

2017 NSF ERC Biennial Meeting



October 31 - November 2, 2017 | Hilton Mark Center, Alexandria, VA

2017 NSF ERC Biennial Meeting

Welcome Message

The ERC Team is pleased to welcome you to the 2017 ERC Biennial Meeting. Because NSF views ERCs as change agents for academic engineering programs and the engineering community at large, this meeting is an opportunity to share best practices in interdisciplinary research, education, workforce development, industrial outreach, and broadening participation. In addition to the cross-pollination of ideas, the 2017 Biennial Meeting will also garner insights from the community that can help shape the next generation of ERCs. Therefore, we look forward to your insightful feedback over the next two days.

Junhong Chen

Deborah Jackson

and the rest of The ERC Team

Don Millard, NSF EEC Division Director (Acting)

Carmiña Londoño, NSF EEC Deputy Division Director (Acting)

NSF ERC Program Directors

Junhong Chen

Deborah Jackson

Erick Jones

Carmiña Londoño

Eduardo Misawa

NSF EEC Staff

Dana Denick

Amelia Greer

Tammie Jennings

LaTanya Sanders-Peak

NSF EEC AAAS Fellows

Jesus Alvelo

Jennifer Beierlein

Eileen Oni

Meeting Program

Tuesday, October 31

| | | | | |
|---------|---|---------|---|-------------|
| 2:00 PM | - | 6:00 PM | Registration | Plaza Foyer |
| 2:00 PM | - | 5:00 PM | Administrative Director Training Janice Brickley, Administrative Director, CASA | Plaza III |
| 3:00 PM | - | 5:00 PM | Student Networking Event/ Perfect Pitch Training | Plaza I |
| 5:00 PM | - | 6:00 PM | Lightning Talks / Poster Session | Ballroom BC |
| 6:00 PM | - | 7:00 PM | Evening Reception (Light refreshments served) | Plaza Foyer |

Wednesday, November 1

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|----------|---|----------|---|----------------|
| 7:30 AM | - | 5:00 PM | Registration | Plaza Foyer |
| 7:30 AM | - | 8:30 AM | Continental Breakfast | Plaza Foyer |
| 8:30 AM | - | 8:45 AM | Introduction Don Millard, Acting Division Director, EEC Division, National Science Foundation | Ballroom BC |
| 8:45 AM | - | 9:15 AM | Opening Remarks and Welcome Joan Ferrini-Mundy, Chief Operating Officer, National Science Foundation | Ballroom BC |
| 9:15 AM | - | 10:15 AM | Opening Keynote Jay Keasling, CEO, Joint BioEnergy Institute | Ballroom BC |
| 10:15 AM | - | 10:30 AM | Break | Plaza Foyer |
| 10:30 AM | - | 10:45 AM | Instructions for Breakout Sessions | Ballroom BC |
| 10:45 AM | - | 11:45 AM | Breakout Session A <i>The Gen-4 ERC Program – Moving Engineering forward in a Brave New World</i> <ul style="list-style-type: none"> • Plaza I: Administrative Directors • Beech: Center Directors and Deputy Directors • Plaza III: Thrust Leaders • Dogwood: Education Directors • Juniper: Diversity/Culture of Inclusion Directors • Plaza II: Industrial Liaison Officers • Arbors: Student Leadership Council/Students | Breakout Rooms |
| 11:45 AM | - | 12:15 PM | Report-out from Breakout Session A | Ballroom BC |
| 12:15 PM | - | 1:30 PM | Working Lunch | Ballroom BC |
| 1:30 PM | - | 2:15 PM | Wisdom from WIMS ERC Michael S. McCorquodale, Adjunct Lecturer, University of Michigan | Ballroom BC |
| 2:15 PM | - | 3:30 PM | Perfect Pitch Competition | Ballroom BC |
| 3:30 PM | - | 3:45 PM | Break | Plaza Foyer |

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|-----------------------------|---|----------|---|----------------|
| 3:45 PM | - | 5:00 PM | Breakout Session B <i>Bringing Rights (Showcase) – What are the Best Practices for the Centers</i> | Breakout Rooms |
| | | | <ul style="list-style-type: none"> • Plaza I: 2008 Cohort (CBiRC, CIAN, FREEDM, LESA, RMB) • Plaza II: 2011 Cohort (CSNE, CURENT, QESST, ReNUWit) • Plaza III: 2012 Cohort (ASSIST, NASCENT, TANMS) • Arbors: 2015 Cohort (CBBG, NEWT, POETS) • Beech: 2017 Cohort (CELL-MET, CISTAR, CMaT, PATHS-UP) | |
| 5:00 PM | - | 5:30 PM | Report-out from Breakout Session B | Ballroom BC |
| 5:30 PM | - | 7:00 PM | Evening Reception (Light refreshments served) | Terrace |
| Thursday, November 2 | | | | |
| 7:30 AM | - | 5:00 PM | Registration | Plaza Foyer |
| 7:30 AM | - | 8:30 AM | Continental Breakfast | Plaza Foyer |
| 8:30 AM | - | 8:45 AM | Welcome Don Millard, Acting Division Director, EEC Division, National Science Foundation | Ballroom BC |
| 8:45 AM | - | 10:00 AM | Future Models of Center-based Graduate Education Panel <ul style="list-style-type: none"> • Allison Huff, Education and Outreach Director, CIAN • Susan Margulies, Dept Chair of Biomedical Engineering, Georgia Tech & Emory • Monica Cox, Dept Chair of Engineering Education, The Ohio State University • Jeffrey Engler, VP of Special Projects, Council of Graduate Schools | Ballroom BC |
| 10:00 AM | - | 10:15 AM | Break | Plaza Foyer |
| 10:15 AM | - | 11:30 AM | Diversity and AccessERC | Ballroom BC |
| 11:30 AM | - | 1:00 PM | Lunch & Keynote <i>A New Vision for Center-Based Engineering Research</i> Maxine Savitz, Vice-President, National Academy of Engineering | Ballroom BC |
| 1:00 PM | - | 2:15 PM | Funding Opportunities Panel Representatives from funding agencies (e.g., NSF, NIH/NIBIB, NIH/NCI, USAID, USDA, DARPA, ONR) | Ballroom BC |
| 2:15 PM | - | 2:30 PM | Break | Ballroom BC |
| 2:30 PM | - | 4:00 PM | Poster Session | Plaza Foyer |
| 4:00 PM | - | 4:35 PM | Perfect Pitch Awards & Closing Keynote Dawn Tilbury, Assistant Director, Engineering Directorate, National Science Foundation | Ballroom BC |
| 4:35 PM | - | 5:00 PM | Wrap-up and Closing Remarks Don Millard, Acting Division Director, EEC Division, National Science Foundation | Ballroom BC |

Session Guiding Questions

Wednesday, November 1

10:45 AM - 11:45 AM **Breakout Session A**

The Gen-4 ERC Program – Moving Engineering forward in a Brave New World Breakout Rooms

- **Plaza I:** Administrative Directors
- **Beech:** Center Directors and Deputy Directors
- **Plaza III:** Thrust Leaders
- **Dogwood:** Education Directors
- **Juniper:** Diversity/Culture of Inclusion Directors
- **Plaza II:** Industrial Liaison Officers
- **Arbors:** Student Leadership Council/Students

For the Administrative Directors

1. What is the value added to a Gen-4 ERC for preparing an Annual Report?
 - a. What features in the reporting requirements would you keep? And why? What would you simplify?
 - b. What sections or tables of the Annual Report do you feel provide the least measure of ERC performance? The most? How could they be improved?
 - c. How could the preparation still provide value to the ERC and meet NSF's reporting needs while taking less time?
2. Is the process for collecting and submitting data optimal? If not, how should NSF continue to improve the process?

For the Center Director and Deputy Directors

1. Is it appropriate for NSF (ERC Program) to take a more active role in the formation of the best research teams?
 - a. What should the ERC Program be doing to help catalyze the formation of teams, and how would the ERC Program do it?
2. Should the Gen-4 ERCs be required to incorporate Engineering Workforce Development responsibilities or should they just leverage what is already present in the respective universities?
3. How should the ERC Program scope and gauge success for Gen-4 ERC's?

For the Thrust Leaders

1. Is it appropriate for NSF (ERC Program) to take a more active role in the formation of the best research teams?
 - a. What should the ERC Program be doing to help catalyze the formation of teams, and how would the ERC Program do it?
2. Should the Gen-4 ERCs be required to incorporate Engineering Workforce Development responsibilities or should they just leverage what is already present in the respective universities?
3. How should the ERC Program scope and gauge success for Gen-4 ERC's?

For the Education Directors

1. What is the appropriate role for NSF (ERC Program) in the preparation and development of our nation's engineering workforce?
2. Should the Gen-4 ERCs be required to incorporate Engineering Workforce Development responsibilities or should they just leverage what is already present in the respective universities?
3. What are the benefits and "costs" for students to participate in the ERC culture?

For the Industrial Liaison Officers

1. How have the needs of industry changed with respect to the ERC model?
2. How should the ERC Program scope and gauge success for the innovation ecosystem of Gen-4 ERC's?
3. What is the best way to speed up innovation in today's world? What should be the role of the Gen-4 ERCs?

For the Student Leadership Council/Students

1. What should be the foundational components of the Gen-4 ERC model to ensure success for its students?
2. Should there be an SLC in the Gen-4 model? If yes, how would you improve it?
3. What are the benefits and "costs" for students to participate in the ERC culture?

For the Diversity/Culture of Inclusion Directors

1. What is the appropriate role for the NSF (ERC Program) in building upon the success of ERCs in expanding diversity of the engineering workforce for the Gen-4 ERC model?
2. Should the Gen-4 ERCs be required to incorporate Diversity and Culture of Inclusion responsibilities or should they just leverage what is already present in the respective universities?
3. Given that ERCs have consistently engaged participation of women and underrepresented minority groups at rates well above the U.S. national averages for academic engineering communities, how would Gen-4 ERCs continue to make progress and communicate these successes more broadly?

Wednesday, November 1

12:15 PM - 1:30 PM **Working Lunch**

Ballroom BC

1. What are the challenges of communicating to the Public?
2. What is the importance of communicating the Innovation and Breakthroughs to the public?
3. What are some NEW ideas or best practices?

Wednesday, November 1

3:45 PM - 5:00 PM

Breakout Session B

Bragging Rights (Showcase) – What are the Best Practices for the Centers

Breakout Rooms

- **Plaza I:** 2008 Cohort (CBiRC, CIAN, FREEDM, LESA, RMB)
- **Plaza II:** 2011 Cohort (CSNE, CURENT, QESST, ReNUWit)
- **Plaza III:** 2012 Cohort (ASSIST, NASCENT, TANMS)
- **Arbors:** 2015 Cohort (CBBG, NEWT, POETS)
- **Beech:** 2017 Cohort (CELL-MET, CISTAR, CMaT, PATHS-UP)

1. What were some of the challenges you were able to overcome to become Good to Great?
2. What are some of the team stories that have been the most impactful?

Thursday, November 2

10:15 AM - 11:30 AM

Diversity and AccessERC

Ballroom BC

1. What are the impacts of ERCs on Inclusions (Disabilities, AccessERC) and the Future Workforce?

Venue Map

Hilton Alexandria Mark Center

Meeting Room Floor Plan



Notes



Founded in 1893, the **American Society for Engineering Education (ASEE)** is a global society of individual, institutional, and corporate members. ASEE seeks to be the pre-eminent authority on the education of engineering professionals by advancing innovation, excellence, and access at all levels of education.

ASEE engages with engineering faculty, business leaders, college and high school students, parents, and teachers to enhance the engineering workforce of the nation. We are the only professional society addressing opportunities and challenges spanning all engineering disciplines, working across the breadth of academic education, research, and public service.

- We support engineering education at the institutional level by linking engineering faculty and staff to their peers in other disciplines to create enhanced student learning and discovery.
- We support engineering education across institutions by identifying opportunities to share proven and promising practices.
- We support engineering education locally, regionally, and nationally by forging and reinforcing connection between academic engineering and business, industry, and government.



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