MRSEC Education Directors Meeting

September 28, 2012
Chicago

NATIONAL SCIENCE FOUNDATION
MRSEC
MATERIALS RESEARCH SCIENCE & ENGINEERING CENTERS

Updates

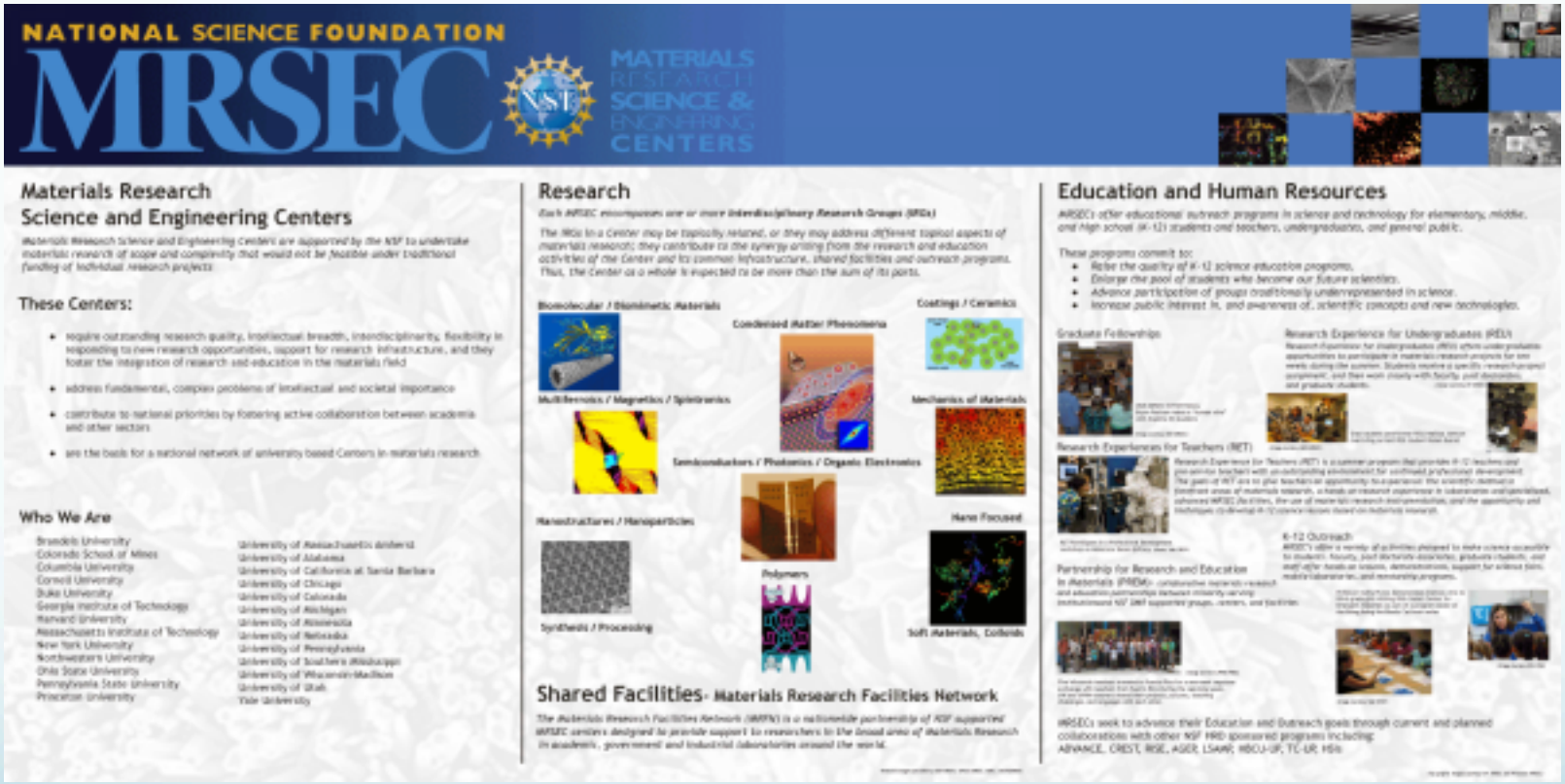
- **MRSEC Representation at NSF JAM**
  - Dan Steinberg and Frank Snowden
- **Netway Project**
  - Summary from Trochim group
- **Undergraduate Research Student Self Assessment [URSSA] REU Project**
  - Presentation by Tim Weston
- **Project FOCIS Collaboration**
  - Presentation and workshop by Dr. Robert Tai

JAM = Joint Annual Meeting;
FOCIS = Framework for observation and categorization of interest in science

Update: NSF JAM

- **NSF Joint Annual Meeting [JAM]: Broadening Participation Research** – June 12-15, 2012; Washington Hilton Hotel.
- Attended by Dan Steinberg and Frank Snowden

Update: NSF JAM



Created with MRSEC input, presented at JAM and posted on MRSEC.org

Netway Update*
NSF Award #0814364

- Covers the Evaluation Planning phase of the evaluation cycle, which includes:
  - Commitment to the project
  - Program Modeling
  - Developing the Evaluation Plan
- Purpose – develop and test the effectiveness of the SEP for evaluation of STEM programs.
- Scope – Using the SEP for Evaluation Planning.

SEP = Systems Evaluation Protocol
***Update provided by the Trochim group; based on grant report**

MRSECs participating in Netway Project

2006	Cohort 1	*CCMR*	
2009	Cohort 2 (fSEP)	University of Chicago University of Maryland	Yale University (CRISP)
2010	Cohort 3 (fSEP)	*Pennsylvania State University* University of California, Santa Barbara University of Minnesota	University of Nebraska University of Washington
2011	Cohort 4 (fSEP)	Colorado School of the Mines *Northwestern University* The Ohio State University	University of Massachusetts University of Pennsylvania *Cornell (CCMR)*
2012	Cohort 5 (mySEP)	Georgia Institute of Technology *Pennsylvania State University*	Brandeis University *Northwestern University*
Funding	Aug 2006- July 2008 NSF #0535492, Aug 2008- July 2013 NSF #0814364		

Facilitated SEP: *Preliminary Findings*

- Participation is associated with **improved understanding of the program and logic** for achieving outcomes
- Participation is associated with **improved ability to discuss and promote the program**
- Participation is associated **with improved evaluation capacity**, and more efficient reiterations of SEP application.
- **Quality of the evaluation plan** is highly correlated to the quality of the program logic and pathway models
- **Managers are using SEP tools** for more than program evaluation (such as for program management, development & planning; grant writing)

Preliminary Findings beyond project scope

- **High levels of support and commitment from funders and organization are associated with ability to conduct quality evaluation.**
  - Lack of time is reported as a barrier to good evaluation.
  - Programs frequently don't have resources dedicated to evaluation.
  - Sustainability of quality program evaluation is a concern in general.
  - Evaluation is ideal for bridging the research-practice and practice-research gaps

- **Assistance with planning evaluation is insufficient for quality evaluation**.
  - **Training and support for evaluation implementation** was requested by most participants.
  - Additional ongoing **support may be needed for finding and developing measures, statistical analysis, and IRB issues**.
  - Refresher evaluation planning workshops and continued consultations on implementation have been requested.

Outputs (Products)

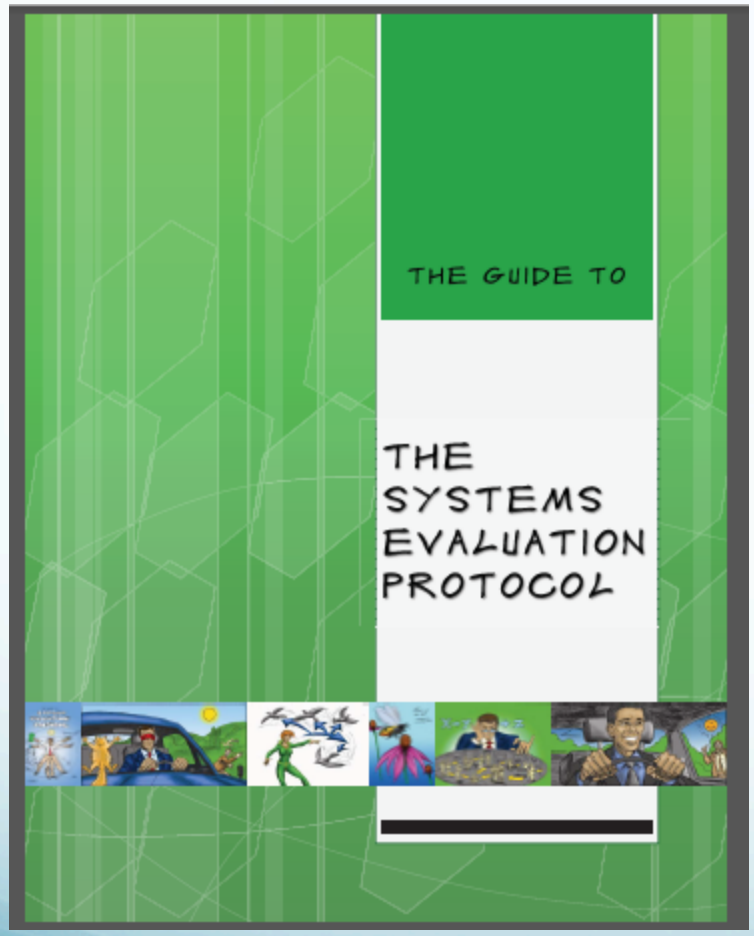
- **Guide to the Systems Evaluation Protocol**
  Trochim, W., Urban, J., Hargraves, M., Hebbard, C., Buckley, J., Archibald, T., Johnson, M., & Burgermaster, M. (2012) The Guide to the Systems Evaluation Protocol. Ithaca, NY. Cornell Digital Print Services.

- **Golden Spike Paper**
  Urban, J. B., & Trochim, W. (2009). The Role of Evaluation in Research-Practice Integration: Working Toward the ‘‘Golden Spike’’. American Journal of Evaluation, 30(4), 538-553.

- **mySEP / Netway –**
  online resources with training materials and resources built into it. Parallels the Notebooks that the fSEP participants received

- **Rubrics**
  measures based on ideas of systems evaluation to assess the quality of logic models and evaluation plans

Guide to the Systems Evaluation Protocol



Step-by-step guide for program planning and developing program evaluation plans.

https://core.human.cornell.edu/

documents/SEPGuide2_small.pdf

(please let CORE know if you download it to use it (evaluationresearch@cornell.edu)

https://core.human.cornell.edu/research/systems/protocol/index.cfm

What do we hope to accomplish?

Expected meeting outcomes:

Participants will gain an increased knowledge of:

1. Existing and validated instruments for assessment of EO programs
2. Limitations of existing instruments
3. Methods of data analysis and implementation

Expected long-term outcomes:

The MRSEC Educators Network will:

1. Establish a plan for continued cross-site evaluation efforts
2. Will start a list of useful and validated instruments to be shared with network members
3. Will initiate the development [and sharing of] resources for data analysis and reporting

Agenda

- **8:30 – 9:00am:** Registration; Networking and continental breakfast
- **9:00 – 9:15am:** Welcome and updates
- **9:15 – 9:45am: Tim Weston** "An Update on the MRSEC Cross-site REU Assessment with the *Undergraduate Research Student Self Assessment Instrument*"
- **9:45 – 10:15am: Patricia Campbell**, Ph. D. "Making It Better: Using Research Results and NSF Frameworks to Improve the Quality and Usability of Evaluations"
- **10:15 – 10:30am:** Coffee Break and Networking
- **10:30 – 11:00am: Gil Noam**, Ed.D., Ph. D., "Assessment Tools of Quality STEM Programming and Engagement: New Developments"

Agenda [continued]

- **11:00 – 11:30am: Cary Sneider**, Ph. D., "The Next Generation Science Standards and MRSEC K-12 Outreach Opportunities"
- **11:30 – 12:00pm: Kirsten Ellenbogen**, Ph.D., "Measuring the Ephemeral: Effective Evaluation of Informal STEM Learning Experiences"
- **12:00 – 1:15pm:** Lunch [committees, networking and election]
- **1:15 – 3:00pm: Robert Tai,** Ph.D. presentation and workshop
- **3:00 – 3:15pm:** Coffee Break and Networking
- **3:15 – 3:30pm:** Wrap-up, post survey and feedback

*Presentations and other resources from this meeting will be posted at: http://www.mrsec.org/events/education-directors-meeting-sept-2012