, Carla L.; Encalada, Andrea; Flecker, Alexander; Thomas, Steven  
INSECT DIET AND STOICHIOMETRY ALONG A TROPICAL ELEVATION GRADIENT

14:30  Li, Fengqing; Tonkin, Jonathan; Haase, Peter  
DISPERSAL CAPACITY AND BROAD-SCALE LANDSCAPE STRUCTURE SHAPE BENTHIC INVERTEBRATE COMMUNITIES ALONG STREAM NETWORKS

14:45  Gerisch, Michael; Feld, Christian; Hering, Daniel; Jähnig, Sonja C.; Tockner, Klement  
BEYOND SPECIES – APPLYING AN ECOSYSTEM TRAIT APPROACH IN BIODIVERSITY RESEARCH AND FRESHWATER CONSERVATION

15:30  Vander Vorste, Ross  
THE HYPOXIC ZONE AS A PRIMARY SOURCE OF RESILIENCE FOR INVERTEBRATE COMMUNITIES IN INTERMITTENT ALLUVIAL RIVERS: EVIDENCE FROM FIELD AND LABORATORY EXPERIMENTS

15:45  Davis, Emily  
WILDFIRE EFFECTS ON STREAM METABOLISM ACROSS GRADIENTS OF FIRE SEVERITY, WATERSHED GEOMORPHOLOGY, AND SPATIAL SCALE

16:00  Garcia, Liliana; Pardo, Isabel  
DECLINING WATER AVAILABILITY INFLUENCES STREAM ECOSYSTEM COMPLEXITY

16:15  DeLorme, Andre; Wieland, Louis  
THE RESPONSE OF MUSSLE POPULATIONS TO THE ADDITION OF SALINE WATER FROM A CLOSED BASIN LAKE INTO THE SHEYENNE RIVER OF NORTH DAKOTA

16:30  Carmignani, Jason; Roy, Allison  
DO ANNUAL WINTER LAKE DRAWDOWNS ALTER THE PHYSICAL HABITAT STRUCTURE AND COMPLEXITY OF SHALLOW LITTORAL ZONES?

16:45  Standen, Katherine; Chambers, Patricia; Culp, Joseph  
ARROWHEAD (SAGITTARIA CUNEATA) AS A BIOINDICATOR OF NITROGEN AND PHOSPHORUS FOR PRAIRIE STREAMS

T15: Disturbance
Chair(s): Claire Ruffing, Allison Roy  
Location: 102B

10:30  Sena, Kenton; Barton, Chris; Angel, Patrick; Agouridis, Carmen; Warner, Richard  
EXPERIMENTAL FORESTRY RECLAMATION APPROACH UPLOTT SHOW MARKED HYDROCHEMICAL IMPROVEMENT AFTER NINE GROWING SEASONS

10:45  Feijó de Lima, Rafael; F. Silva-Júnior, Eduardo; Lisboa, Leonardo Kleba; Heatherly, Thomas; Tromboni, Flavia; Zandonà, Eugenia; Moulton, Timothy; Thomas, Steven  
DOWNSTREAM EFFECTS OF ABRUPT RIPARIAN CHANGES IN STREAMS IN THE ATLANTIC RAINFOREST OF BRAZIL
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td>11:00</td>
<td>Johnson, Sherri; Ashkenas, Linda; Li, Judy; Argerich, Alba; Sobota, Janel</td>
<td>Testing Our Understanding of Bottom Up Food Web Influences: Riparian Harvest, Increased Light, But Limited Responses of Primary Producers and Macroinvertebrates</td>
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<tr>
<td>11:15</td>
<td>Kroll, Stefanie; Horwitz, Richard; Keller, David; Minerovic, Alison; Jackson, John</td>
<td>Multiple Indicator Analysis of Streams Throughout the Delaware River Watershed</td>
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<tr>
<td>11:30</td>
<td>Henderson, Nicole; Christian, Alan; Burke, Deirdre</td>
<td>Spatial and Temporal Variation in Stream Sediment Microbial Communities in an Urban Coastal Northeastern Watershed</td>
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<tr>
<td>11:45</td>
<td>Barrons, Howard; Reisinger, Alexander J.; Tank, Jennifer L.; Tieg, Scott</td>
<td>The Contribution of Fish Excretion to Nutrient Cycling in Streams Across a Land-Use Gradient</td>
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<td>13:30</td>
<td>F. Silva-Júnior, Eduardo; Silva-Araújo, Monalisa; Tromboni, Flavia; Feijó de Lima, Rafael; Lourenço-Amorim, Christine; Neres-Lima, Vinicius; Thomas, Steven; Zandonà, Eugenia; Moulton, Timothy</td>
<td>Leaf Decomposition and Secondary Production as Indicators of Land-Cover Change in Tropical Rivers</td>
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<tr>
<td>13:45</td>
<td>Zsafraniec, Mary</td>
<td>Mitigating Legacy and Future Nutrient Loads at the Landscape and Waterbody Scale Using Good Quality Carbon as a Tool</td>
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<td>14:00</td>
<td>Boardman, Evelyn; Finlay, Jacques</td>
<td>The Effects of Land Cover and Climate on Nutrient Loss and Retention in Human Dominated Watersheds</td>
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<tr>
<td>14:15</td>
<td>Thomas, Kathryn; Lazor, Renee; Chambers, Patricia; Yates, Adam</td>
<td>Land Use Interactions Drive Southwestern Ontario Stream Nutrient Concentrations</td>
</tr>
<tr>
<td>14:30</td>
<td>Regan, Claire; Yetter, Susan; Veith, Tamera; Collick, Amy; Brooks, Robert</td>
<td>Nutrient/Sediment Runoff and Ecological Condition: Linking the SWAT-VSA Model with Empirical Measures</td>
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<tr>
<td>14:45</td>
<td>Price, Steven; Muncy, Brenée'; Bonner, Simon; Barton, Chris; Drayer, Andrea</td>
<td>Impacts of Mountaintop Removal Mining and Valley Fills on Stream Salamander Occupancy, Abundance and Species Richness</td>
</tr>
<tr>
<td>15:30</td>
<td>Ogdahl, Mary; Steinman, Alan; Weinert, Maggie</td>
<td>Seeking Clarity: How a Public/Private Partnership Intends to Dramatically Improve Conditions in a Historically Hypereutrophic Lake</td>
</tr>
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<td>15:45</td>
<td>Polaskey, Steven; Entrekin, Sally</td>
<td>Agriculture and Natural Resource Extraction Interact to Affect Drivers of Leaf Decomposition</td>
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<tr>
<td>16:00</td>
<td>Morabowen, Andres; Rios-Touma, Blanca</td>
<td>Agricultural Landscapes and Effects of Pesticides in Tropical Highly Biodiverse Streams of the Ecuadorian Choco</td>
</tr>
<tr>
<td>16:15</td>
<td>Rattan, Kim J.; Chambers, Patricia; Culp, Joseph; Yates, Adam</td>
<td>Nutrient Fractionation and Stream Flow from Agricultural Watersheds in Relation to Landuse</td>
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<tr>
<td>16:30</td>
<td>Henderson, Kate; Murdock, Justin; Lizotte, Jr., Richard; Locke, Martin</td>
<td>Drivers of Algal Biomass and Productivity in Intensively Managed Agricultural Lakes</td>
</tr>
<tr>
<td>16:45</td>
<td>Royer, Todd; Fulgoni, Jessica; Madison, Andrew; Jacobson, Sirese</td>
<td>Nutrient and Sediment Runoff from Agricultural Watersheds: Insights for Effective Management Practices</td>
</tr>
</tbody>
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**S11: SS: Biotic Response to Flow**

**Chair(s):** Jessica M. Orlofske, Wendy A. Monk  
(orlofske@uwp.edu)

**Location:** 102D

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<thead>
<tr>
<th>Time</th>
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<tr>
<td>10:30</td>
<td>Orlofske, Jessica; Monk, Wendy</td>
<td>Flowing into the Future: Approaches and Perspectives to Guide Flow Management for Society and the Environment</td>
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<tr>
<td>10:45</td>
<td>Webb, Angus; Stewardson, Michael; Miller, Kim; de Little, Siobhan</td>
<td>Something Old, Something New, Something Borrowed… Bringing Together Diverse Methods to Quantify Flow-Response Relationships for Environmental Flow Management</td>
</tr>
</tbody>
</table>
11:00  Grantham, Ted; Eng, Ken; Carlisle, Daren; Wolock, David
PREDICTABILITY OF HYDROLOGIC INDICES: IMPLICATIONS FOR STREAMFLOW REGIME CHARACTERIZATION AND DEVELOPMENT OF REGIONAL ENVIRONMENTAL FLOW STANDARDS

11:15  Kennen, Jonathan; Hain, Ernie; Caldwell, Peter; Nelson, Stacy; Sun, Ge; McNulty, Steve
MODELING FISH SPECIES RESPONSE TO CHANGES IN WATER AVAILABILITY AND CLIMATE IN THE NORTH CAROLINA PIEDMONT, USA

11:30  Bennett, Micah; Whiles, Matt; Whitledge, Gregory
AN ASSEMBLAGE-LEVEL TRAIT MODEL PREDICTS POPULATION-LEVEL LIFE HISTORY VARIATION AND RESPONSE TO FLOW REGIME IN THREE STREAM FISHES

11:45  Rieck, Leslie O.; Sullivan, S. Mazeika P.
ASSOCIATIONS BETWEEN STREAM HYDROGEOmorphology AND FISH ASSEMBLAGES IN AN URBAN LANDSCAPE

13:30  Carlisle, Daren; May, Jason; Nelson, S. Mark
RELATIVE INFLUENCE OF ALTERED FLOW AND WATER TEMPERATURE ON STREAM HEALTH IN SIERRA NEVADA STREAMS, CALIFORNIA

13:45  Patrick, Christopher; Yuan, Lester
BIOTIC RESPONSE TO FLOW ALTERATION IN MID-ATLANTIC STREAMS

14:00  Wynne, Caroline; Sweeney, Niamh; Linnane, Suzanne
CHARACTERIZING THE IMPACTS OF ALTERNATIVE FLOW REGIMES ON MULTIPLE BIOLOGICAL INDICATOR COMMUNITIES: CONGRUENCE, CORRELATION AND MANAGEMENT STRATEGY

14:15  Gates, Kiza; Vaughn, Caryn C.; Julian, Jason P.
INCORPORATING SPECIES TRAITS IN A GUILD APPROACH TO DEVELOP ENVIRONMENTAL FLOW RECOMMENDATIONS FOR FRESHWATER MUSSELS

14:30  Barmuta, Leon A.; Hardie, Scott A.; Bobbi, Chris; Warfe, Danielle M.
MACROINVERTEBRATES RESPONSES TO ANTECEDENT FLOWS: HYDRAULICS OR HYDROLOGY?

14:45  Roy, Allison; Jane, Stephen; Finn, John; Hazelton, Peter; Randhir, Timothy; Richards, Todd
LINKAGES BETWEEN STREAM FLOW, HABITAT, AND BIOTIC ASSEMBLAGES IN AN URBANIZED LARGE RIVER

15:30  Greenwood, Michelle; Booker, Doug; Winterbourn, Mike; Smith, Brian
THE INFLUENCE OF ANTECEDENT FLOW CONDITIONS ON AQUATIC INVERTEBRATE COMMUNITIES

16:00  O’Malley, Zoe; Orlofske, Jessica; Monk, Wendy; Curry, Allen
USING ODONATE EXUVIAE TO DETERMINE POPULATION SEX RATIO AND SEXUAL DIMORPHISM IN BODY SIZE AT EMERGENCE

10:30  Martin, David; Poff, LeRoy; Powell, Sue; Webb, Angus; Nichols, Susan
TWO METHODS TO ESTIMATE THE IMPORTANCE OF RIVER MANAGEMENT CRITERIA IN A MULTI-CRITERIA DECISION ANALYSIS

10:45  Smith, David; Snyder, Craig D.; Hitt, Nathaniel
INCORPORATING MANAGEMENT RISK AND VALUES INTO NATURAL RESOURCE MONITORING DESIGNS

11:00  Grapentine, Lee
SITE-SPECIFIC BENCHMARKS TO REDUCE UNCERTAINTY DUE TO SPATIAL AND TEMPORAL VARIABILITY OF REFERENCE CONDITIONS IN THE ASSESSMENT AND MANAGEMENT OF BENTHIC COMMUNITIES

11:15  Clements, William; Kotalik, Chris
RESPONSES OF AQUATIC INSECTS TO MAJOR IONS ASSOCIATED WITH MOUNTAINTOP REMOVAL AND VALLEY FILL OPERATIONS
11:30 Roark, Shaun; Lynch, Jeniffer; DeLong, Grant; Kovach, Amanda; Gensemer, Robert; Canton, Steve
AN ANALYSIS OF REPLICATE MACROINVERTEBRATE SAMPLES TO ASSESS UNCERTAINTY IN MEASURES OF TAXON ABSENCE IN WEST VIRGINIA STREAMS

11:45 Timpano, Anthony; Schoenholz, Stephen; Soucek, David; Zipper, Carl
ACCOUNTING FOR TEMPORAL VARIABILITY OF CONDUCTIVITY FOR EFFECTIVE MANAGEMENT OF SALINITY AS A FRESHWATER AQUATIC LIFE STRESSOR

13:30 Katz, Rachel; Campbell-Grant, Evan; Runge, Mike; Hocking, Daniel; Letcher, Ben; Roy, Allison
NOT ALL SCIENTIFIC UNCERTAINTIES ARE CREATED EQUAL FOR LANDSCAPE SCALE HEADWATER STREAM MANAGEMENT

13:45 Helsel, Dennis
OVERCOMING UNCERTAINTY WITH MODERN STATISTICAL TESTS: WHAT YOU LEARNED IN COLLEGE IS PROBABLY OBSOLETE

14:00 Kaster, Jerry
SUSTAINABILITY: OXYMORON OR MEASURABLE METRIC?

14:15 Munkittrick, K.R.; Arciszewski, T.J.; Kilgour, B.W.; Somers, K.; Barrett, T.J.
FUTURE DIRECTIONS FOR USING NATURAL VARIABILITY TO DEVELOP TRIGGERS FOR DESIGNING AND ADAPTING ENVIRONMENTAL MONITORING PROGRAMS

S01: SS: Freshwater Futures - Undergrads
Chair(s): Carla L. Atkinson, Zacchaeus Compson (carlalatkinson@gmail.com)
Location: 102E

15:30 Vaughn, Caryn C.
HOW TO SAVE AN IMPERILED FAUNA IN AN INCREASINGLY THREATENED LANDSCAPE: FROM ENDANGERED SPECIES TO ECOSYSTEM SERVICES

15:45 Evans-White, Michelle
OUR FRESHWATER FUTURES: INTEGRATING ANIMALS AND ECOSYSTEM MODELS

16:00 Freeman, Mary
A BRIEF HISTORY OF STREAM FISH ECOLOGY AND A SPECULATIVE LOOK FORWARD

16:15 Flecker, Alexander; Capps, Krista
OUR FRESHWATER FUTURE AND THE IMPORTANCE OF FISH SPECIES FOR THE FUNCTIONING OF STREAM ECOSYSTEMS

T11: Algae and Primary Production
Chair(s): Paula Furey, Steve Rier
Location: 103AB

10:30 Bootsma, Harvey; Driscoll, Zac; Turschak, Benjamin; Wilcox, Erin
FACTORS REGULATING INTERANNUAL VARIABILITY OF CLADOPODIA ABUNDANCE IN LAKE MICHIGAN

10:45 Weirich, Chelsea A.; Miller, Todd
A LOCAL-TO-GLOBAL-CHARACTERIZATION OF CYANOTOXINS IN FRESHWATER LAKES

11:00 Furey, Paula; Welte, Jill; Sander, Delorianne; Williamson, Tanner; Cross, Wyatt
CHANGES IN N2-FIXING ALGAL SPECIES ASSEMBLAGES ACROSS A STREAM TEMPERATURE GRADIENT: IMPLICATIONS OF WARMING FOR SPECIES COMPOSITION AND ECOSYSTEM FUNCTION

11:15 Ballantyne, Ford; Rueegg, Janine; Song, Chao; Chaloner, Dominic; Lamberti, Gary
ESTIMATING SALMON ENRICHMENT AND DISTURBANCE ON PERiphyTON OVER THE COURSE OF A RUN USING COUPLED DIN, PERiphyTON N, AND CHLOROPHYLL A

11:30 Wehr, John; Truhn, Kam; Perrone, Alissa
SPECIES RICHNESS OF DIATOMS AND SOFT-BODIED ALGAE IN STREAMS WITHIN A LAND-USE MOSAIC IN SOUTHERN NY STATE

11:45 Bartlett, Sarah ; Weirich, Chelsea ; Miller, Todd
TEMPORAL DYNAMICS OF TOXIC CYANOBACTERIAL PEPTIDES IN A EUTROPHIC LAKE

13:30 Lee, Sylvia; Rosi-Marshall, Emma ; Paspalof, Alexis; Kelly, John; Kaushal, Sujay
EFFECTS OF CONTAMINANTS ON STREAM BIOFILMS: AMPHETAMINE, ANTIHISTAMINE, AND SALT

13:45 Bratt, Anika; Finlay, Jacques; Welte, Jill; Vculek, Bree; Sarbacker, Kerrick
CO-LIMITATION BY N AND P CHARACTERIZES ALGAL COMMUNITIES ACROSS LAND USE AND NUTRIENT AVAILABILITY

14:00 Rier, Steven; Kinek, Keith; Hay, Sarah Francoeur, Steven
PATTERNS OF POLYPHOSPHATE STORAGE IN STREAM BIOFILMS IN RESPONSE TO PHOSPHORUS STRESS

14:15 Konrad, Christopher; Munn, Mark
USING SEASONAL DATA ON NUTRIENTS AND ALGAL BIOMASS TO INFORM THE DESIGN OF MORE EFFECTIVE AND EFFICIENT WATER QUALITY MONITORING
14:30 Zheng, Lei; Paul, Michael; Lincoln, Ann
DIRECT AND INDIRECT EFFECT OF EUTROPHICATION ON LAKE ECOSYSTEMS: SUPPORT FOR NUTRIENT CRITERIA DEVELOPMENT

14:45 Lin, Shengpan; Qj, Jiaguo; Jones, John; Stevenson, Jan
ESTIMATION OF INLAND LAKE CHLOROPHYLL A BASED ON LANDSAT TM/ETM+ AND BOOSTED REGRESSION TREES (BRT)

15:00 Bouma-Gregson, Keith; Kudela, Raphael; Power, Mary
ENVIRONMENTAL DRIVERS OF BENTHIC CYANOBACTERIAL DISTRIBUTION AND TOXIN PRODUCTION IN A RIVER NETWORK

T12: Bioassessment
Chair(s): Sarah Whorley, Ryan Hill, Jan Ciborowski
Location: 103C

10:30 Waite, Ian; Schmidt, Travis; Munn, Mark; VanMetre, Pete
UNDERSTANDING AGRICULTURAL LAND USE DISTURBANCE THROUGH A SERIES OF MODELS: LANDSCAPE TO WATER QUALITY TO INVERTEBRATES.

10:45 Kurtenbach, James
DEVELOPMENT AND USE OF A PERCENT MODEL AFFINITY FOR ASSESSMENT OF PUERTO RICO STREAMS

11:00 Mazor, Raphael D.; Engeln, Mark; Stein, Eric; Ode, Peter
EFFECTIVE VISUALIZATIONS OF COMPLEX BIOASSESSMENT INDICES BASED ON PREDICTIVE MODELS

11:15 Liu, Bo; Stevenson, Jan
STRIVING FOR A BETTER MODEL TO ASSESS LAKE BIOLOGICAL CONDITION: A COMPARISON OF CART, RANDOM FOREST AND MULTIPLE LINEAR REGRESSION

11:30 Ciborowski, Jan; Kovalenko, Katya; Host, George; Howe, Robert; Reavie, Euan; Brown, Terry; Brady, Valerie; Danz, Nicholas; Niemi, Gerald; Cai, Meijun; Johnson, Lucinda
DEVELOPING GREAT LAKES BIOINDICATORS OF ENVIRONMENTAL CONDITION AND RECOVERY FROM DEGRADATION WITH REFERENCE TO WATERSHED BASED STRESS

11:45 Hill, Ryan; Weber, Marc; Leibowitz, Scott; Olsen, Anthony
MAPPING THE BIOLOGICAL CONDITION OF USA RIVERS AND STREAMS

13:00 Stevenson, Jan
RECONSIDERING THE PROBLEM OF DIATOM ASSESSMENT OF STREAMS IN AGRICULTURALLY DOMINATED REGIONS

13:45 Cantonati, Marco; Kelly, Martyn; Armanini, David; Lange-Bertalot, Horst; Angeli, Nicola; Demartini, Daniele; Dörflinger, Gerald
DIATOM BIODIVERSITY IN MEDITERRANEAN STREAMS AND ITS POTENTIAL FOR ENVIRONMENTAL ASSESSMENTS: A CASE STUDY FROM THE ISLAND OF CYPRUS

14:00 Gillett, Nadia; Pan, Yangdong; Asarian, J. Eli; Kann, Jacob
SPATIAL AND TEMPORAL VARIATION OF PERIPHERYON ASSEMBLAGES AND ASSOCIATED ENVIRONMENTAL CONDITIONS IN THE KLAMATH RIVER (2004-2013), CALIFORNIA, USA

14:15 Brua, Robert; Yates, Adam; Culp, Joseph
NMR-BASED METABOLOMICS OF CRAYFISH AS A BIOINDICATOR OF ECOSYSTEM HEALTH OF STREAMS IN SOUTHERN MANITOBA

14:30 Scudder Eikenberry, Barbara; Bell, Amanda; Templar, Hayley; Burns, Daniel
COMPARISON OF BENTHOS AND PLANKTON FOR SELECTED AOC AND NON-AOC RIVERS AND HARBORS, WESTERN LAKE MICHIGAN

14:45 Whorley, Sarah; Wehr, John
STREAM WATER AND PERIPHERYON CARBON AND NITROGEN STABLE ISOTOPES INDICATE INSUFFICIENT PROTECTION FROM AGRICULTURAL INFLUENCES

15:00 Pappas, Sheena; Strachan, Stephanie; Shaw, Pat; Shrimpton, Lana
BASELINE WATER QUALITY MONITORING IN AN AREA OF SHALE GAS DEVELOPMENT, HORN RIVER BASIN, BRITISH COLUMBIA

15:15 Chesworth, Chris; Culp, Joseph; Chambers, Patricia; Brua, Robert; Yates, Adam
CHANGES IN STREAM CONDITIONS DURING A MUNICIPAL WASTEWATER RELEASE AND ASSOCIATED EFFECTS ON STREAM METABOLISM

15:30 Roberts, Nathan; Anderson, Alyssa
ANALYSIS OF CHIRONOMIDAE (INSECTA: DIPTERA) DIVERSITY AND COMMUNITY COMPOSITION IN BROWN COUNTY, SD

15:45 Shanteau, Jennifer; DeJong, Grant; Lynch, Jeniffer
ANALYSIS OF INCREASING TAXA TRENDS OF LONG-TERM DATA COLLECTED IN MINING IMPACTED STREAMS
16:30 Strachan, Stephanie; Edwards, Morgan; Pappas, Sheena
BENTHIC INVERTEBRATE ASSESSMENT OF THE FRASER RIVER BASIN OVER A 20 YEAR PERIOD (1994-2013) USING CABIN

T13: Population and Community Ecology
Chair(s): Rob Creed, Amy Rosemond
Location: 103DE

10:30 Laws, Coridon
UNDERSTANDING THE ROLE OF DIRECT CELL-TO-CELL INTERACTION AND MIXOTROPHY IN THE HARMFUL ALGA PRYMNESIUM PARVUM

10:45 Griffiths, Ronald
SEASONAL POPULATION DYNAMICS AND PRODUCTION OF THE PREDACIOUS CHLOROPERLID, PLUMIPERLA DIVERSA, IN A MOUNTAIN STREAM.

11:00 Warbanski, Misha; Marques, Piata; Phillip, Dawn; El-Sabaawi, Rana; Frauendorf, Therese C.
IMPLICATIONS OF GUPPY PHENOTYPE FOR BIO-CONTROL OF LARVAL MOSQUITOES

11:15 Murphy, Mason; Price, Steven; Haag, Wendell; Weisrock, David
ASSESSING CONGRUENCY OF POPULATION STRUCTURE AND GENE FLOW BETWEEN FRESHWATER MUSSELS AND THEIR HOSTS: A GENOMIC APPROACH

11:30 Ishiyama, Nobuo; Sueyoshi, Masanao; Nakamura, Futoshi
HISTORICAL CHANGE IN POPULATION CONNECTIVITY OF THE NINESPINE STICKLEBACK IN AN AGRICULTURAL LANDSCAPE

11:45 Holland, Angela; Hellgren, Eric; Nielsen, Clayton; Schauer, Eric
RIVER OTTER OCCUPANCY IN ILLINOIS STREAM SYSTEMS AS A FUNCTION OF THE SEMI-AQUATIC MAMMAL COMMUNITIES

13:30 Larson, Courtney; Weatherbee, Courtney; Pechal, Jennifer L.; Gerig, Brandon; Lamberti, Gary; Benbow, M. Eric
SALMON CARRION DECOMPOSITION INFLUENCES HEADWATER STREAM COMMUNITIES OVER TIME

13:45 Venarsky, Michael; Walters, David; Herdrich, Adam; Winkelman, Dana; Livers, Bridget; Wohl, Ellen; Hall, Robert O.; Poole, Geoffrey
THE LEGACY OF LOGJAM LOSS ON BENTHIC MACROINVERTEBRATE BIOMASS AND INSECT EMERGENCE IN MOUNTAIN STREAMS

14:00 Belaidi, Nouria; Taleb, Amina
EFFECTS OF A POLLUTED RESERVOIR ON THE DISTRIBUTION OF THE BENTHIC AND INTERSTITIAL CRUSTACEAN COMMUNITY (NORTH-WEST ALGERIA)

14:15 Trottier, Gabrielle; Turgeon, Katrine; Nozais, Christian; Solomon, Chris; Gregory-Eaves, Irene
EFFECTS OF ANTHROPOGENIC DISTURBANCES ON AQUATIC MACROINVERTEBRATES - DEPOSITION AND THERMAL REGIMES, OR THE IMPORTANCE OF APPROPRIATE SITES SELECTION

14:30 Smith, Chelsea; McCormick, Paul V.; Covich, Alan; Golladay, Stephen
RECOVERY OF AQUATIC MACROINVERTEBRATE ASSEMBLAGES FOLLOWING STREAM DRYING IN SOUTHWEST GEORGIA, USA

14:45 Bogan, Michael; Leidy, Robert; Carlson, Stephanie
CYCLES OF BOOM AND BUST IN COASTAL CALIFORNIA INTERMITTENT STREAMS

15:00 DeJong, Grant
DIEL VARIABILITY IN PREY CAPTURE BY TWO SPECIES OF UTRICULARIA (LENTIBULARIACEAE) FROM SOUTH CAROLINA, USA

15:45 Schilling, Emily
PREDATION STRUCTURED ODONATA ASSEMBLAGES IN FISHLESS, SALMONID, AND CENTRARCHID PONDS IN MAINE

16:00 Kirk, Andrew; McGarvey, Daniel
USING BIOMASS SPECTRA TO QUANTIFY FISH AND MACROINVERTEBRATE COMMUNITY STRUCTURE IN SOUTHERN WEST VIRGINIA STREAMS

16:15 Pitcher, Kristopher; Soluk, Daniel
SHOULD THEY STAY OR SHOULD THEY GO? THE INTERACTIVE INFLUENCE OF HABITAT COMPLEXITY AND CONNECTIVITY ON PREY CONSUMPTION AND COMPETITION IN DRAGONFLY LARVAE AND FISH.

16:30 Bush, Mike
ECOTONE PROXIMITY AND ITS INFLUENCE ON PREDATION RISK IN A DYNAMIC WETLAND

16:45 Brown, Bryan; Creed, Robert; Skelton, James
EMBEDDED METACOMMUNITIES IN THE CRAYFISH-BRANCHIOBDELLIDAN CLEANING SYMBIOSIS: A MULTI-SCALE FRAMEWORK FOR UNDERSTANDING SYMBIONT DIVERSITY
WEDNESDAY, MAY 20 ORALS

S13: SS: Didymosphenia Germinata
Chair(s): Lisa Kunza, Carole-Anne Gillis
(lisa.kunza@sdsmt.edu)
Location: 101A
10:30 Kunza, Lisa; Gillis, Carole-Anne
INTRODUCTION: TRANSITIONS IN UNDERSTANDING DIDYMOSPHENIA GEMINATA
10:45 Gretz, Michael
DIDYMO: IT’S ALL ABOUT THE STALKS
11:00 Pillsbury, Robert; Glas, Brenna
CAN CHANGES IN THE VALVE MORPHOLOGY OF DIDYMOSPHENIA GEMINATA AMONG BLOOM POPULATIONS HELP EXPLAIN RECENT INVASIONS?
11:15 Shank, Matthew
DIDYMO IN PINE CREEK, PENNSYLVANIA: ENVIRONMENTAL FACTORS CONTROLLING DISTRIBUTION AND PLANS FOR FUTURE RESEARCH
11:30 Murdock, Justin; Knorp, Natalie; Hix, Lucas
MACROINVERTEBRATE STRUCTURAL AND CONSUMPTION RESPONSES TO DIDYMOSPHENIA GEMINATA MATS IN THE UPPER TENNESSEE RIVER WATERSHED
11:45 Gillis, Carole-Anne; Bergeron, Normand E.
EXPLORING THE IMPACT OF DIDYMOSPHENIA GEMINATA NUISANCE GROWTHS ON JUVENILE ATLANTIC SALMON

T16: Urban Ecology
Chair(s): Sandra Clinton, Tim Hollein
Location: 101B
10:30 McCormick, Amanda; Hoellein, Timothy; Hittle, Joshua; London, Maxwell; Kelly, John
MICROPLASTIC IN URBAN STREAMS: SOURCE, ABUNDANCE, AND SELECTION OF UNIQUE BACTERIAL ASSEMBLAGES
10:45 Kelly, John; Hoellein, Timothy; Mason, Sherri; McCormick, Amanda; London, Maxwell
MICROPLASTIC PARTICLES ARE A NOVEL AND MOBILE HABITAT FOR MICROORGANISMS IN FRESHWATER ECOSYSTEMS
11:00 Fisher, Jenny; Newton, Ryan; Dila, Deb; McLellan, Sandra
URBAN MICROBIAL ECOLOGY OF THE MILWAUKEE ESTUARY AND HARBOR

T17: Lakes and Wetlands
Chair(s): Carmella Vizza
Location: 101CD
10:30 Fluet-Chouinard, Etienne; McIntyre, Dr. Peter
EVALUATING THREATS TO RAMSAR WETLANDS: LOCAL REPORTING VERSUS GLOBAL MAPPING
10:45 Larson, James; Richardson, William; Evans, Mary Anne; Schaeffer, Jeff; Wynne, Timothy; Bartsch, Michelle; Bartsch, Lynn; Nelson, JC; Vallazza, Jon
MEASURING SPATIAL VARIATION IN ECOSYSTEM PROPERTIES USING A COMMON CONSUMER APPROACH
11:00 Vizza, Carmella; West, William; Jones, Stuart; Hart, Julia; Lambert, Gary
EFFECTS OF SUBSTRATE AVAILABILITY AND INCREASED SALINITY ON METHANOREDOXIS IN PONDS OF THE COPPER RIVER DELTA, ALASKA
11:15 Nakano, Daisuke; Kobayashi, Takuya
EFFECTS OF AN AERATION SYSTEM ON VERTICAL DISTRIBUTION AND MIGRATION OF ZOOPLANKTON IN A RESERVOIR.
11:30 Deuschle, Deric; Urban, David
THE EFFECTS OF LONG-TERM DRAINAGE ON THE SAX ZIM BOG, NORTHEAST MINNESOTA
11:45 Stauffer, Natalie
SPATIAL AND TEMPORAL VARIABILITY IN BENTHIC INVERTEBRATE ASSEMBLAGES IN UPPER KLAMATH LAKE, OREGON
T15: Disturbance

Chair(s): Claire Ruffing, Allison Roy
Location: 102B

10:30  Robinson, Chris; Ortlepp, Johannes; Scheurer, Thomas
EXPERIMENTAL FLOWS INCREASE RESILIENCE OF A REGULATED RIVER TO CATASTROPHIC DISTURBANCE

10:45  Finn, Debra; Hampel, Henrietta; Encalada, Andrea
PERSISTENCE AND STABILITY OF PÁRAMO MACROINVERTEBRATE COMMUNITIES IN STREAMS WITH CONTRASTING NATURAL DISTURBANCE REGIMES

11:00  Ruffing, Claire; Dodds, Walter; Veach, Allison; Rueegg, Janine; Trentman, Matt
SPATIAL AND TEMPORAL RESPONSE PATTERNS OF ECOSYSTEM METABOLISM FOLLOWING A CHANNEL ALTERING FLOW EVENT IN PRAIRIE STREAMS

11:15  Jackson, Breeanne K.; Sullivan, S. Mazeika P.
TAKING A BROADER PERSPECTIVE: CATCHMENT-LEVEL WILDFIRE VARIABILITY AND CLIMATE DRIVE RIPARIAN SPIDER RESPONSES IN YOSEMITE NATIONAL PARK, CA

11:30  Sanchez, Jose; Kelly, Sean; Ramirez, Alonso
THE EFFECT OF URBANIZATION ON THE WEB SPINNING BEHAVIORS OF RIPARIAN ORB-WEAVING SPIDERS

11:45  Barnum, Thomas; Williams, Meghan; Weller, Donald
DECREASED TRAIT DIVERSITY OF MACROINVERTEBRATE COMMUNITIES WITH INCREASING IMPERVIOUS SURFACE COVER

S09: SS: Dynamics of Carbon

Chair(s): Zhengzhen Zhou, Laodong Guo (zhou9@uwm.edu)
Location: 102C

10:30  Jiang, Xueyan; Liu, Qian; Sui, Juanjuan; Yu, Zhigang
DISTRIBUTIONS AND FLUXES OF URANIUM IN THE LOWER REACHES OF THE YELLOW RIVER: ANTHROPOGENIC IMPACT (WATER-SEDIMENT REGULATION SCHEME)

10:45  Fields-Somers, Laura; Grundl, Timothy
ASSESSING THE EFFECTS OF RIVERBANK INDUCEMENT ON GROUNDWATER QUALITY ON A SHALLOW AQUIFER IN SOUTHEASTERN WISCONSIN

11:00  DelVecchia, Amanda G; Stanford, Jack A
ANCIENT OUTGASSING AND MODERN FERMENTATION: DUAL SOURCES FOR A METHANE-DRIVEN HYPOXIC FOOD WEB

11:15  Coleman Wasik, Jill; Toner, Brandy; Engstrom, Daniel; Drevnick, Paul
WHERE DOES THE SULFATE COME FROM: LINKING ORGANIC SULFUR SPECIATION IN PEATLANDS TO SULFATE RELEASE FOLLOWING Drought

11:30  Montenero, Michael; Waples, James
MEASURING SEDIMENT LOADING AND RETENTION IN A LARGE URBAN HARBOR USING IODINE-131 IN TREATED SEWAGE EFFLUENT

11:45  Klump, Val; LaBuhn, Shelby; Koopmans, Dirk; Bravo, Hector; Hamidi, Sajad; Waples, James
IS INCREASING HYPOXIA IN OUR FUTURE? THE EVOLUTION OF GREEN BAY’S DEAD ZONES

T18: Invertebrate Ecology

Chair(s): Jerry Kaster, Will Bouchard, Heidi Rantala, Ashley Moerke
Location: 102DE

10:30  Baumann, Karen; Scholl, Eric; Rantala, Heidi; Whiles, Matt
MACROINVERTEBRATE RESPONSES TO CLIMATIC EXTREMES FOLLOWING A LEGACY OF STREAM HYDROLOGIC ALTERATION

10:45  Nelson, Daniel; Benstead, Jonathan P.; Huryn, Alexander D; Cross, Wyatt; Hood, James; Johnson, Philip; Junker, James; Gislason, Gisli; Olafsson, Jon
CONTRASTING RESPONSES OF BLACKFLY SPECIES (DIPTERA: SIMULIIDAE) TO EXPERIMENTAL STREAM WARMING

11:00  Hertel, Samantha; Berg, Martin B.
AQUATIC INSECT COMMUNITY STRUCTURE AND SECONDARY PRODUCTION IN SOUTHCENTRAL ALASKA STREAMS WITH CONTRASTING THERMAL AND HYDROLOGIC REGIMES

11:15  Mazack, Jane; Vondracek, Bruce; Ferrington, Jr., Leonard
GROUNDWATER INFLUENCE ON WINTER INVERTEBRATE COMMUNITIES IN SOUTHEASTERN MINNESOTA STREAMS

11:30  Piggott, Jeremy; Townsend, Colin; Matthaei, Christoph
CLIMATE WARMING AND AGRICULTURAL STRESSORS INTERACT TO DETERMINE STREAM MACROINVERTEBRATE COMMUNITY DYNAMICS

11:45  Taleb, Amina; Belaidi, Nouria
HYPOXIC COMMUNITY COMPOSITION IN A GRAVEL-BED HEADWATER STREAM OF NORTH-WEST ALGERIA: INFLUENCE OF HYDROLOGICAL EXCHANGE, SEDIMENT STRUCTURE AND PHYSICOCHEMISTRY
**T19: Land-Water Interfaces**

**Chair(s):** Johanna Kraus  
**Location:** 103AB

10:30 | Kaylor, Matthew; Warren, Dana  
**Influences of Riparian Forest Stand Development on Stream Periphyton, Invertebrate and Vertebrate Populations in Cascade Mountain Streams, OR.**

10:45 | Kraus, Johanna; Pomeranz, Justin; Todd, Andrew; Walters, David; Wanty, Richard; Schmidt, Travis  
**Aquatic Pollution Increases Use of Terrestrial Prey Subsidies by Stream Fish**

11:00 | Uno, Hiromi; Power, Mary  
**Spatial Heterogeneity in River Temperature Asynchronizes Aquatic Insect Emergence, and Prolongs the Food Supply to Predators**

11:15 | Merkley, Steven  
**Varying Prey Subsidy Quality Affects the Growth Rate of Subsidized Terrestrial Consumers**

11:30 | Wensink, Stacey; Tieg, Scott  
**Shoreline Hardening Alters the Structure and Function of Land-Water Interfaces**

11:45 | Wesner, Jeff; Walters, David; Schmidt, Travis; Kraus, Johanna; Wanty, Richard; Stricker, Craig; Clements, William  
**Metal Concentrations Decline by an Order of Magnitude During Metamorphosis in the Mayfly (Baetis Tricaudatus)**

**T12: Bioassessment**

**Chair(s):** Sarah Whorley, Ryan Hill, Jan Ciborowski  
**Location:** 103C

10:30 | Pyne, Matthew; Poff, LeRoy  
**Modeling the Response of Climate-Sensitive, Aquatic Insect Traits to Multiple Environmental Factors in the Western United States Using a Bayesian Path Model**

10:45 | Petry, David; Colombo, Robert; Pederson, Charles; Laursen, Jeffrey  
**Evaluation of Agency and Volunteer Stream Monitoring Protocols Using Macroinvertebrate Assemblages**

11:00 | Cuffney, Thomas; Kennen, Jonathan  
**Effects of Taxonomic Harmonization and Fixed-Count Subsampling on Comparability of Invertebrate Data from Multiple Sources**

11:15 | Novodvorsky, Nicole; Bailey, John; Reynolds, Trefor  
**Geographic Extension of Benthic Invertebrate RCA Bioassessments: How Far Can We Go?**

11:30 | Elbrecht, Vasco; Leese, Florian  
**Can DNA Based Monitoring of Macrozoobenthos Deliver Abundance Data? Testing Primer Bias and Biomass-Sequence Relationships with a Novel Metabarcoding Protocol**

**T13: Population and Community Ecology**

**Chair(s):** Rob Creed, Amy Rosemond  
**Location:** 103DE

10:30 | Tornwall, Brett; Skelton, James; Sokol, Eric; Brown, Bryan  
**Trends in Stream Biodiversity Research Since the River Continuum Concept**

10:45 | Schuettenberg, Alexa  
**Leaf Litter Species Affects the Active Aquatic Microbial Community**

11:00 | Pechal, Jennifer L.; Benbow, M. Eric  
**Influence of Resource Pulses on Ecological Networks: Insects, Salmon and Their Microbiomes**

11:15 | Demi, Lee; Benstead, Jonathan P.; Rosemond, Amy D.; Maerz, John C.; Gulis, Vlad  
**Experimental N and P Fertilization of Five Detritus-Based Headwater Streams Reveals Effects of Resource Stoichiometry on Consumer Biomass and Production**

11:30 | Argerich, Alba; Penaluna, Brooke  
**Interactions Between Consumers and Stream Functional Processes: A Case Study From the Pacific Northwest**
THURSDAY, MAY 21 ORALS

S14: SS: Asian Freshwater Futures

Chair(s): John Morse  
(jmorse@clemson.edu)

Location: 101A

10:30  Nair, Achuthan  
PRESENT STATUS AND FUTURE PROSPECTS OF FRESHWATER BIOLOGY RESEARCH IN SOUTH ASIAN COUNTRIES

10:45  Yule, Catherine  
FRESHWATER RESEARCH IN MALAYSIA

11:00  Wang, Yi-Kuang; Suen, Jian-Ping  
STREAM ECOLOGICAL RESEARCH OF TAIWAN: RETROSPECT AND PROSPECT

11:15  Sangpradub, Narumon; Hanjavanit, Chutima  
STATUS AND TREND OF FRESHWATER BIOLOGY IN THAILAND

11:30  Suk, Ho Young  
DISTRIBUTION AND GENETIC STRUCTURE OF FRESHWATER TELEOSTS IN THE KOREAN PENINSULA: INTERACTION BETWEEN HISTORICAL AND HUMAN-MEDIATED PROCESSES

11:45  Li, Li; Wang, Yeyao; Liu, Tingliang; Liu, Lusan  
DEVELOPMENT OF MACROINVERTEBRATE INDEX OF BIOTIC INTEGRITY (M-IBI) FOR LARGE RIVER BIOASSESSMENT: A PILOT WORK IN SONGHUA RIVER, CHINA

13:30  Kim, Dong Gun; Bae, Yeon Jae  
COLONIZATION SPEED AND PATTERN OF BENTHIC MACROINVERTEBRATE COMMUNITIES DURING THE EARLY SUCCESSIONAL PHASES IN TEMPERATE ASIA

13:45  Wang, Beixin; Ding, Ning; Yang, Weifang  
RESPONSE OF FUNCTIONAL TRAITS AND DIVERSITY OF TROPICAL STREAM MACROINVERTEBRATES TO ENVIRONMENTAL VARIABLES IN XISHUANBANNA WATERSHED, YUNNAN CHINA

14:00  Wang, Lizhu; Pan, Yangdong; Cao, Yong; Wang, Quanxi; Wang, Beixin; Zhang, Jie; Pang, Wanting; Deng, Guiping  
USING BENTHIC COMMUNITIES TO DETECT THE SHIFT OF HUMAN-NATURAL PARADIGM IN JIUJZHAIGOU NATIONAL PARK, CHINA

14:15  Cao, Yong; Wang, Beixin; Zhang, Jie; Wang, Lizhu; Pan, Yangdong; Wang, Quanxi; Deng, Guiping  
CHANGES OF MACROINVERTEBRATE ASSEMBLAGES ACROSS LAKES AND STREAM SITES IN RELATION TO NATURAL ENVIRONMENT AND TOURISM PRESSURE IN JIUJZHAIGOU NATIONAL PARK, CHINA

14:30  Tojo, Koji  
MOLECULAR PHYLOGEOGRAPHIC STUDIES OF FRESHWATER BENTHOS IN EAST ASIA, WITH SPECIAL REFERENCE TO THE COMPLEX FORMATION HISTORY OF THE JAPANESE ARCHIPELAGO

14:45  Tojo, Koji; Saito, Rie  
BIOGEOGRAPHY OF THE ISONYCHIID MAYFLY ISONYCHIA JAPONICA WITH A WIDE DISTRIBUTION IN EAST ASIA, INFERRED FROM MOLECULAR PHYLOGENETIC ANALYSES (EPHEMEROPTERA, ISONYCHIIDAE)

15:00  Bogatov, Viktor; Vshivkova, Tatjana; Khristoforova, Nadezhda  
OUR COMMON FRESHWATER FUTURE

T16: Urban Ecology

Chair(s): Sandra Clinton, Tim Hollein

Location: 101B

10:30  Smith, Robert; Roy, Allison  
THE EFFECT OF DISPERSAL BARRIERS ON STREAM FISH AND INSECT ASSEMBLAGES IN URBAN LANDSCAPES

10:45  Janke, Benjamin; Finlay, Jacques; Hobbie, Sarah  
DOES URBAN TREE CANOPY ENHANCE NUTRIENT EXPORT BY STORMWATER?

11:00  Smucker, Nathan; Kuhn, Anne; Charpentier, Mike; Cruz-Quinones, Carlos; Elonen, Colleen; Hill, Brian; Lake, Jim; Serbst, Jonathan  
DEVELOPING ECOLOGICAL INDICATORS FOR NUTRIENTS AND URBAN IMPACTS TO STREAMS IN COASTAL WATERSHEDS

11:15  Medupin, Cecilia  
LONG-TERM VARIATIONS IN WATER QUALITY IN AN URBAN RIVER IN THE UNITED KINGDOM

11:30  Fork, Megan; Bernhardt, Emily; Heffernan, Jim; Urban, Dean  
PATTERNS OF STORMFLOW DISSOLVED ORGANIC MATTER CONCENTRATION, COMPOSITION, AND TIMING IN THREE SMALL URBAN STREAMS
11:45  Blaszczak, Joanna; Steele, Meredith; Hbbie, Sarah; Badgley, Brian; Heffman, Jim; Bernhardt, Emily; Groffman, Peter
       NITROUS OXIDE YIELDS FROM URBAN STORMWATER PONDS IN 8 US CITIES

S18: SS: Stream Macroinvertebrate Response to Disturbances in Neotropical Streams: Recent Advances and Future Directions
Chair(s): Carissa Ganong, Rebeca de Jesús
(carissa.ganong@gmail.com)
Location: 101B

13:30  Covich, Alan; Crowl, Todd; Perez-Reyes, Omar
       EFFECTS OF DISTURBANCES ON UPSTREAM AND DOWNSTREAM MOVEMENTS: WHEN AND WHERE ARE DROUGHTS LIKELY TO HAVE THE MOST IMPACT ON NEOTROPICAL HEADWATER STREAMS?

13:45  Rantala, Heidi; Rugenski, Amanda; Barnum, Thomas; Colon-Gaud, Checo; Murria, Cesc; Whiles, Matt
       LONG-TERM EFFECTS OF DISEASE-DRIVEN AMPHIBIAN DECLINES ON MACROINVERTEBRATE COMMUNITIES IN TROPICAL STREAMS

14:00  Cauvy-Fraunié, Sophie
       LOW RESILIENCE OF TROPICAL RIVER BIOTA TO EXPERIMENTAL DECREASE IN GLACIER RUNOFF

14:15  Snyder, Eric; Kynak, Tim; Krynak, Katherine; Lyons, Jane
       ECOLOGY AND MANAGEMENT OF NEOTROPICAL RIVERS: LESSONS FROM THE CLOUD FOREST IN ECUADOR

14:30  Springer, Monika
       THE USE OF MACROINVERTEBRATES IN BIOMONITORING OF FRESHWATER HABITATS IN MESOAMERICA AND THE CARIBBEAN

14:45  de Jesus Crespo, Rebeca; Pringle, Catherine
       MONITORING STREAM BIO-INTEGRITY USING MACROINVERTEBRATES IN A HIGH INTENSITY COFFEE-GROWING REGION: CONTRASTING AN INDEX BASED APPROACH WITH REFERENCE SITE COMPARISONS IN THE PIRRIS WATERSHED, COSTA RICA

15:30  Kelly, Sean; Ramirez, Alonso
       SUBSIDIES FROM AQUATIC TO RIPARIAN CONSUMERS ALONG AN URBAN GRADIENT IN A TROPICAL WATERSHED – A STABLE ISOTOPE ANALYSIS

15:45  Ganong, Carissa; Hidalgo Oconitrillo, Minor; Pringle, Catherine
       HOW TOLERANT ARE TROPICAL STREAM MACROINVERTEBRATES TO DROUGHT-DRIVEN ACIDIFICATION ASSOCIATED WITH CLIMATE CHANGE?

16:00  Ramirez, Alonso
       DISTURBANCE AS A KEY FACTOR IN UNDERSTANDING MACROINVERTEBRATE ASSEMBLAGE DYNAMICS IN NEOTROPICAL STREAMS

S15: SS: Deconstructing Cumulative Effects
Chair(s): John L. Bailey, Keith Somers
(jbailey@laurentian.ca)
Location: 101CD

10:30  Somers, K.; Jones, Chris; Bailey, John
       CUMULATIVE EFFECTS AND CUMULATIVE EFFECTS ASSESSMENT: ROLES FOR FRESHWATER SCIENTISTS

10:45  Robinson, Wayne
       CHALLENGES IN A RETROSPECTIVE STRESSOR ANALYSES OF A LONG TERM SURVEILLANCE DATA SET

11:00  Stribling, James
       USE OF WATERSHED-SCALE BIOLOGICAL MONITORING FOR RESTORATION PLANNING AND EVALUATION

11:15  Flinders, Camille; Ragsdale, Renee; Arthurs, William; Ikoma, Joan; Cook, Diana; Campbell, David; Messmer, Ron; Napack, Jan
       WATER QUALITY AND BIOTA IN FOUR MULTI-STRESSOR Lotic SYSTEMS: PATTERNS FROM A MULTI-FACETED, LARGE-SCALE, LONG-TERM DATASET

11:30  Yates, Adam; Armanini, David; Chambers, Patricia
       AD-HOC AND EX-POST DESIGNS FOR DISENTANGLING CUMULATIVE EFFECTS IN MIXED LAND USE LANDSCAPES

11:45  Burdon, Francis; Räsänen, Katja; Jokela, Jukka; Eggen, Rik; Stamm, Christian
       ENVIRONMENTAL CONTEXT INFLUENCES INVERTEBRATE COMMUNITY RESPONSES TO ANTHROPOGENIC PERTURBATIONS IN TEMPERATE STREAMS

13:30  Johnson, Richard; Angeler, David; McKie, Brendan; Sandin, Leonard; Hallstan, Simon
       DISENTANGLING MULTIPLE STRESSOR EFFECTS ON INVERTEBRATE ASSEMBLAGES OF BOREAL STREAMS
13:45  Jones, Chris  
CUMULATIVE EFFECTS OF DEVELOPMENT ON NEAR-SHORE BENTHIC MACROINVERTEBRATE COMMUNITIES OF SOUTHERN PRECAMBRIAN SHIELD LAKES

14:00  Chara-Serna, Ana; Richardson, John  
INDIVIDUAL AND CUMULATIVE EFFECTS OF FINE SEDIMENT, NUTRIENT ENRICHMENT, AND INSECTICIDE POLLUTION ON STREAM MICROECOSMS

14:15  Izral, Natalie; Brua, Robert; Culp, Joseph; Chambers, Patricia; Yates, Adam  
IDENTIFYING CRAYFISH METABOLIC PATHWAYS DIAGNOSTIC OF NUTRIENT AND DISSOLVED OXYGEN STRESS

14:30  Norton, Susan  
THE FUTURE OF ECOLOGICAL CAUSAL ASSESSMENT

14:45  Bailey, John  
SUMMARY OF THE DECONSTRUCTING CUMULATIVE EFFECTS SPECIAL SESSION: WHERE TO FROM HERE?

**T20: Hydroecology**

Chair(s):  Stefan Sefick  
Location:  102B

10:30  Aubeneau, Antoine; Tank, Jennifer L.; Hanrahan, Brittany; Bolster, Diogo  
INFLUENCE OF SUBSTRATE SIZE AND BIOFILM GROWTH ON ANOMALOUS SOLUTE TRANSPORT IN EXPERIMENTAL STREAMS AT ND-LEEF

10:45  Roche, Kevin; Packman, Aaron  
TURBULENT HYPOBRAIN EXCHANGE IN PEMBERABLE SEDIMENTS

11:00  Poole, Geoffrey; Amerson, Byron; Fogg, Katie; O’Daniel, Scott; Payn, Robert; Reinhold, Ann Marie; Izurieta, Clemente  
LIMITS OF TRANSIENT STORAGE ASSUMPTIONS FOR HEAT: USING RESIDENCE TIME DISTRIBUTION TO ESTIMATE MEAN TEMPERATURE OF HYPOBRAIN DISCHARGE MONTANE ALLUVIAL STREAMS

11:15  Gardner, John; Ensign, Scott; Doyle, Martin; Neve, Ryan  
EULERIAN VERSUS LAGRANGIAN PERSPECTIVES ON LIGHT AVAILABILITY IN A LARGE RIVER

11:30  Sefick, Stephen; Kosnicki, Ely; Paller, Michael; Feminella, Jack  
IS THE LANDCOVER CASCADE SYSTEM-SPECIFIC? A CASE STUDY IN SAND-BED STREAMS OF THE SOUTHEASTERN US SANDHILLS ECOREGION

11:45  Bezerra, Maíra; Palmer, Margaret; Filoso, Solange; Ferraz, Silvio  
TROPICAL STREAMS AT RISK: GULLY FORMATION FROM INTENSIVE AGRICULTURE AS DRIVER OF STREAM DEGRADATION

**S19: SS: Oil Spills**

Chair(s):  Faith Fitzpatrick, Stephen Hamilton  
(fafitzpa@usgs.gov)  
Location:  102B

13:30  Silliman, Benjamin  
PLANNING FOR DILUTED BITUMEN SPILLS ON FRESH WATER

13:45  Chambers, Patricia; Alexander, Alexa  
ASSESSMENT OF WATER QUALITY PATTERNS IN 7 CANADIAN RIVERS IN RELATION TO STAGES IN OIL SANDS INDUSTRIAL DEVELOPMENT, 1972 TO 2010

14:00  Owodeinde, Fatai Gbolahan; Ndimele, Prince Emeka  
EFFECTS OF PETROLEUM BUNKERING ACTIVITIES ON THE SOCIO-CULTURAL AND ECO-ECONOMICS OF MAJIDUN RIVER, IKORODU, NIGERIA

14:15  Zhu, Zhenduo; Waterman, David; Garcia, Marcelo  
MODELING THE TRANSPORT OF OIL-PARTICLE AGGREGATES FROM A DILUTED BITUMEN SPILL IN KALAMAZOO RIVER, MICHIGAN

14:30  Zelt, Ronald; Fitzpatrick, Faith A.; Graan, Thomas; Cozzarelli, Isabella; Johnson, Rex  
A GEOMORPHIC FRAMEWORK AND TOOLBOX FOR SUBMERGED OIL VOLUME QUANTIFICATION, KALAMAZOO RIVER, MICHIGAN

14:45  Desotelle, Micaleila; Hamilton, Stephen K.  
IMPACTS OF A MAJOR DILUTED BITUMEN (OIL SANDS) SPILL INTO THE KALAMAZOO RIVER (MICHIGAN) ON BENTHIC INVERTEBRATES
15:30  Fitzpatrick, Faith A.; Capone, Daniel M.; Bejarano, Adriana C.; Williams, Lisa L.; Michel, Jacqueline; Dollhopf, Ralph H.; Kimble, Jeffrey W.; Hamilton, Stephen K.  
APPLICATION OF A NET ENVIRONMENTAL BENEFIT ANALYSIS FOR SUBMERGED DILUTED BITUMEN RECOVERY FOLLOWING THE 2010 PIPELINE RELEASE INTO THE KALAMAZOO RIVER

15:45  Waterman, David; Garcia Marcelo  
LABORATORY EVALUATION OF MACROSCOPIC OIL-PARTICLE-AGGREGATES FORMED FROM DILUTED BITUMEN AND KALAMAZOO RIVER SEDIMENT

16:00  Hamilton, Stephen K.; Desotelle, Micaleila  
A MAJOR DILUTED BITUMEN (OIL SANDS) SPILL INTO THE KALAMAZOO RIVER (MICHIGAN): WHAT WE KNOW AND WHAT WE NEED TO LEARN

T02: Biogeochemistry
Chair(s):  Noah Lottig, Natalie Griffiths, Ashley Helton, Nora Casson, Erin Hotchkiss
Location:  102C

10:30  Griffiths, Natalie A.; Jackson, C. Rhett; McDonnell, Jeffrey J.; Bitew, Menberu; Du, Enhao; Klaus, Julian  
effects of short-rotation pine management for bioenergy on water quality in the southeastern united states

10:45  Payn, Robert; Izurieta, Clemente; Poole, Geoffrey  
an exploration of convergent evolution in academia: why ecosystem ecologists and biogeochemists should think about the tools of software engineering

11:00  Trentman, Matt; Dodds, Walter; Gido, Keith; Rueegg, Janine; Ruffing, Claire  
using structural equation modeling to determine effects of fish presence and environmental factors on stream benthic biogeochemical rates

11:15  Dee, Martha M.; Tank, Jennifer L.; Beaulieu, Jake J.; Marzadri, Alessandra; Tonina, Daniele ; Bellin, Alberto  
variation in dissolved nutrients and greenhouse gases along stream networks in two watersheds of contrasting land use

11:30  Stanley, Emily; Casson, Nora; Christel, Samuel; Crawford, John ; Gries, Corinna; Loken, Luke; Oliver, Samantha K  
a new methane database and a revised global estimate of methane efflux from fluvial ecosystems

11:45  Hotchkiss, Erin; Landström, Emelie; Sponseller, Ryan; Karlsson, Jan  
high autochthonous support of aquatic invertebrates despite extremely low rates of gross primary production in boreal streams

12:00  Baker, Christina; Jones, Jeremy; Harms, Tamara  
spatial patterns of gpp and r in a boreal stream network

12:15  Mejia, Francine ; Bellmore, J. Ryan; Benjamin, Joseph; Zuckerman, Adrianne; Watson, Grace; Newsom, Michael; Freimier, Alexander  
abiotic variables control stream metabolism in a nutrient limited montane river network

12:30  Genzoli, Laurel; Hall, Robert O.  
eight-year seasonal time series of klamath river metabolism

12:45  Song, Chao; Ballantyne, Ford  
computational considerations of whole stream metabolism

13:00  Lottig, Noah  
to constrain or not to constrain: forcing metabolism parameters to ecologically feasible values

T18: Invertebrate Ecology
Chair(s):  Jerry Kaster, Will Bouchard, Heidi Rantala, Ashley Moerke
Location:  102DE

10:30  Cox, Erin; Levine, Todd  
patterns of lure display and associated behaviors in lampsilis cardium

10:45  Voss, Kristofo; Bernhardt, Emily  
turning a snapshot into a motion picture: patterns in aquatic insect production along a gradient of alkaline mine drainage

11:00  Norman, Beth; Ruhs, Alexander; Van Alst, Andrew; Walker, Edward  
top down and bottom up interactions in water-filled tree holes: implications for microbial diversity and mosquito emergence
11:15  Speelman, Julie; Holland, Jeffrey D.
IF YOU BUILD IT, WILL THEY COME?
MACROINVERTEBRATE COMMUNITY COMPOSITION IN INDIANA TWO-STAGE DITCHES

11:30  Richmond, Erinn; Rosi-Marshall, Emma; Lee, Sylvia; Thompson, Ross; Grace, Michael
BUGS ON DRUGS: SSRIS (ANTIDEPRESSANTS) AFFECT STREAM ECOSYSTEM FUNCTION

11:45  Halvorson, Halvor; White, Grant; Scott, Thad; Evans-White, Michelle
DIETARY AND TAXONOMIC VARIATION IN UTILIZATION OF MICROBIAL CARBON AND PHOSPHORUS BY DETRITIVOROUS CADDISFLIES

13:30  Schloesser, Don
THE CHRONOLOGIC RECORD OF BURROWING MAYFLIES (HEXAGENIA SPP.) IN SAGINAW BAY, LAKE HURON

13:45  Siersma, Heather
TRENDS IN THE DISTRIBUTION AND ABUNDANCE OF HEXAGENIA SPP. IN SAGINAW BAY, LAKE HURON, 1954-2012: MOVING TOWARDS RECOVERY?

14:00  Groff, Christopher; Kaster, Jerry
BENTHIC HABITAT CONDITIONS AND THE POTENTIAL FOR RE-COLONIZATION BY HEXAGENIA MAYFLIES IN GREEN BAY, LAKE MICHIGAN

14:15  Driscoll, Zac; Bootsma, Harvey
THE ROLE OF STRATIFICATION ON THE APPARENT TROPHIC POSITION OF COPEPODS IN LAKE MICHIGAN AS REVEALED BY THE NITROGEN STABLE ISOTOPE

14:30  Yarra, Allyson; Richards, Todd; Roy, Allison
IMPACTS OF THERMAL AND FLOW ALTERATION ON BENTHIC STREAM MACROINVERTEBRATES DOWNSTREAM OF WATER SUPPLY RESERVOIRS

14:45  Lovell, Anthony
HABITAT USE BY DIFFERENT MITOCHONDRIAL LINEAGES OF THE ATYID SHRIMP PARATYA AUSTRALIENSIS IN STREAMS OF MELBOURNE, AUSTRALIA

15:00  Peterson, Michael; O’Grady, Patrick; Resh, Vincent
LARGE AQUATIC INSECTS (DICOSMOECUS, CALINEURIA, HESPEROPERLA, AND PTERONARCYS) SHOW DISCORDANT POPULATION STRUCTURE IN THE WESTERN UNITED STATES

15:15  Bouchard, Jr., R. William; Gelhaus, Jon K.

15:30  Jordan, Rebecca; Sorensen, Amanda
CITIZEN SCIENCE AND RESOURCE MANAGEMENT

15:45  Wilson, Rebecca; Leslie, Alan; Spadafora, Elanor; Shaffer, Jen; Lamp, William
BLACK FLIES FROM BACKYARDS: INCORPORATING CITIZEN DERIVED DATA INTO THE STUDY OF NUISANCE INSECT DISTRIBUTION

16:00  Burres, Erick
DIY DIGITAL SOLUTIONS FOR PROMOTING AND SUSTAINING CITIZEN SCIENCE ENGAGEMENT IN FRESHWATER BIODIVERSITY AND HABITAT MONITORING

16:15  Asplund, Tim; Stepenuck, Kristine; Skawinski, Paul
FROM SELF-HELP TO VOLUNTEER MONITORING TO CITIZEN SCIENCE – ENGAGING THE PUBLIC IN LAKE AND STREAM ASSESSMENT, RESTORATION AND PROTECTION IN WISCONSIN

16:30  Stepenuck, Kristine
UNDERSTANDING IMPACTS OF VOLUNTEER WATER MONITORING PROGRAMS ON NATURAL RESOURCE POLICY AND MANAGEMENT

16:45  Tyner, Emily; Ray, Dan; Jennings, Sue; Moraska Lafrancois, Brenda
UNDERWATER AND ON THE BEACHES: CITIZEN SCIENCE EFFORTS SUPPORTING AQUATIC SCIENCES RESEARCH AT SLEEPING BEAR DUNES NATIONAL LAKESHLORE
13:45 Albright, Lindsey; Stepenuck, Kristine
WATER ACTION VOLUNTEERS (WAV) - TOTAL PHOSPHORUS MONITORING IN WISCONSIN’S STREAMS

14:00 Burdett, Ayesha
THE VALUE OF COLLABORATION: USING PUBLIC MUSEUMS TO LINK THE COMMUNITY WITH RESEARCH

14:15 Latimore, Jo A.; Burdett, Ayesha
THE FUTURE OF PUBLIC PARTICIPATION IN FRESHWATER RESEARCH: OPPORTUNITIES AND CHALLENGES

S17: SS: Landscape Approaches to Nutrient and Sediment Management in Streams

Chair(s): Mike Shupryt, Lucinda Johnson, Mike Paul
(Michael.Shupryt@wisconsin.gov)
Location: 103C

10:30 Rueegg, Janine; Sheehan, Ken; Baker, Christina; Daniels, Melinda; Dodds, Walter; Farrell, Kaitlin; Flinn, Michael; Gido, Keith; Harms, Tamara; Jones, Jeremy; Koenig, Lauren; Kominoski, John; McDowell, William H.; Bowden, William; Rosemond, Amy D.; Trentman, Matt; Wollheim, Wil; Parker, Samuel P.
BASEFLOW PATTERNS OF GEOMORPHIC HETEROGENEITY IN STREAM NETWORKS ACROSS BIOMES

10:45 McDowell, William H.; Potter, Jody; Snyder, Lisle; Daley, Michelle; Appling, Alison; Koenig, Lauren; Rodriguez-Cardona, Bianca; Wymore, Adam; Breereton, Richard
USING A SENSOR NETWORK TO UNDERSTAND DRIVERS OF NUTRIENT AND ORGANIC MATTER CONCENTRATIONS AT MULTIPLE SPATIAL AND TEMPORAL SCALES

11:00 Paul, Michael; Cada, Peter
MODELING WATER QUALITY AND BIOLOGICAL CONDITION IN STREAMS AT MULTIPLE SCALES: APPLICATIONS OF THE ENVIROATLAS DATASET

11:15 Wollheim, Wil; Stewart, Robert; Mineau, Madeleine; Samal, Nihar; Zuidema, Shan; Huang, Tao; Zhou, Zaixing
UNDERSTANDING LAND USE AND CLIMATE IMPACTS ON WATER QUALITY ACROSS SPATIAL SCALES: INTERACTIONS OF SCALE, INTENSITY, DILUTION, AND ECOSYSTEM SERVICES (ISIDES)

11:30 Olson, John; Hawkins, Charles
ASSESSING HUMAN ALTERATIONS OF STREAM WATER CHEMISTRY FROM MODELED REFERENCE CONDITIONS

11:45 Keitzer, Steven; Ludsin, Stu; Sowa, Scott; Sasson, Anthony; Herbert, Matthew; Annis, Gust; Froelich, August; Volmer-Sanders, Carrie; Arnold, Jeff; White, Mike; Yen, Haw; Daggupati, Prasad; Norfleet, Lee; Johnson, Mari-Vaughn; Atwood, Jay; Rewa, Charlie
POTENTIAL BENEFITS OF CONSERVATION STRATEGIES FOR STREAM BIODIVERSITY IN AN AGRICULTURAL LANDSCAPE

13:30 Dodds, Walter; Larson, Danielle; Veach, Allison
EXTREME STREAM–ECOSYSTEM EFFECTS FROM RIPARIAN DISTURBANCE IN AN OTHERWISE INTACT WATERSHED

13:45 Rosemond, Amy D.; Helton, Ashley M.; Bumpers, Phillip M.; Benstead, Jonathan P.
RESPONSE OF AUTOTROPHIC AND HETEROPTROPHIC PATHWAYS TO NUTRIENTS ALONG STREAM NETWORKS

14:00 Christensen, Jay; Nash, Malisha; Compton, Jana; Wigington, Jr., Parker J.; Griffith, Stephen
CONNECTING SEASONAL RIPARIAN BUFFER METRICS AND NITROGEN CONCENTRATIONS IN A PULSE-DRIVEN AGRICULTURAL SYSTEM

14:15 Hanrahan, Brittany; Tank, Jennifer L.; Christopher, Sheila F.
HOW DO CHANGES IN CONSERVATION ALTER HOT-SPOTS OF NUTRIENT EXPORT IN AGRICULTURAL WATERSHEDS?

14:30 Tank, Jennifer L.; Hanrahan, Brittany; Christopher, Sheila F.
CAN WE SOLVE COASTAL “DEAD ZONES” FROM A DISTANCE? WATERSHED-SCALE CONSERVATION REDUCES NUTRIENT EXPORT FROM AGRICULTURAL LANDSCAPES

14:45 Roley, Sarah S.; Tank, Jennifer L.; Tyndall, John C.; Witter, Jonathan D.
THE VALUE OF WATER QUALITY IMPROVEMENTS ACHIEVED WITH AGRICULTURAL BEST MANAGEMENT PRACTICES

15:30 Nelson, Theresa; Ruesch, Aaron
PRIORITIZING WATER QUALITY IMPROVEMENT EFFORTS ON AGRICULTURAL LANDS USING LIDAR ELEVATION DATA

15:45 Ruesch, Aaron; Diebel, Matt; Menuz, Diane
DATABASE APPROACHES FOR RAPID CONSTRUCTION OF SPATIALLY EXPLICIT WATER QUALITY MODELS

16:00 Appling, Alison; Leon, Miguel; McDowell, William H.
OPTIMIZING WATERSHED FLUX ESTIMATES: THE R PACKAGE ‘LOADFLEX’
16:15  **Baker, Matthew**  
**LANDSCAPE APPROACHES TO NUTRIENT AND SEDIMENT MANAGEMENT IN STREAMS: PAST RESEARCH AND FUTURE DIRECTIONS**

**T21: Molecular Ecology**  
**Chair(s):** Scott Hotaling  
**Location:** 103DE

10:30  **Williams, Trevor**  
**EVOLUTIONARY DELINEATION AND CRYPTIC SPECIATION OF HYALELLA SPP. IN THE CHIHUAHUAN DESERT**

10:45  **Walters, Ashley; Inoue, Kentaro; Harris, John; Berg, David**  
**ECOLOGICAL DIFFERENTIATION IN A FRESHWATER MUSSEL SPECIES COMPLEX**

11:00  **Turner, Cameron R.**  
**PUTTING CONTAMINATION TO USE FOR REDUCING UNCERTAINTY IN ENVIRONMENTAL DNA MONITORING**

11:15  **Kranzfelder, Petra; Ekrem, Torbjørn; Stur, Elisabeth**  
**BARCODING OF TRACE DNA IN CHIRONOMID PUPAL EXUVIAE REVEALS QUALITY DIFFERENCES IN DNA EXTRACTION PROTOCOLS**

11:30  **Hotaling, Scott; Muhlfeld, Clint C; Giersch, J. Joseph; Miller, Michael R.; Grewelle, Richard; Lu, Deborah; Jordan, Steve P.; Luikart, Gordon; Weisrock, David**  
**TAKing THE ANONYMITy OUT OF RAD-SEQUENCING: LINKING THOUSANDS OF SNP MARKERS WITH THE FIRST DRAFT GENOME SEQUENCE OF THE MELTWATER STONEFLY, LEDNIA TUMANA**

**S20: SS: Temporary Wetlands**  
**Chair(s):** Kelley Fritz, Brian O’Neill  
**(k.a.fritz@siu.edu, oneillb@uww.edu)**  
**Location:** 103DE

13:30  **Fritz, Kelley; Kirschman, Lucas; Whiles, Matt**  
**ENERGY FLOWS AND SUBSIDIES ACROSS AQUATIC-TERRESTRIAL BOUNDARIES OF TEMPORARY PONDS VIA AMPHIBIAN MIGRATIONS**

14:00  **Vega, Shelby; Fritz, Kelley; Kirschman, Lucas; Whiles, Matt; Trushenski, Jesse**  
**EMERGING AMPHIBIANS AS A POTENTIAL SOURCE OF ESSENTIAL FATTY ACIDS FOR RIPARIAN PREDATORS**

14:15  **Chandler, Houston; Gorman, Thomas; Haas, Carola**  
**THE EFFECTS OF CHANGING VEGETATION STRUCTURE AND WETLAND HYDROLOGY ON AQUATIC COMMUNITIES IN FIRE-SUPPRESSED WETLANDS OF THE SOUTHEASTERN UNITED STATES**

14:30  **O’Neill, Brian; Thorp, James**  
**BIRTH, LIFE, AND DORMANCY OF AN EPHEMERAL FOOD WEB**

14:45  **Church, James; Little, Amanda**  
**AQUATIC MACROINVERTEBRATE METACOMMUNITY STRUCTURE IN FORESTED WETLANDS OF WEST-CENTRAL WISCONSIN**
FACILITY MAP INCLUDING POSTER LOCATIONS
POSTERS

Posters Numbered 1-159 are Displayed in the North Foyer
Posters Numbered 160-250 are Displayed in the South Foyer

S01: SS: Freshwater Futures - Undergrads

1 Limarie Reyes, Pedro Torres
  THE ROLE OF PHYLLOGICUS PULCHRUS (TRICHOPTERA: CALAMOCERATIDAE) IN THE DECOMPOSITION OF LEAF LITTER: EVALUATING LEAF SPECIES AND CASE BUILDING EFFECTS

2 Patina Mendez, Teri Crisp
  INTEGRATING VISUOSPATIAL APPROACHES INTO RESEARCH READING AND WRITING

3 Tamara Sluss, Checo Colon-Gaud, Krista Capps, Patina Mendez, Judy Li, Marcelo Ardon-Sayao
  PROMOTING DIVERSITY IN FRESHWATER SCIENCE THROUGH MENTORING: CELEBRATING FIVE YEARS OF INSTARS

S02: SS: Species Distribution Models

4 Brock Stuecker, Joseph Milanovich
  PREDICTING THE CONSEQUENCES OF GLOBAL CLIMATE CHANGE ON POND-BREEDING SALAMANDERS IN THE MIDWESTERN UNITED STATES

5 Luke Etchison, Mark Pyron
  A COMPARISON OF SILVER CARP HABITAT AVAILABILITY IN A 10-KM STRETCH OF THE WABASH RIVER

6 Kelsey Weidner
  CHARACTERIZATION OF THE ALGAL AND MACROINVERTEBRATE COMMUNITIES OF TWO VERNAL POOLS AT TIDD-OAKES FARM, HARDIN COUNTY, OHIO

S04: SS: Acid Deposition

7 Martina Ctvrtlikova, Jaroslav Vrba, Petr Znachor, Jiri Kopacek, Petr Hekera, Jiri Jarosik, Andrew Wade, Shovonal Roy
  CAUSAL FACTORS OF RECOVERY OF ISOETES ECHINOSPOR A AND I. LACUSTIS IN TWO ACIDIFIED SOFTWATER LAKES

8 Nora Casson, Steve Sebestyen, Randall Kolka, Emily Stanley
  SENSITIVITY OF SEEPAGE LAKES IN NORTHERN WISCONSIN TO ACID DEPOSITION

9 Theo Light, Alicia Helfrick, Natasha Wingert er
  WIDESPREAD OCCURRENCE OF A SUBTERRANEAN AMPHIPOD IN ACIDIC SURFACE STREAMS OF SOUTH-CENTRAL PENNSYLVANIA

S05: SS: Nutrient Reaction Rates and Residence Times

10 Samantha K Oliver, Sarah M Collins, Emily Stanley, Patricia A Soranno
  PATTERNS AND DRIVERS OF LAKE STOICHIOMETRY ACROSS A 17-STATE REGION IN THE U.S.

S06: SS: Invertebrate Systematics and Faunistics

11 Tiffani Manteuffel
  ABDU NCE AND DISTRIBUTION OF CRAYFISH IN TWO FLORIDA SPRING-FED RIVERS

S08: SS: Accounting for Variability

12 David G. Armanini, Almudena Idigoras Chaumel, Wendy Monk, Adam Yates
  A PROPOSAL FOR THE INTEGRATION OF LONG TERM BENTHIC COMMUNITY VARIABILITY IN CURRENT ECOLOGICAL ASSESSMENT SYSTEMS

13 Robert Shields
  VARIATION IN MORPHOLOGY OF NORTHERN CRAYFISH (ORCONECTES VIRILIS) DUE TO LATITUDE, SEXUAL DIMORPHISM, AND WATERSHED AREA

S09: SS: Dynamics of Carbon

14 Clay Arango, Jake J. Beaulieu, Ken Fritz, Brian Hill, Colleen Elonen, Michael Pennino, Paul Mayer, Sujay Kaushal, Adam Balz
  CARBON LIMITATION PATTERNS IN BURIED AND OPEN URBAN STREAMS

15 Kaitlyn Peters, Kenneth Fortino
  TERRESTRIAL LEAF LITTER INCREASES SEDIMENT OXYGEN DEMAND AND ALTERS NUTRIENT FLUX IN SEDIMENTS FROM A SMALL MAN-MADE POND IN CENTRAL VIRGINIA

16 Jonathan O’Brien, Ryan Koch, David Kerling, Courtney Marinski, Molly Christie
  NITROGEN TURNOVER AND RAPID CYCLING OF ALGAL EXUDATES IN EPILITHIC BIOFILMS
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<td>Nitrate Loading Reduces the Capacity for Nitrate Uptake in Epilithic Biofilms</td>
<td>Ryan Koch, David Kerling, Courtney Marlinski, Molly Christie, Jonathan O’Brien</td>
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<td>18</td>
<td>Further Insights into Dom-Metal Interaction by Parafac Analysis Combined with Two-Dimensional Correlation Spectroscopy</td>
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<td>Effect of Different Natural Organic Matter on Pyrene and Benzo[a] Pyrene Biodegradation in Freshwater Sediments</td>
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<td>Effects of Resuspension on Metal Dynamics and Speciation in Contaminated Lake Sediments</td>
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In many regions of the developed and developing world, large human populations live in arid environments that out of necessity depend on scarce or imported water. This is certainly true in California and the Western US where a complex infrastructure of dams, canals, and groundwater extraction provide freshwater for some of the world’s most productive farms and some of the world’s most opulent living conditions. Compounding this insatiable demand for freshwater is the effects that variable environmental conditions of a warming climate, changing precipitation, and increasing frequency and severity of droughts have on over-taxed water supplies.

While water resource managers contemplate these issues, the farms and cities keep consuming, despite dwindling supplies. The 2016 meeting of the Society for Freshwater Science will be held in Sacramento California at a time when the State is experiencing the worst drought in its modern history. Although droughts are not uncommon in the Western US and other semi-arid regions of the world, expanding human populations have accelerated the loss of freshwater resources and the impacts to aquatic organisms. The theme of the 2016 meeting of the Society for Freshwater Science will focus on declining freshwater availability and explore issues of freshwater depletion, the consequences for freshwater ecosystems, and potential solutions.
The 21st century will be a time of choices for the world’s freshwater ecosystems. Human population and economic growth is on a path to greatly increase demands on freshwater resources, which are already unsustainably high in many parts of the world. Will we make good choices that satisfy human needs while sustaining high levels of biodiversity and ecosystem function? Or will we continue to degrade freshwater ecosystems while failing to provide adequate water to the world’s poor? How will freshwater science contribute to the search for good solutions and their implementation?

As one of the world’s leading groups of freshwater scientists, the Society for Freshwater Science has chosen “Our Freshwater Futures” as the theme for its 2015 annual meeting in Milwaukee. Plenary sessions will feature leading freshwater scientists giving their insights into the problems that freshwater ecosystems and human societies are facing, and every special session will include a talk that envisions future directions for the field covered by the special session. We invite you to join us on the shores of Lake Michigan as SFS considers the future of the world’s fresh waters.

ABOUT THE 2015 MEETING LOGO
The 2015 SFS meeting logo features a Hine’s Emerald dragonfly (Somatochlora hineana), a federally-endangered species whose largest breeding population is in Door County, Wisconsin. The “venation” patterns on three of the dragonfly’s wings represent the three major freshwater habitats: riverine (a stream network), lacustrine (a bathymetric map), and palustrine (the USGS map symbol for wetlands). The final dragonfly wing contains the Milwaukee skyline, portraying both the location of the 2015 meeting and the potential future of increasing urbanized influences on freshwater systems. The meeting logo was designed by SFS member and Wisconsin resident Gina Laliberti.