

**University System of Georgia  
STEM Summit 2016  
August 8  
Middle Georgia State University  
Room 211, Professional Science Center  
Macon, GA**

|         |                                                                               |                                       |
|---------|-------------------------------------------------------------------------------|---------------------------------------|
| 9:00am  | <b>Check in, Registration, Coffee</b>                                         | Cheryl Thomas<br><i>USG</i>           |
| 10:00am | <b>Welcome</b><br>Ongoing STEM Efforts in GA                                  | Sheila Jones<br><i>USG</i>            |
| 10:25am | <b>Looking Back</b><br>STEM Progress to Date                                  | Nathan Moon<br><i>GIT</i>             |
| 10:45am | <b>Moving Forward</b><br>USG STEM Network &<br>Communities of Practice        | Judy Awong-Taylor<br><i>GGC</i>       |
| 11:05am | <b>Transition to Poster Session</b>                                           |                                       |
| 11:10am | <b>Poster Session: Successful STEM<br/>Goals, Objectives &amp; Activities</b> | USG STEM<br>Institutions<br>2011-2016 |
| 12:00pm | <b>Working Lunch with Your Team</b>                                           | Team Sheet 1                          |



1:00pm

## **Transition to Concurrent Session 1**

1:10pm

## **Concurrent Sessions 1**

### **RETP: A Model Curriculum for Engineering Majors to Transfer to Georgia Tech**

The Regents' Engineering Transfer Program (RETP) is based upon the concepts of students successfully completing two or more years of pre-engineering education at designated units of the USG and then finishing their engineering degrees at the Georgia Institute of Technology. Currently, approximately 75 students use RETP annually to secure transfer from GSU's Perimeter College engineering program to GT's College of Engineering. RETP students at GSU enjoy smaller classes, more personalized attention from professors, and additional resources and support for under-represented groups. Students spend approximately 2 years, completing math, science and select engineering and humanities requirements at GSU followed by 2-3 years completing remaining degree requirements at GT. RETP transfer GPA requirements are between 3.0-3.3. Historically, GSU's RETP students have performed comparably at GT to traditional transfer or freshman admissions students.

***Georgia State University Georgia Perimeter College: Taylor Shapero, Anant Honkan & Chad Bryant***

**Room 211**

### **Designing Support Programs to Increase Retention and Graduation Rates Among STEM College Students**

Since its inception in 2012 Georgia State University Perimeter College (PC) STEM Initiatives Office has dedicated itself to making STEM a living acronym. As part of these efforts, four grant-funded student support programs emerged and impact each year nearly 300+ 2-year college students, who have chosen a STEM discipline. Program scholars benefit from Academic Excellence Workshops; intrusive academic advising; assistance with the transfer process to a 4-year institution; career advising; and, linkages with professional organizations. Students also engage in undergraduate research; visit 4-year institutions and local industries; and, partner with area K-12 schools to help build interest in STEM education and careers. The convener will share results from the programs; discuss how they have been utilized to improve retention, transfer, and graduation rates especially among under-represented groups; and how they have introduced a culture of undergraduate research. Discussion will also include the challenges of sustainability, access, and institutionalization.

***Georgia State University Perimeter College: Cynthia Lester***

**Room 211 C**



## **Changing Science and Mathematics College Classrooms via an Instructional Innovations Faculty Learning Community**

As part of a comprehensive Student Success Initiative in the College of Science and Mathematics, we implemented a faculty learning community (FLC) focused on instructional innovations. The first FLC was recruited and formed in Spring 2016. This first group of 10 was comprised of faculty working to change their College Algebra, Calculus I and General Chemistry Classrooms (all courses that are key gateway courses for KSU students). In Summer 2016, we held a 4-day institute for these faculty where they firmed up their Fall course plans and began to design units and consider how they would evaluate the success of their planned innovations. In Fall 2016, 340 math students and 575 Chemistry students will be taught in classrooms where research-based teaching innovations will be employed. A variety of results will be assessed, including but not at all limited to DFW rate.

***Kennesaw State University: Marla M. Bell***  
**Room 237**

## **STEAM English: Innovations in Composition Pedagogy**

This panel showcases the STEM to STEAM Initiative in the Department of English at the University of West Georgia: a cross-disciplinary program which seeks to enhance STEM student-learning outcomes through innovations in composition pedagogy. Presenters will introduce the initiative, its successful curriculum, and goals, while making visible how the program provides both practical responses to the specific needs of STEM majors and nurtures creative, social, political, and humanitarian thinking in relations to scientific innovation. Additionally, the panel will spotlight a sampling of themes, texts, and assignments utilized across the carefully scaffolded STEAM ENGL 1101 and 1102 curriculum, including STEM student work recently highlighted on Ken Eklund's *FUTURECOAST*.

***University of West Georgia: Laura McKee, Shannon Finck & Rebecca Harrison***  
**Room 238A**

## **Supplemental Instruction Gaining Ground (GC Part 1 – Nuts and Bolts)**

Are you interested in developing or growing a Supplemental Instruction program on your campus? This session will ask you to identify your challenges and will share some of our successful strategies in supporting a comprehensive and expanding SI program. Current assessment practices and evaluation suggestions will be shared as our results inspire us for continuous improvement. Course perseverance, content clarity, Communities of Practice, and leadership skills are just a few of the potential gains for your campus that reach far beyond the obvious. Join us for this 'nuts and bolts' hike as well as candid conversations and insights!

***Georgia College: Jeanne Haslam***  
**Room 238B**



1:50pm

## Transition to Concurrent Session 2

1:55pm

## Concurrent Sessions 2

### **Developing and Implementing Course-Embedded Undergraduate Research Experiences (CUREs)**

Course-Embedded Undergraduate Research Experiences (CUREs) are a key component of GGC's STEM Initiative for enhancing student engagement and learning in STEM disciplines. Presenters will describe the results of a five-year project that utilizes a discipline-specific CURE model that scaffolds multiple research and creative experiences for all STEM majors during all four years of matriculation. To date, 54 courses include CUREs and over 3,000 students are impacted annually. Presenters will discuss key components of the project, institutional strategies, longitudinal program-level assessment (student performance, student attitudinal, and faculty attitudinal data), appropriate assessment tools and plans, and discuss how the model can be adapted to other institutions. Participants will reflect on similar reform efforts at their home institutions and how GGC's model can be adapted to their own institutions, and discuss challenges/obstacles that prevent implementation of such a program at their institution.

***Georgia Gwinnett College: Judy Awong-Taylor, Allison D'Costa, David Pursell & Clay Runck***  
**Room 211**

### **Helping STEM Students Find a Sense of Belonging and Staying Excited About Their Studies**

Perimeter College's Educate and Nurture Leadership in STEM (ENLISTEM) Scholars Program, funded by an NSF S-STEM grant, has found that an extra-curricular program combining opportunities for students to interact with STEM experts, see STEM careers in action, and lead children in STEM activities helped collegiate STEM students find a sense of belongingness that encourages their persistence through the rigor of STEM coursework. ENLISTEM Scholars received financial support and participated in advising sessions, but we have found great benefit to ENLISTEM Scholars through field trips to business that employ STEM professionals and speakers that present novel opportunities and/or real-world advice. In addition, ENLISTEM Scholars found serving the community by inspiring young children to discover the wonders of math and science very rewarding. The purpose of this discussion is to share the experience of the ENLISTEM Scholars Program so other institutions can implement practices that excite students with little financial investment.

***Perimeter College at Georgia State University: Brooke Skelton & Margie Lewkowicz***  
**Room 211 C**



## Guiding Your Students to STEM Success

Student success in STEM programs begins with preparation and communication that starts before students matriculate at postsecondary institutions and continues through college graduation. This session will begin by defining STEM-readiness and presenting best practices for increasing the number of applicants who are STEM-ready, with a focus on defining and communicating mathematics requirements for STEM pathways. Matriculated students need maps for STEM pathways that clearly define expected course-taking each semester and show milestones to help students measure progress toward degrees. Consistent use of STEM program maps is expected to increase degree completion rates, decrease time to completion, and decrease excessive credit-taking. To document increases in student success in STEM programs, institutions will use metrics that document baseline and subsequent STEM-readiness in applicant and matriculated populations, as well as metrics to measure STEM program retention, credit accumulation, and degree completion, which will be discussed in the last part of the presentation.

**University System of Georgia: Barbara Brown**  
**Room 237**

## Peer Learning Assistants for Introductory STEM Courses

More UGA students begin their undergraduate careers as STEM majors than graduate with STEM degrees. A major factor causing this leaky pipeline is the low success rate in introductory STEM courses; typically, 10-30% of students receive grades of D, F, W. An evidence-based approach for addressing this problem involves the use of Peer Learning Assistants (PLAs). Peer assisted learning generally describes a system in which undergraduate students who previously succeeded in the course are provided training and guidance, both in subject content and pedagogy, and then help current students to succeed. For the past several years PLAs have been successfully employed at UGA in an introductory General Chemistry course. This presentation will describe the three key components of the PLA experience: **content**, **practice**, and **pedagogy**. Plans for expanding the PLA program to several other STEM disciplines at UGA also will be discussed.

**University of Georgia: Chuck Kutal**  
**Room 238A**



## **Supplemental Instruction Shaping Student Success (GC Part 2 - Impact)**

Academic support programs are essential when it comes to increasing student success. Such programs are particularly vital for the mathematical sciences, which have historically lower success rates. Building a program that provides effective academic enhancement opportunities for all students requires a consideration of many factors. One must identify the areas of greatest need and provide high impact instructional support while considering a myriad of resource limitations. In this talk, we will examine a supplemental instruction program and highlight the key factors that contribute to quality academic enhancement. We will provide both statistical evidence and qualitative feedback about the effectiveness of such a program. We will also highlight the mentorship and professional development opportunities afforded our Supplemental Instruction (SI) Leaders that truly make learning a vertically integrated, dynamic collaborative experience.

***Georgia College: Brandon Samples***  
**Room 238B**

2:35pm                      **Transition to Room 211**

2:50pm                      **Team Time Discussion**                      Team Sheet 2

3:45pm                      **Next Steps & Wrap Up**                      Sheila Jones  
USG

*Meeting Ends at 4pm*

