Transforming STEM Higher Education: Confirming the Authority of Evidence

CONFERENCE PROGRAM
November 8–10, 2018 • Atlanta, Georgia
Transforming STEM Higher Education: Confirming the Authority of Evidence

Dear Colleagues,

Welcome to the 2018 AAC&U STEM Conference!

Each year, AAC&U and Project Kaleidoscope (PKAL) host one of the largest interdisciplinary gatherings of undergraduate STEM reformers from across the country. As one of the AAC&U Network for Academic Renewal conferences, our STEM conference focuses not only on mere dissemination, but also deep exploration and examination of evidence-based models, strategies, and practices that are needed to empower us to produce more competitively trained, liberally educated STEM graduates.

Like you, we believe that if we are to be successful in reforming STEM higher education, it will require our sincere commitment to developing different ways of knowing, understanding, and communicating effectively across disciplinary boundaries, institutional contexts, and data preferences. We invite you to join us over the next two days as we question our own beliefs about what should count as evidence – especially when that evidence has the potential to redress trends that limit the participation of certain groups in our fields.

As a first step, we have invited several nationally-renowned keynote speakers from a broad disciplinary range to share their perspectives, and we’ve accepted more proposal abstracts than ever before! It is our intent to create a defining moment in our STEM reform effort where all disciplinary expertise is not only welcomed, but also appreciated and valued.

Again, thank you for joining us. We are extremely excited about this year’s conference. We trust that your experience will be very rewarding, and we look forward to learning from you and your institutional accomplishments, classroom best practices, and professional experiences. If there is anything we can do to make your experience a better one, please, don’t hesitate to let us know.

Sincerely,

Vice President for Undergraduate STEM Education; and Executive Director, Project Kaleidoscope
AAC&U thanks the following sponsors for their generous support.

**Gold Level**

*The Chronicle of Higher Education* has the nation’s largest newsroom dedicated to covering colleges and universities. As the unrivaled leader in higher education journalism, we serve our readers with indispensable real-time news and deep insights, plus the essential tools, career opportunities, and knowledge to succeed in a rapidly changing world. Our award-winning journalism is well-known at colleges and universities: More than 2 million people visit our website every month, and 1,650 organizations across the country make our journalism available to every one of their employees and students. Our newsroom is home to top experts in higher education who contribute to the ongoing conversation on the issues that matter.

*Inside Higher Ed* is the online source for news, opinion, and jobs for all of higher education. Whether you’re an administrator or a faculty member, a grad student or a vice president, we’ve got what you need to thrive professionally: breaking news and feature stories, provocative daily commentary, career advice, and practical tools to advance your career. *Inside Higher Ed* is a top resource for those in higher education, drawing 1.5 million readers each month, making it the ideal platform to reach a large and diverse audience of higher education professionals. Visit insidehighered.com today.

**Silver Level**

*LatinosinHigherEd.com* was founded in 2006. LatinosinHigherEd.com is the first Latino professional employment web site designed specifically for the higher education community. It was launched in response to a growing concern about the need to promote career opportunities in higher education for the growing Latino population. This site helps employers connect with the largest pool of Latino professionals in higher education in the United States, Puerto Rico and internationally by disseminating employment opportunities to registered candidates and a national network of Latino-serving organizations.

**Friend Level**

*The Woodrow Wilson Teaching Fellowship* recruits the nation’s best and brightest recent college graduates and career changers in STEM fields with generous financial support to complete an intensive yearlong master's degree program in teaching at one of Woodrow Wilson’s partner universities in Georgia and Pennsylvania.

How it works:
- Fellows are admitted into a master's degree program at a well-established partner university.
- Each Fellow receives a generous stipend. Once Fellows are certified teachers at the end of the first year, they obtain salaried employment in high-need schools.
- All Fellows spend one full school year in extensive preparation for teaching in a high-need urban or rural secondary school prior to becoming the teacher-of-record.
- Fellows commit to teaching for at least three years in a high-need school.
- Fellows receive intensive support and mentoring throughout the three-year teaching commitment.
- Fellows become lifelong members in a national network of Woodrow Wilson Fellows.
AAC&U's Network for Academic Renewal offers four annual working conferences, collaboratively designed and led by experienced practitioners and drawing from AAC&U member campuses and projects.

We welcome your comments and suggestions for how to enhance future conferences to be more effective and worthwhile for you and the higher education community. If you would like to be involved in the planning of upcoming conferences, please let us know.

Siah Annand  
Director, Network for Academic Renewal  
annand@aacu.org

Jacqueline Martin  
Program Manager, Network for Academic Renewal  
martin@aacu.org

**UPCOMING AAC&U EVENTS**

**AAC&U Annual Meeting | Raising Our Voices: Reclaiming the Narrative on the Value of Higher Education**  
January 23-26, 2019 ● Atlanta, Georgia

**Creating a 21st-Century General Education: Responding to Seismic Shifts**  
February 14-16, 2019 ● San Francisco, California

**Diversity, Equity, and Student Success | Engaged Inclusivity: Perceptions, Realities, and Aspirations**  
March 28-30, 2019 ● Pittsburgh, Pennsylvania

**Global Engagement and Social Responsibility**  
October 17-19, 2019 ● San Antonio, Texas

**Transforming STEM Higher Education**  
November 7-9, 2019 ● Chicago, Illinois

Additional information can be found at [www.aacu.org/events](http://www.aacu.org/events). Questions may be directed to network@aacu.org.

**OPPORTUNITIES TO CONNECT**

Here are a few ways for you to connect with colleagues during the conference:

- Badge ribbons indicating areas of interest will be available at the conference registration desk. Please select a ribbon or ribbons that best match your primary area of interest.
- Sign-up sheets for lunch and dinner groups on Friday are available in the registration area.
- Join the conversation on Twitter at #AACUSTEM
UPCOMING EVENTS FROM AAC&U’S OFFICE OF UNDERGRADUATE STEM EDUCATION

AAC&U 2019 TIDES Institute
Teaching to Increase Diversity and Equity in STEM
June 10-14, 2019
Los Angeles, California
https://www.aacu.org/2019-TIDES

PKAL STEM Leadership Institute
Institute I: July 9-14, 2019
Institute II: July 16-21, 2019
The Claggett Center, Adamstown, Maryland
https://www.aacu.org/summerinstitutes/sli/2019

PKAL Regional Networks • www.aacu.org/pkal/regional

NORTH CAROLINA
Strategies for Effective Teaching and Enhanced Student Learning: Principles of Brain-Based Learning Applied to Every Classroom
Greensboro, North Carolina
November 30, 2018

MASSACHUSETTS
Faculty Development for Inclusive Excellence in STEM
Wheaton College, Norton, Massachusetts
January 9, 2019

PUERTO RICO
Fostering Inclusive Excellence = Higher Retention Rates
University of Puerto Rico, Humacao, Puerto Rico
February 16, 2019

SOUTHERN CALIFORNIA
Teaching Every Student: Practical Tools for STEM Education
The Claremont Colleges, Claremont, California
March 9, 2019

CAPITAL AREA
A Call to Action for Diversity and Inclusion in STEM
Bowie State University, Bowie, Maryland
March 15, 2019

UPSTATE NEW YORK
2019 Upstate PKAL Annual Meeting
Rochester Institute of Technology, Rochester, New York
April 13, 2019

NORTH CAROLINA
Teaching Students How to Learn
Greensboro, North Carolina
May 14 or 15, 2019

OHIO
The Fifth Annual Ohio PKAL Conference
University of Dayton, Dayton, Ohio
May 18, 2019

MASSACHUSETTS
Reading, Writing and Arithmetic: Expanding the Capabilities of All STEM Students
Massachusetts College of the Liberal Arts, North Adams, Massachusetts
June 14, 2019
AAC&U thanks the following individuals for their time and expertise in helping to develop the conference themes and program.

<table>
<thead>
<tr>
<th>Institution</th>
<th>Name</th>
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<tbody>
<tr>
<td>Agnes Scott College</td>
<td>Lilia Harvey</td>
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<tr>
<td></td>
<td>Associate Vice President for Academic Affairs and Associate Dean of the College</td>
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<td></td>
<td>Amy Lovell</td>
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<td></td>
<td>Professor of Astronomy</td>
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<td>Auburn University</td>
<td>Taffye Clayton</td>
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<td>Associate Provost and Vice President for Inclusion and Diversity</td>
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<td>Christian Brothers University</td>
<td>James McGuffee</td>
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<td></td>
<td>Dean, School of Sciences</td>
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<tr>
<td>Clemson University</td>
<td>Bridget Trogden</td>
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<td></td>
<td>Associate Dean for Undergraduate Studies</td>
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<td>Duke University</td>
<td>Lee Willard</td>
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<td>Senior Associate Dean, Academic Planning</td>
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<td>Elizabeth City State University</td>
<td>Gloria Payne</td>
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<td>Chair, Marshall A. Rausch Distinguished Professor</td>
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<td>Embry-Riddle Aeronautical University</td>
<td>Debra Bourdeau</td>
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<td>Chair, Department of English, Humanities and Communication</td>
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<td>Emory College</td>
<td>Cora MacBeth</td>
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<td>Assistant Dean for Science</td>
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<td>Pat Marsteller</td>
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<td>Professor of Practice in Biology</td>
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<td>Georgia Gwinnett College</td>
<td>Judy Awong-Taylor</td>
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<td>Secretary for Association of Southeastern Biologists and Professor of Biology</td>
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<td>Georgia Institute of Technology</td>
<td>Wendy Newstetter</td>
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<td>Assistant Dean for Educational Research and Innovation College of Engineering</td>
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<td>Donald Pearl</td>
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<td>Director, Center for Academic Success</td>
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<td>Georgia Perimeter College</td>
<td>Pamela Leggett-Robinson</td>
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<td>Associate Professor of Chemistry</td>
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<td>Guilford College</td>
<td>Arlene Cash</td>
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<td>Vice President for Enrollment Management</td>
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<td>Kennesaw State University</td>
<td>Kadian Callahan</td>
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<td>Assistant Dean for Faculty &amp; Student Success</td>
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<td>Scott Reese</td>
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<td>Assistant Dean for Curriculum and Associate Professor of Biology</td>
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<td>Miami Dade College</td>
<td>Heather Belmont</td>
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<td>Yolanda Anderson</td>
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<td>Associate Vice Chancellor for Faculty</td>
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<td>Gail Hollowell</td>
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<td>Associate Professor, Biology</td>
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<td>Queens University of Charlotte</td>
<td>Jeffrey Thomas</td>
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<td>Director of General Studies</td>
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<td>Spelman College</td>
<td>Aditi Pai</td>
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<td>Associate Professor of Biology</td>
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<td>Leyte Winfield</td>
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<td>Associate Professor of Chemistry</td>
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continued, over
AAC&U thanks the following individuals for their time and expertise in helping to develop the conference themes and program.

**Stetson University**  
Alicia Slater  
*Professor and Chair of Biology*

**University of Alabama**  
Frankie Laanan  
*Professor, Higher Education Administration*

**University of Georgia**  
Alice Hunt  
*Assistant Research Scientist*

Paula Lemons  
*Associate Professor*

**University of North Carolina Asheville**  
Susan Reiser  
*Associate Dean of Natural Sciences*

**University of North Georgia**  
Sarah Formica  
*Fuller E. Callaway Professorial Chair & Associate Professor of Physics*

**University of South Florida**  
Gerry Meisels  
*Director of Coalition for Science Literacy*

Peter Stiling  
*Assistant Vice Provost - Strategic Initiatives*

Kevin Yee  
*Assistant Dean, Student and Faculty Development*

**Wesleyan College**  
Laura Strausberg  
*Junior Faculty Member and Chemist*

**Western Carolina University**  
Brandon Schwab  
*Associate Provost for Academic Affairs*

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**FEATURED SESSIONS**

**LEAP Featured Sessions**  
Conference sessions designated as “LEAP Featured Sessions” make explicit links between campus-based educational reform and the LEAP Essential Learning Outcomes, Principles of Excellence, and High-Impact Practices developed as part of AAC&U’s Liberal Education and America’s Promise (LEAP) initiative.

**Project Kaleidoscope (PKAL) Featured Sessions**  
Conference sessions designated as “PKAL Featured Sessions” are intended to highlight the innovative work of alumni of the Project Kaleidoscope STEM Leadership Institute. These sessions make explicit links between the development of leadership consciousness that occurs during the Institute and its institutional impact on STEM higher education reform.

**Howard Hughes Medical Institute (HHMI) Featured Sessions**  
Conference sessions designated as “HHMI Featured Sessions” highlight efforts of colleges and universities that are funded by the Howard Hughes Medical Institute to build institutional capacity for excellence in STEM. These sessions also feature cutting-edge innovations in STEM reform that arise from disciplinary research.
ABOUT THE PROGRAM

This program provides a list of all conference sessions, including title and presenters. For concurrent session descriptions, please see the online program at www.aacu.org/conferences/stem/18 or the Guidebook app. Information on the app was emailed to all registrants and is available via the conference website and at the registration desk.

Session Types
Each session is designated to one of the following types based on the scope and scale of the work to be presented:

- Session Type I: Individual Classroom/Project-Level Interventions
- Session Type II: Institution-Level Interventions
- Session Type III: National-Level Intervention

Session Formats

- Poster Sessions
  Presenters will be available throughout the poster session to discuss their presentation.

- Innovation/Ideation Sessions
  These sessions feature strategies that may be exploratory or untested. Three to four presentations of equal length are grouped and time for questions and feedback is provided. The presentations will run back to back.

- Discussions
  These sessions provide an opportunity for conference attendees to examine STEM higher education reform topics of interest. In most cases two 30-minute discussions have been paired as a session; in the case of paired discussions the discussions will run back to back.

- Workshops
  Workshops are designed to provide an interactive environment for conference attendees to deeply examine, explore, and/or experience the relevant theories and implementation strategies that can contribute to advancing STEM higher education reform.

Keywords

Sessions are tagged with the following keywords to help locate topics of interest. The Guidebook App will allow you to view sessions by keyword.

- Active Learning
- Assessment
- Broadening Participation
- Communities of Practice
- Course-based Undergraduate Research
- Faculty Mentoring
- Institutional Change/Transformation
- Interdisciplinarity
- Hispanic Serving Institution (HSI)
- Historically Black Colleges and Universities (HBCU)
- Leadership
- Learning Assistance
- Learning Communities
- Metacognition
- Peer Mentoring
- Predominantly Undergraduate Institution (PUI)
- STEM Faculty
- Summer Bridge Programs
- Supplemental Instruction
- Transfer Students
- Undergraduate Research
- Virtual Learning
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<th>Time</th>
<th>Event</th>
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<tr>
<td>9:30 a.m. – 7:00 p.m.</td>
<td>Conference Registration</td>
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<tr>
<td>2:00 – 5:00 p.m.</td>
<td>Pre-Conference Workshops <em>(additional registration required)</em></td>
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<tr>
<td>5:00 – 7:00 p.m.</td>
<td>Dinner on Your Own</td>
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<tr>
<td>7:00 – 8:00 p.m.</td>
<td>Keynote Address</td>
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<tr>
<td><strong>Sylvia Hurtado, University of California, Los Angeles</strong></td>
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<tr>
<td>8:00 – 9:15 p.m.</td>
<td>Welcome Reception and Poster Sessions</td>
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**Thursday, November 8, 2018**

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<th>Time</th>
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<tr>
<td>7:00 a.m. – 6:00 p.m.</td>
<td>Conference Registration</td>
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<tr>
<td>7:00 – 8:00 a.m.</td>
<td>Breakfast</td>
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<td>7:45 – 8:45 a.m.</td>
<td>Concurrent Sessions</td>
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<tr>
<td>9:00 – 9:30 a.m.</td>
<td>Newcomers Welcome and Selected Discussions</td>
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<tr>
<td>9:45 – 10:45 a.m.</td>
<td>Keynote Address</td>
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<tr>
<td><strong>Nathan Klingbeil, Wright State University</strong></td>
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<tr>
<td>10:45 – 11:15 a.m.</td>
<td>Refreshment Break</td>
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<tr>
<td>11:15 a.m. – 12:15 p.m.</td>
<td>Concurrent Sessions</td>
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<tr>
<td>12:15 – 2:00 p.m.</td>
<td>Lunch on your own</td>
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<td>2:00 – 3:00 p.m.</td>
<td>Concurrent Sessions</td>
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<td>3:15 – 4:15 p.m.</td>
<td>Concurrent Sessions</td>
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<td>4:30 – 5:30 p.m.</td>
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<td>5:30 – 6:30 p.m.</td>
<td>Poster Sessions</td>
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**Friday, November 9, 2018**

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<tr>
<td>7:00 – 8:00 a.m.</td>
<td>Breakfast</td>
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<td>7:45 – 8:45 a.m.</td>
<td>Concurrent Sessions</td>
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<tr>
<td>9:00 – 9:30 a.m.</td>
<td>Keynote Address</td>
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<tr>
<td><strong>Kamau Bobb, Georgia Institute of Technology</strong></td>
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**Saturday, November 10, 2018**

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<td>7:00 – 8:00 a.m.</td>
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<td>8:00 – 9:00 a.m.</td>
<td>Concurrent Sessions</td>
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<td>9:15 – 10:15 a.m.</td>
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<td>10:30 – 11:30 a.m.</td>
<td>Concurrent Sessions</td>
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<tr>
<td>11:45 a.m. – 12:45 p.m.</td>
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<td><strong>Kamau Bobb, Georgia Institute of Technology</strong></td>
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PROGRAM OF EVENTS

THURSDAY, NOVEMBER 8, 2018

CENTENNIAL FOYER, LOWER LEVEL 1
9:30 A.M. – 7:00 P.M. CONFERENCE REGISTRATION AND MEMBERSHIP INFORMATION

2:00 P.M. – 5:00 P.M. PRE-CONFERENCE WORKSHOPS
Separate Registration and Fee Required

HANOVER F, LOWER LEVEL 2
PRE-CONF. WK 1: Strategies for Assessing and Providing Feedback to STEM Students on Intellectual and Practical Skills
Intellectual and practical skills such as problem solving, communication, and teamwork are commonly listed as desired outcomes in STEM undergraduate curricula (AAAS, 2009; National Research Council, 2012, 2013). These skills, along with information processing, critical thinking, and management are not only useful for students as they enter STEM fields, but they are also critical for students to be successful learners within active learning classrooms. While the development of these skills is often a general goal for courses and programs, the cultivation of these skills is seldom explicitly discussed or assessed in the classroom. In active learning environments, practical skills can be developed and made visible through student assignments and tasks. The ELIPSS (Enhancing Learning by Improving Process Skills in STEM) project has assembled a team of STEM faculty across disciplines and spanning a range of institution types to develop, validate, and implement rubrics to assess evidence of students’ practical skills in both student artifacts and interactions. In this workshop, participants will explore practical skills and identify how a student task might elicit evidence of these skills; identify characteristics of student artifacts and student interactions that provide evidence of practical skills; and gain experience using rubrics to assess practical skills in student work and group interactions.

Renee Cole—University of Iowa; Juliette Lantz—Drew University; Suzanne Ruder—Virginia Commonwealth University

HANOVER E, LOWER LEVEL 2
PRE-CONF. WK 2: Emotional Well-Being and Meaningful Learning: Research and Strategies to Improve Learning in STEM
The role of emotions in the human experience cannot be overstated—including how emotions affect the experience of learning. Learning can be enhanced or stifled depending on a learner’s emotional state, and, as educators, we need to align what colleges offer with the needs of students. Chief among these needs is the ability to identify student stress triggers that disrupt emotional stability. This interactive workshop will examine the latest research on the role of emotions in meaningful learning—including the neurobiology of learning and the experiences of first-generation, “new majority” students in STEM fields—and help participants consider strategies to optimize students' prosperity inside and outside the classroom. How can faculty help students identify and regulate stress triggers and become self-regulators of their emotional well-being? Participants will explore concrete, evidence-informed strategies to help our STEM courses, no matter what their level, create authentic environments that optimize all students' potential to learn.

Mays Imad—Pima Community College; Michael Reder—Connecticut College
Hanover B, Lower Level 2
Pre-Conf. WK 3: Designing for Equity in Faculty Teaching and Service Workloads: What We CAN Do Now
There is much research suggesting women and underrepresented minority faculty, including STEM faculty, are dissatisfied with their existing allocation of teaching, mentoring, and service work and that this dissatisfaction is warranted. Research shows women typically spend more time on teaching and service activities and less time on research. Much of the teaching, mentoring, curriculum development, out of class advising, and administrative work associated with STEM reform efforts like PKAL falls into categories that become invisible, uncredited, and unrecognized. There is strong empirical evidence for the problem, but less for the solutions. This preconference workshop will be broken down into three parts. In the first part, the presenters discuss the latest social science research on implicit bias in academic workloads. Participants will then experience how this works by taking part in two experiential exercises. Second, the presenters will share research on the conditions, policies and practices, and individual awareness and action readiness needed of colleagues within departments to improve equity in workload. Third, participants will work in small groups to crosswalk between various identified equity issues and potential solutions, emphasizing different options depending on relevant contexts. Participants will end the workshop by designing their own department equity action plans.

KerryAnn O’Meara, Associate Dean, Professor of Higher Education, and Director of ADVANCE—University of Maryland and Audrey Jaeger, Professor and Alumni Distinguished Graduate Professor—North Carolina State University and Executive Director—National Initiative for Leadership & Institutional Effectiveness

Hanover A, Lower Level 2
Pre-Conf. WK 4: Statistical Thinking in Undergraduate Biology (STUB) Network: Coordinating Teaching and Assessment
The practice of biology has transitioned over the last two decades to become increasingly reliant on quantitative approaches to drawing conclusions from data. Consequently, an introduction to both descriptive and inferential statistical thinking is now standard practice for the undergraduate biology course. Despite the large numbers of students in introductory biology courses, there is a dearth of active discussion about teaching and assessment when integrating statistical thinking into biology courses. The Statistical Thinking in Undergraduate Biology (STUB) network has formed with support from the National Science Foundation’s Research Coordination Network – Undergraduate Biology Education program to address challenges in implementing these changes. Participants will actively engage in thinking about the role of statistics in undergraduate biology courses; examine existing materials, readings, and results; and begin developing new content.

Nathan Tindle—Dordt College; Beth Chance—California Polytechnic State University; Lance Waller—Emory University; K. Greg Murray—Hope College; Mark Condon—Dutchess Community College—SUNY

Hanover D, Lower Level 2
Pre-Conf. WK 5: Which Instrument Should We Use? Demystifying Classroom Observation Protocols
Educators turn to classroom observation protocols to improve individual or institution-wide teaching practices or to conduct disciplinary-based educational research. However, the value of classroom observations for course improvement and/or research depends on use of a valid and reliable observation protocol. Several observation protocols have been devised and published in recent years, but the affordances and constraints of these protocols are not always obvious. This workshop enables practitioners and researchers to experience and sort through a variety of protocols. After beginning with a discussion of purposes for which participants might wish to use observation protocols, participants will use three protocols to score a 13-minute video clip of a postsecondary STEM lesson: the Teaching
Dimensions Observation Protocol (TDOP; Hora, 2015), the Classroom Observation Protocol for Undergraduate STEM (COPUS; Smith et al., 2013), and the Practical Observation Rubric to Assess Active Learning (Eddy et al., 2015). Next, participants will be introduced to the widely used Reformed Teaching Observation Protocol (RTOP; Sawada et al., 2015). Since this protocol requires extensive training, participants will not score the video using RTOP, but instead expert RTOP scores of the video will be presented. Finally, participants will be introduced to the machine-scored Decibel Analysis for Research in Teaching (DART; Owens et al., 2017). A DART profile will be presented of the 13-minute video clip and also of the first hour of the workshop, and results will be discussed in light of the other protocols as well as first-hand experience in the workshop. Finally, participants will evaluate the five protocols and discuss which instrument would be appropriate for applications such as measuring pedagogical strategies, determining level of student engagement, measuring classroom management style, and considering classroom climate.

Paul Wendel, Joan Esson, Meredith Frey, and Kathryn Plank—all of Otterbein University; James McCargar—Baldwin Wallace University

**Hanover G, Lower Level 2**

**Pre-Conf. WK 6: The Change Dashboard: A Tool for Conceptualizing Change Projects to Advance Campus STEM Reforms**

Planning for successful institutionalization of effective instructional strategies and policies in undergraduate STEM education requires understanding the complexity of the system under consideration and purposefully coordinating the key change strategies. Infographics, dashboards, visual communication and data visualization may seem like a new trend, but these and other visual tools have been widely used for years to represent and communicate business strategies and objectives. The Change Dashboard, one such tool, enables change agents to organize and align information about their project goals with their change strategies, tactics, and project activities. The purpose of this workshop is to help campus change agents understand how to use the Change Dashboard to plan for successful sustainable change. The presenters will provide an overview of systemic change processes and explain the elements of the Change Dashboard. Participants are invited to come with a current project in mind and will begin creating their own Change Dashboard.

Charles Henderson and Kate White—both of Western Michigan University

**Hanover C, Lower Level 2**

**Pre-Conf. WK 7: Project Kaleidoscope Leadership Development for STEM Faculty**

Project Kaleidoscope’s (PKAL) mission is “to empower all US college and university STEM faculty—through a robust community of practice framework—to competitively train and liberally educate every STEM undergraduate.” In order to carry out PKAL’s mission, effective leadership at the departmental, institutional, and national level is necessary. Thus, the PKAL STEM Leadership Institute (SLI) was founded in 1996 to provide leadership development for STEM faculty. The SLI provides both early- and mid-career faculty with the theory and practice required to effectively manage the politics of change and contribute to the national STEM higher education reform effort. This highly interactive, preconference workshop will serve two purposes. First, the workshop will introduce participants to the underlying theory that supports PKAL’s unique approach to leadership development: experiential learning. Next, the workshop will engage both SLI alumni and other STEM faculty and administrators in hands-on leadership training experiences, including experiential learning exercises designed to impart immediate efficacy in directing campus-based and/or national undergraduate STEM reform initiatives.

Judith Dilts—James Madison University; Sylvia Nadler—William Jewell College; William Davis—Washington State University; Mary Majerus—Westminster College; Brandon Schwab—Western Carolina University
Using Evidence for Organizational Learning and STEM Institutional change
Colleges and universities are skilled at creating and transferring knowledge, which often leads to new insights. Therefore, STEM education data and research play a central role in organizational learning processes. Professor Hurtado will discuss the use of research and organizational learning models derived from campus case studies to increase STEM degrees relative to institutions with similar institutional resources.

Sylvia Hurtado, Professor of Education—University of California, Los Angeles

**CENTENNIAL FOYER AND CENTENNIAL III & IV, LOWER LEVEL I**
8:00 P.M. – 9:15 P.M.  WELCOME RECEPTION AND POSTER SESSIONS

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - Faculty Mentoring - Leadership
  **POSTER #1**: Broadening Faculty Representation in the PKAL STEM Leadership Institute
  Kelly Mack and Christina Shute—AAC&U

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Metacognition - STEM Faculty
  **POSTER #2**: Teaching to Increase Diversity and Equity in STEM
  Kelly Mack—AAC&U; Kate Winter—Kate Winter Evaluation

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - Communities of Practice - STEM Faculty
  **POSTER #3**: Undergraduate STEM Education Reform
  Office of Undergraduate STEM Education—AAC&U

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - STEM Faculty - HHMI Featured Session
  **POSTER #4**: Inclusive Excellence: Engaging All Students in Science
  Melvin Hall—Northern Arizona University; Kelly Mack and Tykeia Robinson—AAC&U; John Matsui—University of California Berkeley; Patrice McDermott—University of Maryland Baltimore County

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - HBCU - Leadership
  **POSTER #5**: Advancing STEM Leadership
  Camille McKayle—University of the Virgin Islands; Orlando Taylor—Fielding Graduate University; Kelly Mack—AAC&U; Goldie Byrd—Center for Outreach in Alzheimer's Aging and Community Health

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - Communities of Practice - STEM Faculty
  **POSTER #6**: A Metacommunity for Broadening Participation in STEM Higher Education
  Tania Siemens, Kelly Mack, Christina Shute, and Lisa Wills—AAC&U
TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Virtual Learning
POSTER #7: Virtual Labs – Learning Engineering Mechanics and Dynamics with Virtual Hands-on Experiments
Anwar Alroomi—California State University, Northridge

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation
POSTER #8: Integration of Math into Biology through a Peer-Led Learning Community
Qingxia Li and Patricia McCarroll—Fisk University; Thomas Gross—Western Kentucky University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- STEM Faculty
POSTER #9: Incorporating Service Learning in Undergraduate Organic Chemistry Courses
Priya Pradhan—University of Connecticut

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Learning Communities - Transfer Students - Undergraduate Research
POSTER #10: Building STEM Research Communities for First-Year and Transfer Students: The LEARN Consortium
Kimberly Schneider and Michael Aldarondo-Jeffries—University of Central Florida; William Kwochka—Western Carolina University; Donna Chamely-Wiik—Florida Atlantic University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - HBCU - Interdisciplinarity
POSTER #11: Development of Inquiry-Based Education Research Using Cloud Computing Among Students’ of Color
Anita Mandal, Noor Islam, and Prabir Mandal—Edward Waters College

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- HBCU - Summer Bridge Programs - Faculty Mentoring
POSTER #12: Mentoring STEM Majors at an HBCU: An Effort to Enhance Student Performance and Engagement
Rhonda Porter, Kenya Lemon, Seyed Roosta, and Scott Pierce—Albany State University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- HSI - Interdisciplinarity - STEM Faculty - Leadership - PKAL Featured Session
POSTER #13: Faculty Leading to Promote Interdisciplinary Teaching
Maryam Bamshad—Lehman College, CUNY

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research
POSTER #14: Measuring Student Engagement in an Active Learning Biology Classroom Using Galvanic Skin Response
Karen McNeal, Min Zhong, Lindsay Doukopoulos, and Nick Soltis—Auburn University; Akilah Alwan—University of South Carolina
TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- HSI - Transfer Students - Undergraduate Research
POSTER #15: ACSScellence: Empowering Underrepresented Students at an HSI
Laura Diaz-Martinez and Jeffrey Olimpo—The University of Texas at El Paso

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Learning Assistance
POSTER #16: Development and Implementation of Full-Scale Experiential Learning Modules in Structural Engineering
J Carroll—Saint Louis University; Matthew Lovell, John Aidoo, and Kyle Kershaw—Rose-Hulman Institute of Technology; Ronaldo Luna—Saint Louis University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Interdisciplinarity
POSTER #17: Introduction of Intentional Planning Activities to Improve Program Composition in CS1
Robert Selkowitz—Daemen College; Debra Burhans—Canisius College

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Course-Based Undergraduate Research - Faculty Mentoring - HHMI Featured Session
POSTER #18: TU REP: Providing Authentic Research Experiences in the College Classroom to Better Educate All STEM
Laura Gough, Rommel Miranda, Trudymae Atuobi, Matthew Hemm, and Cynthia Ghent—Towson University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Undergraduate Research
POSTER #19: Experimentation in Biology Labs: What Should Students Learn and When Should We Teach It?
Megan Cole and Christopher Beck—Emory University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Interdisciplinarity - Peer Mentoring
POSTER #20: Utilizing Academic Service Learning at St John’s University for the Attraction and Retention of STEM
Charles Fortman, Paula Lazrus, Florin Catrina, Richard Rosso, and Alison Hyslop—St John's University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Learning Assistance - Metacognition
POSTER #21: WATTS and WINNING: Simple Assignments to Facilitate Primary Literature Reading
Youngeun Choi—Georgetown University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Course-Based Undergraduate Research - Learning Communities - HHMI Featured Session
POSTER #22: BioFIRE Living and Learning Community: Increasing Student Persistence and Success in the Biosciences
Kaci Thompson—University of Maryland
TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - PKAL Featured Session - HHMI Featured Session

POSTER #23: Connecting Science to Community with Deliberative Democracy
Gwen Shusterman and Regis Komperda—Portland State University

POSTER #24: The Sound of Learning: Applying an Ecoacoustic Approach to Understanding Classroom Soundsapes
E Morris, Carrie Hall, and Daniel Howard—University of New Hampshire

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Communities of Practice - Metacognition - STEM Faculty

POSTER #25: Deepening STEM Learning through Transformational Changes in Faculty Teaching Practices
Lillit Haroyan—East Los Angeles College; Linda Zarzana—American River College

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Learning Communities - PUI

POSTER #26: Impact of Collaborative Learning on STEM Undergraduates in an Open-Curriculum Environment
Gelonia Dent, Oludurotimi Adetunji, and David Targan—Brown University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Course-Based Undergraduate Research - Interdisciplinarity

POSTER #27: Using a Reality-Based Learning Practicum to Enhance STEM Teacher Preparation for High-Need Schools
Lauren Rentfro, Jerry Kavouras, Dorene Huvaere, and Ray Klump—Lewis University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - Interdisciplinarity

POSTER #28: Structured, Collaborative STEM Learning Environments Differentially Influence STEM Motivation
William Davis, Joshua Premo, and Andy Cavagnetto—Washington State University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - Interdisciplinarity

POSTER #29: CHaNGE Chem Lab: Reforming General Chemistry Lab for Engineers
Kent Crippen—University of Florida

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - Undergraduate Research - HHMI Featured Session

POSTER #30: Does Intra-Group Specialization Enhance Collaboration in CUREs?
Kristina Cohen, Marc Lo, Mark Johnson, and Gerwald Jogl—Brown University; Kyle Trenshaw—University of Rochester

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation

POSTER #31: Learning Gains, Motivation, and Engagement in an Integrated Lab/Lecture for Introductory Biology
Erin Owen and Gail Tudor—Husson University
**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Course-Based Undergraduate Research - HBCU - HHMI Featured Session

**POSTER #32:** Research Immersion Improves Outcomes for Underprepared Freshmen  
Lawrence Blumer and Alexandra Peister—Morehouse College

**POSTER #33 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Faculty Mentoring - STEM Faculty  
**Promoting Success in an Undergraduate Scholarship Program: Expressive Mentoring and Emotional Labor**  
Daphne Pedersen, Alena Kubatova, Rebecca Simmons, Gregory Vandeberg, and Ryan Zerr—University of North Dakota

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - HHMI Featured Session

**POSTER #34:** Urban Ecology CURE in Introductory Biology: Implementation, Student Perceptions, and Student Gains  
Sarah St. Onge, Laurel Hartley, Tod Duncan, and Richard Allen—University of Colorado Denver

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation

**POSTER #35:** Diversity ≠ Inclusion: Lessons from Examining the Climate of an Engineering Department  
Joseph Le Doux and Mahauganee Bonds—Georgia Institute of Technology; Helen Neville—University of Illinois; Lisa Spanierman—Arizona State University; and Kelly Cross—University of Illinois

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- HBCU - Learning Assistance - Supplemental Instruction

**POSTER #36:** Interactive Teaching of an Introductory CS Course with Increasing Student Motivation and Retention  
Md Rahman and Roshan Paudel, Morgan State University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation

**POSTER #37:** Effectiveness of Center of Excellence for Women in STEM as an Institutional Transformation Agent  
Gina Semprebon and Christine Bacon—Bay Path University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Learning Communities - PUI

**POSTER #38:** Implementing an Interdisciplinary Undergraduate Research Center for Analytics, Talent, and Success  
Malcolm D'Souza, Kevin Shuman, Emily Wood, and Melanie Pritchett—Wesley College

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation

**POSTER #39:** Partnering with K-12 to Transform Participation Patterns in STEM Higher Education  
Dewayne Morgan, University System of Maryland

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Faculty Mentoring - Institutional Change/Transformation - Peer Mentoring

**POSTER #40:** The Quantitative Skills Center and Academic Cohorts at Pomona College  
Dylan Worcester—Pomona College
TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Communities of Practice
POSTER #41: NSF S-STEM Award: An Integrated Achievement and Mentoring (iAM) Model for Student Success
Jessica Santangelo, Lisa DeTora, Lisa Filippi, Rosebud Elijah, and Behailu Mammo—Hofstra University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Learning Assistance - Supplemental Instruction
POSTER #42: Utilization of Supplemental Instruction to Enhance Mathematics Skill Fluency
Linda Sturges and Maranda Miller—SUNY Maritime College

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Learning Communities - STEM Faculty
POSTER #43: STEM Pioneers – Fostering Science Literacy Skills and Informed Major Choices
Nina Goodey, Dirk Vanderklein, Josh Galster, Julie Dalley—Montclair State University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - Faculty Mentoring - HSI - PKAL Featured Session
POSTER #44: Scaffolding Course Based Undergraduate Research (CUREs): A Model for Faculty Development
Corin White, Heather Haeger, and Corin Slown—California State University Monterey Bay

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- HBCU - Undergraduate Research - STEM Faculty
POSTER #45: Increasing Underrepresented STEM Graduates through Novel Enrichment Activities and Persistent Support
Freddie Dixon, Anita Wood, and Carolyn Cousin—University of the District of Columbia

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- STEM Faculty - Transfer Students - Undergraduate Research
POSTER #46: Improvement of Student Retention and Graduation via Integration of Research into Education
Liang Zhu, Charles Eggleton, and Carlos Romero-Talamas—University of Maryland Baltimore County; Anne Spence—Baylor University; Dwayne Arola—University of Washington

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Institutional Change/Transformation - Learning Communities
POSTER #47: Recruiting and Enrolling Rural Students: A Model for Increasing Diversity in STEM
Rebecca Jones and Rachel Cleaver—George Mason University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Institutional Change/Transformation - Learning Assistance - STEM Faculty
POSTER #48: Exploring the Impact of Learning Assistants on the Undergraduate Classroom
Jessica Rosenberg, Rebecca Jones, Jill Nelson, Ben Dreyfus, and Mary Nelson—George Mason University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Course-Based Undergraduate Research - HBCU
POSTER #49: The Payoffs for Retention and Networking of Getting to Know Freshman Biology Students
Jana Marcette, Diane Smoot, and Scott Horrell—Harris-Stowe State University
**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation - PUI

**POSTER #50: Expanding Engagement in STEM-Focused High-Impact Practices**
Kerry Rouhier, Karen Hicks, and John Hofferberth, Kenyon College

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Course-Based Undergraduate Research - Interdisciplinarity
- HHMI Featured Session

**POSTER #51: Promoting Creativity, Problem Solving, and Inclusiveness through Course-Based Research Experience**
Franco Delogu, Paul Jaussen, Vivian Kao, Daniel Shargel, and Melinda Weinstein—Lawrence Technological University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - Transfer Students - Undergraduate Research

**POSTER #52: Partnerships and Opportunities for Undergraduate Research on a Community College Campus**
Adam Keller, Meredith Sellars, and Laura Shady—Columbus State Community College

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - Metacognition - Undergraduate Research
- HHMI Featured Session

**POSTER #53: Fostering Inclusivity and Equity: A Three-Strand Approach for Research, Classroom and Community**
Dina Newman, Jennifer Connelly, Elizabeth Hane, Lea Michel, and Scott Franklin—Rochester Institute of Technology

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - HBCU - Institutional Change/Transformation

**POSTER #54: The X Growth Model: A Comprehensive Approach to Success for STEM Majors**
Sandra Romano and Nadia Monrose Mills—University of the Virgin Islands

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - PUI - STEM Faculty - HHMI Featured Session

**POSTER #55: Achieving Inclusive Excellence by Embedding Project-based Learning into First-year Courses**
J. Rogers, Tara Phelps-Durr, Jeanne Mekolichick, Jeremy Wojdak, and Sarah Kennedy—Radford University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - PUI - PKAL Featured Session

**POSTER #56: Developing a STEM Success Ecosystem: Cumulative Effects of Multiple Cocurricular Interventions**
Lilia Harvey, Molly Embree, and LaShandra Owens—Agnes Scott College

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- HBCU - PUI - Undergraduate Research

**POSTER #57: Enhancing the Research Culture of Liberal Arts Colleges with Postdoctoral Fellows**
Mark Lee and Monica Stephens-Cooley—Spelman College
**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation - PUI - HHMI Featured Session

**POSTER #58: Embracing Change: A Systemic Change Initiative to Enhance STEM Inclusion at a Liberal Arts College**
John Hofferberth—Kenyon College

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation - STEM Faculty - HHMI Featured Session

**POSTER #59: Building Bridges and Lowering Barriers: Lessons Learned from Lunch**
Wendy Smith and Mary Ondrechen—Northeastern University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Learning Assistance - PUI - Supplemental Instruction

**POSTER #60: A Cost-Effective, High-Impact STEM Supplemental Instruction Program at an Urban HSI**
John Grew and Alberto Pinkas—NJ City University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Learning Communities - Summer Bridge Programs

**POSTER #61: Connecting Bridge Programs with the First-Year Experience and Student Engagement**
Adam Keller, Meredith Sellars, and Laura Shady—Columbus State Community College

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation

**POSTER #62: San Jose State University Engineering Corporate Programs**
Afifa Hamad—San Jose State University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - Peer Mentoring - STEM Faculty

**POSTER #63: Embracing Change: A Case Study of Attitudes, Norms and Perceived Barriers**
Lillian Senn and Emily Walter—California State University – Fresno

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - Communities of Practice - Faculty Mentoring

**POSTER #64: Changing Faculty Practice: Promoting the Scholarship of Teaching with Faculty Mentoring Networks**
Jeremy Wojdak—Radford University; Sam Donovan—University of Pittsburgh; Carrie Eaton—Unity College; Kristin Jenkins—BioQUEST Curriculum Consortium; Drew Lamar—College of William and Mary

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - Communities of Practice - Course-Based Undergraduate Research

**POSTER #65: Preconference Research-Education Workshops Broaden Participation in Professional Society Meetings**
Rachelle Spell and Christopher Beck—Emory University; Lawrence Blumer—Morehouse College; Pamela Hanson—Birmingham-Southern College; Joanna Vondrasek—Piedmont Virginia Community College
**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - PUI - PKAL Featured Session

**POSTER #66: Institutional Collaboration to Recruit, Retain and Graduate Low-Income Students in Biology**
Jennifer Borgo Raia, Maria Avanzato, Paula Bailey, Cathleen Cuppett, Joseph Flaherty, and Tracy Parkinson—Coker College

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - Faculty Mentoring - Institutional Change/Transformation
- HHMI Featured Session

**POSTER #67: Update on Student Motivation Research and Faculty Mentoring Training at the University of South Dakota**
Brian Burrell, Amy Schweinle, and Lexi Pillatzky—University of South Dakota

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**FRIDAY, NOVEMBER 9, 2018**

**CENTENNIAL FOYER, LOWER LEVEL 1**

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<td>7:00 A.M. – 6:00 P.M.</td>
<td>CONFERENCE REGISTRATION</td>
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<td>7:00 A.M. – 8:00 A.M.</td>
<td>BREAKFAST</td>
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<td>7:45 A.M. – 8:45 A.M.</td>
<td>CONCURRENT SESSIONS</td>
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**GRAND HALL EAST A, LOWER LEVEL 2 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - HSI - STEM Faculty

**WORKSHOP #1: Changing the Faces of STEM: Student Engagement as a Model for Increasing Underrepresented Students**
Victor Vialpando-Nunez, Martha Jackson-Carter, and Joshua Pacheco—Community College of Aurora

**GRAND HALL EAST B, LOWER LEVEL 2 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - Metacognition - Virtual Learning

**WORKSHOP #2: Modeling and Visualization for Process Understanding and Inquiry: Lessons from Developing SimRiver**
Matthew Julius—St. Cloud State University; Shigeki Mayama and Kengo Satomi—Tokyo Gakugei University

**GRAND HALL EAST C, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation – Interdisciplinarity

**WORKSHOP #3: The GEMnasium: A Playground for Transdisciplinary and Humanity-Centered Education and Experiences**
Anne Crecelius, Brian LaDuca, and Kevin Hallinan—University of Dayton

**GRAND HALL EAST D, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Faculty Mentoring - Learning Communities - STEM Faculty - PKAL Featured Session

**WORKSHOP #4: Not Just Bumming Along: Using Self-Study Methodology with Colleagues to Improve STEM Teaching**
Jill Nelson, Anastasia Samaras, and Margret Hjalmarson—George Mason University; and Lori Bland—Independent Expert
**Hanover A, Lower Level 2 | Type II: Institution-Level Interventions**
- Broadening Participation - STEM Faculty - Institutional Change/Transformation
- HHMI Featured Session

**Workshop #5: Inclusive Excellence via Constructive Listening to Student Thinking**
Lara Appleby, Tufts University

**Hanover B, Lower Level 2 | Type III: National-Level Interventions**
- Communities of Practice - Institutional Change/Transformation - STEM Faculty

**Workshop #6: PULSE: Catalyzing Change at the Department Level**
Kathryn Miller—Washington University in St. Louis; Judy Awong-Taylor—Georgia Gwinnett College; Thomas Jack—Dartmouth College; Nitya Jacob—Oxford College; Bill Davis—Washington State University

**Hanover C, Lower Level 2**
Discussions #1

**Type III: National-Level Interventions**
- Broadening Participation - Communities of Practice - Interdisciplinarity

**Communities of Practice Supporting Diversity, Equity, and Inclusion in Biology Education and Research**
Jana Marcette—Inclusive Environments and Metrics in Biology Education and Research; Latanya Hammonds-Odie—Georgia Gwinnett College; Candice Idlebird—Harris-Stowe State University; Joanna Showell—Bethune-Cookman University

**Type III: National-Level Interventions**
- Broadening Participation - Communities of Practice - Institutional Change/Transformation

**A Multi-Institutional Collaboration Aimed at Transforming Undergraduate STEM Teaching**
Blair Schneider—University of Kansas; Timothy Yuen—University of Texas at San Antonio; Brian Frank—Queen's University

**Hanover D, Lower Level 2**
Discussions #2

**Type III: National-Level Interventions**
- Communities of Practice - Institutional Change/Transformation

**Promoting Cross-Institutional Program Transformation with Networked Improvement Communities**
W. Gary Martin—Auburn University

**Type III: National-Level Interventions**
- Communities of Practice - HBCU

**Supporting Making, Innovation, Technology Transfer, and Entrepreneurship on HBCU Campuses**
Quincy Brown, American Association for the Advancement of Science; Deidre Gibson—Hampton University; Velma Latson—Bowie State University; Demetria Gallagher—The Jamii Group
Hanover E, Lower Level 2
Discussions #3

**Type II: Institution-Level Interventions**
- Institutional Change/Transformation - Interdisciplinarity - STEM Faculty
- LEAP Featured Session

*A Switch Turns on the Light: Interdisciplinary STEM, Glocal Engagement, and Student Learning*
Christin Shatzer, Autumn Marshall, and Tamera Klingbyll—Lipscomb University

**Type I: Individual Classroom/Project-Level Interventions**
- Course-Based Undergraduate Research - PUI - Undergraduate Research

*Building as a Living Laboratory: Adapting Spaces to Promote Place-based STEM Instruction*
Maynard Schaus, John Haley, Maury Howard, and Katrina Henry—Virginia Wesleyan University

Hanover F, Lower Level 2
Discussions #4

**Type II: Institution-Level Interventions**
- HSI - Peer Mentoring - STEM Faculty - HHMI Featured Session

*Active Learning and Recitation Sessions Promote Student Success in Introductory STEM Courses*
Rebecca Forrest, Shuo Chen, Donna Stokes, and Ann Cheek—University of Houston

**Type I: Individual Classroom/Project-Level Interventions**
- Faculty Mentoring - Institutional Change/Transformation - STEM Faculty
- PKAL Featured Session

*Systems Thinking, Cognitive Science and Faculty Change: A STEM Course Redesign Story*
Susan Mattson—University of South Alabama

Hanover G, Lower Level 2
Discussions #5

**Type I: Individual Classroom/Project-Level Interventions**
- Broadening Participation - Interdisciplinarity - STEM Faculty

*Engaging Thematic Learning to Build an Integrative Science Literacy Course for Undergraduates*
Katharine Cammack, Kristen Cecala, Thea Edwards, and Brandon Moore—The University of the South

**Type II: Institution-Level Interventions**
- Interdisciplinarity - Transfer Students

*Impacts of Sustained Community College Partnerships on a STEM Teacher Preparation Program*
Matthew Graham and Brittany Pines—Northeastern Illinois University
9:00 A.M. – 9:30 A.M.  DISCUSSION SESSIONS

HANOVER C, LOWER LEVEL 2
Newcomer’s Welcome Session
As the leading national association concerned with the quality, vitality, and public standing of undergraduate liberal education, AAC&U works closely with its member institutions to extend the advantages of a liberal education to all students, regardless of academic specialization, intended career, or the type of institution they attend. Participants will learn how AAC&U’s broad agenda for student learning—which focuses on quality, equity, inclusive excellence, student success, integrative and global learning—and its signature LEAP initiative together provide content, framework, and practical guidance for the undergraduate educational experience.

Tia Brown McNair, Vice President for Diversity, Equity, and Student Success—AAC&U

HANOVER F, LOWER LEVEL 2
Discussion #7
**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - Leadership
  Inclusive Research Advancement: Why and What Does Broadening Participation Mean
  Fay Cobb Payton and Tonya Smith-Jackson—National Science Foundation

GRAND HALL EAST A, LOWER LEVEL 2
Discussion #8
**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - Peer Mentoring - Supplemental Instruction
  Ensuring the STEM Pipeline: Activities in High School that Contribute to STEM Majors and Careers
  Karen Webber, Rebecca Perdomo, and Andrew Crain—University of Georgia

GRAND HALL EAST B, LOWER LEVEL 2
Discussion #9
**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Metacognition - STEM Faculty - HHMI Featured Session
  Getting to the Root of the Problem: A Discussion About Affecting Change in STEM
  Holly Godsey, Belinda Saltiban, Jordan Gerton, and Martha Bradley—University of Utah

GRAND HALL EAST C, LOWER LEVEL 2
Discussion #10
**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - PKAL Featured Session
  Using Student Voice Research to Support STEM Curricular/Cocurricular Change
  Chris Korey—College of Charleston

GRAND HALL EAST D, LOWER LEVEL 2
Discussion #11
**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - Interdisciplinarity - STEM Faculty
  Tensing Up: A Discussion of Communication Apprehension in STEM Students
  Kevin Brown, Veronica Koehn, and Dan Peterson—Oregon Institute of Technology
HANOVER B, LOWER LEVEL 2
Discussion #12

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation

**Using Iterative Assessment to Evaluate a Curricular Change and Reduce Equity Gaps in STEM Classrooms**
Alyssa Perz, Jennifer Hill, and Alison Hill—Duke University

HANOVER D, LOWER LEVEL 2
Discussion #13

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Supplemental Instruction

**Improving Fluency in STEM Essential Skills through Brief, Spaced Practice**
Andrew Heckler—Ohio State University

HANOVER E, LOWER LEVEL 2
Discussions #14

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation - Learning Communities

**Evidence-Based Model for Institutional Change in a College STEM Division**
Jacqueline Roberts and Pamela Propsom—DePauw University

CENTENNIAL I & II, LOWER LEVEL 1
9:45 A.M. – 10:45 A.M.  KEYNOTE ADDRESS

**Uncorking Curricular Bottlenecks to Student Success in STEM**
Engineering program attrition is often caused by students’ inability to complete the traditional freshman calculus sequence. These bottlenecks often impact students from underrepresented groups who are underprepared to succeed in traditional STEM curriculum. This presentation will describe an NSF-funded initiative to redefine the way engineering mathematics is taught, with the goal of increasing student retention, motivation, and success.

**Nathan Klingbeil, Professor of Mechanical Engineering—Wright State University**

CENTENNIAL FOYER
10:45 A.M. – 11:15 A.M.  REFRESHMENT BREAK

11:15 A.M. – 12:15 P.M.  CONCURRENT SESSIONS

HANOVER D, LOWER LEVEL 2
Discussions #15

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - Learning Communities

**Exploring the Impact of a Multi-Institutional STEM Reform Network**
Lucas Hill, Bipana Bantawa, and Julia Savoy—University of Wisconsin-Madison; Jessica Schein—Michigan State University
(Discussion #15 continued from previous page)

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Faculty Mentoring - Institutional Change/Transformation - Undergraduate Research

*Driving Institutional Change in Undergraduate Research for Success and Sustainability*
Delana Gajdosik-Nivens—Georgia Southern University; George Shields—Furman University

**HANOVER C, LOWER LEVEL 2**

**Discussions #16**

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Communities of Practice - Summer Bridge Programs - Undergraduate Research
- HHMI Featured Session

*Scalability and Longitudinal Analysis from a Six-Day STEM Academy Pre-College Program*
Richard Pollenz and Sophie Kuchynka—University of South Florida

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation - Metacognition – HHMI Featured Session

*Equipping Freshman and Transfer Students for Success in Science: A Two-Quarter Seminar Sequence*
Emily Borda, Deborah Donovan, and Joann Otto—Western Washington University

**HANOVER E, LOWER LEVEL 2**

**Ideation/Innovation Sessions #1**

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Transfer Students - Undergraduate Research

*Beyond Academics: Preparing Minority Community College STEM Students to Thrive Professionally*
Michelle Quirke—IN LSAMP/Indiana University Purdue University Indianapolis

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Learning Communities

*The Strategic Undergraduate STEM Talent Acceleration Initiative (SUSTAIN) to Promote Socialization*
John Tillotson, Sule Aksoy, Gaye Ceyhan, Jeremy Sloane, and Jason Wiles—Syracuse University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - HBCU - STEM Faculty

*Fostering STEM Retention by Integrating Student-Driven Polymer Research in General Chemistry*
Natalie Arnett—Fisk University

**HANOVER F, LOWER LEVEL 2**

**Ideation/Innovation Sessions #2**

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Faculty Mentoring - STEM Faculty

*Using Instructional Consultation to Support Sustained Transformative Teaching in STEM Education*
Shelley Kurland—County College of Morris
(Innovation/Ideation Session #2 continued from previous page)

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Faculty Mentoring - Institutional Change/Transformation - STEM Faculty
- HHMI Featured Session
Instructors ExCEL: Inclusive Excellence for Driving Faculty Development and Curricular Change
Karobi Moitra—Trinity Washington University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Faculty Mentoring - Institutional Change/Transformation - STEM Faculty
- PKAL Featured Session
Preparing STEM Faculty and Administrators for Implementing Equity Initiatives
Christine Hawn—University of Maryland, Baltimore County; Brett Woods—High Point University; Kathryn Johnson—Beloit College

**HANOVER G, LOWER LEVEL 2**

**Ideation/Ideation Session #3**

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Course-Based Undergraduate Research - HSI
The Great Spitting Contest: Broadening Participation with a Statewide Cure on the Oral Microbiome
Jennifer Drew and Eric Triplett—University of Florida; Luiz Roesch—Universidade Federal do Pampa, Brazil; Heather Belmont—Miami Dade College; Melissa Pedone—Valencia College, Osceola Campus

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Course-Based Undergraduate Research - HBCU
Engaging Undergraduates in Health Disparities Research with a Service Learning CURE
Kelsie Bernot—North Carolina A&T State University

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Communities of Practice - Course-Based Undergraduate Research - STEM Faculty
ENCOUR: Establishing a Network for the Integration of Ethics/RCR Education into CUREs in Biology
Laura Diaz-Martinez and Jeffrey Olimpo—The University of Texas at El Paso

**GRAND HALL EAST A, LOWER LEVEL 2 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Interdisciplinarity - Undergraduate research - PKAL Featured Session
WORKSHOP #7: An Integrated Introduction Increases Interdisciplinarity and Research Preparation in STEM Majors
Barbara Kramer and Tim Walston—Truman State University

**GRAND HALL EAST B, LOWER LEVEL 2 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- HSI - Interdisciplinarity - Metacognition
WORKSHOP #8: Fostering Metacognition—Helping Engineering Students To Learn Better
Muhammad Dawood, Patti Wojahn, Karen Trijillo, and Melissa Guynn—New Mexico State University
WORKSHOP #9: Cultivating Student Assets through Equity and Cultural Humility
Eileen Cashman, Amy Sprowles, and Elizabeth Eschenbach—Humboldt State University

WORKSHOP #10: Innovation in Integrated STEM Coursework at Three Tennessee Universities: Past, Present, and Future
L. Jeneva Clark—University of Tennessee, Knoxville; Anant Godbole—Eastern Tennessee State University; Sally Pardue—Tennessee Technological University

WORKSHOP #11: Pathways: A Research Based Model for Student Learning and Retention in Precalculus and STEM Fields
Alan O’Bryan—Arizona State University

WORKSHOP #12: Using ePortfolios in STEM First Year Experience Courses to Increase Engagement, Success, and Persist
Ruth Benander and Melinda Greer—University of Cincinnati Blue Ash College

12:15 P.M. – 2:00 P.M. LUNCH ON YOUR OWN

2:00 P.M. – 3:00 P.M. CONCURRENT SESSIONS

Discussions #17

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Institutional Change/Transformation - Learning Communities - PKAL Featured Session
Building a STEM Community for Expanding Inclusive Student Success
Scott Reese, Marla Bell, and Kadian Callahan—Kennesaw State University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- HSI - Institutional Change/Transformation - Learning Communities
Residential Learning Communities to Improve STEM Student Cohesion, Retention, and Academic Success
Richard Kopec—St. Edward's University; Michelle Burd—Burd's Eye View
Hanover B, Lower Level 2

Discussions #18

**Type III: National-Level Interventions**
- Communities of Practice - Interdisciplinarity - PUI
  **Improving Mathematics Connections for Majors and Non-Majors through Interdisciplinary Partnerships**
  Victor Piercey—Ferris State University; Caroline Maher-Boulis—Lee University; Mike May—Saint Louis University

**Type III: National-Level Interventions**
- Communities of Practice - STEM Faculty
  **Attending to Equity in Secondary Mathematics Using Co-Planning and Co-Teaching Strategies**
  Ruthmae Sears—University of South Florida; Pier Junor Clarke—Georgia State University

Hanover C, Lower Level 2

Discussions #19

**Type I: Individual Classroom/Project-Level Interventions**
- Broadening Participation - Interdisciplinarity - Virtual Learning
  **GATE-In: A Gaming and Team Learning In-Class Intervention Method for Engineering Courses**
  Linda Katehi and Jennifer Quynn—University of California, Davis

**Type I: Individual Classroom/Project-Level Interventions**
- Learning Assistance - Learning Communities - Metacognition
  **Learning Support for Underserved Engineering Students: Creating an Entangled Learning Community**
  Laurel Whisler, Elizabeth Stephan, and Abigail Stephan—Clemson University

Hanover E, Lower Level 2

Ideation/Innovation Session #4

**Type I: Individual Classroom/Project-Level Interventions**
- Broadening Participation - Institutional Change/Transformation - PUI
  **Envisioning a New Calculus Sequence**
  Alison Marr, Southwestern University; Joel Kilty and Alex McAlister—Centre College

**Type II: Institution-Level Interventions**
- Course-Based Undergraduate Research - Faculty Mentoring - Summer Bridge Programs
  **Effective Teaching Strategies in Math Courses**
  Chineny Ofodile—Albany State University

Hanover F, Lower Level 2

Ideation/Innovation Session #5

**Type I: Individual Classroom/Project-Level Interventions**
- Communities of Practice - STEM Faculty
  **Fostering Active Learning in STEM through Professional Development of Graduate Teaching Assistants**
  Jennifer Kaplan and Kristen Roland—University of Georgia
(Innovation/Ideation Session #5 continued from previous page)

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - Peer Mentoring - STEM Faculty
- PKAL Featured Session
  *Teaching and Learning Circles: A Mechanism for Faculty Mentoring, Change and Growth*
  Elizabeth Jones—University of Nebraska-Lincoln

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation - STEM Faculty
  *Can Inter-Departmental Networks Accelerate the Adoption of High-Impact Teaching Strategies?*
  Clare Barratt and Moira van Staaden—Bowling Green State University

**HANOVER G, LOWER LEVEL 2**

**Ideation/Inovation Session #6**

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Learning Assistance - Peer Mentoring - Summer Bridge Programs - PKAL Featured Session
  *Linking Three Programs to Improve Retention in STEM*
  Jessica Rosenberg, Julia Nord, and Mary Nelson—George Mason University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - PKAL Featured Session
  *Structured Partnerships to Enhance Graduation Rates and Successful Student Placements*
  Lalitha Ramamoorthy—Marian University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Interdisciplinarity - Undergraduate Research
  *Improving STEM Retention and Commuter Engagement through Research, Cohorts, and Faculty Mentoring.*
  Mindy Capaldi—Valparaiso University

**CENTENNIAL I, LOWER LEVEL 1 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Learning Communities - Metacognition - PKAL Featured Session

**WORKSHOP #13: Addressing the Gaps in Student Performance Using Metacognitive Reflection**
Rebecca Ciancanelli and Kathryn Plath—University of Colorado Boulder

**GRAND HALL EAST C, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Communities of Practice - HSI - STEM Faculty

**WORKSHOP #14: Infusing Diversity, Equity, and Inclusion in STEM Professional Development**
Kim Costino—California State University San Bernardino; Kirsty Fleming—California State University Long Beach; Qiana Wallace—California College Guidance Initiative

**GRAND HALL EAST A, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation

**WORKSHOP #15: Institutionalize a Scaled-Up STEM Talent Expansion Program (STEP) in Engineering Cohort Program**
Edmund Tsang and Anetra Grice—Western Michigan University
**Grand Hall East B, Lower Level 2 | Type II: Institution-Level Interventions**

- Institutional Change/Transformation - Interdisciplinarity - STEM Faculty

**Workshop #16: Introduction to Entrepreneurial Minded Learning for Foundational STEM Courses**
J. Carroll, Scott Sell, and Michelle Sabick—Saint Louis University

**Centennial II, Lower Level 1 | Type III: National-Level Interventions**

- Faculty Mentoring - STEM Faculty - Leadership - PKAL Featured Session

**Workshop #17: Lead On: Successful Techniques for Building Leadership Capacity in Individuals and Institutions**
Judith Dilts—James Madison University; Sylvia Nadler—William Jewell College; Brandon Schwab—Western Carolina; Mary Majerus—Westminster College; William Davis—Washington State University

**3:15 P.M. – 4:15 P.M.  Concurrent Sessions**

**Hanover A, Lower Level 2**

**Discussions #20**

**Type I: Individual Classroom/Project-Level Interventions**

- Broadening Participation - Institutional Change/Transformation - STEM Faculty

**First, Do No Harm: Evidence on Open Education Resources in STEM and Student Learning**
Chrissy Spencer and Kata Dosa—Georgia Institute of Technology; Aakanksha Angra, Georgia State University

**Hanover B, Lower Level 2**

**Discussions #21**

**Type II: Institution-Level Interventions**

- Broadening Participation - Faculty Mentoring - Institutional Change/Transformation

**Improving Classroom Culture and Achieving Institutional Change as a Pathway to STEM Inclusive Excellence**
Susan Keenan, Lori Reinsvold, and Cassendra Bergstrom—University of Northern Colorado; Lindsey Malcom-Piqueux, University of Southern California

**Type II: Institution-Level Interventions**

- Broadening Participation - PUI

**Gender and Race/Ethnicity Differences in Student Persistence after a STEM Course DFW**
Thomas Mundie, Charmita Burch, Michael Saum, Sherly Abraham, Charles Pibel, and Rudy Jackson—Georgia Gwinnett College

**Hanover C, Lower Level 2**

**Discussions #22**

**Type I: Individual Classroom/Project-Level Interventions**

- Broadening Participation - Virtual Learning

**Strategies to Motivate Students and Facilitate Learning in Online College Algebra**
Ruthmae Sears, Frances Hopf, and Casey Williams—University of South Florida

**Type I: Individual Classroom/Project-Level Interventions**

- Virtual Learning

**Creating Meaningful, Effective, and Inclusive Learning in the Virtual Classroom**
Rachelle Crosbie-Watson, Ronny Choe, Casey Shapiro, and Marc Levis-Fitzgerald—University of California Los Angeles; Ava Arndt—University of California Office of the President
HANOVER D, LOWER LEVEL 2
Ideation/Innovation Session #7

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - HBCU - STEM Faculty
  
  *Development of a Socioscientific STEM Curriculum at a Historically Black University*
  Hector Torres and Raphael Isokpehi—Bethune-Cookman University; Dana Zeidler—University of South Florida-Tampa

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - PUI
  
  *Quality In to Quality Out: Promoting STEM Competencies from Higher Ed to Career Success for UMGs*
  Robin McGuire and Melinda Wilson—Lansing Community College

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Faculty Mentoring - HSI - Metacognition
  
  *Promising Strategies for Supporting a Cohort of Academically-Talented Engineering Students at an HSI*
  Martha Mitchell and Muhammed Dawood—New Mexico State University

HANOVER E, LOWER LEVEL 2
Ideation/Innovation Session #8

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Learning Communities - PUI - Undergraduate Research
  
  *Motivating Undergraduate research Participation in Mathematical Biology*
  Aprillya Lanz—Grand Canyon University/Arizona State University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- PUI - Supplemental Instruction - Undergraduate Research
  
  *Computational Data Analysis Training (CDAT) Modules: Promoting Quantitative Reasoning and Early Research*
  Hisako Masuda and Yan He—Indiana University Kokomo

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Interdisciplinarity - PUI
  
  *Inclusion in Data Science: Designing a New Discipline for Inclusion*
  Lior Shamir—Lawrence Technological University

HANOVER F, LOWER LEVEL 2
Ideation/Innovation Session #9

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Supplemental Instruction - Virtual Learning
  
  *Scaffolding with Professional Podcasting*
  Alanna Lecher—Lynn University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - Metacognition - STEM Faculty
  
  *From Cookbook Style Labs to Lab-Design: Exploring Writing Across the Curriculum Interventions*
  Vasudha Sharma—Valencia College
HANOVER G, LOWER LEVEL 2
Ideation/Innovation Session #10

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - HSI - Learning Communities
  The Influence of a Parent Academy on Student Persistence in STEM beyond the Freshmen Year
  Donna Stokes—University of Houston

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - HSI - Learning Communities
  Promoting STEM Retention through Professional Development, Advising, and Mentoring
  Donna Stokes, Monique Ogletree, Laveria Hutchison, and Gayle Curtis—University of Houston;
  Cheryl Craig—Texas A&M University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Institutional Change/Transformation - PKAL Featured Session
  Developing Undergraduate Self-Efficacy in STEM
  Alice Hunt—University of Georgia

CENTENNIAL I, LOWER LEVEL 1 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Metacognition - STEM Faculty - PKAL Featured Session
- HHMI Featured Session
WORKSHOP #18: A Metacognitive Toolkit to Improve Retention Stem Students from Excluded Identities
  Elizabeth Hane and Scott Franklin—Rochester Institute of Technology

CENTENNIAL II, LOWER LEVEL 1 | TYPE III: NATIONAL-LEVEL INTERVENTIONS
- Institutional Change/Transformation - Learning Communities - Faculty Mentoring
- HHMI Featured Session
WORKSHOP #19: Changing the Narrative of Who Persists in STEM
  Alyssa Perz and Julie Reynolds—Duke University

GRAND HALL EAST A, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Virtual Learning - STEM Faculty - Institutional Change/Transformation
WORKSHOP #20: Changing the Trajectory of STEM Departments
  Angela Bauer and Brian Augustine—High Point University; W. Hughes—James Madison University

GRAND HALL EAST B, LOWER LEVEL 2 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Institutional Change/Transformation - PUI - STEM Faculty
WORKSHOP #21: Community College Science Faculty Reports on Effective Teaching in Traditional and Hybrid Formats
  Sharale Mathis—Manchester Community College

GRAND HALL EAST C, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Institutional Change/Transformation - Learning Communities - STEM Faculty
WORKSHOP #22: The Gateway Course Initiative: A College-Wide Faculty-Driven Initiative to Improve Retention
  Melissa Hanzsek-Brill, Mark Petzold, and Dale Buske—St. Cloud State University
GRAND HALL EAST D, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Communities of Practice - Institutional Change/Transformation - Learning Communities

WORKSHOP #23: Transforming STEM Education across the Florida Consortium
Michael Preston—Florida Consortium of Metropolitan Research Universities; Kevin Yee—University of South Florida; Melody Bowdon and Melissa Dagley—University of Central Florida; Leanne Wells—Florida International University

4:30 P.M. – 5:30 P.M. CONCURRENT SESSIONS

HANOVER A, LOWER LEVEL 2
Discussions #23

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Communities of Practice - Institutional Change/Transformation - Peer Mentoring
- PKAL Featured Session - HHMI Featured Session
Embedding a Learning Assistants Program in a Faculty Learning Community to Foster Student Success
Kadian Callahan, Scott Reese, and Marla Bell—Kennesaw State University

HANOVER B, LOWER LEVEL 2
Discussions #24

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Communities of Practice - Institutional Change/Transformation - STEM Faculty
The Role of Discipline-Based Education Research Groups in Advancing Undergraduate STEM Education
Geraldine Cochran, Mary Emenike, Charles Ruggieri, and Ronald Ransome, Rutgers University

HANOVER C, LOWER LEVEL 2
Discussions #25

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - HHMI Featured Session
Professional Development on Inclusive Excellence in Teaching for Biology Teaching Assistants
Meaghan Stein and Seth Thompson—University of Minnesota

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - HSI - PUI
Improving the Accessibility of General Biology through Application-Based Semester-Long Group Project
Teresa Bilinski and Sunny Scobell—St. Edward’s University
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<th>HANOVER D, LOWER LEVEL 2</th>
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<td><strong>TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS</strong></td>
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<td>- HSI - HBCU - Institutional Change/Transformation</td>
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<td>Filling in the Gap: Purpose and Implementation of the STEM Enrichment by Design Project</td>
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<td>Jessica Lopez and Maria Rodriguez—St. Philip's College</td>
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| **TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS** |
| - Learning Assistance |
| Studying a Math Help Center Using Organizational Development and Change Theory |
| Deborah Moore-Russo, Christine Tinsley, and Noel Brady—University of Oklahoma |

| **TYPE II: INSTITUTION-LEVEL INTERVENTIONS** |
| - Broadening Participation - Institutional Change/Transformation - STEM Faculty – PKAL Featured Session |
| Quantitative Literacy as a Quality Enhancement Project (QEP) |
| Rachel Manspeaker—Coker College |

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<th>Ideation/Innovation Session #12</th>
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<td><strong>TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS</strong></td>
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<td>- Broadening Participation - Institutional Change/Transformation - Interdisciplinarity</td>
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<td>Student Buy-In Across Cultures: Tibetan Buddhist Monastic Attitudes Toward Science Education</td>
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<td>Kelsey Gray, Carol Worthman, and Arri Eisen—Emory University; Jacob Shreckengost—Georgia State University</td>
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| **TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS** |
| - Course-Based Undergraduate Research - Interdisciplinarity - STEM Faculty |
| Mind over Matter: Integrating Undergraduate Curricula in Neuroscience and Anatomical Histology |
| Katharine Cammack and Brandon Moore—The University of the South |

| **TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS** |
| - Supplemental Instruction |
| Does Imagination Alter Reasoning? Dialogue on the Role of Imagination in Critical Thinking |
| Yousef Jalali and Christian Matheis—Virginia Tech |

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<td>- Interdisciplinarity - PUI - STEM Faculty – PKAL Featured Session</td>
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<td>Science Advocacy Leadership Course</td>
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<td>Cherie Ramirez—Simmons College</td>
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(Innovation/Ideation Session #13 continued from previous page)

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Learning Communities - PUI - STEM Faculty - PKAL Featured Session
  
  *Enhancing STEM Education through a Residential Learning Community: STEM Scholars*
  
  Jessica Fautch—York College of Pennsylvania

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - PUI
  
  *Seeing Evidence of Transformation Opportunities and Impacts in STEM Students’ Pathways to Graduation*
  
  Zachary Oster, Ben Stockton, Brandon Allen, Khyam Paneru, and Meg Waraczynski—University of Wisconsin-Whitewater

**HANOVER G, LOWER LEVEL 2**

**Ideation/Inovation Session #14**

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Assessment - Learning Assistance - STEM Faculty
  
  *Rubrics: What Do We Really Know, and How Can We Use ‘Em?*
  
  Ruth Poproski—Georgia Institute of Technology; Aakanksha Angra—Georgia State University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Course-Based Undergraduate Research - Faculty Mentoring
  
  *A Commitment to STEM Education Research at IUPUI: Course-based, Institutional, and National Efforts*
  
  Anthony Chase, Stephen Hundley, and Pratibha Varma-Nelson—Indiana University-Purdue University Indianapolis

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Transfer Students - Undergraduate Research
  
  *The HIP Count: Documenting Student Involvement and Engagement in STEM Campus-Wide*
  
  Kimberly Schneider—University of Central Florida

**CENTENNIAL I, LOWER LEVEL 1** | **TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - PKAL Featured Session
  
  **WORKSHOP #24: Aligning Faculty Work with Systemic Change**
  
  Christine Broussard—University of La Verne; Emily Miller—Association of American Universities

**CENTENNIAL II, LOWER LEVEL 1** | **TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Broadening Participation - Institutional Change/Transformation - STEM Faculty
  
  **WORKSHOP #25: Building Shared Vision: A Key Process in Advancing Systemic Change in STEM Education**
  
  Julia Williams—Rose-Hulman Institute of Technology; Kerice Doten-Snitker, Cara Margherio, and Elizabeth Litzler—University of Washington

**GRAND HALL EAST A, LOWER LEVEL 2** | **TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - PUI - STEM Faculty
  
  **WORKSHOP #26: Creating Liberal Education-Integrated STEM Programs: A Program and Curriculum Development Toolkit**
  
  Anita McCauley, Kristi Verbeke, Olga Pierrakos, and Peter Santiago—Wake Forest University
**Grand Hall East B, Lower Level 2 | Type I: Individual Classroom/Project-Level Interventions**
- Broadening Participation - Transfer Students

**Workshop #27: Implementation and Assessment Strategies to Broaden Participation of 2+2 Transfer Students in STEM**
Alexandria Ardissone, Eric Triplett, and Jennifer Drew—University of Florida; Heather Belmont—Miami Dade College; Melissa Pedone—Valencia College

**Grand Hall East C, Lower Level 2 | Type II: Institution-Level Interventions**
- Course-Based Undergraduate Research - Institutional Change/Transformation
- Learning Communities

**Workshop #28: It All Begins with a SPARC**
Heather Woodson, Melissa Armstrong, and Ashley Hagler—Gaston College

**Grand Hall East D, Lower Level 2 | Type I: Individual Classroom/Project-Level Interventions**
- Interdisciplinarity - Learning Communities - Supplemental Instruction

**Workshop #29: The Importance of Experiential Learning for STEM Students**
Sonya Merrill and Staci Fowler—The George Washington University

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**Centennial III, Lower Level 1**
5:30 P.M. – 6:30 P.M. | Poster Session

**Type I: Individual Classroom/Project-Level Interventions**
- Metacognition - Peer Mentoring - PUI

**Poster #68: Neuropedagogy and Intentional Curriculum Design in Biomedical Sciences**
Elizabeth Perry—Rochester Institute of Technology

**Type I: Individual Classroom/Project-Level Interventions**
- Peer Mentoring - PUI - Summer Bridge Programs

**Poster #69: Preventing the Sophomore-Slump: Strategies for Keeping Biology Majors on Track in Their Second Year**
Lisa Oakes and Paulina Cano—St. Mary's University

**Type I: Individual Classroom/Project-Level Interventions**
- Broadening Participation - Course-Based Undergraduate Research - HBCU

**Poster #70: Expanding Research and Inquiry into the STEM Curriculum Using a Theme-Based Approach**
Louise Wrensford, Brian Kim, Arun Saha, and Yixuan Wang—Albany State University

**Type I: Individual Classroom/Project-Level Interventions**
- Broadening Participation - Transfer Students

**Poster #71: Successful Integration of Face-to-Face Boot Camp Lab Courses Increases Access in a STEM Program**
Alexandria Ardissone, Monika Oli, Kelly Rice, Eric Triplett, and Jennifer Drew—University of Florida

**Type I: Individual Classroom/Project-Level Interventions**
- Course-Based Undergraduate Research - Interdisciplinarity - PUI

**Poster #72: Biological Processes at Work: Classroom Undergraduate Research**
Cassandra Korte and Erika Doctor—Lynn University
**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Learning Assistance - Metacognition
**POSTER #73: Making Smart Students Great Students through Metacognitive Strategy Development**
Donald Pearl—Georgia Institute of Technology

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Interdisciplinarity - Peer Mentoring - Supplemental Instruction - Active Learning
**POSTER #74: Training Undergraduates to Assess Practical Skills and Facilitate in Active Learning Environments**
Suzanne Ruder and Courtney Stanford—Virginia Commonwealth University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - HHMI Featured Session
**POSTER #75: Implementation of Interdisciplinary Projects Improves Student Learning in Mathematics**
Na Yu—Lawrence Technological University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - Metacognition - PUI
**POSTER #76: A Model for Urban, Place-Based Research in Undergraduate Biology Courses**
Pamela Hanson, Kevin Drace, V. Gibbs, and Melanie Styers—Birmingham-Southern College

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - Metacognition - STEM Faculty
**POSTER #77: Exploring Alternative Ways to Think and Act in an Undergraduate research Laboratory: A Bird’s Eye View**
Vasudha Sharma—Valencia College

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Course-Based Undergraduate Research - Undergraduate Research - HHMI Featured Session
**POSTER #78: Culturally Responsive Data and Computational Science through Course-Based Research Experience**
Lior Shamir—Lawrence Technological University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - PUI - Undergraduate Research
**POSTER #79: Can You Taste It? Genetics Inquiry-Based Lab Series to Enhance Non-Majors General Science Scores**
Kimberly Rowland—Lynn University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Learning Assistance - Undergraduate Research - PKAL Featured Session
**POSTER #80: Transforming First-Year Science and Mathematics Courses through the Analysis of Learning Instruction**
Cynney Walters, Jackie Wong, Hannah Santoro, and Kadian Callahan—Kennesaw State University
TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - Interdisciplinarity - Undergraduate Research
POSTER #81: Fostering Open-Ended Problem-Solving Skills of Undergraduate STEM Students: Attempts in Asian Universities
Hisao Suzuki—Hokkaido University; Keiichiro Yoshinaga—Kanazawa University; and Jun Saito—Obihiro University of Agriculture and Veterinary Medicine

POSTER #82 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - STEM Faculty
Incorporating Humanities-Based Activities into Physiology
Andrew Petzold—University of Minnesota Rochester

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - HHMI Featured Session
POSTER #83: Classroom Undergraduate Research Experience: Developing the Scientist
Maureen Scott—Norfolk State University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Course-Based Undergraduate Research - PUI - PKAL Featured Session
POSTER #84: Scaffolding to Improve Development and Reduce Anxiety of Quantitative Skills in Biology
Kristen Cecala—University of the South

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - HBCU - Metacognition
POSTER #85: Metacognitive Assessment: A Student-Centered Approach For Increasing Retention in Freshmen Biology
Scott Horrell and Jana Marcette—Harris-Stowe State University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Course-Based Undergraduate Research - HHMI Featured Session
POSTER #86: A Course-based Research Experience on Endocrine Disruptors Allows for Student Self-Expression
Julie Zwiesler-Vollick, Aleksandra Kuzmanov, and Hsiao-Ping Moore—Lawrence Technological University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Metacognition - STEM Faculty
POSTER #87: Spotlighting Scientists and Stopping Stereotypes: The Effects of ‘Scientist Spotlights’
Heather Perkins—North Carolina State University; Jeffrey Schinske—De Anza College; Mary Wyer—North Carolina State University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- HBCU - Interdisciplinarity - Undergraduate research
POSTER #88: An Experiential Learning Approach to Infusing Cybersecurity into Core Sociology Courses
Carlene Turner and Claude Turner—Norfolk State University
TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Communities of Practice - HBCU - Learning Assistance

POSTER #89: **Improving the Quality of Mathematics in Secondary Education to Promote STEM Enrollment**
Timothy Holston and Lee Redmond—Mississippi Valley State University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Institutional Change/Transformation - PUI - PKAL Featured Session

POSTER #90: **Leading Efforts to Increase Inclusivity and Student Success as a Non-Positional Faculty Leader**
Tara Phelps-Durr—Radford University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- HSI - Institutional Change/Transformation - Learning Communities - Summer Bridge Programs
- PKAL Featured Session - HHMI Featured Session

POSTER #91: **Improving Inclusive Excellence in STEM through Place-Based Learning Communities**
Amy Sprowles, Matt Johnson, and Eileen Cashman—Humboldt State University; Lisa Hillman—The Karuk Tribe of California Department of Natural Resources

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Institutional Change/Transformation - STEM Faculty

POSTER #92: **The Emerging Structure of Research and Teaching Discussions: How Network Analyses Guide Interventions**
Aliaksandr Pautsina, Clare Barratt, and Moira van Staaden—Bowling Green State University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Learning Assistance

POSTER #93: **The Role of Intrusive Advising in Improving Student Success in STEM Disciplines**
Richard Jarman, Barbara Abromitis, Susan Fenwick, Tom Carter and Gary Roby—College of DuPage

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Supplemental Instruction

POSTER #94: **Peer-Mentoring: Measurements of Cost Effectiveness**
Dabney Dixon, Brian Thoms, Rebecca Rizzo, and Kate Kendall—Georgia State University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Communities of Practice - PUI - Summer Bridge Programs

POSTER #95: **A Summer STEM Success Academy**
John Grew and Alberto Pinkas—NJ City University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Institutional Change/Transformation - STEM Faculty

POSTER #96: **Building Theory: Exploring Attitudes, Norms, and Teaching Behavior of Faculty**
Emily Walter and Ivan Ceballos Madrigal—California State University – Fresno

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Institutional Change/Transformation

POSTER #97: **Retaining More Community College STEM Majors Using Academic Analytics**
Jennifer Snyder—Valencia College
TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Institutional Change/Transformation
POSTER #98: Mobilizing around Course Evaluation: Improved Feedback and Integration of Custom Learning Questions
Erin Sparck and Marc Levis-Fitzgerald—University of California, Los Angeles

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Institutional Change/Transformation - Learning Communities
- HHMI Featured Session
POSTER #99: Oberlin HHMI Project Enhancing the Climate for and Success of a Diverse Student Population in STEM
Nicollette Mitchell, Jason Belitsky, and Marta Laskowski—Oberlin College

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Institutional Change/Transformation - PUI
POSTER #100: A Predictive Model for STEM Students’ Sense of Belonging
Melissa Hanzsek-Brill and Mark Petzold—St. Cloud State University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Learning Assistance
POSTER #101: Multiple Choice Questions: Right or Wrong?
Guillaume Laurent—Auburn University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Communities of Practice
POSTER #102: How Do Noyce STEM Teacher Candidates and Their Mentors Define High-Quality Mentorship?
Erica Kwiatkowski-Egizio—Lewis University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Institutional Change/Transformation - Transfer Students
POSTER #103: An S-STEM Grant to Support Transfer Student Success in STEM Disciplines Impacts University Policies
Olivia Carducci, Bonnie Green, and Teresa Jones-Wilson—East Stroudsburg University

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Communities of Practice - Institutional Change/Transformation
POSTER #104: Measuring the Impact of an Institutional Course Transformation Initiative
Blair Schneider, Anthony Vartia, and Molly McVey—University of Kansas

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Institutional Change/Transformation - Learning Communities - PUI
POSTER #105: The STEM Success Initiative: Initial Findings and Implications for Equity at a Liberal Arts College
Melissa Schen, Jennifer Bowen, and Kara Melrose—The College of Wooster
TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Communities of Practice - Learning Communities

POSTER #106: STEM Club: Connecting Students to Academic and Career Pathways
Adam Keller, Meridith Sellars, and Laura Shady—Columbus State Community College

TYPE III: NATIONAL-LEVEL INTERVENTIONS
- STEM Faculty

POSTER #107: Building a National Resource for STEM Preservice Education
Quincy Brown, Yolanda George, and Betty Callinger—American Association for the Advancement of Science

TYPE III: NATIONAL-LEVEL INTERVENTIONS
- Broadening Participation, Assessment - PKAL Featured Sessions

POSTER #108: Analysis and Use of BioSQuARE: An Instrument to Assess Undergraduate Biology Quantitative Skills
Elizabeth Stanhope—Lewis & Clark College; Paul Overvoorde—Macalester College

TYPE III: NATIONAL-LEVEL INTERVENTIONS
- Communities of Practice - Learning Communities - STEM Faculty

POSTER #109: The Ohio Regional PKAL Network: Building Momentum
Paul Wendel—Otterbein University; Joyce Fernandes—Miami University of Ohio; Andrew Heckler—The Ohio State University; Victoria McGillin—John N. Gardner Institute for Excellence in Undergraduate Education

SUNDAY, NOVEMBER 11, 2018

CENTENNIAL FOYER, LOWER LEVEL 1
7:00 A.M. – 11:45 A.M. CONFEERENCE REGISTRATION
7:00 A.M. – 8:00 A.M. BREAKFAST

8:00 A.M. – 9:00 A.M. CONCURRENT SESSIONS

HANOVER D, LOWER LEVEL 2
Discussions #26

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Communities of Practice - Supplemental Instruction

Strategic Campus Partnerships to Sustain STEM Retention and Graduation at UW-Madison
Emilie Hofacker and Stanley Kang—University of Wisconsin-Madison

TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Institutional Change/Transformation - STEM Faculty

Leveraging Campus Narratives and Assessment Data to Facilitate Inclusionary Institutional change
Ursula Williams, Daniel Dries, Philip Dunwoody, and Jill Keeney—Juniata College
HANOVER E, LOWER LEVEL 2
Discussions #27

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - HBCU - STEM Faculty

*Instructional Change Strategies for Data Science Implementation at Two HBCUs*
Brandeis Marshall—Spelman College

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - HBCU - HHMI Featured Session

*Culturally and Socially Responsive Pedagogies as a Route to Course Engagement and Science Identity*
Shanina Sanders, Kimberly Jackson, Aditi Pai, and Leyte Winfield—Spelman College

HANOVER F, LOWER LEVEL 2
Discussions #28

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Transfer Students

*Student Success and High-Impact Practices: Translating Psychology Research for Greater Understanding*
Bonnie Green, John Darsinos, Destany Labar, Olivia Carducci, and T. Jones—East Stroudsburg University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- STEM Faculty - HHMI Featured Session

*Fostering Inclusive Classrooms and Student Support Systems through Social-Psychological Strategies*
Regina Frey and Kathryn Miller—Washington University in St. Louis

HANOVER G, LOWER LEVEL 2
Discussions #29

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - HSI

*Working with What Works Clearinghouse Standards to Evaluate Designs for Broadening Participation*
Kate Winter, Kate Winter Evaluation, LLC; Eva Fernández, Sabrina Avila, Patrick Johnson, and Jennifer Valad—CUNY Queens College

GRAND HALL EAST C, LOWER LEVEL 2
Ideation/Innovation Session #15

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Peer Mentoring - Undergraduate Research

*Advancing a Peer-Based Ambassador Program Aimed at Expanding Access to Undergraduate Research*
Sophie Pierszalowski, Gregory Heinonen, Katherine Leibel, Karan Patel, and Hawai Boriyo—Oregon State University
(Innovation/Ideation Session #15 continued from previous page)

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Interdisciplinarity - STEM Faculty - Leadership - PKAL Featured Session
  Holistic Thinking in STEM Students: Development and Leadership of a Problem-Solving Curriculum
  Amanda Biesecker—James Madison University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - Learning Communities - STEM Faculty
  From Building Capacity to Creating Cultural Change in Research-Intensive STEM Departments
  Peter Stilling and Robert Potter—University of South Florida

**GRAND HALL EAST D, LOWER LEVEL 2**
Ideation/Inovation Session #16

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - Interdisciplinarity - Undergraduate Research
- Integrative Learning
  Integrating the Sciences: A Degree Program for Real Life
  Teri Balser, Daniel Southam, and Chris Rawson—Curtin University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Metacognition - Peer Mentoring - PUI - PKAL Featured Session – HHMI Featured Session
  Curriculum Design with Mentorship in Mind
  Patrice Moss and Mia Ray—Trinity Washington University

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- HSI - Interdisciplinarity
  Developing an Intradisciplinary STEAM Minor
  Ana Fraiman and Mark McKernin—Northeastern Illinois University

**HANOVER B, LOWER LEVEL 2**
Ideation/Inovation Session #17

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Interdisciplinarity - STEM Faculty
  Biomechanics to Engage Elementary Teachers and Students in Technology-based STEM Learning
  Anne Karabon, Neal Grandgenett, Michelle Friend, Amelia Lanier, and Kota Takahshi—University of Nebraska Omaha

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Communities of Practice - Learning Communities - STEM Faculty - PKAL Featured Session
  K-12 Professional Development as a Model for College Science Faculty
  Paula Lemons—University of Georgia; Luanna Prevost—University of South Florida; Kevin Haudek and Lauren Jescovitch—Michigan State University; Chris Wilson—BSCS

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - Interdisciplinarity - STEM Faculty
  Developing and Implementing STEM Standards for Educators
  Karina Hensberry, Sandra Vernon-Jackson, and Kathleen Gibson-Dee—University of South Florida St. Petersburg
HANOVER C, LOWER LEVEL 2
Ideation/Innovation Session #18

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - PUI - Undergraduate Research
- PKAL Featured Session

Large Scale Implementation of Authentic DNA Barcoding Research into First-Year Biology Curriculum
Oliver Hyman, Kyle Seifert, and Joseph Harsh—James Madison University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Broadening Participation - Learning Communities - STEM Faculty

An Examination of the Performance and Motivation Benefits of the Biology SCALE-UP Classroom
Kimberly Pigford—Wesleyan College; Miriam Fierzli—North Carolina State University

TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - Active Learning

The Shape of Instruction – How an Oval Can Reinvent the Active Learning Laboratory
John Varley and Marilee Lloyd—HED

CENTENNIAL I, LOWER LEVEL 1 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Institutional Change/Transformation - STEM Faculty

WORKSHOP #30: Large-Scale Curriculum Redesign to Meet 21st Century Challenges in STEM
Brandon Campitelli and Keely Finkelstein—University of Texas at Austin

CENTENNIAL II, LOWER LEVEL 1 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Communities of Practice - Interdisciplinarity - STEM Faculty

WORKSHOP #31: Using Interdisciplinary Teaching Practices for STEM-Based Courses
Julie Dalley, Nina Goodey, Dirk Vanderklein, and Joshua Galster—Montclair State University

CENTENNIAL III, LOWER LEVEL 1 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Course-Based Undergraduate Research - Institutional Change/Transformation - Learning Communities

WORKSHOP #32: Faculty Teaching and Learning Communities to Scale up CUREs and Create Institutional Momentum
Paul Ulrich, Edmund Rodgers, Christy Visaggi, and Dabney Dixon—Georgia State University

GRAND HALL EAST A, LOWER LEVEL 2 | TYPE III: NATIONAL-LEVEL INTERVENTIONS
- Broadening Participation - Institutional Change/Transformation - Undergraduate Research

WORKSHOP #33: Scaffolding Undergraduate Research: Lessons from the CUR Transformations Project
Jeffrey Osborn—The College of New Jersey; Kerry Karukstis—Harvey Mudd College

GRAND HALL EAST B, LOWER LEVEL 2 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS
- Learning Communities - Metacognition - Peer Mentoring

WORKSHOP #34: The Power of Phenomenology in STEM Teaching and Learning
Mays Imad, Jenna Wild, Shekeycha Ward—Pima Community College
CONCURRENT SESSIONS

9:15 A.M. – 10:15 A.M.

Hanover D, Lower Level 2

Discussions #30

Type III: National-Level Interventions
- Institutional Change/Transformation
STEM Education in 2026 and Beyond: An Interactive Session
Pushpa Ramakrishna—National Science Foundation

Hanover A, Lower Level 2

Discussions #31

Type II: Institution-Level Interventions
- Broadening Participation - Course-Based Undergraduate Research - Virtual Learning
Virtual Exchange for International Collaborations in STEM Learning
Adam Zahn—Drexel University

Type III: National-Level Interventions
- Historically Black College or University (HBCU)
A National STEM Research Conference Model for Preparing College Students for A Global Workforce
Iris Wagstaff, Quincy Brown, and Yolanda George—American Association for the Advancement of Science

Hanover B, Lower Level 2

Discussions #32

Type II: Institution-Level Interventions
- Broadening Participation - Course-Based Undergraduate Research - Institutional Change/Transformation
5-STEM Supported Learning Community: Systematic Transformation at a Mid-Atlantic College
Malcolm D'Souza, Stephanie Stotts, Agashi Nwogbaga, and Danielle Archambault—Wesley College

Type I: Individual Classroom/Project-Level Interventions
- Communities of Practice - Transfer Students
Redesigning an IT Program to Serve Needs of Non-Traditional Students for Academic Success with HIPs
Feng Liu, Colleen Stapleton, Awatef Ben Ramadan, Vikraman Baskaran, and Zipangani Vokhiwa—Mercer University

Hanover C, Lower Level 2

Discussions #33

Type II: Institution-Level Interventions
- Broadening Participation - Communities of Practice – Interdisciplinarity
From STEM to STEAM: 3D Digital Scanning, Fabrication and Design in STEM Teaching and Research
Jitendra Sharma, Laura West, Redahegn Sileshi, Katayoun Mobasher, and Michael Bender—University of North Georgia
(Discussions #33 continued from previous page)

**Type II: Institution-Level Interventions**
- Broadening Participation - Communities of Practice - Institutional Change/Transformation – LEAP Featured Session

**Educating the Whole Engineer: A Vision for Wake Forest University’s New Department of Engineering**
Olga Pierrakos, Michael Gross, Elise Barrella, Elizabeth Boatman, and Anita McCauley—Wake Forest University

**Hanover E, Lower Level 2**

**Ideation/Innovation Session #19**

**Type I: Individual Classroom/Project-Level Interventions**
- Broadening Participation - HBCU

**Service Learning in a Course on Natural Disasters: Building Individual and Community Resiliency**
Michele Guannel—University of the Virgin Islands, St. Thomas and Virgin Islands Established Program to Stimulate Competitive Research; Joan Ledbetter and Michelle Peterson—University of the Virgin Islands, St. Croix; Imani Daniel—Virgin Islands Established Program to Stimulate Competitive Research and St. Thomas Recovery Team

**Type I: Individual Classroom/Project-Level Interventions**
- Broadening Participation - Supplemental Instruction - Undergraduate research

**Students “Bee-ing” Involved in STEM**
Krissy Smith—Robeson Community College

**Type III: National-Level Interventions**
- Broadening Participation

**Learning STEM by Making: Makerspaces to Prepare a Diverse STEM Workforce**
Martha Escobar—Oakland University; Mohammed Qazi—Tuskegee University

**Hanover F, Lower Level 2**

**Ideation/Innovation Session #20**

**Type II: Institution-Level Interventions**
- HSI - STEM Faculty - Undergraduate Research

**A Pipeline to a PhD Award in STEM Areas Planted in Underserved Grounds**
Celso Batalha—Evergreen Valley College

**Type II: Institution-Level Interventions**
- HSI - Supplemental Instruction - Transfer Students

**Creating a STEM Professions Pipeline Program at an Urban Community College**
Stacia Reader and Seher Atamturktur—Bronx Community College

**Type II: Institution-Level Interventions**
- Undergraduate Research - STEM Faculty - PKAL Featured Session

**Preparing Future Faculty to Be Effective STEM Educators**
Joyce Fernandes—Miami University
HANOVER G, LOWER LEVEL 2  
Ideation/Innovation Sessions #21  

TYPE II: INSTITUTION-LEVEL INTERVENTIONS  
- Faculty Mentoring - Institutional Change/Transformation  
  Fostering Students’ Sense of Belonging through Science Curriculum Reform  
Cynthia DeBoy and Kaitlin Wellens—Trinity Washington University

TYPE III: NATIONAL-LEVEL INTERVENTIONS  
- Broadening Participation - STEM Faculty  
  Have Kids, Will Travel: Removing the Barrier of Parenthood for Female STEM Faculty  
  Conference Participation  
Pamela Leggett-Robinson—PLR Consulting Services; Brandi Villa—Belay Consulting

CENTENNIAL III, LOWER LEVEL 1 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS  
- Course-Based Undergraduate Research - Institutional Change/Transformation  
- Supplemental Instruction  
  WORKSHOP #35: A HIP (High-Impact Practice) Systems Approach to Institutional Reform of STEM Education  
Clay Runck, Allison D’Costa, Judy Awong-Taylor, Cindy Achat-Mendes, David Pursell, Chantelle Anfuso, and Tirza Leader—Georgia Gwinnett College

GRAND HALL EAST A, LOWER LEVEL 2 | TYPE III: NATIONAL-LEVEL INTERVENTIONS  
- Communities of Practice - Institutional Change/Transformation  
  WORKSHOP #36: Advancing Collective Reform through Inter- and Intra-Organizational Boundary Spanning  
Lucas Hill, Julia Savoy, and Bipana Bantawa—University of Wisconsin-Madison; Jessica Schein—Michigan State University

GRAND HALL EAST B, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS  
- Institutional Change/Transformation - STEM Faculty  
  WORKSHOP #37: So You Built an Active Learning Space: Now What? – The Active Learning in Engineering Program  
Samantha Shields and Sunay Palsole—Texas A&M University

GRAND HALL EAST C, LOWER LEVEL 2 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS  
- HSI - PKAL Featured Session  
  WORKSHOP #38: Teaching to Increase Equity in STEM: Culturally-Responsive Strategies to Empower Students  
Lilliam Casillas-Martinez—University of Puerto Rico-Humacao

GRAND HALL EAST D, LOWER LEVEL 2 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS  
- Communities of Practice - Interdisciplinarity - STEM Faculty  
  WORKSHOP #39: Tips for Developing and Validating Assessments in Emerging STEM Fields  
Jennifer Drew—University of Florida; Neal Grandgenett, William Tapprich, and Mark Pauley, University of Nebraska at Omaha; Elizabeth Dinsdale—San Diego State University
10:30 A.M. – 11:30 A.M.  CONCURRENT SESSIONS

HANOVER A, LOWER LEVEL 2
Discussion #34

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Course-Based Undergraduate Research - Undergraduate Research
  **Inclusion of Non-Traditional Students through College-Wide Course-Based Research Experiences**
  Lior Shamir, Franco Delogu, and Julie Zwiesler-Vollick—Lawrence Technological University

HANOVER B, LOWER LEVEL 2
Discussions #35

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Communities of Practice
  **No More Pilots: Designing for Scale to Impact System-Wide Student Success**
  Allison Little—Massachusetts Department of Higher Education; Jeremiah Johnson—University of Massachusetts

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Communities of Practice - PUI - STEM Faculty
  **Teaching Experiences of Community College Science Faculty in Traditional and Hybrid Formats**
  Sharale Mathis—Manchester Community College

HANOVER C, LOWER LEVEL 2
Discussions #36

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Communities of Practice
  **Positive Engagement for ALL Students in Large Lecture Science Courses: Collaborative Learning**
  Michelle Nugent and Miriam Ferzli—North Carolina State University

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Broadening Participation - Communities of Practice - Institutional Change/Transformation
  **Engage All Students via Smart Phones**
  Roger Yu—New York Institute of Technology

HANOVER D, LOWER LEVEL 2
Discussions #37

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - PUI - STEM Faculty
  **How Building Institutional Capacity Can Facilitate Inclusive Excellence in STEM**
  Lynne Lawson, Eliane Boucher, and Kathleen Cornely—Providence College

HANOVER E, LOWER LEVEL 2
Ideation/Innovation Sessions #22

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- HBCU - Interdisciplinarity
  **Integrated STEM Education: Culturally Responsive Modeling in Mathematics**
  Chris Plyley—University of the Virgin Islands
(Innovation/Ideation Session #22 continued from previous page)

**TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- STEM Faculty – Interdisciplinarity
  Asynchronous Integration of Math and Improvement of Student Performance in a Microbiology Course
  Galyna Kufryk—Grand Canyon University; Filippo Posta—Estrella Mountain Community College

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Broadening Participation - Course-Based Undergraduate Research
  Fostering Success in an Introductory College Mathematics Course Using a Hybrid Model
  Deirdre Donovan, Eysssa Miller, and Nicholas Escobar—Lasell College

**HANOVER F, LOWER LEVEL 2**
Ideation/Innovation Sessions #23

**TYPE II: INSTITUTION-LEVEL INTERVENTIONS**
- Institutional Change/Transformation - Interdisciplinarity - Learning Communities
  Fostering Future Collaborators: A Model for Team-Based, Undergraduate STEM Education
  Zion Klos—Marist College

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Faculty Mentoring - Institutional Change/Transformation
  Incorporating Maslow’s Hierarchy of Needs into Considerations of Student Support and Achievement
  J. Roxanne Prichard—University of St. Thomas

**TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Learning Assistance - STEM Faculty - Undergraduate Research
  Visualizing Students’ Conceptual Understanding in STEM: Faculty Perspectives and a Live Web App Demo
  Marisol Santiago, Matthew Steele, and Kevin Haudek—Michigan State University; Jennifer Kaplan—University of Georgia; Luanna Prevost—University of South Florida

**CENTENNIAL III, LOWER LEVEL 1 | TYPE III: NATIONAL-LEVEL INTERVENTIONS**
- Communities of Practice - Institutional Change/Transformation - STEM Faculty

**WORKSHOP #40: Accreditation as a Tool for STEM Reform**
Adele Wolfson—Wellesley College; Peter Kennelly—Virginia Tech; Quira Zeidan—American Society for Biochemistry and Molecular Biology; Victoria Moore—Elon University

**GRAND HALL EAST A, LOWER LEVEL 2 | TYPE I: INDIVIDUAL CLASSROOM/PROJECT-LEVEL INTERVENTIONS**
- Course-Based Undergraduate Research - HSI - Undergraduate Research

**WORKSHOP #41: Creating a Culturally-Enhanced Research Experience at an HSI to Increase Student Success**
Susan Farruggia, Bernard Santarsiero, Aixa Alfonso, Jorge Girotti, and Veronica Arreola—University of Illinois at Chicago
GRAND HALL EAST B, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Interdisciplinarity - PUI - STEM Faculty
WORKSHOP #42: Improving Persistence and Success through Leadership Development in Undergraduate STEM Curricula
Lance Barton, Karla McCain, and John Richardson—Austin College

GRAND HALL EAST C, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Broadening Participation - Communities of Practice - Institutional Change/Transformation
WORKSHOP #43: Promoting Inclusive Excellence in STEM by Practicing Inclusive Excellence
Jill Sible, Najla Mouchrek, Michele Deramo, and Joel Keebler—Virginia Tech

GRAND HALL EAST D, LOWER LEVEL 2 | TYPE II: INSTITUTION-LEVEL INTERVENTIONS
- Faculty Mentoring - Institutional Change/Transformation - STEM Faculty
WORKSHOP #44: The REFLECT Project: Spreading Evidence-Based Teaching in STEM
Stephanie Salomone, Eric Anctil, Heather Dillon, Carolyn James, Valerie Peterson, and Tara Prestholdt—University of Portland

CENTENNIAL I & II, LOWER LEVEL 1
11:45 A.M. – 12:45 P.M. KEYNOTE ADDRESS

Post-Secondary STEM Education: A Path or a Wall to Modern American Citizenship?
University diversity numbers do not, by themselves, predict the future of American cities. While the nation’s demographics are changing, the evidentiary basis we use to forecast the future needs to change too. What evidence is there to determine who will be in and who will be out? Dr. Bobb will discuss the role that STEM education plays in shaping modern American cities.

Kamau Bobb, Senior Director of the Constellations Center for Equity in Computing, Georgia Institute of Technology
Meeting Room Floor Plan

all sessions are in the Atrium Tower