Student and Postdoc Organized Events at the 2015 EFRC PI Meeting

Social Events

Students and Postdoctoral Researchers Only

Classical Concert at the National Gallery of Art and Dinner (Page 3)
Sunday, October 25, 2015, 2:30 – 7:30 PM

Energy Frontier Research Centers Trivia Night (Page 5)
Monday, October 26, 2015, 6:30 – 7:30 PM; Exhibit Hall C, Lincoln 5

Learn at Lunch Sessions

Open to All

Scientific Communication in the Age of Social Media (Page 6)
Monday, October 26, 2015, 12:00 – 1:00 PM; Exhibit Hall C, Lincoln 5

- **Marshall Brennan**, Graduate Student at University of Illinois
- **Bethany Brookshire**, Science education writer at Science News
- **Yury Gogotsi**, Professor at Drexel University and member of the FIRST EFRC
- **Eric Schulze**, Molecular biologist and host of 'Ask Smithsonian Online'

Career Panel (Page 8)
Monday, October 26, 2015, 12:00 – 1:00 PM; Exhibit Hall C, Lincoln 6

- **Kumar Challa**, Managing Director IMASC EFRC, Harvard University
- **Robin Hayes**, Program Manager, Department of Energy, Basic Energy Sciences
- **Alex Martinson**, Principle Investigator and Chemist, Argonne National Laboratory
- **Maureen McCann**, Professor of Biological Sciences at Purdue University and Director of the C3Bio EFRC
- **Hunter McDaniel**, CEO and Founder of UbiQD LLC, former member of the CASP EFRC

EFRCs and Industry: Experiences, Challenges and OPPORTUNITIES (Page 10)
Tuesday, October 27, 2015, 12:20 – 1:20 PM; Exhibit Hall C, Lincoln 5

- **Dionisios Vlachos**, Professor at the University of Delaware and Director of the CCEI EFRC
- **Mahdi Abu-Omar**, Professor at Purdue University and Associate Director of the C3Bio EFRC
- **Tobin Marks**, Professor at Northwestern University and member of the ANSER and CEES EFRCs
- **Ted Calverley**, Fellow at Dow Chemical and member of the ICDC EFRC

Science Policy Panel (Page 12)
Tuesday, October 27, 2015, 12:20 – 1:20 PM; Exhibit Hall C, Lincoln 6

- **Diana Bauer**, Director, Office of Energy Systems Analysis and Integration at DOE Office of Energy Policy and Systems Analysis (EPSA)
- **Paul Doucette**, Executive Director of Government Relations at Battelle
- **Matt Hourihan**, Director of the R&D Budget and Policy Program at the American Association for the Advancement of Science (AAAS)

COMMITTEE MEMBERS

Each EFRC was invited to nominate a student or postdoc to an EFRC-wide committee that would plan events for early career scientists at the 2015 EFRC PI Meeting.

Katie Van Aken	Drexel University	Fluid Interface Reactions, Structures and Transport Center (FIRST)
Laurent Beland	Oak Ridge National Laboratory	Energy Dissipation to Defect Evolution (EDDE)
David Bierman	Massachusetts Institute of Technology	Solid-State Solar-Thermal Energy Conversion Center (S^3TEC)
Hayden Black	Georgia Tech	Center for Solar Fuels (UNC)
Kirsten Chojnicki	Sandia National Laboratories	Center for Frontiers of Subsurface Energy Security (CFSES)
Laura Fernandez	University of Minnesota	Inorganometallic Catalyst Design Center (ICDC)
Andrew Fidler	Los Alamos National Laboratory	Center for Advanced Solar Photophysics (CASP)
Khim Karki	Brookhaven National Laboratory	NorthEast Center for Chemical Energy Storage (NECCES)
Sarah Kiemle	Penn State	Center for Lignocellulose Structure and Formation (CLSF)
Karen Kihlstrom	Argonne National Laboratory	Center for Emergent Superconductivity (CES)
Molly Koehle	University of Delaware	Catalysis Center for Energy Innovation (CCEI)
Mya Le	University of California, Irvine	Nanostructures for Electrical Energy Storage (NEES)
Rebecca Lindquist	Northwestern University	Argonne-Northwestern Solar Energy Research Center (ANSER)
Haylie Lobeck	University of Notre Dame	Materials Science of Actinides (MSA)
Cara Lubner	National Renewable Energy Laboratory	Center for Biological Electron Transfer and Catalysis (BETCy)
Charles Monson	University of Illinois at Urbana-Champaign	Center for Geologic Storage of CO_2 ($GSCO_2$)
Priya Murria	Purdue University	Center for Direct Catalytic Conversion of Biomass to Biofuels (C3Bio)
Bruno G. Nicolau	University of Illinois at Urbana-Champaign	Center for Electrochemical Energy Science (CEES)
Michael Pegis	Yale	Center for Molecular Electrocatalysis (CME)
Parthiban Santhanan	Stanford	Light-Material Interactions in Energy Conversion (LMI)
Sally Tracy	Caltech	Energy Frontier Research in Extreme Environments (EFree)
Pramey Upadhyaya	University of California Los Angeles	Spins and Heat in Nanoscale Electronic Systems (SHINES)
Matt Wolak	Temple University	Center for the Computational Design of Functional Layered Materials (CCDM)
Branko Zugic	Harvard University	Integrated Mesoscale Architectures for Sustainable Catalysis (IMASC)

CLASSICAL CONCERT AT THE NATIONAL GALLERY OF ART AND DINNER

Sunday, October 25, 2015, 2:30 – 7:30 PM
Students and Postdoctoral Researchers Only

COMMITTEE MEMBERS

- **Haylie Lobeck**, University of Notre Dame, MSA
- **Hayden Black**, Georgia Tech, UNC
- **Molly Koehle**, University of Delaware, CCEI
- **Cara Lubner**, National Renewable Energy Laboratory, BETCy

Join us for a trip to the National Gallery of Art to attend a classical concert performed by the National Gallery of Art Orchestra. The music by European composers Jean Sibelius (1865-1957) and Carl Nielsen (1865-1931) will be featured.

A group of us will be meeting at the Washington Marriott Wardman Park Hotel (2:30pm) where we will travel (via subway) to the concert together. The doors open at 3:00pm. Afterwards, enjoy dinner with a group of your peers at one of the selected restaurants near the Gallery.

If you would just like to join us for dinner, we will meet in the Sculpture Garden (in front of the Pavilion Café) at the National Gallery of Art at 6:00pm before heading to the restaurants. We will divide off into smaller groups based on interest in restaurants.

The concert is free of charge, but you will need to provide your own subway ticket and meal costs.

If you have questions, feel free to contact event coordinators Haylie Lobeck (hlobeck@nd.edu) or Molly Koehle (makoehle@gmail.com).

NGA:*http://www.nga.gov/content/ngaweb/calendar/concerts.html?category=Concerts&pageNumber=1*
Sculpture Garden Map: https://www.nga.gov/feature/sculpturegarden/general/map.shtm

Important Addresses

Washington Marriott Wardman Park Hotel – 2660 Woodley Road NW, Washington, DC 20008

National Gallery of Art – 6th & Constitution Ave NW, Washington, DC 20565
Sunday hours – 11am-6pm

Hotel → National Gallery of Art

- Take the red line (direction Glenmont) to *Judiciary Square Metro Station*
- Walk West on E St NW towards 5th St
- Turn Left onto 6th St NW
- The National Gallery of Art will be straight ahead on Constitution Ave NW
(Total walking 11 mins ~0.5 miles)

Restaurants close to National Gallery of Art /Judiciary Square Metro Stop

Daikaya Ramen Shop
Description: ramen and noodle bowl, limited vegetarian option
Price: $$
Location: 705 6th Street NW
Sunday hours: 11am – 10pm
www.daikaya.com

District Taco
Description: tacos and burritos
Price: $
Location: 1309 F Street NW
Sunday hours: 10am – 9pm
www.districttaco.com

District of Pi
Description: pizza, vegan and gluten free options
Price: $$
Location: 910 F Street NW
Sunday hours: 11am – 10pm
www.pi-dc.com

Plan B Burger
Description: fancy burgers, sandwiches
Price: $$
Location: 801 Pennsylvania Ave NW
Sunday hours: 11am – 12am
www.planbburger.com

Grand Trunk
Description: Indian, Pakistani
Price: $
Location: 641 Indiana Ave NW
Sunday hours: 11am – 11pm
www.grandtrunk.us

Vapiano
Self-serve Italian
Price: $$
623 H St NW
Sunday hours: 12-10pm
vapianointernational.com

Cava Mezze
Fast casual Mediterranean
Price: $$
707 H St NW
Sunday hours: 11am – 10pm
cavagrill.com

Matchbox
Pizza, American, lots of vegetarian options
Price: $$
713 H St NW
Sunday hours: 10am -10:30 pm
matchboxrestaurants.com

Teaism
Description: Teas, Asian influence café food, vegetarian options
Price: $$
Location: 400 8th St. NW
Sunday hours: 9am – 9pm
https://www.teaism.com

ENERGY FRONTIER RESEARCH CENTERS TRIVIA NIGHT

Monday, October 26, 2015, 6:30 – 7:30 PM
Exhibit Hall C, Lincoln 5
Students and Postdoctoral Researchers Only

COMMITTEE MEMBERS

- **Sarah Kiemle**, Penn State, CLSF
- **Sally Tracy**, Caltech, Efree
- **Parthiban Santhanan**, Stanford, LMI
- **Michael Pegis**, Yale, CME
- **Charles Monson**, University of Illinois at Urbana-Champaign, GSCO2
- **Mya Le**, University of California Irvine, NEES

Please come out for a fun and energy-filled night of trivia and camaraderie. Teams of 4-6 people will compete in 4 rounds of science based quiz questions with prizes, so bring your competitive streak. It is a great catalyst for students and postdocs to get together and meet peers at other EFRCs in a fun and informal setting. Preregistration is not required.

SCIENTIFIC COMMUNICATION IN THE AGE OF SOCIAL MEDIA

Monday, October 26, 2015, 12:00 – 1:00 PM
Exhibit Hall C, Lincoln 5
Open to All

COMMITTEE MEMBERS

- **Bruno G. Nicolau**, University of Illinois at Urbana-Champaign, CEES
- **Matt Wolak**, Temple University, CCDM
- **Khim Karki**, Brookhaven National Laboratory, NECCES

PANELISTS

- **Marshall Brennan**, Graduate Student at University of Illinois
- **Bethany Brookshire**, Science education writer at Science News
- **Yury Gogotsi**, Professor at Drexel University and member of the FIRST EFRC
- **Eric Schulze**, Molecular biologist and host of 'Ask Smithsonian Online'

DESCRIPTION

Younger generations have shown decreasing interest in television and printed media as their source of news and slowly shifted their focus to online only sources. Most interactions now take place in blogs, social networks and Youtube channels. This has greatly reduced the entry price to become a science communicator. In the current climate science communicators have an unprecedented ease to interact with audiences, tailor content and act as opinion formers. These are exciting times which provide researches with many opportunities to define how their work will be presented to the public. It is therefore of utmost importance that bridges are built between this new generation of science communicators and the scientists conducting work in world leading research institutions. This panel intends to provide an environment where both new media science communicators and scientists can give some insight into their work and their expectations from each other.

SPEAKER BIOGRAPHIES

Marshall R. Brennan – Marshall Brennan received his PhD in inorganic chemistry under the supervision of Prof Alison Fout at the University of Illinois at Urbana-Champaign in October 2015. In 2014 he was voted by C&EN as one the "Top 20 Chemists to Follow on Twitter." Marshall is a regular contributor to the journal Nature Chemistry and his blog Colorblind Chemistry; in addition he can be found on Twitter as @Organometallica.

Bethany Brookshire – Dr. Bethany Brookshire has a B.S. in biology and a B.A. in philosophy from The College of William and Mary, and a Ph.D. in physiology and pharmacology from Wake Forest University School of Medicine. She is a staff writer for Science News, the guest editor of *The Open Laboratory Anthology of Science Blogging, 2009*, and the winner of the Society for Neuroscience Next Generation Award and the Three Quarks Daily Science Writing Award, among others. She blogs at Eureka! Lab and at Scicurious.

Yury Gogotsi - Dr. Yury Gogotsi is a Distinguished University Professor and Trustee Chair in the Department of Materials Science and Engineering at Drexel University. He is the founding Director of the A.J. Drexel Nanomaterials Institute and Associate Editor of ACS Nano. He received his MS (1984) and

PhD (1986) degrees from Kiev Polytechnic and a DSc degree from the Ukrainian Academy of Science in 1995. Dr. Gogotsi is a member of the Fluid Interface Reactions, Structures and Transport Center (FIRST) EFRC. He has co-authored 2 books, edited 13 books, obtained more than 50 patents and authored more than 400 peer-reviewed papers, being recognized as Highly Cited Researcher by Thomson-Reuters in 2014.

Eric Schulze – Dr. Eric Schulze is a molecular biologist, host of 'Ask Smithsonian Online', and speechwriter. He is the co-founder and executive creative director at @thirstdc, a creative communities agency that brings together speakers and participants from fields of science, technology, fashion, music, the arts, and beyond. Eric also hosts and writes for the popular event, "The Periodic Table," a dinner and show that tells the story of humanity through the science of food. Dr. Schulze writes, lectures, and presents frequently on the subject of human creativity, science communication, and the science of food. He can be reached on Twitter at @SciencEric.

CAREER PANEL

Monday, October 26, 2015, 12:00 – 1:00 PM
Exhibit Hall C, Lincoln 6
Open to All

COMMITTEE MEMBERS

- **Priya Murria**, Purdue University, C3Bio
- **Andrew Fidler**, Los Alamos National Laboratory, CASP
- **Rebecca Lindquist**, Northwestern University, ANSER
- **Pramey Upadhyaya**, University of California Los Angeles, SHINES

PANELISTS

- **Kumar Challa**, Managing Director IMASC EFRC, Harvard University
- **Robin Hayes**, Program Manager, Department of Energy, Basic Energy Sciences
- **Alex Martinson**, Principle Investigator and Chemist, Argonne National Laboratory
- **Maureen McCann**, Professor of Biological Sciences at Purdue University and Director of the C3Bio EFRC
- **Hunter McDaniel**, CEO and Founder of UbiQD LLC, former member of the CASP EFRC

DESCRIPTION

The career panel will explore the multitude of career opportunities available to Ph.D. scientists. The session aims to inform and provide insights to students and postdocs attending the EFRC meeting about life along various professional paths including possibilities beyond the typical government, academia, and industry molds. Following introductions of the speakers and some general prepared questions we will allow for questions from the audience.

SPEAKER BIOGRAPHIES

Kumar Challa – Dr. Challa became the managing director for the Integrated Mesoscale Architectures for Sustainable Catalysis (IMASC) EFRC at Harvard University this year following his work since 2002 as a group leader and director in Nanofabrication and Nanomaterials at the Center for Advanced Microstructures and Devices in Baton Rouge, LA. He received his Ph.D. in chemistry from the Sri Sathya Sai Institute in Prashantinilayam, India and has several years of industry and research and development experience. Additionally, Dr. Challa is the founder of Millifluidica LLC (www.millifluidica.com), a company that provides custom lab-on-a-chip solutions for chemical applications, and serves as the editor-in-chief of Nanotechnology Reviews. Dr. Challa's broad experience will inform participants about industrial and applied science research and the challenges and opportunities associated with managing large research organizations.

Robin Hayes – Dr. Hayes is a program manager at the Department of Energy, Office of Basic Energy Sciences. She earned her Ph.D. in physical chemistry from the University of California, Los Angeles in 2004 and gained almost five years of research experience at New York University. From 2009 to 2011, Dr. Hayes worked as an AAAS Science and Technology Policy fellow where she helped to launch the Energy Frontier Research Centers. Dr. Hayes can provide insight into the transition from research to science policy and the job opportunities provided by the government.

Alex Martinson – Dr. Martinson is a principle investigator in the Surface Chemistry group within the Materials Science Division at Argonne National Laboratory (ANL) and a participant in the Argonne-Northwestern Solar Energy Research (ANSER) and Inorganometallic Catalyst Design Center (ICDC) EFRCs. He earned his Ph.D. in physical chemistry from Northwestern University in 2008 and then conducted his postdoctoral studies at ANL as a Director's Fellow. His continued research at ANL focuses on the design and fabrication of novel surface chemistries for solar energy conversion and catalysis. He will offer perspective on the opportunities provided by the national laboratories.

Maureen McCann – Professor McCann is the director of the Center for Direct Catalytic Conversion of Biomass to Biofuels (C3Bio) EFRC, Director of the Purdue Energy Center, and Professor of Biological Sciences at Purdue University. She received her Ph.D. in botany in 1990 from the University of East Anglia. Dr. McCann worked as a postdoctoral researcher and then project leader at the John Innes Centre, a UK government funded research institute, until coming to Purdue in 2003. Her research focuses on the molecular machinery of the plant cell wall and the potential for biofuels production from lignocellulosic biomass. Professor McCann's extensive experience in both academia and research institutes will provide insight into the attributes and experiences that academic institutions are currently looking for in new hires.

Hunter McDaniel – Dr. McDaniel obtained his Ph.D. in materials science and engineering from the University of Illinois at Urbana-Champaign in 2011 then worked at Los Alamos National Laboratory as a postdoctoral research associate until 2014. He is now the CEO and Founder of UbiQD LLC (www.ubiqd.com), a startup company seeking to bring non-toxic quantum dots as a general use fluorophore to the market. A former member of the Center for Advanced Solar Photophysics (CASP) EFRC, Dr. McDaniel will provide perspective on the role of entrepreneurship in bringing state of the art science to the marketplace.

EFRCs and Industry: Experiences, Challenges and Opportunities
Tuesday, October 27, 2015, 12:20-1:20 PM
Exhibit Hall C, Lincoln 5
Open to All

Committee Members

- **Laurent Beland**, Oak Ridge National Laboratory, EDDE
- **Katie Van Aken**, Drexel University, FIRST
- **Branko Zugic**, Harvard University, IMASC

Panelists

- **Dionisios Vlachos**, Professor at the University of Delaware and Director of the CCEI EFRC
- **Mahdi Abu-Omar**, Professor at Purdue University and Associate Director of the C3Bio EFRC
- **Tobin Marks**, Professor at Northwestern University and member of the ANSER and CEES EFRCs
- **Ted Calverley**, Fellow at Dow Chemical and member of the ICDC EFRC

Description

Panelists from EFRCs involved with industrial partners, including startups, share their experiences, and provide insights into challenges and opportunities involved in industry-EFRC partnerships. Each panelist will give a short presentation, followed by a panel discussion, which will include questions from the audience.

Speaker Biographies

Dionisios Vlachos – Professor Vlachos is the Elizabeth Inez Kelley Professor of Chemical and Biological Engineering and a joint Professor of Physics and Astronomy at of the University of Delaware. He is also the Director of the Catalysis Center for Energy Innovation (CCEI) EFRC, which focuses on developing innovative heterogeneous catalytic technologies to transform lignocellulosic biomass materials into fuels and chemicals. The CCEI EFRC is involved with over twelve industrial partners. He received his Bachelor's degree from the National Technical University of Athens and his Ph.D. from the University of Minnesota.

Mahdi Abu-Omar – Professor Mahdi Abu-Omar is currently the R. B. Wetherill Professor of Chemistry and Professor of Chemical Engineering at Purdue University and the Associate Director of the Center for Direct Catalytic Conversion of Biomass to Biofuels (C3Bio) EFRC. Dr. Abu-Omar is the founder of Spero Energy, which is developing cost competitive processes for the conversion of abundant non-food biomass to high value chemicals (HVCs) and renewable fuels. He has also served on the faculty at UCLA (1997-2003). He holds a B.S. in chemistry from Hampden-Sydney College in Virginia and a Ph.D. from Iowa State University.

Tobin Marks – Professor Marks is Professor of Chemistry and Material Science at Northwestern University and member of the Argonne-Northwestern Solar Energy Research (ANSER) Center and Center for Electrochemical Energy Science (CEES) EFRCs. In addition to serving on the advisory boards of many scientific companies, he is a co-founder of Polyera Corporation, which is developing next-generation technologies that enable both novel electronics form factors and advanced electronics manufacturing processes. His recognitions include the 2006 U.S. National Medal of Science, the 2008 Principe de Asturias Prize, the 2009 the MRS Von Hippel Award, the 2011 Dreyfus Prize in the Chemical Sciences,

and the 2012 NAS Award in the Chemical Sciences. He has served on the NAS Board on Chemical Sciences and Technology and the DOE Council on Chemical Sciences. Professor Marks received his B.S. in Chemistry from the University of Maryland (1966) and his Ph.D. from the Massachusetts Institute of Technology (1971).

Ted Calverley – Dr. Calverley is a fellow in the Inorganic Materials and Heterogeneous Catalysis discipline of Core R&D at The Dow Chemical Company, current President of the Michigan Catalysis Society, and member of the Inorganometallic Catalyst Design Center (ICDC) EFRC. His role at Dow includes managing and setting technical direction for projects within Core R&D including process development for new products, catalyst discovery and development and novel separations technologies. Since joining Dow in 1990, Ted's work has been generally focused on the development, scale up, design and optimization of new and existing commercial reaction systems using a combination of experimental and modeling approaches. Dr. Calverley received his BASc (chemical engineering) from the University of Waterloo and his Ph.D. from McMaster University.

SCIENCE POLICY PANEL
Tuesday, October 27, 2015, 12:20 – 1:20pm
Exhibit Hall C, Lincoln 6
Open to All

COMMITTEE MEMBERS

- **Laura Fernandez**, University of Minnesota, ICDC
- **Karen Kihlstrom**, Argonne National Laboratory, CES
- **David Bierman**, Massachusetts Institute of Technology, S3TEC
- **Kirsten Chojnicki**, Sandia National Laboratories, CFSES

PANELISTS

- **Diana Bauer**, Director, Office of Energy Systems Analysis and Integration at DOE Office of Energy Policy and Systems Analysis (EPSA)
- **Paul Doucette**, Executive Director of Government Relations at Battelle
- **Matt Hourihan**, Director of the R&D Budget and Policy Program at the American Association for the Advancement of Science (AAAS)

DESCRIPTION

The panel is geared toward helping all meeting attendees understand how their work fits into the larger pictures of energy security and sustainability and federally funded research. The panel will be asked questions related to budget, prioritization of research directions, and the impact of scientific research on the economy. The session will end with questions from audience members.

SPEAKER BIOGRAPHIES

Diana Bauer is the Director of Energy Systems Analysis and Integration within the Office of Energy Policy and Systems Analysis (EPSA) at the U.S. Department of Energy (DOE). She led the DOE team that published The Water-Energy Nexus: Challenges and Opportunities in 2014. She currently co-chairs DOE's Water-Energy Tech Team (WETT). Dr. Bauer has a PhD in Mechanical Engineering from the University of California at Berkeley and a BSE in Mechanical Engineering from Princeton University.

Paul Doucette is Executive Director of Government Relations at Battelle, the world's largest non-profit independent research and development organization, and a co-chair of the Energy Sciences Coalition (ESC), a broad based coalition of organizations representing scientists, engineers and mathematicians in universities, industry and national laboratories who are committed to supporting and advancing the scientific research programs of the DOE Office of Science. He worked as a senior advisor and legislative director in the office of U.S. Rep. Judy Biggert (R-IL), who was a senior member of the House Science and Technology Committee and co-chaired the House Research and Development Caucus. He holds a bachelor's degree in public administration from Drake University in Des Moines, Iowa.

Matt Hourihan is the Director of the R&D Budget and Policy Program at the American Association for the Advancement of Science (AAAS). Prior to joining AAAS, he served as a clean energy policy analyst at the Information Technology & Innovation Foundation (ITIF). He earned a masters degree in public policy with a focus on science and technology policy at George Mason University, and a B.A. in journalism from Ithaca College.