



Ohio Supercomputer Center

# SUG

## Statewide Users Group

Spring Conference  
April 5, 2018



**Ohio Supercomputer Center**

An **OH·TECH** Consortium Member

# Agenda

## Thursday, April 5

9:00–10:00 am	Hardware Committee Software Committee	BALE Conference Room Polar Conference Room
10:00–11:00 am	Breakout Sessions: SOCC Tour Big Data On-Campus Champions Open OnDemand and App Development	SOCC BALE Conference Room Polar Conference Room Csur Conference Room
11:00–11:45 am	Keynote Address: Andrew Siegel	BALE Theater
<b>11:45 am–12:00 pm</b>	<b>Lunch Pick-up</b>	<b>BALE Lobby</b>
12:00–1:00 pm	OSC Presentation (food welcome)	BALE Theater
1:00–1:50 pm	Flash Talk Session 1	BALE Theater
2:00–2:50 pm	Flash Talk Session 2	BALE Theater
2:50–3:00 pm	Break	
3:00–4:45 pm	Poster Session, Hors d'Oeuvres, Networking	BALE Lobby
<b>4:45 pm</b>	<b>Poster and Flash Talk Winner Announcement</b>	<b>BALE Theater</b>

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## Flash Talks

1. Investigating Ultraintense Laser Ion Acceleration Regimes With 3D Particle-In-Cell Simulations  
Ginny Cochran | The Ohio State University
  2. Role of vibrational modes in the photochemistry of vision  
Xuchun Yang | Bowling Green State University
  3. Unsupervised Depth-bounded Grammar Induction Model for PCFG with Inside-sampling  
Lifeng Jin | The Ohio State University
  4. Modeling and Simulation of complex materials  
Bishal Bhattarai | Ohio University
  5. Impacts of cardiomyopathy mutations on dynamics of cardiac troponin C  
Jacob Bowman | The Ohio State University
  6. Computational modeling of the glucose detection  
Sajjad Afroosheh | Bowling Green State University
  7. Viral population dynamics in two freshwater lakes  
Ann Gregory | The Ohio State University
  8. Stochastic GW for Band Gap Calculation in Large Systems  
Christopher Arntsen | Youngstown State University
  9. The role of HPC in the radio-detection of astrophysical neutrinos  
Jorge Torres | The Ohio State University
  10. Strain and point defects in MnSe<sub>2</sub> ferromagnetic monolayers  
Tomas Rojas Solorzano | Ohio University
  11. A "Tug of War" Maintains a Dynamic Protein Complex at Anionic Membranes  
Zhenlu Li | Case Western Reserve University
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# Keynote Address

Andrew Siegel

**Director, Application Development**

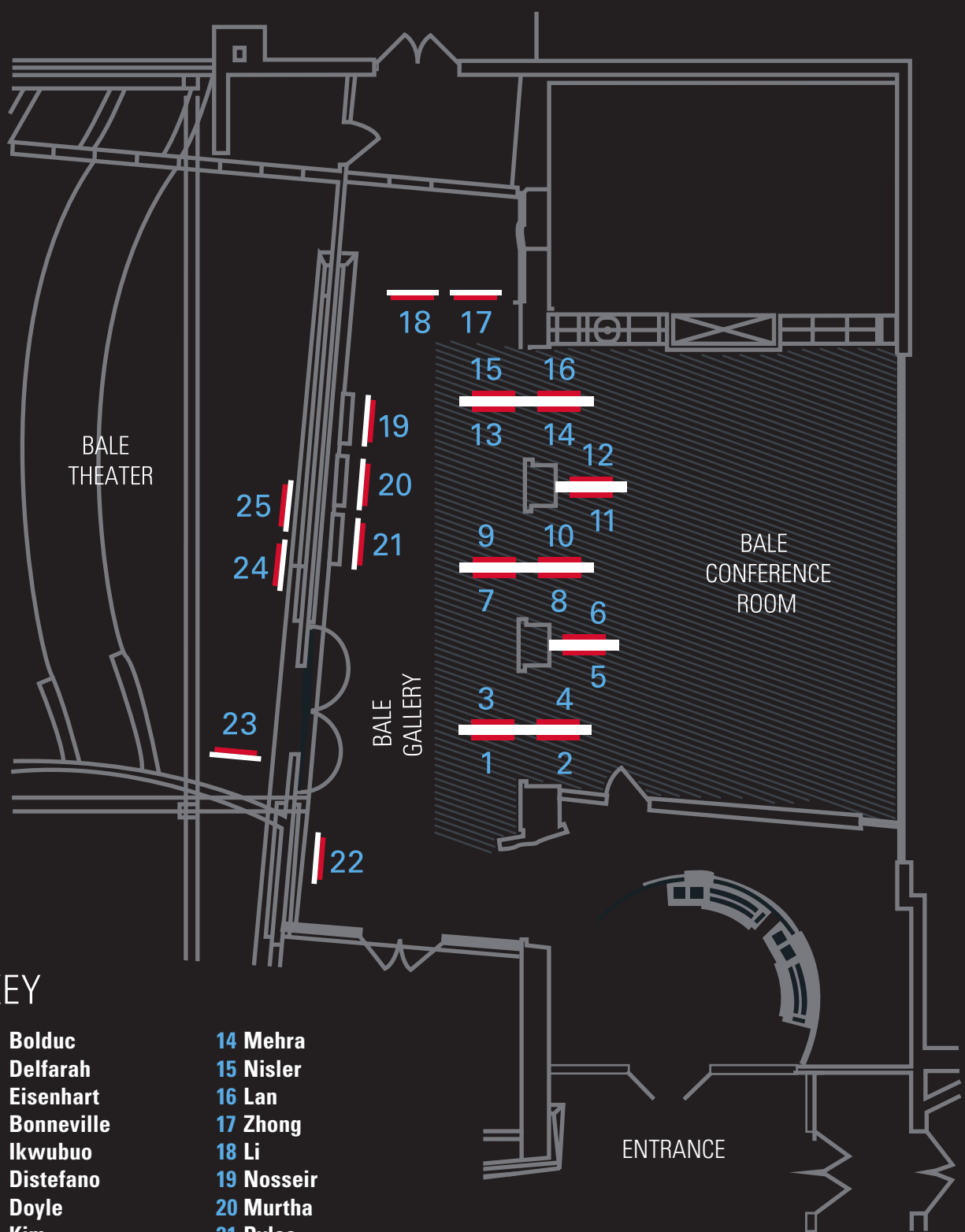
*Argonne National Laboratory*

Andrew Siegel is a senior scientist at Argonne National Laboratory, with appointments in both the Mathematics/Computer Science and Nuclear Engineering divisions. For the past decade, he has led Argonne's program in advanced reactor modeling and simulation. His research has focused on developing improved methods to model the physics of advanced reactors, including mixing, neutron/fluid coupling, and innovative computational approaches to stochastic methods for neutron transport.

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## Posters

- Towards Microbiome Informatics at the OSC**  
Ben Bolduc | The Ohio State University
- Recurrent Neural Networks for Cochannel Speech Separation in Reverberant Environments**  
Masood Delfarah | The Ohio State University
- The Effect of Ions on the Local Structure of Organic Solvents**  
Andrew Eisenhart | University of Cincinnati
- Assessment of tumor heterogeneity in metastatic small cell lung cancer through rapid research autopsy**  
Russell Bonneville | The Ohio State University
- Numerical Simulation of 3-D Printed Surface and Resulting Film Cooling Effectiveness**  
Melvin-Eddy Ikwubuo | Miami University
- miREpiC: miRNA Editing Profiling in Cancer**  
Rosario Distefano | The Ohio State University
- Ion Solvation and Interfacial Potentials: A Multipolar Analysis**  
Carrie Doyle | University of Cincinnati
- Incorporating computational fluid dynamics into the study of fractionation of aged red blood cells**  
James Kim | The Ohio State University
- Multi-Trace Surface Integral Equation With Hyper-singular Kernel for Solving Electromagnetic Wave Scattering from Penetrable Tar**  
Chung Hyun Lee | The Ohio State University
- Virally Mediated Nitrogen Cycling in Oxygen Minimum Zones**  
Consuelo Gazitua | The Ohio State University
- Parallelization of an optimized DNA motif analysis pipeline, with applications to the genomes of multiple species**  
Yichao Li | Ohio University
- Mechanism of electrochemical ammonia synthesis: a study of adsorption energies using Density Functional Theory**  
Esther Grossman | Ohio University
- vConTACT 2.0: enabling enhancing large scale, network-based automated prokaryotic virus classification**  
Ho Bin Jang | The Ohio State University
- Fluid-Structure Interaction Simulation for Upper Airway Collapse due to Obstructive Sleep Apnea**  
Puneet Mehra | University of Cincinnati
- Computational Studies of the Evolutionary Biophysics of Cadherins**  
Collin Nisler | The Ohio State University
- A Continuously Growing Dataset of Sentential Paraphrases**  
Wuwei Lan | The Ohio State University
- Viral ecology across three extreme environments in Barrow, Alaska**  
ZhiPing Zhong | The Ohio State University
- Modeling Corrosion Phenomena with High Performance Computing: A First Principles Approach**  
Sirui Li | The Ohio State University
- Design of a New Class of Compounds for the Resurrection of Aged Acetylcholinesterase**  
Ola Nosseir | The Ohio State University
- Understanding the effect of ion content on adhesion of ionomer films using coarse grained molecular dynamics simulations**  
Patrick Murtha | The Ohio State University
- Computational studies of novel 2D-materials: PbS nanosheets**  
Christopher Pyles | Bowling Green State University
- Simulation of Transient Warm Dense Matter Formed during Ultrashort Laser Pulse Induced Damage using the Particle in Cell Method**  
Alex Russell | The Ohio State University
- College Admission in Three Chinese Provinces: Boston Mechanism vs. Deferred Acceptance Mechanism**  
Yun Pu | The Ohio State University
- Enhanced Diffusion in an MgO Grain Boundary Through Molecular Dynamics Simulations**  
Adriaan Riet | Case Western Reserve University
- Computational modeling of elastoviscoplastic suspension flows**  
Mohammad Sarabian | Ohio University



**KEY**

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|--------------|-------------|
| 1 Bolduc     | 14 Mehra    |
| 2 Delfarah   | 15 Nisler   |
| 3 Eisenhart  | 16 Lan      |
| 4 Bonneville | 17 Zhong    |
| 5 Ikwubuo    | 18 Li       |
| 6 Distefano  | 19 Nosseir  |
| 7 Doyle      | 20 Murtha   |
| 8 Kim        | 21 Pyles    |
| 9 Lee        | 22 Russell  |
| 10 Gazitua   | 23 Pu       |
| 11 Li        | 24 Riet     |
| 12 Grossman  | 25 Sarabian |
| 13 Jang      |             |