



MSD & FENA 2011 Joint Annual Review

POSTER INFORMATION FOR FENA RESEARCHERS

Please read carefully, as the poster requirements have changed significantly

There are 2 components to the poster presentations:

1) Poster

2) Poster Pitch during Technical Review

Poster Requirements:

- **Expectation:** Each PI group to present ONE poster.
- **Format/Size:** Posters should be in PPT format and no larger than 3 feet X 4 feet.
- **Due Date:** Your poster is due BEFORE the review date on **April 28th, 2011**. If we have not received your poster by then, it will not be presented at the review.
- **Printing & Display:** Each student/researcher will be responsible to print his/her own poster slides and bring them to the review for display. FENA will provide poster backing and adhesive materials. Display of the posters will coincide directly to the theme task numbers. For example, if you are Theme 1 Task 1.2, then your Poster number will be 1.2.
- **Logos:** Please include the FENA and FCRP logos on your posters (See below or download from www.fena.org)
- **Slides Should Include:**
 - a. Poster Title
 - b. Researcher Names
 - c. Institution
 - d. **FENA Theme Affiliation - Follow the theme/task matrix attached and number your own poster by Theme and task (e.g., Theme 1, task 3 = Poster 1.3)**
 - e. Objective
 - f. Introduction
 - g. Experimental
 - h. Results and Discussions
 - i. Conclusions and Future Plans

Poster Pitch Requirements:

- **Pitch:** It is expected that one student associated with each poster will give a 90 second presentation preview of his/her poster material during the review meetings. This student will present a PPT slide summarizing the content of his/her poster.
- **Presentation Slide:** One slide will be presented during your poster pitch. Please make sure that your presentation slide includes:
 - **Poster Title**
 - **Researcher Names**
 - **Institution**
 - **FENA Theme Affiliation** Follow the theme/task matrix attached and number your slide by Theme and task (e.g., Theme 1, task 3 = Poster 1.3)
 - **Brief Highlights of Results**

- Presentations will follow the order of the Theme task numbers: Theme 1 Task 1.1 will be 1st, 1.2 will be 2nd and so on.
- Pitch Slide is due Thursday, April 28th

Due to requests made by our sponsors, poster content will be made available in advance of the review dates. **Please send all poster materials to Katie Wilson at kwilson@ea.ucla.edu by Thursday, April 28th. Also include the name of the person who will give the presentation of the poster at the review.** Specific timing of the presentations will be emailed to all presenters on May 2nd, and those who are presenting will be expected to meet with the FENA team on the morning of Monday, May 9th to discuss logistics.



FENA Task List—Please align your poster number to your Theme and Task number!

This is your poster number!

FENA Phase II Project List		PI Participants
Project Titles		PI Participants
Theme 1: Physical Fabrics		C.A. Moritz (U Mass)
1.1	Integration of Cross-Wire NASIC Systems: Cross-Cutting Issues	C.A. Moritz (U Mass)
1.2	Nanoscale Devices and Technology Enabled Fault Tolerant Nano-Architectonics	C.O. Chui (UCLA)
1.5a	Memory Testbed - Wide Band-gap Materials for Nonvolatile Memories	J. Liu (UCR)
1.6	Discovery Fabrics	A. Khitun (UCLA) K. L. Wang (UCLA) **
Project Titles		PI Participants
Theme 2: Physical Processes & Devices		Roger Lake
2.1	Cold Carrier Injection in Si Nanowires	J. Appenzeller (Purdue)
2.2	Cold Carrier Injection Using Zero Bandgap Semiconductor	S. Salahuddin (UCB) **
2.3	Material Selection for Cold Carrier Injection	R. Lake (UCR) **
2.5	The Scaling Limit of Phase Change Materials	Y.-H. Xie (UCLA)
2.6	Molecular Assembly of Carbon Nanotubes	R. Lake (UCR) **
2.8	Quantum Limited Motion and Mass Transport through Graphene	Keith Schwab (CALTECH)
2.9	Resonating Sensors for Next Generation Fabrication Metrology	R. Candler (UCLA)
Project Titles		PI Participants
Theme 3: Carbon Electronics		Philip Kim
3.1	Wafer-Scale Aligned Graphene Nanoribbons	C. Zhou (USC)
3.2	Surface Passivation of Si with Alkyl Groups for Graphene Synthesis	R. Kaner (UCLA)
3.3	Quantum Transport in the Lateral Graphene Heterojunction	P. Kim (Columbia)
3.4	Graphene Strain-tronics	J. Lau (UCR) **
3.5	Bilayer Graphene "Excitonic" Device	D. Goldhaber-Gordon (Stanford)
3.6	Electric Field Control Nonvolatile Logic Using Bilayer Graphene	K. L. Wang (UCLA) **
3.8	Thermal Transport and Energy Dissipation Characterization in Graphene Nanostructures	A. Balandin (UCR) **
3.9	3D Integrated Carbon Nanotube Circuits	H.S.P. Wong (Stanford)
Project Titles		PI Participants
Theme 4: Correlated Electron Materials		Ramesh
4.1	Domain Wall Based Logic	R. Ramesh (UCB)
4.2	Exchange Coupled Ferromagnet-Multiferroic Heterostructures	C. Ahn (Yale)
4.3	Novel Probes of Correlated Systems	K. Møler (Stanford)
4.4	Modeling and Experimentation on the Possibility of Controlling Magnetization Using Correlated Materials	S. Salahuddin (UCB)**
4.5	Nanoengineered Multiferroic Hybrid Structures for Highly Functional Device Applications	Ki Wook Kim (NCSU)
Project Titles		PI Participants
Theme 5: Functional Materials		Fraser Stoddart
5.1	Beyond Organic Reticular Geometries for Precise Three-dimensional Device Fabric	F. Stoddart (Northwestern) Omar Yaghi (UCLA)
5.2	From Strained Molecules to Functional, Carbon-Based Materials	C. Nuckolls (Columbia)
5.4	Theoretical Simulation for Nanostructured Switching Materials at Molecular Level	Goddard (Caltech)
5.5	Electrical Characterization of Complex Metal Oxide and Semiconductor Nanowires	J. Chang (UCLA)
5.6	Capacitive Energy Storage Using CNTs	B. Dunn (UCLA)
Project Titles		PI Participants
Theme 6: Nanopatterning/Assembly		Caroline Ross
6.1	New Frontiers in Nanolithography via Self-Assembly	G. Fredrickson (UCSB) Craig Hawker (UCSB)
6.2	Templated Self-assembly of Block Copolymers for Nanodevices	C. Ross (Mass Tech)
6.3	Positioning and orienting DNA nanostructures on technological substrates	P. Rothmund (Caltech)
6.4	DNA Nanoarchitectures with CNTs and Graphene	M. Ozkan (UCR)
6.5	Molecular Nanodevices using Engineered Nanowire Templates	Y. Huang (UCLA)
Project Titles		PI Participants
TOPOLOGICAL INSULATORS - 2010		
7.1	TI materials for room temperature operation	SC Zhang (Stanford)
7.2	Robustness of topological insulators with disorders	G. Refael (CALTECH); J. Moore (UCB)
7.3	PLD Topological insulator growth	A. Kapitulnik (Stanford)
7.4	MBE topological insulator growth	F. Xiu (UCLA)
7.5	Infrared properties of topological insulators	D. Basov (UCSD)
7.6	Transport and thermoelectric properties of topological insulators	J. Shi, J.Lau **, A.Balandin (UCR) **
7.7	Tera Hertz properties of TI	B. Williams (UCLA)
7.8	Studies of salient features and benefits of properties for devices	K. L. Wang (UCLA) **
7.9	Scanning Tunneling Spectroscopic Studies	N.C.Yeh (Caltech)

Example: If you work in Theme 7, task 9, your poster number will be 7.9