

National Science Foundation Engineering Research Centers

ERC 2011 Annual Meeting

November 29 – December 1, 2011

Washington Marriott at Metro Center

775 12th Street NW, Washington, DC 20005

Tel: 202-737-2200

AGENDA

November 25, 2011

TUESDAY, November 29, 2011

Annual Meeting – Day One

New Center Orientation, NSF Session, and Workshops

7:30am – 5:30pm Registration and Attendee Services

7:30am – 8:30am Breakfast and Networking

8:30am – 10:15am **New Center Orientation – New-ERC Directors/Deputy Directors** [Staff of existing ERCs welcome to attend (optional)]

	<i>Co-moderators: Brent Shanks (CBiRC) and Rogelio Sullivan (FREEDM)</i>
8:30 – 8:40	Welcoming Remarks and Introductions – Brent Shanks
8:40 – 8:55	Leadership – Brent Shanks (Center Director, CBiRC)
8:55 – 9:05	Discussion and Q&A
9:05 – 9:20	Strategic Planning – William Wagner (Deputy Director, RMB)
9:20 – 9:30	Discussion and Q&A
9:30 – 9:45	Operations – Kim Stelson (Center Director, CCEFP)
9:45 – 9:50	Discussion and Q&A
9:50 – 10:05 10:05 – 10:15	Integrating research into innovation and education – Rogelio Sullivan (Managing Director, FREEDM) Discussion and Q&A, Wrap-Up

8:30am – 10:15am **New Center Orientation – New-ERC Administrative Directors/Financial Managers** [Staff of existing ERCs are welcome to attend (optional)]

	<i>Co-moderators: Tonia McCarley (CBiRC) & Kevin Costa (SynBERC)</i>
8:30 – 8:40	Welcoming Remarks and Introductions –
8:40 – 10:15	Panel Discussion with open Q&A. <i>Panelists: Tonia McCarley, Kevin Costa, Sheila Davis (EUV), Barb Kenny, Victoria Kwasiborski (NSF)</i>

8:30am – 10:15am **New Center Orientation – New-ERC Industrial Liaison Officers** [Staff of existing ERCs are welcome to attend (optional)]

	<i>Co-moderators: Peter Keeling (CBiRC) and Silvia Mioc (Smart Lighting)</i>
8:30 – 8:40	Welcoming Remarks and Introductions
8:40 – 9:10	What NSF expects of Gen-3 ERCs and ILOs – Erik Sander (former ILO and Founding Director, U. of Florida Engineering Innovation Institute)

9:10 – 9:50	“Speed Dating” one-on-one Q&A – <i>Panelists: Silvia Mioc, Peter Keeling, Peter Seoane</i> (RMB), Ewan Pritchard (FREEDM), Erik Sander as resource
9:50 – 10:15	Open group discussion & wrap-up

8:30am –10:15am **New Center Orientation – New-ERC University Education Program**
Directors [Staff of existing ERCs are welcome to attend (optional)]

	<i>Co-moderators: Mary Goldberg</i> (QoLT) and Mesut Baran (FREEDM)
8:30 – 8:40	Welcoming Remarks and Introductions
8:40 – 9:10	Overview of strategic planning for Education programs (distribute notecards for best practices in strategic planning) – Mary Goldberg 8:40-8:50 Incorporating Industry in a Systematic Way from the EUV (Class of 2003) Perspective – Kaarin Goncz , EUV 8:50-9:00 Incorporating Unique Programs from the QoLT (Class of 2006) Perspective – Mary Goldberg , QoLT and Margaret Lindquist (QoLT Ambassador)
9:10 – 9:30	Implementing the Center-specific Hypothesis (Design Paradigm) on Educating Creative and Innovative Engineers from the FREEDM (Class of 2008) Perspective – Mesut Baran
9:30 – 9:45	Discuss ideas from notecards (All)
9:45 – 10:10	Design strategic planning process map intended for distribution to all ERCs (All)
10:10 – 10:15	Wrap-up – Mary Goldberg and Mesut Baran

8:30am –10:15am **New Center Orientation – New-ERC Pre-college Education Program**
Directors [Staff of existing ERCs are welcome to attend (optional)]

	<i>Co-moderators: Adah Leshem</i> (Precollege Education Director, CBiRC) and Devdas Pai (Education & Outreach Director, RMB)
8:30 – 8:40	Welcoming Remarks and Introductions – Devdas Pai and Adah Leshem
8:40 – 9:00	Overview of New ERC Pre-College Education programs
9:00 – 9:10	Partnerships – Lisa Grable (Precollege Education Program Director, FREEDM Systems ERC at NCSU) and Kimberly Sierra-Cajas (Education Director, CIAN at U Arizona) will showcase long-term partnerships with numerous school districts, highlighting the practices that make these partnerships strong and sustainable. They will discuss initiatives that are NOT effective.
9:10 – 9:20	Discussion and questions
9:20 – 9:40	Student recruitment – Kate Spohr (Education/Outreach Manager, SynBERC) will showcase the Young Engineers program at UC Berkeley, highlighting effective recruitment initiatives as well as initiatives that were NOT effective. Teacher recruitment for the RET program at NJIT– Aisha Lowery , (Assistant Director for Education and Outreach, C-SOPS) will showcase successful teacher-oriented professional development programs, highlighting initiatives that yielded maximum teacher participation as well as initiatives that were NOT effective. Teacher professional development – Kaarin Goncz (Education Director, EUV ERC at Colorado State) will discuss what elements are required to create and implement effective professional development programs for teachers.

	Developing educational resources – Ken Connor (Education Director, SMART LIGHTING ERC at RPI) will explain what works and what doesn't when collaborating to develop teaching tools and resources.
9:40 – 9:50	Discussion and questions
9:50 – 10:00	Evaluation and Assessment – Adah Leshem at Iowa State University will discuss the elements required for successful annual reporting and site visits
10:00 – 10:15	Discussion, questions and wrap up

8:30am – 10:15am **New Center Orientation – New-ERC Research Thrust Leaders** [Staff of existing ERCs are welcome to attend (optional)]

	<i>Co-moderators:</i> Dan Siewiorek (QoLT) and Raj Dave (CSOPS)
8:30 – 8:40	Welcoming Remarks and Introductions –
8:40 – 9:00	Overview and Lessons Learned: Review new Best Practices chapter – Dan Siewiorek
9:00 – 9:20	Thrust Leader's Role in Strategic Planning – Raj Dave
9:20 – 9:40	Testbeds and Systems Integration – Dan Siewiorek
9:40 – 10:15	Open discussion

8:30am – 10:15am **New Center Orientation – New-ERC Students** [Students & staff of existing ERCs welcome to attend (optional)]

	<i>Co-moderators:</i> Matt Ide (CBIRC) and Dingkai Guo (MIRTHE)
8:30 – 8:45	Welcoming Remarks and Introductions –
8:45 – 9:10	"The MIRTHE SLIP Grant: Lessons learned and ongoing progress with the center's first student-led independent project" – Loan Le (MIRTHE) – includes 10 min Q&A
9:10 – 9:40	"How to Become an Effective Student Voice in an ERC" – Alyssa Burger (Education & Outreach Director, U. Minn. CCEFP) and Tim Deppen (CCEFP) – includes 10 min Q&A
9:40 – 10:05	"How to Conduct an Effective SWOT" – Chris Leber and Matt Ide (CBIRC)
10:05 – 10:15	Open discussion with presenters

10:15am – 10:45am **Break**

10:45am – 11:50am **Plenary Session I: NSF Session**

Moderator: **Lynn Preston, NSF**

10:45 – 10:50	Welcome & Meeting Plan – Lynn Preston & Court Lewis
10:50 – 11:30	NSF & ERC Program Update & Introduction of New Centers – Lynn Preston
11:30 – 11:50	Remarks by the Director of the NSF EEC Division, Dr. Theresa Maldonado

12:00pm – 1:45pm **Lunch** – Assigned seating by staff function (not by center)

12:45pm – 1:45pm *Speaker:* **Steve A. Hewitt**, CPM, City Administrator, Clinton, Oklahoma — "From Total Destruction to Model 'Green' Town: The Greensburg, Kansas Story"

— Introduction by **Dave McLaughlin** (CASA)

— Allotted time includes 10 min Q&A

1:45pm – 2:15pm **Break**

2:15pm – 3:45pm

Breakout Session I: Open Discussion Workshops on Selected Topics

Objective: To encourage brainstorming on a specific topic of interest to a specific group or groups, to solve a problem or come up with general guidelines for doing something. **Outcome:** Share the problem / solution or general guidelines with the ERCs via ERC-assoc and / or the Google groups. The facilitators, in consultation with their prospective attendees, will develop final discussion topics, broken down in terms of specific issues, and send these to prospective attendees in advance. **Format:** In each session, attendees will break into 2-4 groups, with each group discussing one of those issues, and then spend the last portion of the session sharing the results of the group discussions. Scribes will record the “problem” and “solution” for sharing with the ERCs

<p><i>Facilitators:</i> Joe Cocozza (BMES) and Alyssa Burger (CCEFP)</p> <p><i>General Topic:</i> Growing and sustaining education (esp. precollege) programs after graduation</p>	<p>E&O, CD/DDs, FTLs, SLC</p>	<p><i>Specific Topics:</i> 1. How to transition the goals, missions & metrics of your E&O program from an ERC-centric to a research institutional-centric focus.</p> <p>2. Identify possible funding sources and funding mechanisms that support long-term viability of the E&O program.</p> <p>3. How to market your E&O program to the university, external partners and other stakeholders.</p>
<p><i>Facilitators:</i> Robert Karlicek (Smart Lighting) and Oz Osborn (QoLT)</p> <p><i>General Topic:</i> How to balance & coordinate divergent goals (the center’s, industry’s, the university’s, and NSF’s)</p>	<p>CD/DDs, FTLs, ADs</p>	<p><i>Specific Topics:</i> 1) Balancing & coordinating system & enabling technology development / PhD dissertation research; 2) ERC research needs vs. faculty research interests; 3) ERC industry consortium interests vs. faculty, staff and student entrepreneurial pursuits; 4) ERC core research vs. associated and sponsored research</p>
<p><i>Facilitators:</i> William Wagner (RMB) and Charanjeet Kaur (CSOPS)</p> <p><i>General Topic:</i> Managing and sustaining multi-institution ERCs</p>	<p>CD/DDs, ILOs, ADs</p>	<p><i>Specific Topics:</i> 1. How to build a team which thinks more as a center and works toward the integration of <u>research</u> goals across all partner sites rather than toward individual institutional goals. 2. How to build a team which thinks more as a center and works toward the integration of <u>education</u> goals across all partner sites rather than toward individual institutional goals. 3. What are some best practices / suggestions for jointly managing IP across multi-institution ERCs? 4. How do you adjust the budget among participating institutions over time based on performance and delivery? (includes the issue of</p>

		cost-sharing). <i>Scribe: Douglas Housner</i>
<p><i>Facilitators: Barb Kenny (NSF) and Alan Kost (CIAN)</i></p> <p><i>General Topic: How to best organize and report where center resources are applied in support of the strategic plan</i></p>	<p>ADs, CD/DD, FTLs</p>	<p><i>Specific Topics:</i></p> <ol style="list-style-type: none"> 1. Is it best to have thrusts that are essentially aligned with a plane of the 3-plane chart (horizontally), or thrusts that cross planes (vertically)? 2. What is the best way to show testbeds-- as separate thrusts or as part of a thrust? 3. Is there a better way (than Table 2) to visually show the allocation of resources between thrusts and technology areas? 4. What is the best way to show Associated and Sponsored projects and their contributions to the overall strategic plan?
<p><i>Facilitators: Deborah Jackson (NSF) and Curt Stone (QoLT)</i></p> <p><i>General Topic: Nurturing the Innovation Ecosystem</i></p>	<p>ILOs, CD/DDs, E&Os</p>	<p><i>Specific Topics:</i></p> <ol style="list-style-type: none"> 1. Conflicts of interest regarding startups for Center Directors, faculty and ILOs vis-à-vis existing large member companies (includes the new ERC reporting requirements) 2. Understanding the elements of the existing innovation ecosystem at your center and how to bring them together effectively 3. Best practices for stimulating entrepreneurship and innovation in your center's ecosystem.

3:45pm – 4:00pm **Break**

4:00pm – 5:30pm **Plenary Session II: “ERCs: Maximum Impact” (#1 of 2 sessions)**

Moderator: Barbara Kenny, NSF

4:00 – 4:45	Brief, high-impact “Who We Are and What We Do” presentations from the 9 ERCs in the Energy, Sustainability & Infrastructure and Advanced Manufacturing clusters: 3 new ERCs (7 min each) and 6 existing ERCs (3 min each) <i>Order: Smart Lighting, ReNUWIt, QESST, FREEDM, CURENT, CCEFP, CBiRC, SynBERC, CSOPS</i>
4:45 – 5:30 (into reception)	Informal networking with presenting centers (“Open House” tables.)

5:30pm – 7:00pm **Welcome Reception for All**

WEDNESDAY, November 30, 2011

**Annual Meeting – Day Two
Education Showcase, Closed Meetings and Student Retreat**

7:00am – 5:00pm Registration and Attendee Services

7:00am – 8:00am Breakfast and Networking

8:00am – 9:30am **Plenary Session III: ERC Education—A Core Mission**
Moderator: Mary Poats, NSF

8:00 – 8:10	ERC Education & Outreach Video
8:10 – 8:40	ERC E&O “Testimonials” – <i>Speakers:</i> Kevin Kloesel , University of Oklahoma (faculty & pre-college educator, CASA); Rowan Driscoll , Oakland, CA (RET teacher, SynBERC); Austin Butler , Holton-Arms School, Bethesda, MD (precollege student, Smart Lighting ERC) and Cole Lopez , Iowa State University (former precollege student, CBiRC); David Hill , MIT undergraduate (former REU student, EUV ERC); Yan Zhang , Princeton, NJ (grad student & startup founder, MIRTHE);
8:40 – 9:20	Panel on Innovative ERC Education Programs: Producing Engineering Leaders <i>Panelists:</i> Attracting students into engineering– Joe Cocozza (Education & Outreach Co-director, BMES); Shaping students into ERC graduates– Penny Jeffrey (Education Program Director, FREEDM); Inspiring innovators and entrepreneurs– Nasser Peyghambarian (Center Director, CIAN) – Includes 15 minutes audience Q&A
9:20 – 9:30	Perspectives on ERC Education and Outreach: A Brief Look Back – Mary Poats on outreach – Lynn Preston with overview comments

9:30am – 10:00am **Break**

10:00am – 2:00pm **Student Retreat**
Organizers: QoLT SLC (Portia Taylor and Shivayogi Hiremath, SLC Co-chairs)

10:00 – 12:00	<i>Morning Session (NSF PDs are invited to attend the entire Retreat)</i>
10:00 – 10:05	SLC Introductions and Welcome
10:05 – 10:15	Welcome & remarks by Lynn Preston , NSF ERC Program Leader
10:15 – 11:00	Student Working Session – Debate Topics on Innovation
11:00 – 11:15	Break
11:15 – 12:15	1st Annual ERC Student Elevator Pitch Competition <i>Judges:</i> Richard Fox , Astralis Group; Lesa Mitchell , Kauffman Foundation; Marco Rubin , Exoventure; Dan Gordon , Valhala Venture Partners; Catherine Cotell , Noblis, Inc.
12:15 – 1:00	Working Lunch – Speaker: Joel Myklebust , Ph.D., on “IAB Interactions and FDA Processes”
1:00 – 2:00	Jorge Cham – “Academic Stimulus Package”

10:00am – 2:00pm **Center Directors' & Deputy Directors' Closed Meeting**

	<i>Co-moderators: Nasser Peyghambarian (CIAN) and Yeshaiahu Fainman (CIAN)</i>
10:00 – 10:10	Welcoming remarks and introductions, agenda overview Session Theme: The High-Performance ERC: How to maximize discovery, technology innovation, and commercialization, while producing innovative engineering leaders
10:10 – 10:30	Dr. Rosibel Ochoa , Executive Director, von Liebig Center for Entrepreneurism and Technology Advancement, UC-San Diego on “Connecting research and innovation to maximize the potential for commercialization”
10:30 – 11:00	– Open discussion of related topics: a) strategic planning of research to achieve systems goals; b) international collaboration in research and education; c) translational research with small and large companies
11:00 – 11:45	Time with Lynn Preston and Theresa Maldonado
11:45 – 12:00	Break
12:00 – 1:00	Working lunch
12:20 – 1:00	Dr. Milton Chang (founder, iNCUBiC Management) on “Creating value out of ideas” – Includes Q&A
1:00 – 2:00	Open discussion of related topics

10:00am – 2:00pm **Administrative Directors' Closed Meeting**

	<i>Co-moderators: Alan Kost (CIAN) and Janice Brickley (CASA)</i>
10:00 – 10:15	Welcoming remarks and introductions, agenda overview
10:15 - 11:00	Supplemental Funding (Alan Kost)
11:00 - 11:45	"Favorite Success Stories" – related by ADs of 13 established ERCs
11:45 - 12:30	Time with Lynn Preston, Barbara Kenny, Victoria Kwasiborski, Priscilla Bezdek, Marshall Horner, & Gwen Hardenbergh - Researcher Involvement in Outside Firms - Paragraph in Annual Reporting Guidelines describing the ERC policy on conflicts of interest - Final Report Guidelines - Final Site Visit Guidelines
12:00 – 1:00	Working lunch - Next AD Retreat, Informational Discussion
1:00 - 2:00	ERCWeb Update (Deborah Wallace, ICF Macro)

10:00am – 2:00pm **Industrial Liaison Officers' Closed Meeting**

	<i>Co-moderators: Eric Erenrich (CSOPS) and Apoorva Bajaj (CASA)</i>
10:00 – 10:15	Welcoming remarks and introductions, agenda overview
10:15 – 11:00	Technology Commercialization Strategies Jennifer Murphy - Former Director of Tech Transfer and Associate VP for Research and Economic Development at George Mason University
11:00 – 12:00	Panel discussion: "How to increase the number of Sponsored Research Projects" <i>Panelists: Robert Jerzewski</i> , Director of Drug Product Science & Technology, Bristol-Myers Squibb; Alberto Cuitino , C-SOPS Site Leader, Chair Mechanical & Aerospace Engineering, Rutgers; Curt Stone , Director of the QoLT Foundry and Industry Liaison, QOLT ERC
12:00-1:00	Working lunch – Discussion on technology commercialization; ILOs will share their experiences in handling commercialization at their ERCs
1:00 – 1:15	Break (or preparation for NSF visit)

1:15 – 2:00	Time with Lynn Preston, Deborah Jackson, and Carole Read
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10:00am – 2:00pm **Education/Outreach Directors' Closed Meeting**

	<i>Co-moderators:</i> Raj Raman (CBiRC) and Lisa Grable (FREEDM)
10:00 – 10:10	Welcoming remarks and introductions, agenda overview
10:10 – 10:30	Potential ERC collaboration with NOVA's education outreach program – Maiken Lilley , NOVA Education Coordinator
10:30 – 12:30	Joys and struggles of running Gen-3 ERC education programs, and some reflections on the attainability of Gen-3 requirements. <i>Topics:</i> <ul style="list-style-type: none"> • Running Programs and Doing Educational Research • ERC Ed Impacts • Graduate Programs • Organizational Structure in ERC Ed Programs • Engaging the Technical Corps • Partnering with Diversity Directors • Partnering with other ERCs
12:00 – 1:00	Working lunch
12:30 – 1:15	Time with Mary Poats, Esther Bolding, Carole Read, and Lynn Preston, NSF
1:15 – 2:00	Evaluation strategies. <i>Topics:</i> <ul style="list-style-type: none"> • What are the opportunities to team? • Which strategies work well, and which don't? (For example, discuss hiring it out vs. DIY)

10:00am – 2:00pm **Research Thrust Leaders' Closed Meeting**

	<i>Co-moderators:</i> Jim Weiland (BMES) and John Wen (Smart Lighting)
10:00 – 10:15	Welcoming remarks and introductions, agenda overview
10:20-11:00	Time with Lynn Preston and Barb Kenny
11:00 – 12:00	Ideation workshop (how to present center-developed technologies to industry effectively) – Dr. Angus Kingon (Brown University)
12:00 – 1:00	Working lunch (continued discussion of ideation workshop and possibly start of discussion of following topics)
1:00 – 2:00	Open discussion of the following topics (as time permits): <ul style="list-style-type: none"> • Best practices, case studies, and experiences with industrial collaboration (IP issues, confidentiality, levels of engagement) • How to work effectively across campuses (how to prevent silos in each university) • Mechanisms for project selection and evaluation • Student advisement in a multi-disciplinary environment • How to get outreach schools more involved and integrated in the overall center research program

2:00pm – 2:30pm **Break**

2:30pm – 4:00pm **Breakout Session II: Cross-function Discussion Sections**

<i>Co-moderators:</i> Claire Gmachl (MIRTHE) and Kate Spohr (SynBERC)	CD/DDs, E&Os, FTLs, ILOs, ADs, SLC, NSF PD	<i>Speakers:</i> Report-out from earlier breakout session I (Claire Gmachl, Kate Spohr); Heidi Faison (Outreach Director, Pacific
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<p><i>Topic:</i> Strategies for sustaining education programs after graduation, focusing on how various ERC personnel can play a central role in this effort</p>		<p>Earthquake Engineering Research Center, a graduated ERC) with an overview of PEER education programs pre- and post-graduation, including sustainability issues; Dr. Marcus Huggans (Senior Director, External Relations, The National GEM Consortium)</p>
<p><i>Co-moderators:</i> Dave McLaughlin (CASA) and John Wissinger (CIAN)</p> <p><i>Topics:</i> (1)Best practices to optimize the role of testbeds; (2) Approaches to balance funding between research projects and testbed construction and operation; (3) How to keep the testbed state-of-art, prevent it from aging and becoming outdated; (4) How to successfully engage industry in using the testbed; what are the barriers and how best to handle; (5) How do testbeds at various ERC academic partner sites interact, avoid duplication, create synergy</p>	<p>CD/DDs, FTLs, SLCs, NSF PD</p>	<p><i>Speakers:</i> Dominique Dagenais (NSF ERC PD) on the newly developed testbed performance criteria; Drew Endy (SynBERC) on BioFAB; Robert Karlicek (Smart Lighting) on their building testbed</p>
<p><i>Co-moderators:</i> Fernando Muzzio (CSOPS) and Joe Montemarano (MIRTHE)</p> <p><i>Topics:</i> Optimizing translation across the Valley of Death; best practices for supporting innovation, esp. through startups</p>	<p>CD/DDs, ILOs, FTLs, IND, SLCs, NSF PD</p>	<p><i>Speakers:</i> Joe Montemarano on the need for and role of universities in supporting startups (both internally and externally generated); Mr. Richard Fox, Partner Astralis Group, on the framework for crossing the valley of death, lessons learned, university roles; Prof. Derek Lidow (Princeton) on the different models for launching and supporting start-ups; Fernando Muzzio on a technology commercialization case study– continuous manufacturing of pharmaceuticals; Dr. Babu DasGupta (NSF IIP program) on funding mechanisms for technology commercialization: i6 Green, AIR, I-Corp, SBIR funding opportunities for startups</p>
<p><i>Co-moderators:</i> Jag Sankar (RMB) and Jack Whalen (BMES)</p> <p><i>Topics:</i> Best practices for implementing inputs from the IAB and SAB in center strategic planning</p>	<p>CD/DDs, FTLs, ILOs, IND, E&Os, NSF PD</p>	<p><i>Speakers:</i> Jack Whalen and BMES IAB chair Dr. Fred Kimock (Morgan Technical Ceramics) on their process for conducting an industry SWOT; Jag Sankar and Matthias Peuster, MD, Ph.D (University of Chicago</p>

		Medical Center) on the RMB ERC's procedures for interacting productively with their SAB
<p><i>Co-moderators:</i> Harvey Borovetz (RMB) and Daniel DeKee (NSF)</p> <p><i>Topics:</i> International Collaboration in research and education: Is "free-form" international collaboration preferable to the formalized partnerships in the Gen-3 model?</p>	<p>CD/DDs, FTLs, ILOs, EDs, ADs, SLCs, NSF PD</p>	<p><i>Speakers:</i> Daniel DeKee, brief intro (NSF's position on this and its evolution, & snapshot of plans of 4 new ERCs); Frank Witte (RMB) on positive aspects of such collaborations; Alex Huang (FREEDM) on difficulties of these collaborations.</p> <p><i>Resources:</i> Dr. Thomas Chapman (NSF OISE), on funding sources; Chandra Chandrasekar (CASA), on non-Gen-3 perspective; ERC international exchange students (Dandan Hong, RMB, Edward Van Brunt, FREEDM & Matt Ide, CBiRC)</p>

4:15pm – 5:30pm **Plenary Session IV: "ERCs: Maximum Impact" (#2 of 2 sessions)**

Moderator: **Deborah Jackson, NSF**

4:15 – 4:50	Brief, high-impact "Who We Are and What We Do" presentations from the 8 ERCs in the Bioengineering & Health Care and Micro/Optoelectronics clusters: 1 new ERC (7 min each) and 7 existing ERCs (3 min each) <i>Order:</i> QoLT, CSNE, RMB, BMES, CIAN, EUV, MIRTHE, CASA
4:50 – 5:30	Informal networking with presenting centers ("Open House" tables.) – Light refreshments will be served

Dinner on your own

THURSDAY, December 1, 2011

Annual Meeting – Day Three

7:00am – 8:00am Breakfast and Networking

8:00am – 9:20am **Breakout Session III: Building the Innovation Ecosystem (both Technology and the Workforce) [organized by tech cluster]**

<p><i>Moderator:</i> Alex Huang & Ewan Pritchard (FREEDM)</p> <p><i>Topics:</i> How to build and sustain the innovation ecosystem in an ERC; Educating innovators;</p>	<p>Energy, Sustainability & Infrastructure (all staff of 5 centers: FREEDM, Smart</p>	<p><i>Speakers:</i> Welcome and Introduction to the session (Alex Huang, Center Director, FREEDM); Innovation in the context of an ERC (Ewan Pritchard, Innovation Program</p>
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<p>Traditional tech transfer balanced against startups—barriers and strategies; Incentivizing IP vs. academic interest; Industry-university collaboration to facilitate commercialization</p> <p>[Note: All these topic ideas are candidates for <u>every</u> cluster meeting in this session]</p>	<p>Lighting, QESST, CURENT, ReNUWIt)</p>	<p>Director, FREEDM); Valley of Death phase I: The Ecosystem and educating innovators (James Barlow, Manager of Outreach, NCIIA, on the new National Center for Engineering Pathways to Innovation-EPI Center); Valley of Death phase II: Translational research and crossing the chasm (Dr. Terri Lomax, Vice Chancellor for Research, NCSU); Valley of Death phase III: Industry working with universities to commercialize IP (Deborah Stokes, Director, External Research, Huawei Technologies)</p>
<p><i>Moderator:</i> Kim Stelson (CCEFP)</p> <p><i>Topics:</i></p>	<p>Advanced Manufacturing (all staff of 4 centers: CCEFP, SynBERC, CSOPS, CBiRC)</p>	<p><i>Speakers:</i> Introductory Remarks (Kim Stelson); Building the Innovation Ecosystem at the ERC for Biorenewable Chemicals (Brent Shanks, Director, and Peter Keeling, ILO); Building the Innovation Ecosystem at the ERC for Compact and Efficient Fluid Power (Kim Stelson); C-SOPS pharmaceutical innovation and commercialization initiative (Fernando Muzzio, Director)</p>
<p><i>Moderator:</i> Dan Siewiorek (QoLT)</p> <p><i>Topics:</i></p>	<p>Biotechnology and Health Care cluster (all staff of 4 centers: QoLT, RMB, BMES, CSNE)</p>	<p><i>Speakers:</i> Jag Sankar (Director, RMB) on an upcoming FDA information workshop; James Jordan (Chief Investment Officer, Pittsburgh Life Sciences Greenhouse) on a multi-pronged approach to growing an innovation ecosystem; James Wolfe, co-founder of Industry, Academics, Clinicians Together (IACT), a student-led startup generator for students in the biomedical field</p>
<p><i>Moderator:</i> Jorge Rocca (EUV)</p> <p><i>Topics:</i></p>	<p>Microelectronics, Sensing, and Information Technology (all staff of 4 centers: CIAN, EUV, CASA, MIRTHE)</p>	<p><i>Speakers:</i> Joe Montemarano on MIRTHE's Investment Focus Group with Stephen So, founder, Sentinel Photonics; Erik Sander, Founding Director, University of Florida Engineering Innovation Institute; Michael De Miranda, Engineering Education Specialist, EUV ERC</p>

9:20am – 9:40am

Break

9:40am – 11:40am **Plenary Session V: NSF Director, Student Contest Results & Report-backs**

Moderator: **Lynn Preston**

9:40 – 10:10	Remarks by NSF Director, Dr. Subra Suresh (introduction by EEC Division Director Dr. Theresa Maldonado)
10:10 – 10:15	Lynn introduces Deborah Jackson , who describes the Elevator Pitch contest; Deborah introduces Dr. Thomas Peterson
10:15 – 10:40	Elevator Pitch prize winners presentation & awards announced by Dr. Thomas Peterson , NSF Assistant Director for Engineering
10:40 – 10:45	Lynn Preston introduces the following presentations and their purpose
10:45 – 10:55	Center Directors/Deputy Directors
11:00 – 11:10	Administrative Directors
11:10 – 11:20	Education & Outreach Directors
11:20 – 11:30	Industrial Liaison Officers
11:30 – 11:40	Research Thrust Leaders

11:45am – 12:00pm **Plenary Session VI: Wrap-up**

11:45 – 12:00	Meeting Feedback & Action Items – Lynn Preston and Court Lewis
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12:00pm **Adjourn**

12:00pm **Lunch** (self-serve box lunch, available “to go”)

12:00pm – 4:00pm ILOs’ Post-meeting Conclave (*Organizer:* **Deborah Jackson**, NSF)