
SCHOLAR ADVENTURERS SERIES: Spring 2023

Each SAS must be registered for prior to the program. For the SAS programs including food (indicated by *), please register early and be sure to notify us if your plans change so that we will know how much to order. To receive credit for any virtual SAS, students must submit a paragraph response to a prompt after the program attended.

***1. HARVESTING WATER VAPOR: INCREASING FRESHWATER SUPPLY TO SUSTAINABLY ADDRESS GLOBAL WATER SECURITY AT SCALE**

Praveen Kumar	Monday, February 20, 2023
Executive Director, Prairie Research Institute	5:15 – 6:30 p.m.
Colonel Harry F. and Frankie M. Lovell Endowed	166 Bevier Hall, 905 South Goodwin, Urbana, IL
Professor of Civil and Environmental Engineering	

The atmosphere above the oceans proximal to the land can yield substantial freshwater, sufficient to support large population centers across the globe, using appropriately engineered structures. Due to the practically limitless supply of water vapor from the oceans, this approach is sustainable under climate change and can transform our ability to address present and future water security concerns, particularly in arid and semi-arid areas. This approach is envisioned to be transformative in establishing a mechanism for sustainably providing freshwater security to the present and future generations that is economically viable.

Professor Praveen Kumar's research deals with Hydrocomplexity, the quantitative understanding and prediction of emergent patterns of form and function that arise from complex non-linear multi-scale interactions between soil, water, climate, vegetation and human systems; and how this understanding can be used for innovative solutions to water and sustainability challenges. He has made extensive, deep and signature contributions pertaining to Critical Zone science for intensively managed landscapes, biosphere-hydrosphere interactions, multi-scale variability of hydrologic processes, hydro-geomorphology, hydroinformatics, and information theory in geosciences. His research has been funded by federal agencies such as NSF, NASA, and NOAA. Prior to joining the UI, he worked as a Research Scientist at the Universities Space Research Association (USRA) and Hydrologic Sciences Branch, NASA- Goddard Space Flight Center.

***2. WHY CAN POLITICIANS LIE (IN ADVERTISING?), BUT CHEESEBURGERS CAN'T?**

Michelle Nelson, Professor	Monday, February 27, 2023
Advertising and Institute of Communications Research	5:15 – 6:30 p.m.
	166 Bevier Hall, 905 South Goodwin, Urbana, IL

What do you know about political advertising? What's the difference between political advertising and commercial advertising? And why should you care? In this interactive session, you'll learn the unique ways in which political advertising is funded, disseminated, and regulated in the United States and how this may impact the information you receive and the decisions you make in the voting booth.

Michelle R. Nelson is a Professor in the Department of Advertising /Institute of Communications Research in the College of Media. She is an expert in media /advertising literacy and persuasion knowledge, including about political advertising. She has published 70+ articles in journals such as *Journal of Advertising*, *New Media and Society*, *Journal of Consumer Psychology*, and *Journal of Consumer Policy*. Her research interests also include new technology and persuasion (e.g., game advertising, Metaverse, VR).

***3. INDIGENOUS ACTIVISM AND ENVIRONMENTAL JUSTICE**

Rosalyn LaPier, Professor	Monday, March 6, 2023
Department of History	5:15 – 6:30 p.m.
	166 Bevier Hall, 905 South Goodwin, Urbana, IL

Indigenous activists, primarily women and Two Spirit peoples, have organized hundreds of marches, rallies, and acts of resistance opposing environmental injustice, racism, and the climate crisis in the past 20 years. On the surface these actions appear to mirror those of the mainstream environmental movement. But something more is occurring. Indigenous environmental protests also become places of ritual, prayer, song, dance, and even pilgrimage. Indigenous activists do not view themselves as protesters but as protectors and healers of the Earth.

Rosalyn LaPier, is an award winning Indigenous writer, environmental historian, and ethnobotanist. She works within Indigenous communities to revitalize traditional ecological knowledge (TEK), to address the growing climate crisis & environmental justice, and to strengthen public policy for Indigenous languages. She is the author of *Invisible Reality: Storytellers, Storytakers and the Supernatural World of the Blackfeet*, and she is a Research Associate at the National Museum of Natural History, Smithsonian Institution. Rosalyn is an enrolled member of the Blackfeet Tribe of Montana and Métis.

4A. TEA CEREMONY AT JAPAN HOUSE

Jennifer Gunji-Ballsrud Director, Japan House, and Associate Professor	Wednesday, March 22, 2023 4:50 – 5:50 p.m.
Kimiko Gunji Emeritus Director, Japan House	Meet at Japan House, 2000 South Lincoln, Urbana by 4:50 p.m.
Lindsey Stirek, Assistant Director of Academic Programming and Teaching Assistant Professor	

Through the study of Japanese aesthetics and traditional arts, Japan House, which was built particularly around the time-honored art form of *Chado*, the Way of Tea, provides an essential opportunity for students to gain a deeper sensitivity towards diverse cultures. Come visit this special place to experience a traditional Japanese tea ceremony in a traditional setting. *Chado*, the Way of Tea, is one of the most revered arts of Japan, and incorporates many other Japanese arts, providing a glimpse into the richness of Japanese aesthetics. During the ceremony you will be served a bowl of *matcha* tea and a Japanese sweet. You will have a brief tour of Japan House before the tea ceremony.

[Wear something that you'll be comfortable in while kneeling or sitting on the tatami mats, avoiding short skirts or shorts; and bring white socks, which symbolize purity (Japan House has some to borrow if needed).]

Jennifer Gunji-Ballsrud, Kimiko Gunji, and Lindsey Stirek will present this special tea ceremony. Jennifer Gunji-Ballsrud is the Director of Japan House and teaches for CHP. Professor Kimiko Gunji, Emeritus Director of Japan House, taught for the CHP and led Chancellor's Scholars on Intercultural Study Tours to Japan many times. Dr. Lindsey Stirek is a CHP alum who has studied tea with Professor Gunji for over a decade; they are now the Assistant Director of Academic Programming at Japan House, and teach classes on manga, anime, and other Japanese arts.

****Note: this SAS will be limited to the first 15 confirmed registrants, and is offered for students who have not taken the CHP Japanese Arts and Culture class.****

4B. TEA CEREMONY AT JAPAN HOUSE

Jennifer Gunji-Ballsrud Director, Japan House, and Associate Professor	Wednesday, March 22, 2023 5:50 – 6:50 p.m.
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***5A. INTRODUCTION TO NATIONALLY COMPETITIVE SCHOLARSHIPS: FOR STUDENTS GRADUATING AFTER AUGUST 2024**

David Schug, Director	Thursday, March 23, 2023
National and International Scholarships (NIS)	5:00 – 5:50 p.m.
Nicole Nowbahar, Assistant Director, NIS	212 Honors House
Chancellor's Scholar/s (TBA)	

The National and International Scholarships Program <http://www.topscholars.illinois.edu/> serves high achievers from all colleges and majors by encouraging and assisting students in applying for prestigious scholarships. Many Chancellor's Scholars have utilized this campus resource. Students may apply for some scholarships as early as their sophomore year. While many other awards are for study, work, or research after graduation, the time to start planning for these applications is now. The session will outline a variety of awards for future academics, environmentalists, public servants, activists, teachers, and leaders from any conceivable field; and provide tips on how to prepare for these opportunities while making the most of a student's time at the University of Illinois.

Note: Students who attended a Scholarships presentation in a previous semester may attend this SAS, but will not receive additional SAS credit; however, if a student is a presenter at this SAS and was not a presenter previously, he or she will receive SAS credit.

***5B. APPLYING FOR NATIONALLY COMPETITIVE SCHOLARSHIPS NOW: FOR STUDENTS GRADUATING BEFORE AUGUST 2024**

David Schug, Director	Thursday, March 23, 2023
National and International Scholarships (NIS)	6:00 – 6:50 p.m.
Nicole Nowbahar, Assistant Director, NIS	212 Honors House
Chancellor's Scholar/s (TBA)	

The National and International Scholarships Program <http://www.topscholars.illinois.edu/> serves high achievers from all colleges and majors by assisting students in applying for prestigious scholarships. Many Chancellor's Scholars have competed favorably in these competitions, and others have used their applications as a foundation to apply successfully for other opportunities. The session will outline a variety of awards, such as the Fulbright and Rhodes, and provide tips on creating competitive applications.

Note: Students who attended a Scholarships presentation in a previous semester may attend this SAS, but will not receive additional SAS credit; however, if a student is a presenter at this SAS and was not a presenter previously, he or she will receive SAS credit.

***6. THE PHYSICS OF BASEBALL**

Alan Nathan	Thursday, March 30
Professor Emeritus, Physics	5:15 – 6:30 p.m.
	132 Bevier Hall, 905 South Goodwin, Urbana, IL

It's the start of the Major League Baseball season! We will learn more about the dynamics of the collision between the ball and bat and the aerodynamics of a baseball in flight – including new technologies that enable the study of these topics with unprecedented precision.

Alan Nathan has been engaged in this baseball research for over two decades, and he is regularly consulted about this work by national organizations. Professor Nathan has served on the editorial board of the journal *Sports Engineering* and has served on panels advising Major League Baseball, the Amateur Softball Association, the NCAA, and USA Baseball. His previous research focused on the field of intermediate energy nuclear physics, particularly the study of the quark structure of the nucleon, using the Compton scattering reaction as a probe.

***7. THE SCIENCE OF EDUCATIONAL VIDEO GAME DESIGN**

H. Chad Lane
Associate Professor, Educational Psychology,
Curriculum and Instruction, and Computer Science

Tuesday, April 4, 2023
5:15 – 6:30 p.m.
132 Bevier Hall, 905 South Goodwin, Urbana, IL

You have probably played some educational video games at some point during your life as a student. And the odds are that the games you played were not all that impressive. What can we learn from entertainment games to make educational games better? What do we know about effective educational video game design? How can we do research to investigate both the design and effectiveness of educational games? In this talk I will summarize research on these questions and discuss the use of games for learning from a learning sciences perspective. I will address the interplay of cognitive and affective (i.e., emotional) aspects of learning and describe various approaches to engineering engaging and memorable game-based learning experiences. I will conclude with a summary of work in my lab to leverage the popular game Minecraft for science learning in middle school children.

H. Chad Lane's research explores the application of AI and entertainment technologies to improve learning experiences with technology. This work involves blending techniques from the entertainment industry (that foster engagement) with those from artificial intelligence and intelligent tutoring systems (that promote learning), as well as running studies to better understand whether and how the resulting learning experiences impact learners. In addition to his teaching and research, H. Chad Lane serves as Associate Chair of the Department of Educational Psychology.

***8. WHY SAYING 'THANK YOU' MATTERS MORE THAN YOU THINK: GRATITUDE IN INTERPERSONAL RELATIONSHIPS**

Allen Barton
Assistant Professor and Extension Specialist
Human Development and Family Studies

Thursday, April 13, 2023
5:15 – 6:30 p.m.
132 Bevier Hall, 905 South Goodwin, Urbana, IL

What factors allow individuals to form and maintain healthy relationships? In response to this long-standing research question, Dr. Barton will highlight the importance of gratitude – particularly perceived gratitude - as an important, yet largely understudied, key ingredient for successful relationships. Findings will highlight the importance of gratitude across a range of relationship types, including between romantic partners, parents and children, work colleagues, and friends.

Dr. Barton is an Assistant Professor & Extension Specialist in Human Development & Family Studies. His research program focuses on identifying novel and effective ways to promote the health and well-being of individuals and families. Dr. Barton's basic research examines risk and protective processes within families that affect individuals' health, substance use, and relational well-being, and his applied research focuses on developing and evaluating family-centered prevention programs. Dr. Barton is a proud Illinois alum, completing undergraduate and master's degrees in Engineering. He received his PhD in Human Development & Family Science at the University of Georgia.

***9. THE CONSILIENCE OF MUSIC AND TECHNOLOGY IN UNDERSTANDING THE VALUE OF INDIGENOUS KNOWLEDGE**

Bernhard Scully, Associate Professor of Horn
Ann-Perry Witmer, Senior Research Scientist
Illinois Applied Research Institute
Jessica Mingee, PhD student, Engineering and Music

Monday, April 17, 2023
5:15 – 6:30 p.m.
166 Bevier Hall, 905 South Goodwin, Urbana, IL

Senior Research Scientist Ann-Perry Witmer, Associate Professor of Horn Bernhard Scully, and graduate student Jessica Mingee joined together in 2022 to explore the value of indigenous knowledge that is overlooked in Western traditions of music and technology. After spending time last spring among the Aymara people of Bolivia, the trio traveled to Sierra Leone in December to interact with and learn from the many tribes and traditions that spread across the African nation. The act of exploring disparate disciplines of music and technology has allowed the scholars to enhance their own skills and knowledge by exploring the complex conditions that have left indigenous traditions disregarded by Western performers and practitioners. The analogies that music and technology provide to each other uncover the way Westerners regard – often with disdain – the rich knowledge, artistry, and musicality that flourish in non-industrialized societies.

Ann Witmer is lead of the Contextual Innovation and Practice research group at the Illinois Applied Research Institute and a lecturer in Agricultural and Biological Engineering, where she heads the Contextual Engineering Research Group.

International horn soloist, Bernhard Scully, is currently the Associate Professor of horn at the University of Illinois. During the summer he is the Artistic Director of Cormont Music, the Kendall Betts Horn Camp, and a member of the North Country Chamber Players. He was the long-time horn player of the Canadian Brass and former principal horn of the Saint Paul Chamber Orchestra.

Jessica Mingee is a first year PhD student in Agricultural and Biological Engineering at the University. She is a researcher in the Contextual Engineering Research Group under Dr. Ann-Perry Witmer, and is also a musician studying with Bernhard Scully on French horn.

Thanks to Chancellor's Scholar Alejandro Pulido for proposing this topic for an SAS.

***10: ENGINEERING “MINI BRAINS” TO STUDY NEURAL DEVELOPMENT, INJURY, AND DISEASE**

Caroline Cvetkovic
Teaching Professor, Bioengineering

Thursday, April 20, 2023
5:15 – 6:30 p.m.
132 Bevier Hall, 905 South Goodwin, Urbana, IL

The human brain is a highly developed and complex organ. Traditional experimental techniques such as animal models and 2D cultures are limited in their ability to represent the function and structure of a human brain. Organoids are 3-dimensional structures grown from stem cells that can resemble structural, functional, and genetic features of the tissues that they mimic. Recently, there has been an interest in using lab-grown neural organoids (or “mini brains”) to model and study neurodegenerative disease and injury. In this SAS, we’ll cover recent advancements in the field as well as challenges and implications on human health, and finally, discuss ethical concerns about this type of research.

Caroline Cvetkovic is a Teaching Professor in the Department of Bioengineering. She received her BS (2011), MS (2013), and PhD (2017) from the University of Illinois at Urbana-Champaign (and is also an alumna of the Campus Honors Program)! Recently, she completed a postdoctoral fellowship at the Houston Methodist Research Institute in the Center for Neuroregeneration before returning to Illinois. Her research interests include 3D printing, neuroengineering, tissue engineering, and regenerative medicine. She is also interested in communication of technical research to non-STEM majors.

11. SMITH MEMORIAL HALL TOUR – MUSIC AND HISTORY

Dennis Craig, Campus Historic Preservation Officer

Friday, April 21, 2023
3:00 - 4:15 p.m.
805 S. Mathews, Urbana
Meet at front/east doors

The cornerstone of the Tina Weedon Smith Memorial Building was laid on November 9, 1917 by Captain Thomas J. Smith in honor of his wife. Designed in the Beaux Arts style, it houses a large performance and recital hall, the acoustics of which are very precisely controlled to account for an audience. Smith Memorial Hall was the first building at the University of Illinois to be fully funded by private donations, and it was added to the National Register of Historic Places in 1996.

Dennis Craig, three-degree Illinois alumnus who is also a Bronze Tablet honoree, left the private sector as an architect to become the UI's Campus Historic Preservation Officer. When he's not managing projects to ensure the UI is compliant with the National Historic Preservation Act, he's responding to inquiries like the one from a granddaughter of a contractor on the Mumford House or a woman whose great uncle carved one of the statues at Memorial Stadium. And of course, he's the go-to person whenever a newly unearthed time capsule is discovered. (He thinks there are at least twenty or thirty still buried around campus.)

****NOTE: For logistical reasons, this SAS will be limited to the first 25 confirmed registrants.****

***12. UNDERGRADUATE RESEARCH SYMPOSIUM (URS) PRESENTATIONS and CHP SYMPOSIUM ON UNDERGRADUATE RESEARCH XXXII**

Chancellor's Scholars	Tuesday, April 25, 2023
who have been accepted to present at the 2023 URS	5:10 – 6:50 p.m.
and CHP's 2022 Summer Research grant recipients	212 Honors House

You are invited to learn more about other Chancellor's Scholars' research! Come hear other Chancellor's Scholars before they present at the Undergraduate Research Symposium (which all students are welcome to attend, and will take place virtually from April 27, 2023, more info in a future CHP NewsBytes).

Note: Students who attended the URS presentation in a previous semester may attend this SAS, but will not receive additional SAS credit; however, if a student is a presenter at this SAS and was not a presenter previously, he or she will receive SAS credit.