

## **STEP 2014 Breakout Sessions: Schedules & Descriptions**

### **Breakout Session I Thursday March 6<sup>th</sup> 10:30am-12:00pm**

#### **I-1 Continue the Discussion with Keynote Speaker: Jo Handelsman**

Room: Wilson C

The plenary speaker will be available to answer questions and continue the conversation started during her presentation.

#### **I-2 Working with Learning Analytics Data: Basics that Can Inform Your STEP Project (Workshop)**

Steven Lonn and Deborah Goldberg, University of Michigan

Room: Lincoln 5

Learning analytics can greatly inform the implementation and analysis of intervention and STEP programs and projects. While administrators seem to pull retention and performance metrics magically out of thin air when asked, few researchers actually know what educational “big data” actually looks like. How can you begin to understand what this data says? How can that information be actionable for teaching, learning, and the next phase of the research project? In this workshop, participants will have the opportunity to get their hands “on” real student performance data from higher education courses at a large research university and investigate the intricacies and nuances that are unique within the educational sphere. Participants will also discuss what additional data sources can supplement and enhance the performance data and how best to collect them.

#### **I-3 Effective Practices for Recruiting and Retaining Minorities and Women in STEM (Workshop)**

Pat Marsteller, Emory University; Patricia Hogan, Suffolk University; Javier Kypuros, University of Texas – Pan American

Room: Lincoln 4

In this workshop, we will briefly review the literature on effective practices for recruiting, retaining and academic success for women and underrepresented minority students. Recruitment practices might include 2 year-4 year school partnerships, K12 outreach, parent education and websites in different languages. We will address bridge programs, learning communities, early research, financial aid, and gateway courses, among others. These practices may be differentially effective for particular populations. After a brief review, participants will divide into groups around each practice and develop lists of challenges and opportunities with particular attention to implementation and sustainability of the practices. Following a quasi-jigsaw format, we

will then regroup by institution type and the groups will summarize the practice-based discussions and then formulate plans by institution type. A final reporting out will then occur. All reports will be placed as they occur in our working group on STEP Central. Augmented literature reviews for recruiting and retaining women and underrepresented minority students will be a product of this workshop.

**I-4 How to Implement an Early Alert and Intervention Program to Improve Student Success and Retention (Workshop)**

Edmund Tsang and Paul Engelmann, Western Michigan University

Room: Lincoln 6

In this interactive session, the presenters will work with the session participants to build an Early Alert and Intervention program at their institution to improve student success and retention. Session activities will include: (1) Identify the target student population(s); (2) Select the markers for the target student population that can be used throughout the academic year in their institution; (3) Identify the unit at the institution who can provide the data to (4) Build an Early Alert System for identifying potential at-risk students; (5) Implement an Intervention Program that diagnose academic difficult and make personalized academic habit and strategy change; and (6) Create an assessment and documentation system to evaluate the effect of intervention. The presenters will also describe the Early Alert and Intervention Program at Western Michigan University's College of Engineering and Applied Sciences, and present some preliminary results.

**I-5 Activities and Measures for Critical Elements of a Truly Functioning 2Y/4Y Pipeline to STEM Baccalaureate Degrees (Workshop)**

Dean Livelybrooks, University of Oregon; Pamela Leggett-Robinson, Georgia Perimeter College-Decatur Campus; Eric Triplett, University of Florida

Room: Wilson B

Many STEP projects have focused on developing 2Y/4Y (community college-university) partnerships to increase the number of STEM baccalaureates awarded. In this process these partnerships have identified themes viewed as critical to: fostering STEM identities among 2Y student populations; supporting transfer to 4Y degree programs through advising, career planning, and inter-institutional policy revision, and; developing 2Y/4Y shared student and faculty communities, among other critical elements of this pipeline. Those attending this workshop will develop a common document that tersely describes these themes, outlines activities and practices for each element as tested by various STEP projects, and gives evidence (measures and results) as to how activities and practices served to influence recruitment, transfer and degree persistence. If you are part of a STEP-sponsored 2Y/4Y partnership, you will see new ideas to try out and new measures to incorporate into your project. This document will form the basis for publications on 'best practices for 2Y/4Y STEM partnerships' which you can co-author. This document will be useful in convincing administrators to institutionalize and sustain

2Y/4Y partnerships. it will capture the essence of national efforts and demonstrate your part in shaping these.

**I-6 Interdisciplinary Mathematics in STEM Education: Undergraduate Retention and Research (Workshop)**

Arcadii Grinshpan, University of South Florida

Room: Harding

We will discuss the importance of interdisciplinary mathematics in STEM education. STEM students are usually judged on their ability to solve pure mathematics problems when they take math classes; but in the professional realm, STEM disciplines rely on applying mathematics. The application-based approach to teaching mathematics for STEM students, developed at the University of South Florida, improved STEM retention and increased the number of undergraduate researchers. Over 1,700 interdisciplinary student projects are submitted, dozens of them are published in the "[Undergraduate Journal of Mathematical Modeling: One + Two.](http://scholarcommons.usf.edu/ujmm/)"

(<http://scholarcommons.usf.edu/ujmm/>) Hundreds of USF students, faculty, and community professionals are involved in these activities.

**I-7 Faculty Learning Communities: A Tool for Engaging Faculty in your STEP Project (Workshop)**

Lynn Tashiro and Jennifer Lundmark, Sacramento State University - Sacramento

Room: Coolidge

Faculty Learning Communities (FLCs) are peer lead groups of 8-12 faculty that engage in an active, collaborative, and supportive, year-long program with curriculum focused on a particular topic, problem or question. Best practices professional development models for FLCs can be used to engage faculty in grant activities and build capacity for transferring and institutionalizing successful grant activities beyond project boundaries. Examples of FLCs focused on STEM gateway course redesign, research based teaching strategies, Peer Led Team Learning, First Year Programs, undergraduate research and technology implementation will be shared and deconstructed to provide useful modules for adaptation to other projects and institutional settings.

**I-8 Teaching Flipped! (A flipped workshop)**

Cynthia Furse and Karen Krapcho, University of Utah

Room: Lincoln 2

The Flipped Classroom takes what used to be in the class (the lecture) and what used to be outside of class (the homework) and flips them. Students watch video lectures before coming to class, freeing up class time for active learning -- problem solving and applications. This is a great pedagogy to increase student learning, engagement and success. This workshop is presented by veteran Faculty, experienced in "Flipping": Dr.

Cynthia Furse, who has been teaching this way since 2007, and Karen Krapcho, who is supporting the University of Utah College of Engineering retention efforts. We will talk about how to sanely flip a course, strategies for success, and how this may impact student retention. We will share resources for helping others do this too -- an online Flipped Faculty Flipping course is available-- where faculty can participate in a step-by-step online course to experiment with active learning strategies, learn how to flip a lecture (the technology, the content, how to be successful), and finally flipping their course.

This will be a flipped, Flipped workshop. We will send links to about 15 minutes of video content to all pre-registered attendees, and ask you to watch this video 'lecture' before attending the workshop. Then the whole workshop can be discussion and active participation!

**I-9 Bridge Programs (Poster Panel)**

Angelia Gibson and Maria Siopsis, Maryville College; Ivan Hurtado-Lopez, Northern New Mexico College; and Armando Rivera-Figueroa, East Los Angeles College  
Moderated by Maura Borrego, Virginia Tech  
Room: Wilson A

Many STEP projects involve summer programs for emerging freshman or sophomore students, or for transfer students. This session will consider the challenges and benefits of these programs as a tool for improving recruitment, retention and success of STEM students.

**I-10 Encouraging Student Participation (Poster Panel)**

Melissa Dagley, University of Central Florida; John Davis, Alma College; and Amy Curry, University of Memphis.  
Moderated by Niki Bennett, National Science Foundation  
Room: Hoover

This session will consider the challenges and successes in ensuring student participation in planned enrichment activities that take place outside standard course times. Discussions will include adapting such activities as early research experiences, internships, peer tutoring, open-ended projects, career mentoring, and tutoring to student bodies with large numbers of commuting and/or part time students, or students with complicated schedules and external responsibilities.

**I-11 Improving Student Success in Foundational Courses in Math (Panel. This panel topic is repeated in session III-12)**

Jeffrey Watt, Indiana University-Purdue University Indianapolis; Denise Hayman, Northern Illinois University; and Dhushy Sathianathan, California State University - Long Beach  
Moderated by John Haddock, National Science Foundation

Room: Taylor

This session will consider the challenges, successes, and best practices in preparing students for calculus. Discussions will focus on strategies for identifying at risk students (for example, through the use of calculus readiness tests) and for improving their chances of success through the use of strategies such as bridge programs, peer mentoring, learning communities, changes to precalculus courses, or curricular revisions.

**I-12 Designing and Conducting an Evaluation of Your Project that Meets NSF Expectations (Workshop)**

Clemencia Cosentino, Mathematica Policy Research; Catherine Mobley, Clemson University; Catherine Brawner, Research Triangle Educational Consultants; Matthew Ohland, Purdue University

Room: Lincoln 3

This workshop will provide participants with concrete guidelines to design and conduct evaluations that meet NSF expectations for STEP and other NSF programs. In consultation with NSF program officers, a group of evaluators (who are also STEP Type 2 grantees and who have extensive experience conducting project and program evaluations of NSF efforts) will deliver a workshop that will take participants through the critical steps of an effective evaluation. We will focus in particular on developing a logic model, using that logic model to identify expected outcomes, using those outcomes to identify appropriate metrics, and then establishing the most appropriate methodological approach to determine the effectiveness of the project and answer other questions of interest. We will use examples appropriate to STEP and other NSF programs, provide background materials (in particular information on current standards for rigorous evaluations), and reserve time for a hands-on activity related to designing the evaluation of a project of interest to participants. Our team includes an academic who teaches evaluation design and several researchers who are experts in quantitative and qualitative evaluations.

## **Breakout Session II Thursday March 6<sup>th</sup> 4:15-5:45pm**

### **II-1 Strategies for dissemination and publication of results (Panel)**

John Reisel, University of Wisconsin - Milwaukee; Peggy Doerschuk, Lamar University; and Howard Mzumara, Indiana University-Purdue University Indianapolis.

Moderated by Kate Denniston, National Science Foundation

Room: Lincoln 2

This session will discuss appropriate ways to disseminate results of STEP projects. What are the meetings and conferences that we should consider for presentations and workshops? What journals are most appropriate, and what should we do to increase chances that our manuscripts will be accepted for publication?

### **II-2 Sustaining and Institutionalizing Best Practices Identified in Your STEP Project (Panel)**

Edmund Tsang, Western Michigan University; Wei Chen, University of Central Oklahoma; and Michael Georgiopoulos, University of Central Florida.

Moderated by Amy Chan Hilton, National Science Foundation

Room Lincoln 5

The session will cover some strategies on sustaining and institutionalizing best practices in your STEP projects. Specific examples from STEP grantee panelists that illustrate these strategies will be discussed.

### **II-3 Creating a Community through Evaluation: STEP Evaluation FAQ's and Helpful Resources (Workshop)**

David Blair, St. Edwards University; Kathryn McConnell, Virginia Tech

Room: Taylor

This workshop will involve three main topics. First, the presenters will provide results of a STEP member survey administered in the Spring of 2014 in general themes and then disaggregated specifically to address the needs of evaluation. Second, a list of frequently asked questions and answers will be presented. Lastly, a context and approach to creating a community of evaluators will be discussed. The presenters will involve participants at every level. After results of the survey are presented, we will seek feedback for further directions and/or follow up to survey result. In addition, after presenting the Evaluator FAQ sheet, we will seek additional information/clarification for the questions. Lastly, after the plan for a community of evaluators is presented, we will actively engage the audience in additional ways that the community can be strengthened.

**II-4 Resources to improve your Undergraduate Research and Internship Program**  
(Workshop)

John Davis, Alma College

Room: Harding

There are many resources available for programs interested in initiating or improving their current undergraduate research and internship programs. Many of these resources have not been used effectively for improving these strategies. The goal of this workshop will be to inform participants of these resources. The workshop will start with a general introduction that will include the evidence for undergraduate research and internships being best practices in STEM education. This will be followed by a description of CUR (Council for Undergraduate Research) and other organizations like PKAL (Project Kaleidoscope) that emphasize undergraduate research as a best practice in STEM education. Kelly Mack, Vice President for Undergraduate Science Education and Executive Director of Project Kaleidoscope, and Beth Ambos, Executive Director of CUR-Council of Undergraduate Research, will be present to give PKAL and CUR's perspective. A discussion will follow. Finally, the STEP Central working group will be described and participants will be informed about how they can contribute to the working group.

**II-5 Improving Student Success in Foundational Courses in the Sciences** (Panel)

Jennifer Drew, University of Florida; Richard Kopec, St. Edward's University; and Michael McKibben, University of California - Riverside

Moderated by Gul Kremer, National Science Foundation

Room: Lincoln 6

This session will consider the challenges and successes associated with foundational courses designed for STEM majors. Discussions will focus on strategies to increase student retention through the use of summer bridge and pre-college enrichment programs, peer mentoring, learning communities, special introductory courses or seminars, pedagogical changes, or curricular revisions.

**II-6 Undergraduate Research - Implementation in the Community College** (Poster Panel)

Adam Keller, Ohio State University; Paris Svoronos, Queensborough Community College of the City University of New York; and Rakesh Pangasa, Arizona Western College.

Moderated by Yvette Weatherton, National Science Foundation

Room: Wilson A

This session will provide two- and four-year institutions a road map for bringing undergraduate research into the two-year curriculum. Emphasis will be on student recruiting at the freshman level, selection of simple-to-understand topics, summer paid internships as means to involve engagement, and retention while securing a smooth, seamless transition to a four-year college upon graduation.

**II-7 Strategies for implementing Structured Support Systems for Underrepresented Students** (Workshop)

Claudia Vergara, Theodore Caldwell, Jon Sticklen, Michigan State University

Room: Lincoln 3

This workshop will briefly relate the critical factors and lessons learned in implementing the Diversity Program Office - Scholars Program (DPO-SP) at our institution. DPO-SP is an academic yearlong program designed to provide a highly structured academic and social support system for first year students coming from areas of low socio-economic status. The program includes several components designed to support students during their transition from high school into university life; participation in all the components of the program is mandatory. The objectives of the workshop are to 1) Briefly relate the structure of the DPO-SP program and its main components and the key factors and lessons learned during its implementation at Michigan State University. We will also discuss the program evaluation. 2) Facilitate participants' discussions about the opportunities and challenges associated with implementing similar support programs at their institutions.

**II-8 Don't Reinvent the Wheel: Partners and Strategies to Effectively Manage Your STEP Project** (Workshop)

Karen Olmstead, Salisbury University

Room: Coolidge

STEP projects may involve several activities, multiple faculty and University staff, pre-college and college students, and external agencies and organizations. Implementing, managing and assessing project elements are difficult tasks that often require support from across a campus. Managing your STEP project also requires strong organizational and leadership skills. The goal of this workshop will be to support project management skills through a review of standard university offices/services and their relevance to your project; considerations for working with external agencies; and strategies to increase organizational skills and effectiveness.

**II-9 Peer Mentoring Programs** (Panel)

John Sibert, University of Texas at Dallas; Sadegh Davari, University of Houston-Clear Lake; and Kathleen Marrs, Indiana University-Purdue University Indianapolis

Moderated by Jose Herrera, Western New Mexico University

Room: Lincoln 4

Many STEP projects involve peer mentoring programs. This session will consider the challenges and benefits of peer mentoring as a tool for improving retention and student success.



**II-10 Fostering Changes in institutional Culture and Practice (Panel)**

Joseph Martin, Rutgers, The State University of New Jersey - Camden; Susan Shadle, Boise State University; and Kandethody Ramachandran, University of South Florida  
Moderated by Maura Borrego, Virginia Tech

Room: Hoover

This session will discuss ways in which STEP grantees can help bring about the changes on their campus necessary for the long-term sustainability of these and other initiatives to improve STEM education.

**II-11 Learning Communities and Cohort Building (Panel)**

Tammy Salmon-Stephens, University of Wisconsin - Platteville; Xiaohong Zhang, West Virginia State University; and Melissa Dagley, University of Central Florida  
Moderated by Niki Bennett, National Science Foundation

Room: Wilson C

This session will focus on strategies for building community among students, and the impact of those strategies on STEM retention. Discussion topics include strategies aimed at critical transition points where attrition or low academic performance is known to be high for certain groups (e.g., entering freshman, community college transfers, transition to upper division core, underrepresented engineering students).

**II-12 Roundtable for Type 2 and STEP Centers projects**

Room: Wilson B

This session is designed to allow a forum for those with Type 2 awards and STEP Center awards to share their ideas, strategies, success stories, and challenges. Others wanting to learn more about these projects are welcome to attend.

## **Breakout Session III: Friday, 10:00 – 11:30**

### **III-1 Continue the Discussion with keynote speaker Vincent Tinto.**

Room: Lincoln 2

The plenary speaker will be available to answer questions and continue the conversation started during his presentation.

### **III-2 STEPWork: A Workshop on Sustainability of STEP Grants through Workforce Board Collaboration (Workshop)**

Michael Georgiopoulos and Melissa Dagley, University of Central Florida

Room: Hoover

One of the biggest challenges of NSF STEP grant efforts is to find ways to institutionalize the project at the respective institutions and to also find other reliable sources of funding (private funding sources, other funding sources) well and beyond the resources that the institution can provide. Emphasis will be placed on sustainability efforts involving partnerships of STEP grantees and Workforce organizations from their region. This session will showcase successful Workforce funding efforts and the upcoming STEPWork Meeting being held on May 8-9, 2014. Attendees will be invited to provide feedback on the STEPWork meeting details, help determine best strategies for the meeting, and discuss the potential for continuing the STEPWork meeting into future years for current STEP and other funded projects.

### **III-3 How to Work With an Evaluator on a STEM Education Project: Maximizing Benefits and Minimizing Costs (Workshop)**

Mary Anne Sydlick, Western Michigan University; and Mark Urban-Lurain, Michigan State University.

Room: McKinley

Researchers are often unfamiliar with the potential benefits associated with including a professional evaluator for their projects, and are confused and uneasy when a funding agency indicates that evaluation is a prerequisite to receiving an award. STEP PI's/CoPI's and evaluators who attend this session will have the opportunity to learn more about how to build and sustain productive working relationships. The co-presenters will start by asking participants about their experiences with evaluations/evaluators. We will then provide some background information on what a good evaluation should look like, followed by a description of how formative feedback has been used to bring about positive course-correction changes to on-going projects. Participants will then engage in an activity designed to explore their ideas/experiences/possible misconceptions about evaluator/researcher roles, obligations, and relationships. The workshop will end with a participant-generated checklist of how to use evaluation as a value-added dimension of their projects. The checklist will be made available at the STEP Central website.

**III-4 Study Design, Data Collection and Dissemination of Results (Workshop)**

Eric Grodsky, University of Wisconsin

Room: Lincoln 3

This workshop is intended to help STEP projects develop effective research design strategies and bring their important findings to publication. We build on our experience from a two-year project in which we partnered with four STEP Type 1 grantees to collect comparable administrative and survey data across sites as well as our current efforts to extend that work. We believe this model of cross-site collaboration and data collection holds tremendous promise for future efforts aimed at learning from the important work of STEP Type 1 projects and we will describe how grantees might implement these strategies in their own work. Finally, we discuss how to get the most from the data you collect by publishing in key journals and disseminating your results through conference presentations, issue briefs, NSF Highlights and other means.

**III-5 Strategies That Enhance the Success of Peer-Assisted Learning/PLTL Programs (Workshop)**

Jennifer Lundmark, Ellen Berg, Lynn Tashiro, Joel Schwartz and Kari Isch, California State University – Sacramento

Room: Lincoln 4

Encouraging students to help other students (e.g. In PLTL, or Peer-Assisted Learning (PAL), as we call it) has a long track record of success. Our project has focused on using strong students as both PAL facilitators and Peer Advisors to assist students in successfully navigating STEM gateway courses. This workshop will focus on some of the strategies used to train PAL facilitators and PAL advisors, including action research projects conducted by the undergraduate facilitators. Detailed observation and evaluation protocols, essential to maintaining a consistent PAL environment, will also be discussed, as will the training and support of Peer Advisors. We will begin by introducing the structure of the PAL model and Peer Advising program on our campus - student demographics, enrollment, course partners, and will then describe some of the challenges we've faced in building our programs. After introducing each challenge, participants will be asked to brainstorm (using a Backwards Design model that will be loosely scaffolded on handouts) possible ways to overcome that challenge at their own institution. Following a discussion period, we will also introduce our approach and appropriate data that may illustrate its effectiveness. The challenges to be addressed include: how to best train facilitators and advisors before and during the semester, given limited resources and other institutional limitations; how to ensure that the sessions are running as envisioned and according to PAL/PLTL guidelines; how to keep top students engaged with pedagogy.

**III-6 Using Mini-Grants to Increase Sustainability, Faculty Buy-in, and Institutionalization** (Workshop)

Jeffrey Watt, Kathleen Marrs, Charlie Feldhaus, and Howard Mzumara, Indiana University-Purdue University Indianapolis  
Room: Lincoln 5

The Central Indiana STEM Talent Expansion Program (CI-STEP) started its work in 2010 as a comprehensive award aimed at increasing graduation in STEM through a number of initiatives including peer mentoring in gateway courses, development of STEM bridge programs, and the creation of a career services office. One of the most impactful and successful initiatives has been the Mini-Grant program developed by the CI-STEP team. A request for proposals was distributed to all faculty in STEM departments in May 2011. The request explicitly stated that each proposal include work that is above and beyond the normal requirements of the position, that successful achievement of the objectives or outcomes will promote retention and persistence in STEM and must clearly identify assessment methods. Additional criteria included: awards ranging from \$5,000 - \$25,000, involvement of collaborators, have immediate impact on a broad range of students and demonstrate innovativeness, effectiveness and inclusiveness. An essential component of a successful proposal was the letter of support from administration and a statement of sustainability beyond the mini-grant funding. CI-STEP attributes much of its impact-to-date on the increase of STEM graduates to the successfully funded mini-grants and their dedication to the mission of STEP, ultimately taking a step toward institutional and cultural change on our campus.

**III-7 Developing a STEM Faculty Mentor Training Program** (Workshop)

Armando Rivera-Figueroa, Marina D. Rueda, Patricia Reynaga, Cathleen Rozadilla, Paulina Palomino, East Los Angeles College  
Room: Lincoln 6

This workshop will focus on California community college training of STEM faculty mentors, who work with students one-on-one to address the key items affecting STEM student success. The focus is to experience and discover the multitude of resources and best practices available when developing a STEM faculty mentoring program, and how to identify topics to train the faculty. Though many of the resources are California based, and community college specific, several may be tailored and/or restructured to be implemented in four-year and/ or non-California based programs.

**III-8 Getting Back on Track! Strategies for Overcoming a Slow Start and Re-engaging the Campus Community** (Workshop). **THIS SESSION HAS BEEN CANCELLED**

Presented by Laurie Riggs, California State Polytechnic University – Pomona; Rebecca Eddy, Cobblestone Applied Research & Evaluation, Inc.

Room: Taylor

At Cal Poly Pomona, the STEP Program "Three Strategies to Retain and Graduate STEM Students" encountered many barriers during its first 3 years. Some of these barriers were due to institutional changes beyond our control; others were self-inflicted. The 3rd year review with NSF program officers provided the much-needed push for re-organization and re-prioritization of our project. The PIs used NSF's comments to re-engage campus administrators and to restructure the project. Now, half way through our 4th year, the project is thriving. The PIs and the external evaluator for the project will share experiences about what led to the problems encountered to help newer programs avoid making the same mistakes. They will also share strategies that worked (and those that didn't) in getting the program back on track.

**III-9 Would You Say That if You Knew...Addressing Inclusive Language on Campus**  
(Workshop)

Tamera Fuller and Paige Smith, University of Maryland – College Park

Room: Coolidge

STEM students with underrepresented identities face a number of barriers on campus that prevent them from viewing campuses as friendly, welcoming, and affirming of their identities. Even on campuses where faculty and staff are actively working to provide affirming environments, underrepresented students face exclusion from peers through subtle actions, such as language. This session aims to cultivate critical conversations among participants in hopes that the discussion will inspire others to continue the conversation in their own units or at their campuses. This session will also review components of a comprehensive campaign about why language matters. Participants will engage in simulated classroom experiences demonstrating approaches to conversations around language and inclusion.

**III-10 Learning Communities 101 or 401** (Workshop)

David Grise, Texas A & M University – Corpus Christi

Room: Tyler

Learning communities are successful but difficult to implement and maintain. The goal of this participant-driven workshop is to bring together people who would like to develop learning communities, are new to learning communities or have experience with learning communities to share ideas about how to further develop their learning communities. Participants will divide into topic groups, and after discussion, each topic group will report the results of their discussion to all participants. Participants will have the opportunity to participate in two topic groups. Participants should have an understanding of strategies that have worked in other learning communities and should

be able to adapt these strategies to improve their learning communities. This workshop should be of use to anyone involved in a learning community.

**III-11 Assessing Transfer Students at 4 Year Institutions** (Workshop)

John Sibert, University of Texas at Dallas; Dave Galley, Collin College; Kory Goldammer, Richland College

Room: Truman

The Dallas STEM Gateways Collaborative is a cooperative project that provides a comprehensive and coordinated set of activities across three campuses (UT Dallas, Collin College and Richland College), focusing on the gateway experiences during the first two years of a student's undergraduate experience. The ultimate goal of the project is to establish and grow a pipeline for STEM majors from the two-year institutions, Collin and Richland College, to UT Dallas. The development of methods for tracking the number and success of transfer students in specific activities and as a collective body is critical to the long-term success of our project. In this workshop, we will discuss our approach and, through interactive exercises, help attendees formulate methods and refine questions for assessing student numbers and performance in their project activities.

**III-12 Improving Student Success in Foundational Courses in Math** (Panel. This panel topic is repeated in session I-11)

Denise Hayman, Northern Illinois University; Ivan Lopez, Northern New Mexico College; G Donald Allen, Texas A & M University

Moderated by John Haddock, National Science Foundation

Room: Taft

This session will consider the challenges, successes, and best practices in preparing students for calculus. Discussions will focus on strategies for identifying at risk students (for example, through the use of calculus readiness tests) and for improving their chances of success through the use of strategies such as bridge programs, peer mentoring, learning communities, changes to precalculus courses, or curricular revision.