What I wish I had known when I was a Sophomore...

The inside scoop on seminars and other helpful tips

Dr. Sharifa Love-Rutledge
2/8/2019
Ice Breaker-Who is my neighbor?

• On the note card that was given to you when you entered write down your neighbor’s responses to the following questions

• What is your name?
• What is your major?
• What is your classification?
• What is something you want to learn from this workshop?
Who am I?

• Dr. Sharifa Love-Rutledge
• Assistant Professor in the Chemistry Department

• I teach General Chemistry and General Biochemistry

• My lab studies type 1 diabetes, aging, and insulin resistance.

• Yes, I am a faculty member, but I am also a human. I enjoy mentoring aspiring chemists and biomedical researchers.

My email address is Sharifa.Love-Rutledge@uah.edu
What is a seminar?

An organized meeting of individuals focused on original research to facilitate the exchange of knowledge that ends with a question and answer period.
Who gives seminars?

• Faculty/research scientists from UAH
• Students
• Guests from outside the institution
  • Faculty/Researchers from other Universities
  • Research Scientists from Industry
  • Research Scientists from Government

BIOLOGICAL SCIENCES SEMINAR
Shelby Center for Science and Technology Room 109
Friday, February 1, 2019 12:00 p.m. - 1:00 p.m.

Blending Science, Education and Business in Structural Biology

Dr. Joseph D. Ng
Department of Biological Sciences
University of Alabama in Huntsville

Structural Biology is the study of macromolecular structure and function using the principles of molecular biology, biochemistry and biophysics. The science and techniques of X-ray and neutron crystallography have been used to decipher the molecular structure of macromolecules revealing their evolution and biological function. Our work has been focused on determining the three-dimensional structures and functions of extremophilic proteins. Our goal is to determine their molecular features that allow their host organisms to thrive in extreme environments. Discovering adaptive mechanisms in extremophiles may help us in modifying gene products to perform protein engineering that may have therapeutic potential and commercial value.
Did you know?

• Most departments on campus host seminars...
  • Departmental Seminars
  • Some on UAH Calendar

https://www.uah.edu/events
Did you know?

• Most departments on campus host seminars...
  • Departmental Seminars
    • Some on UAH Calendar
    • Some advertised by flyer in department building

AHMED LAWAN
DEPARTMENT OF PHARMACOLOGY
YALE UNIVERSITY SCHOOL OF MEDICINE

Systemic contributions of Liver and Skeletal Muscle to obesity and Fatty liver Disease

Nonalcoholic fatty liver disease (NAFLD) is a chronic liver disease that is characterized by excessive lipid accumulation within hepatocytes known as hepatic steatosis. The intracellular regulators and cellular pathways that contribute to the development of obesity-linked NAFLD have yet to be fully explained. More importantly, there is no pharmacological treatment approved for NAFLD. A better understanding of the pathogenesis of NAFLD would be helpful for developing novel therapeutic treatments for NAFLD. I propose that perturbations in the MAPK/MKP-1 balance in the liver and skeletal muscle contribute to the altered metabolic status associated with NAFLD. Using a new...
Did you know:
UAH Distinguished Lecture Series
Did you know:
Hudson Alpha offers a seminar series

HudsonAlpha Research Seminars

The HudsonAlpha Research Seminars bring together experts in genomics, genomics, biotechnology, bioinformatics, medicine and immunology for free, public presentations and debate among the scientific community. The seminars also provide valuable academic learning and discussion opportunities for scientists training in labs at HudsonAlpha and at the University of Alabama at Birmingham. Seminars are hosted by researchers at the HudsonAlpha Institute for Biotechnology from October through May.

Upcoming Research Seminars

For more information about HudsonAlpha Seminars, please contact Kathy Rader at krader@hudsonalpha.org.

February 13, 2019
Host: Greg Cooper, PhD
Dana C. Crawford, PhD
Associate Professor, Population and Quantitative Health Sciences
Case Western Reserve University
Assistant Director, Population and Diversity Research
Institute for Computational Biology
Cleveland, OH

February 20, 2019
Did you know: Alabama A & M has a yearly seminar series given by Nobel Laureates?
Do I have to prepare?

• Even if you haven’t prepared, the point of a seminar is to disseminate knowledge. Most talks begin with a broad introduction to help the audience understand why the researcher is pursuing the science.
  • So if you are interested go!

• Some of your basic preparation occurs on a daily basis by attending classes. Some topics will have its roots in the information that you are learning in class.

• No formal dress code but I would discourage pajamas; 😊 you want to make a good impression.
How should I prepare?

If the topic is something you have never heard of, you can look up the technique, topic, or speaker.
Example: Chemistry Seminar on 1/25/19

Department of Chemistry Seminar Series

Dr. Renã AS Robinson
Vanderbilt University

Comprehensive Proteomics and Lipidomics Strategies to Advance Alzheimer’s Disease Research

Friday, January 25, 2019
MSB 113, 2:00 pm
Department of Chemistry

Rená A. S. Robinson, associate professor of chemistry

Research

We are particularly interested in Alzheimer's disease and sepsis and how the periphery is involved in these disorders. Recently, we have become interested in using our technology to understand the molecular basis of health disparities in Alzheimer's disease and sepsis. These questions require high-throughput analytical methodology and we specialize in developing novel proteomics approaches involving mass spectrometry that are useful for analyzing complex biological tissues, increasing sample multiplexing capability, and studying oxidative post-translational modifications.

Proteomics Technology:

In order to adequately address problems about aging and disease using proteomics, high-throughput approaches are necessary. This is because investigating changes across many clinical samples, disease stages or aging endpoints, with treatment, or across tissues, etc. can take significant amounts of time. We are working to improve the throughput involved with quantitative proteomics methods with chemical tagging approaches. We have developed an enhanced multiplexing approach that combines precursor isotope labeling and isobaric tagging (iPLIFT) methods and frequently use different types of chemical labeling strategies in our application projects. Currently, we are working to 1) increase sample multiplexing capability for global peptide analysis and 2) develop selective quantitative methods for oxidative post-translational modifications such as S-nitrosylation, protein carbonylation, and cysteine oxidation.

Alzheimer's Disease and the Periphery:

Alzheimer's disease is a neurodegenerative disorder that devastates millions of aged persons. By 2050, ~15 million persons will suffer from Alzheimer's disease. There is currently no way to cure, delay, or prevent this disease. Many advances have been made that give us valuable insight about the role of the central nervous system in Alzheimer's disease. We believe that bodily systems outside of the central nervous system contribute significantly to disease pathogenesis and in fact could be initiators of Alzheimer's disease. We are using proteomics and other omics analyses of animal models and human tissues of Alzheimer's disease to identify potential biomarkers and therapeutic targets.
You can use the ORCID
Or a search engine
What should I do?

- Please don’t sleep in the seminar.
- Silence or turn off your cell phone.
- It is ok to take notes or even write down questions.
- It is ok to meet other audience members around you before/after the seminar.
- You can also take the time to introduce yourself to faculty within your department. This time is a great time to make a good impression as well as learn what types of research that are going on in their labs.
Are seminars only for academics?

• Seminars aren’t just for students interested in graduate school. Physicians and other health-related professionals will have to participate in Continuing Education courses and seminars.
What are additional benefits to attending seminars?

• Presentation skills are honed over time.

• Seminar is a great time to be inspired to the techniques utilized by the speakers to convey complex information.

• Alternatively, seminar is also a great time to learn what techniques not to use to convey complex information.
How do I ask questions?

• There often is a short window (10-15 minutes) after the seminar where you can ask the speaker questions
  • This can be approached in three ways
    1. Asking the question during the Q&A portion of the talk
    2. Approaching the speaker immediately after the seminar and Q & A portion closes to ask a question one on one.
    3. Email the speaker directly to ask your question
How do I ask questions? First option

1. Organize your thoughts, during the summary of the presentation
2. Wait until the Q & A period opens up.
3. Raise your hand and wait to be acknowledged by the moderator or presenter.
   a. In some instances, it may be a great idea to complement the seminar and state your name and classification.
4. Ask, but remember to project your voice to ensure that everyone in the room can hear you.
How do I ask questions? The Second option

• The approach the speaker option may be more difficult because you will probably one of many who wants the one on one interaction.
  • It is a valuable tool to begin to increase your network.
  • It should be reserved for speakers that you have a genuine interest in engaging with. Be strategic, clear, and concise. You are competing with others for the time.
How do I ask questions? The Third option

• I would encourage anyone who wants to pursue the third option to introduce themselves after the seminar so that the speaker can put a face with an email.
  • Although this option seems the safest, most speakers are inundated with emails.
  • The SSC has great advice on how to appropriately develop emails, and I would encourage you to watch the video.
How do I ask questions?

Speakers love undergraduate questions. A large portion of the speakers are faculty and are excited to engage with the next generation of scientists. We find the act of asking brave!

• Some speakers come with the thought of recruiting students for graduate programs or summer research opportunities. If you ask good questions, they will be impressed.
  • Sometimes the question you can ask in a one on one meeting is if they have summer research opportunities?
Quotes from faculty about questions

• I think an undergraduate questioning after listening to a seminar sends some signals:
  • Speaker is impressed that UG student is so much engaged in the talk, he/she will think highly of our students.
  • An instructor (like me) is impressed and am proud of our UG student.
  • It also reflects that we as teachers a doing such an excellent job of educating the students that they are confident in asking a question(s), and comprehending the subject matter.
  • This also shows to me that students are relating things they learn in class to a real research problem.
  –Dr. Mukherjee, Assistant Professor-Chemistry

• This one is my observation: When I give a talk to my department I always look forward questions from both grad and undergrad students because I know that the faculty will not help me resolving the problem, fresh eyes are always better :)
  –Dr. Cruz-Vera, Associate Professor-Biology
Quotes from faculty about questions

- They should attend, and they absolutely should ask questions. This is not only OK, it’s expected by the speakers. Students will certainly have LOTS of questions, so ask away. Speakers love questions and opportunity to talk more. There is sometimes the perception that questions need to be “deep” or “insightful.” Nonsense. Anything you don’t understand is a question.

- Your question may lead to a completely new research direction. So, please ask questions! (and I am too old to think of new research ideas on my own)

- Dr. Scholz, Professor-Chemistry

- Dr. Miller, Chair-Physics
How do I benefit from attending? (Audience participation)
<table>
<thead>
<tr>
<th>Date</th>
<th>Speaker</th>
<th>Affiliation</th>
<th>Seminar Title</th>
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<tbody>
<tr>
<td>Spring 2019</td>
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<td>01/09/2019</td>
<td>AMS Meeting</td>
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<td>01/16/2019</td>
<td>Graham Sherwood</td>
<td>Gulf of Maine Research Institute</td>
<td>Field notes from one of the most rapidly warming fishery ecosystems on the planet</td>
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<td>01/23/2019</td>
<td>Sarah Bang</td>
<td>NASA MSFC/NPP</td>
<td>Tropical Oceanic Thunderstorms: Evolution, Organization, and Electrification</td>
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<td>01/30/2019</td>
<td>Mike Newchurch</td>
<td>UAH</td>
<td>TOLNet and TEMPO: the Future of Air-Quality Measurement</td>
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<td>02/06/2019</td>
<td>Kelley Murphy</td>
<td>UAH</td>
<td>Assessing Lightning Risk in Vulnerable Outdoor Environment</td>
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<td>02/13/2019</td>
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<td>02/20/2019</td>
<td>Dr. Naiara Pinto</td>
<td>Jet Propulsion Laboratory</td>
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<td>02/27/2019</td>
<td>Dr. Bhaduri Bhudendra</td>
<td>Oak Ridge Nat'l Lab</td>
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<td>03/06/2019</td>
<td>Ian Chang</td>
<td>Oklahoma University</td>
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<td>03/13/2019</td>
<td>Dr. Yangyang Xu</td>
<td>Texas A&amp;M</td>
<td>aerosol pollution in the context of climate variability and change: attribution and impact</td>
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<td>03/27/2019</td>
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<td>04/03/2019</td>
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<td>04/17/2019</td>
<td>Students (4)</td>
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<td>Date</td>
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<td>01/18/2019</td>
<td>Seminar Expectation Discussion</td>
<td>Mukherjee, UAH</td>
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<td>01/25/2019</td>
<td>Renå A. S. Robinson</td>
<td>Vanderbilt University</td>
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<td>02/01/2018</td>
<td>Paul Russo (Host: Dr. Scholz)</td>
<td>Georgia Tech</td>
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<td>02/08/2018</td>
<td>Jesse Carrick (Host: Dr. Foster)</td>
<td>Tennessee Tech University</td>
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<td>02/15/2018</td>
<td>Anu Subramanian (Host: Dr. Foster)</td>
<td>UAH</td>
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<td>02/22/2018</td>
<td>Chengshan Wang (Host: Dr. Love-Rutledge)</td>
<td>MTSU</td>
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<td>03/01/2018</td>
<td>Russell Schmehl</td>
<td>Tulane University</td>
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<td>03/08/2018</td>
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<td>03/29/2018</td>
<td>Ivan Lomakin (Host: Dr. McFeeters)</td>
<td>Yale University</td>
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<td>04/05/2018</td>
<td>Shanlin Pan</td>
<td>UA</td>
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<td>04/12/2018</td>
<td>Davita Watkins (Host: Dr. Love-Rutledge)</td>
<td>University of Mississippi</td>
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<td>04/19/2018</td>
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<td>04/26/2018</td>
<td>Last class</td>
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Physics & Astronomy

Jan. 15:
Speaker: Dr. Chong Ge (UAH)
Time/Location: 2:50PM / OPB234-237
Host: Dr. Ming Sun

22:
Speaker: Mr. Rithvik Reddy Gutha (UAH)
Time/Location: 2:50PM / OPB234-237
Host: Dr. Seyed Sadeghi

24:
Speaker: Dr. Massimo Gaspari (Princeton)
Time/Location: 10:50AM / OPB234-237
Host: Dr. Ming Sun

29:
Speaker: Dr. Hao-Yi Wu (Ohio State University)
Time/Location: 2:50PM / OPB234-237
Host: Dr. Ming Sun

Jan. 31:
Speaker: Dr. Stephen Waalker (GSFC/NASA)
Time/Location: 10:50AM / OPB234-237
Host: Dr. Ming Sun

Feb. 5:
Speaker: Dr. Matthew Bayliss (MIT)
Time/Location: 2:50PM / OPB234-237
Host: Dr. Ming Sun

7:
Speaker: Dr. Hsiang-Yi Karen Yang (University of Maryland)
Time/Location: 10:50AM / OPB234-237
Host: Dr. Ming Sun

12: NO seminar because of special Thursday seminars

19: TBD

Feb. 26: TBD

Mar. 5:
Speaker: Dr. Peter Veres (UAH)
Time/Location: 2:50PM / OPB234-237
Host: Dr. Ming Sun

12: NO seminar because of special Thursday seminars

26: NO seminar because of special Thursday seminars

Apr. 2:
Speaker: Dr. Jeremy Bailin (UA)
Time/Location: 2:50PM / OPB234-237
Host: Dr. Ming Sun

16:
Speaker: Dr. Hayk Harutyunyan (Emory)
Time/Location: 2:50PM / OPB234-237
Host: Dr. Seyed Sadeghi
BIOLOGICAL SCIENCES SEMINAR
Shelby Center SST 301
Monday, February 11, 2019  11:00 PM

Mate choice and speciation in North American freshwater fishes

Tamra Mendelson
Professor and Associate Chair
Department of Biological Sciences
University of Maryland Baltimore County
The University of Alabama in Huntsville
Computer Science Department

Charles Fleming, Ph.D.
Xi'an Jiaotong-Liverpool University

Candidate for the Position of Assistant Professor of Computer Science

Monday, February 11, 2019
10:00 am - 11:00 am
OKT N302

**SemanticLock: An Authentication Method for Mobile Devices Using Semantically-linked Images**

**ABSTRACT:** In this talk I will introduce SemanticLock, a simple, fast, and memorable single-factor graphical authentication approach for mobile devices. SemanticLock uses a set of graphical images as password tokens to construct a semantically memorable story representing the user's password. While graphical passwords have been shown in some cases to have lower entropy than other password types, we avoid this problem by studying user preferences and selecting images that avoid any type of explicit or implicit bias, resulting in an effective password space that is essentially the same as the total password space. Results of a five-week user study comparing SemanticLock against other authentication systems show that SemanticLock outperforms or matches PIN and PATTERN in speed, user acceptance, security, usability and like-ability and is significantly more memorable.

**BIOGRAPHY:** Charles Fleming is an Associate Professor in the Department of Computer Science and Software Engineering at Xi'an Jiaotong-Liverpool University. He received his PhD in Computer Science from the University of California Los Angeles and a BS degree in Mathematics from the University of Southern Mississippi. His research interests include security and privacy, computer vision and machine learning, and the intersection of the two fields.
Securing Wearables through The Personal Fog

Abstract: Wearable computing devices have become ubiquitous, with fitness and health trackers, smart watches capable of making payments, and headsets tracking heart rate and providing real-time language translation. Wearables repeatedly collect data from their users and surroundings, transmitting that data back to their base station via Bluetooth. Sometimes this data is anonymized and sent to cloud servers for analysis and additional storage, though often the data is associated with a user when it is sent to the cloud. Unfortunately, wearables are open to attack vectors that most users are unaware of. Attack vectors such as eavesdropping, Man-in-the-Middle attacks, Denial of Service attacks, and phishing attacks are all possible. Worse, wearables can fall prey to these attacks without the user becoming aware of the situation. Because wearables are designed to be worn at all times, a user can unwittingly move from a secure to an insecure environment, increasing the security threat. The challenge to experimenting with attacks and potential mitigations on wearables is the proprietary restrictions on consumer wearables.

In this talk, I discuss research to design, implement, and evaluate an architecture and application for securing wearables. The creation of the personal fog architecture provides additional power to the wearables at the network edge, allowing them to make decisions about their own security state. Experimentation is performed using a developed testbed of Raspberry Fogs that simulate near-future wearables and their base stations in a social setting. I illustrate wearable attack vectors and describe how an application created for use by wearables in the personal fog architecture provides security and social awareness. An approach to automatic evaluation and verification of the wearable user is shown using a shared data method based on the personal fog architecture.

Bio: Dr. Charles Walter is a post-doctoral researcher at The University of Tulsa. He received his PhD from The University of Tulsa in 2018. His research interests include wearable security, fog computing, cybersecurity, self-adaptive systems, human trust in code, software engineering, computer science education, robotics, and Augmented and Virtual Reality.
Panel

• During this time if you have a question feel free to raise your hand and ask or you can write it on a piece of paper and pass it to the end of your row.
Audience participation

• What are some of your barriers to participating in seminar?

• What would you need to feel comfortable attending?
What’s next?

Now that you have learned about attending seminars, keep an eye out for the upcoming workshop on “Speaking your science”