UTeach Conference 2014

8th Annual

May 20–22, 2014

THE UNIVERSITY OF TEXAS AT AUSTIN

Program

AT&T Executive Education and Conference Center • Austin, Texas

Keynote

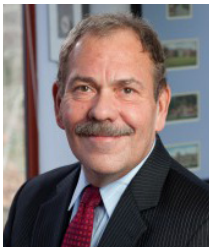
JAMES GATES

Sylvester James "Jim" Gates, Jr., is a University System Regents Professor, the John S. Toll Professor of Physics at the University of Maryland, College Park, the Center for String and Particle Theory Director, and serves on President Barack Obama's Council of Advisors on Science and Technology, and on the Maryland State Board of Education. He received two B.S. degrees and a Ph.D. degree from Massachusetts Institute of Technology. His doctoral thesis was the first thesis at MIT to deal with supersymmetry.

In 2012, Dr. Gates was named a University System of Maryland Regents Professor, only the sixth person to be so recognized since 1992. He was recently elected to membership in the National Academy of Sciences, the first African American so recognized in their 150 year history. Prof. Gates was awarded the Medal of Science presented by Pres. Obama, the highest award given to scientists in the U.S., at a White House ceremony in 2013.

Opening Plenary

ARTHUR LEVINE



Arthur Levine is the sixth president of the Woodrow Wilson Foundation. Before his appointment at Woodrow Wilson, he was president and professor of education at Teachers College, Columbia University. He also previously served as chair of the higher education program, chair of the Institute for Educational Management, and senior lecturer at the Harvard Graduate School of Education.

Dr. Levine was also previously President of Bradford College (1982–1989) and Senior Fellow at the Carnegie Foundation and Carnegie Council for Policy Studies in Higher Education (1975–1982). He received his bachelor's degree from Brandeis University and his Ph.D. from the State University of New York at Buffalo. His most recent book is *Generation on a Tightrope: A Portrait of Today's College Student* (with Diane Dean, 2012).

Closing Plenary

RAY ALMGREN

Ray Almgren is the Vice President of Marketing for National Instruments (NI), where he leads teams responsible for marketing the corporate brand, NI LabVIEW, and educational products. Since joining NI in 1987, Almgren has held positions across marketing and R&D focusing on growing the use and adoption of LabVIEW, the heart of the NI design platform.

Almgren evangelizes the importance of science, technology, engineering, and math (STEM) education as chairman of the For Inspiration and Recognition of Science and Technology (FIRST) in Texas board and member of the National FIRST Executive Advisory Board. Almgren is also a member of engineering advisory boards including The University of Texas at Austin, Southern Methodist University, and Tufts University. Almgren holds a bachelor's degree in electrical engineering from the University of Texas at Austin.

Tuesday, May 20, 2014

8:00am—5:00pm

REGISTRATION | LEVEL 2

11:00am

CAMPUS TOUR AND STUDENT ORIENTATION | MEET IN LOBBY BY REGISTRATION DESK

For UTeach students only! We are offering a brief campus tour followed by a student orientation and light lunch. The tour will start at 11:00am. Meet in the lobby right next to the conference registration desk.

1:00pm—2:45pm

OPENING PLENARY | BALLROOM

STEM TEACHER EDUCATION: PRESSURE AND PROMISE

Arthur Levine, *PRESIDENT, WOODROW WILSON FOUNDATION*

This talk discusses six forces with the capacity to reshape STEM teacher education: demographics, the economy, government policy, technology privatization, and the convergence of knowledge producers. It reports on the lessons learned by the Woodrow Wilson Foundation in seeking to transform STEM education in five states.

3:00pm—4:15pm

A CAPSTONE MATHEMATICS COURSE FOR FUTURE SECONDARY TEACHERS | 102

Interactive Presentation

John Quintanilla, *CO-DIRECTOR, UNIVERSITY OF NORTH TEXAS*

Alyssa Mendez, *TNT PRE-SERVICE TEACHER, UNIVERSITY OF NORTH TEXAS*

Tress Kringen, *TNT PRE-SERVICE TEACHER, UNIVERSITY OF NORTH TEXAS*

We present the guiding principles, core components, and objectives of UNT's mathematics capstone course which connects advanced mathematics courses back to the secondary mathematics curriculum. This capstone experience is recommended by the Conference Board of the Mathematical Sciences and complements Functions and Modeling, the UTeach course sequence, and math-major requirements.

MOON WATCH: MODELING THE PHASES OF THE MOON | 103

Hands-on Workshop

Jonathan Edquid, *SCIENCE COORDINATOR, NATIONAL MATH + SCIENCE INITIATIVE*

Students and adults alike believe the phases of the Moon are the result of the Moon passing through the Earth's shadow. Although the passing of a celestial body through the shadow of another celestial body causes an eclipse, this activity helps students understand that it is the angle between the Sun, Earth, and Moon that causes the Moon's changing appearance and that the phases of the Moon are not random, but occur in a regular, predictable fashion. This session includes a brief overview of professional development available through the National Math + Science Initiative; the Moon Watch lesson is part of NMSI's Middle Grade Science training.

EXTENDED PROFESSIONAL DEVELOPMENT AND THE GROWTH OF A COMMUNITY OF PRACTICE — PHYSTEC | 104

Interactive Presentation

Paula R.L. Heron, *PROFESSOR OF PHYSICS, UNIVERSITY OF WASHINGTON*

Donna Messina, *INSTRUCTOR, UNIVERSITY OF WASHINGTON*

The Physics Education Group at the University of Washington offers an intensive 5-week Summer Institute for both new and veteran teachers. Participants gain first-hand experience with the process of inquiry as they acquire a deep understanding of the subject matter they are expected to teach. In conjunction with the Institute, the PEG also offers an academic-year course for local participants, providing a rich environment for extended professional development. Collaborations between the teachers as they work toward implementing inquiry in their classrooms establishes a community of practice with a common professional development experience and a strong desire to improve the teaching and learning of science at its foundation. This session will address the ways in which similar opportunities for teachers can be provided in conjunction with teacher preparation programs and ongoing professional development for in-service teachers.

LEARNING ASSISTANTS TEACHING IN HIGH SCHOOLS — PHYSTEC | 107

Interactive Presentation

Karen King, *ASSISTANT TEACHING PROFESSOR OF PHYSICS, UNIVERSITY OF MISSOURI*

Like many physics education programs, the University of Missouri's BS path to certification was greatly under-enrolled — that is, until recently. We have seen a tremendous growth in the number of physics education majors, from a total of only 2 graduates over a 9-year period, to over 10 graduates expected over the 5-year time span since we began reforms in 2012. Our new high school–based Learning Assistant (LA) program appears to have a strong impact on recruiting. As a high school LA, physics education and physics majors can explore teaching as potential career through a paid learning assistantship, similar to a paid undergraduate research experience. College students assist in local high school physics classes approximately 4 hours per week, working with the same group of students almost daily. They gain experience in physics modeling pedagogy, mentored by master teachers who have partaken in MU's "Physics First'' professional development program. After participating in our high school LA program, 87% of students report being either "very interested'' (53%) or "interested'' (33%) in becoming high school physics teachers. Our physics majors appreciate the opportunity to explore teaching, and our physics education students report that the experience has been more far more valuable than their previous education field experiences. In this session, we'll consider how partnering with local high schools might benefit your program, and generate ideas for building such a collaborative effort based on your institutional resources.

SUSTAINING PROGRAMS IN PHYSICS TEACHER EDUCATION: A STUDY OF PHYSTEC SUPPORTED SITES — PHYSTEC | 108

Interactive Presentation

Rachel E. Scherr, *SENIOR RESEARCH SCIENTIST, SEATTLE PACIFIC UNIVERSITY*

For over a decade, physics teacher education programs have been transformed at a number of institutions around the country through support PhysTEC, led by the American Physical Society in partnership with the American Association of Physics Teachers. In 2012–2013, PhysTEC supported an independent study on the sustainability of its sites after project funding ends. The study sought to measure the extent to which programs have been sustained and to identify what features should be prioritized for building sustainable physics teacher education programs. Most PhysTEC legacy sites studied have sustained their production of physics teachers. Some sites studied have thriving physics teacher education programs, that is, programs that have continued to substantially increase their production of teachers since the PhysTEC award. All of the studied sites that sustained their production of physics teachers have a champion of physics teacher education and corresponding institutional motivation and commitment. At some sites, PhysTEC support has precipitated an institutional focus on physics teacher education, leveraging other resources (including both awards and personnel) benefiting physics teacher education. The study also documented the sustainability of components of physics teacher education programs, such as recruitment, early teaching experiences, and a teacher in residence. The number of sustained components does not appear to correspond to teacher production; that is, sites that have sustained more (or fewer) components do not produce larger (or smaller) numbers of teachers. This result further supports the finding that the presence of the champion and corresponding institutional motivation and commitment are the key features of successful physics teacher education programs.

BUILDING YOUR STUDENT ORGANIZATION | 202

Interactive Presentation

Erin Gonzales, *ADVISOR, UNIVERSITY OF TEXAS AT ARLINGTON*
Jennifer McDonald, *ADVISOR, UNIVERSITY OF NORTH TEXAS*
Tyler Harrison, *STUDENT, UNIVERSITY OF TEXAS AT ARLINGTON*
Kaitlyn O'Dell, *STUDENT, UNIVERSITY OF TEXAS AT ARLINGTON*
Ashley Flores, *STUDENT, UNIVERSITY OF TEXAS AT ARLINGTON*

This session is targeted for UTeach students who are beginning a UTeach student organization. A panel of students and advisors from two universities will present their successes and challenges in maintaining their campus organizations.

WHAT IS UTEACH? | 203

Interactive Presentation

Larry Abraham, *UTEACH CO-DIRECTOR, ASSOCIATE DEAN OF THE SCHOOL OF UNDERGRADUATE STUDIES, UNIVERSITY OF TEXAS AT AUSTIN*
Greg Hale, *ASSISTANT DEAN OF SCIENCE, UNIVERSITY OF TEXAS AT ARLINGTON*

This session is for anyone interested in learning more about the UTeach secondary math and science program at UT Austin. Presenters will describe the hallmarks of UTeach, its organizational structure at the university, the roles of key program staff and faculty, and its partnership with local K–12 schools. Finally, the presenters will review the program's results at UT Austin, including program enrollment and retention, student profiles, and teacher production and retention.

EXPLORING EXCELLENCE IN TEACHING WITH THE UTEACH OBSERVATION PROTOCOL | 301

Interactive Presentation

Audrey DeZeeuw, *DOCTORAL CANDIDATE IN STEM EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN*
Mary Walker, *ASSOCIATE DIRECTOR, UTEACH INSTITUTE*

Math and science teachers participated in a two-year study in which they received detailed feedback from classroom observations. They also received training on the observation instrument (UTOP) and observed their peers using the UTOP. Teachers reported that the UTOP's discipline-specific feedback and structure provided meaningful reflection on teaching practices.

DATABASE/WEB-BASED SOLUTIONS FOR INVENTORY MANAGEMENT | SALON A

Interactive Presentation

Douglas Baird, *CO-DIRECTOR, TEMPLE UNIVERSITY*
Juan Huertas Fernandez, *STUDENT, TEMPLE UNIVERSITY*
Jessica Hance, *ACCOUNTANT, UNIVERSITY OF TEXAS, ARLINGTON*
Laura Imai, *STUDENT ADVISOR, UNIVERSITY OF CALIFORNIA, BERKELEY*
Ryan Shiba, *PROJECT MANAGER, UNIVERSITY OF CALIFORNIA, BERKELEY*

How does your program allow students to reserve and check out materials from its resource center? How do you maximize the usage of the numerous resources available to students, alumni, and master teachers? Learn strategies from three different replication sites that utilize database and/or web-based solutions to a common, nationwide need: an inventory and checkout system for the tens of thousands of materials in your program's resource center.

UTEACH COURSE OVERVIEW: PERSPECTIVES ON SCIENCE AND MATHEMATICS | SALON B

Interactive Presentation

Van Herd, *LECTURER, DEPARTMENT OF HISTORY, UNIVERSITY OF TEXAS AT AUSTIN*
Megan Raby, *ASSISTANT PROFESSOR, DEPARTMENT OF HISTORY, UNIVERSITY OF TEXAS AT AUSTIN*

This session provides an introduction to Perspectives on Science and Mathematics, one of nine UTeach courses. This course fosters an understanding of the historical development of the fields of science and mathematics.

THE IMPACT OF A PHYSICS BY INQUIRY COURSE ON PRESERVICE TEACHERS' CONCEPTIONS AND ENACTMENTS OF INQUIRY-BASED LEARNING | SALON D

Interactive Presentation

Paige Evans, *CLINICAL ASSOCIATE PROFESSOR, UNIVERSITY OF HOUSTON*
Juan Rodriguez, *NOYCE INTERN, UNIVERSITY OF HOUSTON*
Omar Gonzalez, *STUDENT, UNIVERSITY OF HOUSTON*
Ashley Lewis, *NOYCE RECIPIENT, UNIVERSITY OF HOUSTON*

This session examines the impact that an undergraduate physics course taught as inquiry had on preservice teachers in the teachHOUSTON program. Results highlight the potential benefit of including courses whereby content is taught as inquiry in pre-service science teacher education programs. Digital stories from the field will be presented.

IMPLICATIONS OF CSUTEACH ON TEACHER EDUCATION THROUGHOUT THE COLLEGE | SALON E

Interactive Presentation

Debbie Jackson, *ASSOCIATE PROFESSOR, CLEVELAND STATE UNIVERSITY*
Joanne Goodell, *PROFESSOR, CLEVELAND STATE UNIVERSITY*
Tachelle Banks, *ASSOCIATE PROFESSOR, CLEVELAND STATE UNIVERSITY*

Elements of CSUteach are embedded in reform efforts across all licensure programs at CSU. The early childhood, middle childhood, mild/moderate special education, and moderate/intensive special education programs have been reformed to be professional, collaborative, integrated, and clinically based. The secondary social studies and language programs and the music, foreign language, and art programs are adopting the UTeach model. This session will include program descriptions, successes, and challenges of reform.

4:30pm—5:45pm

HELPING NEW TEACHERS SURVIVE AND THRIVE: FLORIDA'S STEM TEACHER INDUCTION & PROFESSIONAL SUPPORT ONLINE INITIATIVE | 102

Interactive Presentation

Griff Jones, *CLINICAL ASSOCIATE PROFESSOR IN SCIENCE EDUCATION, UNIVERSITY OF FLORIDA*
Emma Brady, *STEM TIPS EDUCATION COORDINATOR, UNIVERSITY OF FLORIDA*

This session provides an overview of the University of Florida's STEM Teacher Induction and Professional Support (STEM TIPS) Initiative to develop a prototype online statewide induction model for STEM teachers and coaches. STEM TIPS addresses the challenges of retaining and developing beginning math and science teachers by leveraging an innovative mobile-ready online platform to extend flexible, personalized, content- focused instructional support through online coaches and a networked community of practice.

UTEACH-VERIZON MOBILE TECHNOLOGY INITIATIVE PROJECT | 103

Hands-on Workshop

Carrie Culpepper, *UTEACH-VERIZON PROJECT COORDINATOR, UNIVERSITY OF TEXAS AT AUSTIN*
Lynn Kirby, *MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*
Daniel FitzPatrick, *MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*

Master teachers and UTeach Institute evaluation staff will share the results from the first year of implementation of the UTeach-Verizon project. The project aims to develop and disseminate a mobile technology instructional module that will be integrated into Step 2. The session will highlight lessons that are in consideration for inclusion into the instructional module, as well as share successes, challenges, and lessons learned associated with the project.

BUILT TO LAST: PROFESSIONAL DEVELOPMENT THROUGH TEACHER COMMUNITY — PHYSTEC | 104

Interactive Presentation

Colleen Megowan-Romanowicz, *EXECUTIVE OFFICER, AMERICAN MODELING TEACHERS ASSOCIATION*

Modeling Instruction was developed almost 30 years ago by a teacher who was looking for a more effective method of teaching physics to his high school students. The method he developed was so successful that the NSF funded a series of grants over a 16-year period to develop and disseminate Modeling Instruction. In 2005 when grant funding ended, about 2000 teachers had attended a Modeling Workshop. Teachers were adamant that this pedagogy, the workshops that taught teachers how to practice it, the curriculum resources that supported it, and the online community of practice that connected Modeling Teachers must not be allowed to fade away. Each of the founders contributed $25-$125 seed money, drafted bylaws and articles of incorporation, and founded the American Modeling Teachers Association to continue the work that the Modeling Instruction Program had set in motion. AMTA has grown slowly but steadily. As of 2013, over 6000 teachers have completed one or more Modeling Workshops. Currently AMTA boasts almost 1600 members, coordinates over 50 Modeling Workshops nationwide that reach over 1000 teachers each summer and hosts an extensive repository of curriculum resources that grows daily. It is self-sustaining. In this workshop I will share with you the mission, vision and essential characteristics of this teacher professional development community that have allowed it to grow, prosper and stand on its own, independent of both university and NSF support.

THE REAL-TIME INSTRUCTOR OBSERVING TOOL FOR FUTURE TEACHERS — PHYSTEC | 107

Interactive Presentation

Cassandra Paul, *ASSISTANT PROFESSOR, SAN JOSE STATE UNIVERSITY*

Current educational research shows that students achieve higher learning gains in science classrooms when interactive techniques are used. As a result, we are seeing more high schools and institutions of higher education adopt interactive courses. Unfortunately, it's difficult for future teachers to envision interactive science courses because their experience as students has been dominated by traditional lecture. New educators need to know what interactive science classrooms look like, so that they can model this experience in their own classrooms. The Real-time Instructor Observing Tool (RIOT), a computer application that allows an observer to quickly categorize classroom interactions, can help with this. In this workshop you will learn how the RIOT can be used as a professional development tool in courses supporting learning assistants, teaching assistants and pre-service teachers. Please bring a laptop or tablet if possible.

PANEL: BUILDING LEADERSHIP TEAMS — PHYSTEC | 108

Interactive Presentation

Laird H. Kramer, *FOUNDING DIRECTOR OF THE STEM TRANSFORMATION INSTITUTE AND PROFESSOR OF PHYSICS, FLORIDA INTERNATIONAL UNIVERSITY*
J.W. Harrell, *PROFESSOR OF PHYSICS, UNIVERSITY OF ALABAMA*
John Simonetti, *ASSOCIATE CHAIR OF THE PHYSICS DEPARTMENT, VIRGINIA TECH UNIVERSITY*
Patrick LeClair, *ASSOCIATE PROFESSOR, UNIVERSITY OF ALABAMA*

Sustaining PhysTEC reforms, programs, and institutional commitment is facilitated through developing leadership teams. Those teams develop ownership by key stakeholders, lever resources to keep the program vibrant, and keep PhysTEC at the forefront in an ever-changing institutional landscape. This interactive panel features leaders from three PhysTEC sites who will provide insight into developing leadership teams within their institutional context. Participants are encouraged to bring their institutional challenges and opportunities to the forefront in the discussion.

IMPLEMENTING THE CCSS: MOVING FROM SINGLE STANDARDS TO COMBINING STANDARDS | 202

Interactive Presentation

Charla Holzbog, *ASSISTANT DIRECTOR OF MATHEMATICS, NATIONAL MATH + SCIENCE INITIATIVE*

Participants will explore an inquiry/problem-based lesson and corresponding assessment that moves beyond skill-based materials focused on one standard to application-based materials requiring integration of multiple standards and practices.

UTEACH INSTRUCTIONAL PROGRAM OVERVIEW | 203

Interactive Presentation

Kimberly Hughes, *DIRECTOR, UTEACH INSTITUTE*

Steven Case, *UKANTEACH CO-DIRECTOR, CENTER FOR STEM LEARNING DIRECTOR, UNIVERSITY OF KANSAS*

This session will provide a comprehensive overview of the design and implementation of the UTeach model program curriculum. Each of the UTeach courses will be discussed, as well as the UTeach program field component.

INTERVIEW TECHNIQUES FOR FUTURE TEACHERS | 301

Hands On Workshop

Rene Sanchez, *PRINCIPAL, CESAR E. CHAVEZ HIGH SCHOOL*

This workshop is designed for UTeach students. The objective is to assist session participants with crafting responses to common teacher interview questions. Students will also learn job search and interview etiquette and tips for how they should present themselves to school districts and potential employers.

WHAT ARE THE REAL-WORLD APPLICATIONS OF WHAT I'M TEACHING? AN INDUSTRY PERSPECTIVE ON STEM EDUCATION'S IMPACT IN THE WORKPLACE | SALON A

Interactive Presentation

Brooke Turner, *PROJECT MANAGER, ACADEMIC COURSEWARE, NATIONAL INSTRUMENTS*

Interact with National Instruments, a leading engineering and science hi-tech company that's bringing its customers' applications to the classroom. See what scientists (including computer scientists) and engineers are doing with math, science, and engineering; discuss how to bring the applications to your students; and begin a partnership to move ideas into action.

UTEACH COURSE OVERVIEW: APPRENTICE TEACHING | SALON B

Interactive Presentation

Kelli Allen, *MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*

Pam Powell, *MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*

Rebecka Osborne, *MASTER TEACHER, UNIVERSITY OF NORTH TEXAS*

Carron Collier, *MASTER TEACHER, UNIVERSITY OF NORTH TEXAS*

This session will provide an overview of Apprentice Teaching, the final of nine UTeach courses. This course provides the final clinical preparation before UTeach students are recommended for certification.

FACTORS IMPACTING TEACHER TURNOVER RATES OF UTEACH PROGRAM GRADUATES | SALON D

Roundtable Discussion

Joanne Goodell, *PROFESSOR, CLEVELAND STATE UNIVERSITY*

Bill Kosteas, *ASSOCIATE PROFESSOR, CLEVELAND STATE UNIVERSITY*

Michael Horvath, *ASSOCIATE PROFESSOR, CLEVELAND STATE UNIVERSITY*

UTeach programs are facing increasing pressure to ensure that program completers enter and stay in the teaching profession. The presenters are looking to conduct research that will measure job satisfaction, turnover outcomes and intentions, identity and workplace/job characteristics with UTeach and non-UTeach graduates across the country. Surveying students in non-UTeach programs would enable us to analyze the impact of the structure of the UTeach program on turnover and identity development.

SURVIVING AND THRIVING POST-REPLICATION | SALON E

Interactive Presentation

Elisa Stone, *CAL TEACH BERKELEY PROGRAM DIRECTOR, UNIVERSITY OF CALIFORNIA, BERKELEY*

Ryan Shiba, *CAL TEACH BERKELEY PROJECT MANAGER, UNIVERSITY OF CALIFORNIA, BERKELEY*

George Johnson, *CAL TEACH BERKELEY FACULTY CO-DIRECTOR, UNIVERSITY OF CALIFORNIA, BERKELEY*

How can we balance curriculum development and instructor autonomy with maintaining course fidelity? What have we found to be effective to secure new funding? How can we take on new initiatives without overextending staff capacity? How have we benefited from continued participation in the UTeach network? Cal Teach Berkeley aims to share its recent successes and challenges as a Cohort 1 replication site and lead a discussion that addresses related questions and solutions from other campuses.

6:00pm—7:30pm

WELCOME RECEPTION & POSTER SESSION | BALLROOM HOSTED BY NATIONAL INSTRUMENTS

1. "THIS LOOKS LIKE PHYSICS, TOO!" — A STUDENT'S REFLECTION ON FUNCTIONS AND MODELING

Course Exposition—Students

Jesus Aguilar-Landaverde, *STUDENT, UNIVERSITY OF TEXAS AT AUSTIN*

Anissa Gomez, *STUDENT, UNIVERSITY OF TEXAS AT AUSTIN*

This poster showcases experiences in Functions and Modeling and the pedagogical outlook on the course, using basic programming and physical models to connect core concepts.

2. WHY BEING WRONG IS RIGHT

Course Exposition—Students

Andrew Davis, *STUDENT, UNIVERSITY OF KANSAS*

Will Dunn, *STUDENT, UNIVERSITY OF KANSAS*

Implementing UTeach sequence skills during student teaching in lessons which value failure is integral to understanding the science and engineering design process in the STEM classroom.

3. MEA IN FORENSIC SCIENCE

Course Exposition—Students

Hallie Eichen, *STUDENT, UNIVERSITY OF HOUSTON*

This poster describes a Model Eliciting Activity developed in Knowing and Learning, in which students solve real-life forensic science problems found during a crime scene investigation.

4. CREATING A TSUNAMI IN THE CLASSROOM
Course Exposition—Students
Robin Foster, *STUDENT, UNIVERSITY OF TEXAS, DALLAS*
Using inexpensive, reusable items that are easily available, creating a tsunami in the classroom allows hands-on illustration of plate tectonics. Addresses TEKS 9b, 11c.

5. FIND THE MISSING PIECES! DEVELOPING UNDERSTANDING OF GEOMETRY EQUATIONS IN A 5E GUIDED INQUIRY
Course Exposition—Students
Priscilla Gordeuk, *STUDENT, WESTERN KENTUCKY UNIVERSITY*
Mary Willoughby, *STUDENT, WESTERN KENTUCKY UNIVERSITY*
This Step 2 5E model lesson guides middle school students to derive equations of geometric shapes during an investigation where portions of shapes are missing.

6. EXPERIMENTAL DESIGN 101: WILL IT PASS THE TEST?
Course Exposition—Students
Michael Graves, *STUDENT, WESTERN KENTUCKY UNIVERSITY*
This Research Methods 5E lesson teaches students to apply the experimental design process to create experiments, perform them, and communicate the results to their peers.

7. SOCIAL JUSTICE IN MATH CLASSROOMS WITHIN AN URBAN SETTING
Course Exposition—Students
Stephanie Guth, *STUDENT, UNIVERSITY OF TENNESSEE, KNOXVILLE*
Classroom Interactions strategies used to promote social justice in the classroom are highlighted from the research literature. Obstacles to equity are also noted.

8. IMPLEMENTATION OF PBI
Course Exposition—Students
Nicole Guynn, *STUDENT, TEMPLE UNIVERSITY*
Janelle Bailey, *CO-DIRECTOR, TEMPLE UNIVERSITY*
This research examines the implementation of project-based instruction with a focus on differentiated instruction in science education.

9. INTEGRATING A HISTORIC PERSPECTIVE INTO STEM CLASSROOMS
Course Exposition—Students
Laura Hinojosa, *STUDENT, UNIVERSITY OF TEXAS, PAN AMERICAN*
Mayra Hernandez, *STUDENT, UNIVERSITY OF TEXAS, PAN AMERICAN*
We explore the benefits of a classroom environment that uses history to give students a complete picture of the world around them.

10. GETTING YOUR FEET WET WITH PROJECT INQUIRY
Course Exposition—Students
Timothy Jones, *STUDENT, COLUMBUS STATE UNIVERSITY*
This poster describes a Project-Based Inquiry unit that involved taking students to a local creek to analyze a crime using environmental chemistry and biology.

11. 3D PLAY-DOUGH INVESTIGATION
Course Exposition—Students
Kelsey Layton, *STUDENT, UNIVERSITY OF ARKANSAS, FAYETTEVILLE*
In this 7th-grade lesson, students mold 3D shapes out of Play-Dough and predict the shapes of the cross- sections based on their prior knowledge.

12. WATER WHEELS
Course Exposition—Students
Erinn McLaughlin, *STUDENT, UNIVERSITY OF MASSACHUSETTS, LOWELL*
Developed in Project-Based Instruction, this project explores water wheels and the mathematics behind them.

13. THIS WILL BE A BREEZE: USING THE 5E MODEL TO TEACH THE CORIOLIS EFFECT
Course Exposition—Students
Taylor Newman, *STUDENT, UNIVERSITY OF CENTRAL ARKANSAS*
Taylor Tarbutton, *STUDENT, UNIVERSITY OF CENTRAL ARKANSAS*
This poster discusses the implementation and efficacy of teaching the Coriolis Effect using the 5E model with insight from the multiple intelligences and constructivist theories of learning.

14. GET NSPIRED, STAY NSPIRED
Course Exposition—Students
Kaitlyn O'Dell, *STUDENT, UNIVERSITY OF TEXAS, ARLINGTON*
The use of technology in Step 2 helps prepare UTeachers to use any technology during field experiences from middle schools to Apprentice Teaching.

15. KNOWING YOU'RE KNOWING AND LEARNING
Course Exposition—Students
Ryan Stahl, *STUDENT, UNIVERSITY OF COLORADO, COLORADO SPRINGS*
This poster provides a comparative analysis with the knowledge gained from Knowing and Learning using the HPL framework to evaluate the teaching styles of POGIL.

16. SHIFTING THE EQUILIBRIUM TOWARDS STUDENT UNDERSTANDING: A PROBLEM-BASED 5E LESSON ON LE CHÂTELIER'S PRINCIPLE
Course Exposition—Students
Kimberly Stinnett, *STUDENT, WESTERN KENTUCKY UNIVERSITY*
Martha Day, *CO-DIRECTOR, WESTERN KENTUCKY UNIVERSITY*
Students discover the relevance of Le Châtelier's Principle in this problem-based lesson. Experiments build students' knowledge base and connect concepts to real world phenomena.

17. EIGHT WAYS TO BE A GENIUS
Course Exposition—Students
Megan Trainer, *STUDENT, UNIVERSITY OF COLORADO, COLORADO SPRINGS*
Gardner's theories of multiple intelligences can be utilized by a teacher to teach one concept many different ways to better enable student learning.

18. QUALITY OF ASSESSMENT: A STUDENT'S CONCEPTUAL UNDERSTANDING
Course Exposition—Students
Joseph Zamora, *STUDENT, UNIVERSITY OF TEXAS, PAN AMERICAN*
The poster explores a concept map created to determine the quality of assessment.

19. USING GOOGLE TOOLS AS A STEPING STONE TOWARDS BLENDED COMBINATION COURSES AND ENHANCED INTERCOLLEGIATE COLLABORATION
Course Exposition—Students
Evan Zuzik, *STUDENT, CLEVELAND STATE UNIVERSITY*
Kyle Warner, *STUDENT, CLEVELAND STATE UNIVERSITY*
We evaluated the effectiveness of the pilot implementation of the CSUteach blended combination course—in-class Step 1 and web-based Step 2.

20. WETEACH WEST GEORGIA
Other—Non-Competitive
Brittany Banzhof, *STUDENT, UNIVERSITY OF WEST GEORGIA*
This poster provides an overview of WeTeach West Georgia's involvement at both the university and community level.

21. CHALLENGES AND SUCCESSES OF ACHIEVING NSTA/NCTM NATIONAL RECOGNITION AS A UTEACH REPLICATION SITE
Other—Non-Competitive
Paula Calderon, *ASSISTANT DIRECTOR, LOUISIANA STATE UNIVERSITY*
Angela Webb, *ASSISTANT PROFESSOR, LOUISIANA STATE UNIVERSITY*
We describe the challenges GeauxTeach faced during NSTA/NCTM SPA review, along with how we overcame those challenges to achieve national recognition as a replication site.

22. A STEP CLOSER TO A MATCH
Other—Non-Competitive
Atalie Chan, *PROGRAM ASSISTANT, UNIVERSITY OF CALIFORNIA, BERKELEY*
Learn about software that grabs student and mentor teacher data, uses a weighted algorithm, and produces accurate field placement matches.

23. A TASTE OF TEACHING: INTEGRATING STEP AND PEER-LED TEAM LEARNING IN DEVELOPMENTAL MATH
Other—Non-Competitive
Celil Ekici, *ASSISTANT PROFESSOR, UNIVERSITY OF THE VIRGIN ISLANDS*
Danielle DeGain, *INSTRUCTOR, UNIVERSITY OF THE VIRGIN ISLANDS*
This poster reports on our experience of peer-led team learning activities for students in the developmental math courses and future steps they may lead to.

24. "A TASTE OF TEACHING": INTRODUCING STEP 1-LIKE ACTIVITIES IN AN INTRODUCTORY NATURAL SCIENCES COURSE
Other—Non-Competitive
Michelle Peterson, *INSTRUCTOR, UNIVERSITY OF THE VIRGIN ISLANDS*
Nancy Morgan, *INSTRUCTOR, UNIVERSITY OF THE VIRGIN ISLANDS*
Students enrolled in the initial, required general education science course could choose to participate in Step 1- like activities. We report on our experience and future steps.

25. UTEACH WEST GEORGIA—A COLLAGE OF EXPERIENCES FROM CLASSROOM INTERACTIONS
Other—Non-Competitive
Adam Pullen, *STUDENT, UNIVERSITY OF WEST GEORGIA*
Stefanie Song, *STUDENT, UNIVERSITY OF WEST GEORGIA*
This poster provides examples from course and teaching experiences that illustrate the highlights from the first and second semesters of Classroom Interactions.

26. EXPERIENCING SCIENCE AS LANGUAGE LEARNERS
Other—Non-Competitive
Angela Webb, *ASSISTANT PROFESSOR, LOUISIANA STATE UNIVERSITY*
Paula Calderon, *ASSISTANT DIRECTOR, LOUISIANA STATE UNIVERSITY*
This poster explores a unique approach to teacher candidates' learning about equitable teaching by positioning them as language learners.

27. IDOTEACH SUMMER INTERNSHIPS
Other—Non-Competitive
Matt Wigglesworth, *MASTER TEACHER, BOISE STATE UNIVERSITY*
Jan Smith, *MASTER TEACHER, BOISE STATE UNIVERSITY*
IDoTeach students at Boise State engage in informal STEM education at community sites through the program's summer internship program, made possible through funds from NSF's Noyce Scholarship.

28. TOWSON UTEACH STUDENT ORGRANIZATION
Program Exposition—Students
Trystan Denhard, *STUDENT, TOWSON UNIVERSITY*
Samantha Brown, *STUDENT, TOWSON UNIVERSITY*
Towson UTeach students have developed an organization that serves the Baltimore community, including tutoring in a sex-trafficking shelter, middle schools, and elementary schools.

29. EDUCATION UNITED & TEENSHARP
Program Exposition—Students
Donna Griffis, *STUDENT, TEMPLE UNIVERSITY*
Nicole Guynn, *STUDENT, TEMPLE UNIVERSITY*
Jennifer Berman, *ALUMNA, TEMPLE UNIVERSITY*
This poster provides a discussion of our experience helping students in need learn math. The poster features examples of some of the impact we made and how UTeach helped this happen.

30. UALR TEACH, PI SIGMA, AND YOU
Program Exposition—Students
Rachel Rowland, *STUDENT, UNIVERSITY OF ARKANSAS, LITTLE ROCK*
Natalie McCandless, *STUDENT, UNIVERSITY OF ARKANSAS, LITTLE ROCK*
UALR Teach student organization, Pi Sigma, showcases the STEM education and networking activities that exemplify the motto "One Degree: Unlimited Opportunities."

31. SELF-CONFIDENCE AND THE USE OF FRAGRANCE
Research—Students
Helen Arceneaux, *STUDENT, UNIVERSITY OF TEXAS, DALLAS*
This poster showcases research done to understand if self-confidence affects fragrance use.

32. EFFECT OF AMMONIUM SULFATE ON LETTUCE LEAVES
Research—Students
Corie Janeway, *STUDENT, UNIVERSITY OF TENNESSEE, KNOXVILLE*
This Research Methods project required authentic, scientific, collaborative inquiry through student-driven identification, planning, implementation, observation, and reflection via a formal problem-solving process.

33. COLLEGE STUDENTS' STANDPOINTS ON STEM CELL RESEARCH
Research—Students
Juan Nañez, *STUDENT, UNIVERSITY OF HOUSTON*
This experiment investigated the relationship between college students' perspectives regarding embryonic stem cell research and student demographic data (religion, gender, major, GPA, and race).

POSTER SESSION, *CONTINUED*

34. EXAMINING GENDER INEQUALITY IN REVERSE ENGINEERING
Research—Students
Mariel Robles, *GRADUATE STUDENT, UNIVERSITY OF TEXAS AT AUSTIN*
Jill Marshall, *ASSISTANT PROFESSOR, UNIVERSITY OF TEXAS AT AUSTIN*
This poster examines gender inequality in the Reverse Engineering unit of the Engineer Your World high school curriculum.

35. M2D2, UTEACH, LOWELL HIGH SCHOOL EXPERIENCE
Research—Students
John Romano, *STUDENT, UNIVERSITY OF MASSACHUSETTS, LOWELL*
This poster is an explanation of how five students from Lowell High School created their own medical device and developed a business plan for it.

36. THE USE OF CHEMISTRY-THEMED FERMI PROBLEMS TO FACILITATE CONNECTIONS BETWEEN MACROSCOPIC, MOLECULAR, AND SYMBOLIC CHEMISTRY
Research—Students
Eric Uribe, *STUDENT, UNIVERSITY OF CALIFORNIA, BERKELEY*
Chemistry-themed Fermi problems were used to emphasize scale in problem-solving and to connect Johnstone's three levels of representation of chemistry: macroscopic, molecular, and symbolic.

37. EMPOWERED BY WIND POWER
Research—Students
Kent Woodard, *STUDENT, UNIVERSITY OF ARKANSAS, FAYETTEVILLE*
The poster will show the results of a research project that was performed to determine how wind turbine blade design factors contribute to efficiency.

Wednesday, May 21, 2014

8:00am—8:45am

BREAKFAST | BALLROOM (SALON C)

9:00am–10:00am and 10:00am–11:00am

OPEN HOUSE—UTEACH FACILITIES | MEET IN LOBBY BY REGISTRATION DESK
We will tour the UTeach facilities in Painter Hall (4th floor) in two groups. Meet in the lobby a few minutes before 9 or a few minutes before 10, and we'll walk over together. There's a map in your folder, in case you miss the group.

9:00am—10:15am

GUERRILLA MARKETING | 101
Interactive Presentation
Cindy Watson, *MASTER TEACHER, UNIVERSITY OF NORTH TEXAS*
Jennifer McDonald, *PROGRAM ADVISOR, UNIVERSITY OF NORTH TEXAS*
Shelby Grissett, *BIOLOGY TEACHER (GRADUATE OF TNT), UNIVERSITY OF NORTH TEXAS*
Alyssa Mendez, *TNT PRE-SERVICE TEACHER, UNIVERSITY OF NORTH TEXAS*
Tress Kringen, *TNT PRE-SERVICE TEACHER, UNIVERSITY OF NORTH TEXAS*
Recruit new students into your program with low-cost strategies that are imaginative, creative, and simple. Leave with at least five marketing strategies to increase your enrollment. This session is an in-depth look at available no-cost and low-cost program marketing strategies with a primary focus on recruitment and retention.

USING RICH MEDIA TO INFUSE A PRACTICE-BASED ORIENTATION THROUGHOUT UNIVERSITY-BASED TEACHER EDUCATION | 102
Hands-on Workshop
Daniel Chazan, *PROFESSOR, UNIVERSITY OF MARYLAND*
This session will ask pairs of participants to engage with an online experience for teacher educators on the use of rich media to support practice-based teacher preparation. This experience will provide opportunities for engaging with animations of classroom interaction and will also illustrate some of the affordances of the LessonSketch.org platform. It will showcase some of the work of a national network of LessonSketch teacher preparation fellows.

UTEACH COURSE OVERVIEW: STEP 1 AND 2 | 103
Interactive Presentation
Denise Ekberg, *CLINICAL ASSISTANT PROFESSOR, MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*
Lynn Kirby, *CLINICAL ASSISTANT PROFESSOR, MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*
This session will provide an introduction to the Step courses, the first two UTeach courses taken by students. The Step courses provide students with early opportunities to "try out teaching."

UTEACH COURSE OVERVIEW: KNOWING AND LEARNING IN MATHEMATICS AND SCIENCE | 104
Interactive Presentation
Cesar Delgado, *ASSISTANT PROFESSOR, DEPARTMENT OF CURRICULUM AND INSTRUCTION, COLLEGE OF EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN*
This session will provide an introduction to Knowing and Learning in Mathematics and Science, one of nine UTeach courses. This course focuses on issues of what it means to know and learn secondary science and mathematics.

WHAT TO DO WITH MATH MAJORS IN THE RESEARCH METHODS COURSE | 107
Roundtable Discussion
Steven Obenhaus, *MASTER TEACHER, UNIVERSITY OF KANSAS*
A common issue in Research Methods is how to help math majors conduct inquiries that are meaningful and relevant to their future classroom teaching. UKanTeach will share their approach, including multiple examples of inquiries conducted by math majors. Other participants are invited to share their experiences and inquiry topics.

THE UT TYLER MOBILE STEM LAB: SUPPORTING UTEACH STUDENTS AND ALUMNI | 108
Interactive Presentation
Michael Odell, *VICE PRESIDENT, UNIVERSITY OF TEXAS, TYLER*
Chris Rasure, *DIRECTOR INFORMAL EDUCATION, UNIVERSITY OF TEXAS, TYLER*
The Ingenuity Center has developed a mobile lab to provide support to STEM educators including UTeach students and alumni. Use of the UT Tyler Mobile STEM Lab allows a campus/district to have access to technology and equipment not readily available in most schools. The mobile lab allows teachers to provide engaging and meaningful experiences that bring learning to life, and to do so in a budget-conscious manner. Visit the mobile lab outside on the west side of the conference center today!

EXPANDING UTEACH TO COMMUNITY COLLEGES AND SATELLITE CAMPUSES | 203

Roundtable Discussion

Martha M. Day, *SKYTEACH CO-DIRECTOR, GSKYTEACH EXECUTIVE DIRECTOR, ASSISTANT PROFESSOR OF SCIENCE EDUCATION, WESTERN KENTUCKY UNIVERSITY*

Louis S. Nadelson, *IDOTEACH CO-DIRECTOR, ASSOCIATE PROFESSOR, BOISE STATE UNIVERSITY*

John Villarreal, *UTEACH PAN AMERICAN CO-DIRECTOR, UNIVERSITY OF TEXAS - PAN AMERICAN*

Katrina Rothrock, *MASTER TEACHER, UNIVERSITY OF KANSAS*

Curtis Turner, *SENIOR INSTRUCTOR, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Several universities implementing UTeach face a need to work with local community colleges and/or satellite campuses. During this roundtable discussion, representatives from four UTeach programs lead a discussion of the need and proposed solutions for expanding UTeach program implementation to other campuses. More discussion will take place in a roundtable immediately following this session.

WHAT'S IT TAKE TO BE A UTEACH CO-DIRECTOR? | AMPHITHEATER 204

Panel Discussion

Larry Abraham, *ASSOCIATE DEAN OF THE SCHOOL OF UNDERGRADUATE STUDIES, UTEACH AUSTIN CO-DIRECTOR, UNIVERSITY OF TEXAS AT AUSTIN*

Linda Cooper, *ASSOCIATE PROFESSOR OF MATHEMATICS, TOWSON UTEACH CO-DIRECTOR, TOWSON UNIVERSITY*

Ellen Granger, *DIRECTOR OF THE OFFICE OF SCIENCE TEACHING ACTIVITIES, FSU-TEACH CO-DIRECTOR, FLORIDA STATE UNIVERSITY*

Michael Marder, *EXECUTIVE DIRECTOR OF UTEACH, PROFESSOR OF PHYSICS, UNIVERSITY OF TEXAS AT AUSTIN*

Kimberly Shaw, *PROFESSOR OF PHYSICS IN THE DEPARTMENT OF EARTH AND SPACE SCIENCES, UTEACH COLUMBUS CO- DIRECTOR, COLUMBUS STATE UNIVERSITY*

Rich Whittecar, *ASSOCIATE PROFESSOR OF OCEAN, EARTH & ATMOSPHERIC SCIENCES, MONARCHTEACH CO-DIRECTOR, OLD DOMINION UNIVERSITY*

Co-directors from several universities implementing the UTeach model program discuss the work they do and the challenges they face in building a new program on campus, fostering cross-college and university collaboration, and navigating the rapids in the preparation of STEM teachers.

BECAUSE YOU ARE THE BEST: DEVELOPING RESUMES AND INTERVIEW SKILLS | 301

Hands-on Workshop

Maria Benzon, *MASTER TEACHER, UNIVERSITY OF HOUSTON*

Leah McAllister-Shields, *ADVISOR, UNIVERSITY OF HOUSTON*

Rebecca Pel, *STUDENT, UNIVERSITY OF HOUSTON*

Creating a resume is not hard, but preparing an AWESOME resume can be challenging. Whether you have never written a resume or you have revised and reformatted a resume a zillion times, all students should attend. In this session, participants will analyze sample resumes from teachHOUSTON graduates, review active vs. passive verbs, learn MS Word formatting tips, and evaluate a resume with a checklist. Resources are available online, so bring a laptop or iPad with internet access.

CAN UTEACH MENTOR TEACHERS? MENTORING THE MENTORS | SALON A

Roundtable Discussion

Bobby Gagnon, *SENIOR INSTRUCTOR , UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Victoria Newkirk, *PROGRAM COORDINATOR, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Apprentice Teaching is the most important part of any training program. Apprentice Teachers really NEED a solid experience in order to become successful educators. In order to facilitate this process, UCCSTeach has developed a training program for our mentor teachers. This session will be dedicated to presenting materials that UCCSTeach has created in order to train mentors and keep communication flowing. The roundtable discussion will give others the opportunity to share what their programs do as well!

10:30am—11:45am

STUDYING STEM TEACHER MOBILITY IN KANSAS: HOW TO REPLICATE OUR STUDY IN YOUR STATE | 101

Interactive Presentation

Steven Obenhaus, *MASTER TEACHER, UNIVERSITY OF KANSAS*

Acquiring raw longitudinal data on the STEM teacher workforce in Kansas, an accurate picture was developed of who and where STEM teachers were staying, moving, leaving, and starting. Trends were identified and correlated to other demographic and geographic characteristics at the district level. The study informs both instruction and policy at the university and state levels. Methods will be shared so partner programs can replicate the study in their respective states.

BUDGETING FOR PROGRAM SUSTAINABILITY | 102

Interactive Presentation

Michael Marder, *CO-DIRECTOR, UNIVERSITY OF TEXAS AT AUSTIN*

Amy Chavez, *FINANCIAL ANALYST, UTEACH INSTITUTE*

Sherry Southerland, *CO-DIRECTOR, FLORIDA STATE UNIVERSITY*

This session will discuss strategies related to the transition from grant funding to a more permanent budget. Co- directors from universities that have finished implementation will share some of their experiences, challenges, and advice on sustainability.

UTEACH COURSE OVERVIEW: CLASSROOM INTERACTIONS | 103

Interactive Presentation

Walter Stroup, *ASSOCIATE PROFESSOR, DEPARTMENT OF CURRICULUM AND INSTRUCTION, COLLEGE OF EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN*

Chris Costello, *SITE COORDINATOR, UTEACH INSTITUTE*

This session will provide an overview of Classroom Interactions, one of nine UTeach courses. This course continues the process of preparing students to teach mathematics and science in secondary settings by providing opportunities to see how theories explored in the Knowing and Learning in Mathematics and Science course play out in instructional settings.

PARTNERING WITH A NATIONAL PARK TO CREATE A MEANINGFUL FIELD EXPERIENCE FOR PROJECT-BASED INSTRUCTION STUDENTS | 104

Interactive Presentation

Michelle Scribner-MacLean, *CLINICAL ASSOCIATE PROFESSOR, UNIVERSITY OF MASSACHUSETTS, LOWELL*

Erinn McLaughlin, *STUDENT, UNIVERSITY OF MASSACHUSETTS, LOWELL*

William Morton, *NATIONAL PARK RANGER, LOWELL NATIONAL HISTORICAL PARK, UNIVERSITY OF MASSACHUSETTS, LOWELL*

This presentation highlights a partnership experience between local high schools and the Lowell National Historical Park, in which Project-Based Instruction students worked with National Park Ranger mentors to create a field-based science, technology, and society unit. Three student pairs designed and implemented units in which visiting high school students designed and tested water wheels, created mathematical models of production, and tested the water quality of a local river.

WEAVING MICROMESSAGING AWARENESS INTO UTEACH COURSES | 107

Interactive Presentation

Mary Urquhart, *ASSOCIATE PROFESSOR AND DEPARTMENT HEAD, UNIVERSITY OF TEXAS, DALLAS*

Tegwin Pulley, *TEXAS DIRECTOR, STEM EQUITY PIPELINE*

UTeach Dallas and the National Alliance for Partnerships in Equity (NAPE) have partnered to study how awareness of micromessages — subtle and often unconscious gender and cultural biases — can be interwoven into the existing UTeach course sequence. We will introduce how NAPE and UTeach Dallas are working collaboratively, present an interactive micromessaging exercise, and lead a discussion on what role micromessaging awaremess can play in the UTeach teacher preparation model.

UTEACH AND COMMUNITY COLLEGE PARTNERSHIPS ROUNDTABLE | 108

Roundtable Discussion

Martha M. Day, *SKYTEACH CO-DIRECTOR, GSKYTEACH EXECUTIVE DIRECTOR, ASSISTANT PROFESSOR OF SCIENCE EDUCATION, WESTERN KENTUCKY UNIVERSITY*

Louis S. Nadelson, *IDOTEACH CO-DIRECTOR, ASSOCIATE PROFESSOR, BOISE STATE UNIVERSITY*

John Villarreal, *UTEACH - PAN AMERICAN CO-DIRECTOR, UNIVERSITY OF TEXAS - PAN AMERICAN*

Katrina Rothrock, *MASTER TEACHER, UNIVERSITY OF KANSAS*

Curtis Turner, *SENIOR INSTRUCTOR, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Building on our presentation in Expanding UTeach to Community Colleges and Satellite Campuses, we will have a roundtable discussion of the need and proposed solutions for expanding UTeach program implementation to other campuses.

WORKING SMARTER, NOT HARDER: INNOVATIVE IDEAS TO CONNECT AND RETAIN STUDENTS OUTSIDE OF THE CLASSROOM | 203

Interactive Presentation

Maria Benzon, *MASTER TEACHER, UNIVERSITY OF HOUSTON*

Ruth Kravetz, *MASTER TEACHER, UNIVERSITY OF HOUSTON*

Tania Graciano, *STUDENT, UNIVERSITY OF HOUSTON*

Developing future teachers does not just happen in classrooms and schools. As your program gets larger, student needs become more varied, and thus "working smarter and not just harder" is imperative. Participants will discuss ways to retain students through student support and strengthening their connection to the teaching profession. Learn more about the effective use of social media, conference attendance/presentations, and opportunities for professional development, community service, and networking.

WHAT IS UTEACH REPLICATION? | AMPHITHEATER 204

Interactive Presentation

Kimberly Hughes, *DIRECTOR, UTEACH INSTITUTE*

John Quintanilla, *CO-DIRECTOR, TEACH NORTH TEXAS, UNIVERSITY OF NORTH TEXAS*

The UTeach Institute has developed a comprehensive approach to supporting the replication of UTeach at partnering university sites. This session provides an overview of the Institute's products and services, including site selection, communication of the UTeach model, operational and instructional support, evaluation services, and networking and community building opportunities. Participants will learn about the proposal process and selection criteria, initiating a UTeach program, planning and budgeting for a UTeach program, and expectations for program rollout and course fidelity.

CLASSROOM MANAGEMENT: TEACHING STUDENTS TO ENGAGE, ENJOY, AND EXECUTE SELF CONTROL | 301

Hands-on Workshop

Lynn Kirby, *MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*

Scott Fray, *MASTER TEACHER, NORTHERN ARIZONA UNIVERSITY*

Teachers often state that classroom management is the largest problem they face in the classroom. Establishing an environment of a shared common purpose between all of the students and the teacher can free up class time so that learning the content becomes the focus of your class. During this session we will be discussing and modeling several techniques that help teachers to change their classrooms. This session is part one of a pair. The second session is called Classroom Management: A Day at the Improv.

STEP 1 TO INDUCTION: A PROGRESSION TOWARD BECOMING AN EXPERT TEACHER | SALON A

Roundtable Discussion

Cindy Watson, *MASTER TEACHER, UNIVERSITY OF NORTH TEXAS*

Melanie Fields, *GRADUATE ASSISTANT, UNIVERSITY OF NORTH TEXAS*

The purpose of this session is to make visible multiple research studies on how pre-service teachers move along the continuum from novice to expert. General patterns and themes will be discussed in the context of a Cohort 1 replication site that currently has about 90 graduates. Beliefs regarding project-based learning and service to graduates will be the focal point.

11:45am—12:45pm

LUNCH | TEJAS DINING ROOM

1:00pm—2:15pm

TEACHER INTERACTIONS WITH CURRICULUM AND PROFESSIONAL DEVELOPMENT: A LARGE-SCALE, RANDOMIZED CONTROL STUDY | 101

Interactive Presentation

Ellen Granger, *CO-DIRECTOR, FSU-TEACH, FLORIDA STATE UNIVERSITY*

This large-scale RCT examined the interaction between curriculum and teachers' knowledge and beliefs about science and the teaching and learning of science. GEMS curriculum plus professional development were more effective in shaping teachers' content knowledge and beliefs about teaching than traditional lessons. Teachers' initial self-efficacy influenced the effect. Effects on student learning were also examined.

HIGHLIGHTS: NATIONAL UTEACH PROGRAM REPLICATION | 102

Interactive Presentation

Pamela Romero, *ASSOCIATE DIRECTOR, UTEACH INSTITUTE*
Alicia Beth, *MANAGER, RESEARCH AND EVALUATION, UTEACH INSTITUTE*
Mary Lummus-Robinson, *DATA COORDINATOR, UTEACH INSTITUTE*
Martha Perez, *DATA COORDINATOR, UTEACH INSTITUTE*
Marty Evans, *EVALUATION COORDINATOR, UTEACH INSTITUTE*
Michelle Lowry, *SENIOR SOFTWARE ANALYST, UTEACH INSTITUTE*

To date, 39 universities have received grants to replicate the UTeach program. This session highlights implementation results, including student recruitment and enrollment, demographics, student satisfaction, and courses implemented. The session also includes information about our partner programs' success in producing secondary STEM teachers.

UTEACH COURSE OVERVIEW: RESEARCH METHODS | 104

Interactive Presentation

Michael Marder, *CO-DIRECTOR, UNIVERSITY OF TEXAS AT AUSTIN*

This session will provide an introduction to Research Methods, one of nine UTeach courses. This course engages future teachers in a series of independent scientific inquiries.

INTEGRATED STEM: PREPARING TEACHERS USING THE NGSS AND CCSS-M PRACTICES | 107

Interactive Presentation

Louis Nadelson, *ASSOCIATE PROFESSOR, BOISE STATE UNIVERSITY*
Janette Smith, *CLINICAL FACULTY, BOISE STATE UNIVERSITY*

In this session we will explore how an integrated STEM approach is ideal for preparing teachers to teach using the NGSS and CCSS-M practices. Participants will engage in a hands-on minds-on context and use the provided tools to examine the elements of STEM and the practices that are addressed with relatively simple activities. The integrated approach is also ideal for assuring that curriculum is inclusive and relevant to all STEM majors and is an opportunity to model best instructional practices.

SERVING ENGLISH LANGUAGE LEARNERS IN A STEM WORLD | 108

Interactive Presentation

Cindy Watson, *MASTER TEACHER, UNIVERSITY OF NORTH TEXAS*
Rossana Boyd, *DIRECTOR, BILINGUAL/ESL CERTIFICATION PROGRAM, UNIVERSITY OF NORTH TEXAS*
Carron Collier, *MASTER TEACHER, UNIVERSITY OF NORTH TEXAS*
Corrin Retzer, *TNT PRE-SERVICE TEACHER, UNIVERSITY OF NORTH TEXAS*
Shelby Grissett, *BIOLOGY TEACHER/TNT GRADUATE, UNIVERSITY OF NORTH TEXAS*
Feyi Obamehinti, *CONSULTANT, ESL/MIGRANT EDUCATION, REGION 10 EDUCATION SERVICE CENTER*

Teach North Texas partners with Project NEXUS to strengthen teacher preparation to support English Language Learners. Learn how TNT pre-service teachers and graduates are serving ELL learners through inquiry-based lessons that incorporate strategies of the SIOP model.

SUPPORTING NEW TEACHERS: INDUCTION PANEL | 203

Panel Discussion

Kelli Allen, *CLINICAL ASSISTANT PROFESSOR, MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*
Sarah Swallow, *MATH TEACHER, MANOR HIGH SCHOOL*
Erin Russe, *CHEMISTRY TEACHER, CESAR E. CHAVEZ HIGH SCHOOL*
David Robinson, *ROBOTICS TEACHER, MURCHISON MIDDLE SCHOOL*

What kind of support do new teachers need and value from their preparation programs? UTeach graduates reflect on their experiences as first- and second-year teachers.

DEVELOPMENT OFFICERS PANEL: SUSTAINING YOUR PROGRAM WITH PRIVATE SUPPORT | AMPHITHEATER 204

Panel Discussion

Geannine Callaghan, *DIRECTOR OF STRATEGIC INITIATIVES AND FOUNDATION RELATIONS, TOWSON UNIVERSITY*
Ann Kolakowski, *DIRECTOR OF MAJOR AND PLANNED GIFTS, TOWSON UNIVERSITY*
Elisa Stone, *PROGRAM DIRECTOR, UNIVERSITY OF CALIFORNIA, BERKELEY*
Michael Odell, *VICE PRESIDENT, UNIVERSITY OF TEXAS AT TYLER*

In this session UTeach partner programs will discuss how they navigate issues related to fundraising for their programs. The presenters in this session include development officers and program representatives who work to find support for program sustainability.

CLASSROOM MANAGEMENT: A DAY AT THE IMPROV | 301

Hands-on Workshop

Scott Fray, *MASTER TEACHER, NORTHERN ARIZONA UNIVERSITY*
Lynn Kirby, *MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*

Teachers often state that classroom management is the largest problem they face in the classroom. During this session we will break the participants into small groups and present each group with a scenario from real science and math classrooms. The teams will develop suggestions for addressing the problem and act out their solutions. This session is part two of a pair of sessions. The first session is called Classroom Management: Teaching Students to Engage, Enjoy, and Execute Self Control.

EMBEDDING LESSON DESIGN CHALLENGES INTO CLASSROOM INTERACTIONS: LESSONS LEARNED | SALON A

Roundtable Discussion

Pat McGuire, *ASSISTANT PROFESSOR, UNIVERSITY OF COLORADO, COLORADO SPRINGS*
April Lanotte, *MASTER TEACHER, UNIVERSITY OF COLORADO, COLORADO SPRINGS*
Holly Westad, *UCCSTEACH STUDENT, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

In this session we describe how a lesson design challenge activity was implemented into Classroom Interactions and the positive benefits of using such an activity. Tips and practical suggestions for other instructors or faculty wishing to implement similar lesson design challenges at their replication sites will be provided.

TEACHING SCIENCE AND MATH WITH WINDMILLS IN STEP 2 AND OTHER COURSES | SALON B

Hands-on Workshop

Margaret Cotton, *CLINICAL ASSISTANT PROFESSOR, UNIVERSITY OF ARKANSAS, FAYETTEVILLE*

Kent Woodard, *STUDENT, UNIVERSITY OF ARKANSAS, FAYETTEVILLE*

Jasmine Escalera, *STUDENT, UNIVERSITY OF ARKANSAS, FAYETTEVILLE*

Teach basic physics concepts using Kid Wind windmills. Lessons have been tested in Step 2 classrooms and are aligned with the NGSS and Common Core. The lessons include the following concepts: mechanical and electrical work, energy, alternative energy, energy transfers, scientific method, data collection and graphing, engineering design process, and motors and generators. Participants will leave with teaching materials and 5E lesson plans.

2:30pm—3:45pm

THE IMPACT OF INTEGRATED WRAP-AROUND STUDENT SERVICES ON RETENTION | 101

Interactive Presentation

Joanne Goodell, *PROFESSOR, CLEVELAND STATE UNIVERSITY*

Courtney Nudell, *STUDENT SERVICES COORDINATOR, CLEVELAND STATE UNIVERSITY*

The CSUteach program has a dedicated student services coordinator. She provides academic advising, coordinates eligibility for field experiences, participates in concern conferences, and supervises the paid internship program. Her comprehensive knowledge of students enables her to really get to know the students in a way faculty never could. Her integration into the program faculty and staff structure allows her to assist when students are having academic as well as personal challenges.

UTEACH REPLICATION SITES AS STEM EDUCATION THINK TANKS: AN ANSWER TO THE BIGGEST ATTITUDINAL BARRIER STUDENTS HAVE ABOUT UTEACH | 102

Interactive Presentation

John Rice, *OWNER, COMMONSENSE COMMUNICATIONS*

Students say, “Why would I do UTeach if I’m not going to be a teacher?” The claim is they’ll become better STEM learners if they can explain math and science concepts to others, but they want proof. UTeach programs can become embedded in university STEM communities by using their proven methods to address college STEM issues like high failure rates in Calculus and Physics. UTeach will receive more consideration from STEM students when it solves problems and provides benefits important to them.

THREE UNIVERSITY PERSPECTIVES: WEAVING EQUITY, DIVERSITY, AND CURRENT ISSUES INTO CLASSROOM INTERACTIONS | 103

Interactive Presentation

Ruth Kravetz, *CLINICAL ASSOCIATE PROFESSOR, UNIVERSITY OF HOUSTON*

Carrie La Voy, *LECTURER, MATHEMATICS EDUCATION, UNIVERSITY OF KANSAS*

Tom Le, *CLINICAL ASSOCIATE PROFESSOR, UNIVERSITY OF HOUSTON*

Deborah Gober, *PROFESSOR OF MATHEMATICS EDUCATION AND CO-DIRECTOR, COLUMBUS STATE UNIVERSITY*

Participants will explore four equity activities used to embed equity, diversity, and related current issues into the Classroom Interactions course. We will also discuss the critical question: How do we prepare teachers for schools “as they are” while also helping them prepare for their role as change agents for schools, community, and society. The intent of the session is to share resources and ideas to ensure equity and diversity as a building block of this and other courses in the UTeach model.

UTEACH COURSE OVERVIEW: PROJECT-BASED INSTRUCTION | 104

Interactive Presentation

Flavio Azevedo, *ASSISTANT PROFESSOR, STEM EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN*

Jill Marshall, *ASSOCIATE PROFESSOR, DEPARTMENT OF CURRICULUM AND INSTRUCTION, COLLEGE OF EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN*

This session will provide an overview of Project-Based Instruction, one of nine UTeach courses. This course focuses on developing problem- and project-based units of instruction.

WHAT FEATURES OF RESEARCH EXPERIENCES FOR TEACHERS ARE INFLUENTIAL IN CHANGING CLASSROOM PRACTICE? | 107

Interactive Presentation

Ellen Granger, *CO-DIRECTOR, FLORIDA STATE UNIVERSITY*

Sherry Southerland, *CO-DIRECTOR, FLORIDA STATE UNIVERSITY*

This research explored the elements of two different Research Experiences for Teachers models to examine which features were related to changes in teachers’ beliefs about science teaching and classroom practice. Complex relationships between affective measures, program structure elements, and classroom outcomes were explored through Structured Equation Modeling (SEM) analysis. Implications for structuring research experiences for inservice and preservice teachers will be discussed.

COLLECTING AND MAPPING FIELD DATA USING VERIZON GALAXY TABLETS | 108

Hands-on Workshop

Steven Obenhaus, *MASTER TEACHER, UNIVERSITY OF KANSAS*

Learn how to use Geographic Information Systems apps on the Verizon Galaxy tablets to collect group field data. The data is stored in the cloud and can be mapped, analyzed, displayed, and shared on either the tablets or on computers. Lesson examples from ecology, environmental science, geology, and geography will be demonstrated (as well as a couple of cool math lessons you can try).

GRADUATE PANEL | 203

Roundtable Discussion

Paige Evans, *CLINICAL ASSOCIATE PROFESSOR, UNIVERSITY OF HOUSTON*

Erin Russe, *CHEMISTRY TEACHER, CESAR E. CHAVEZ HIGH SCHOOL*

David Robinson, *ROBOTICS TEACHER, MURCHISON MIDDLE SCHOOL*

Mariam Manuel, *INSTRUCTIONAL COACH, KATY INDEPE*ndent School District

Graduates of UTeach programs will talk about their experiences as teachers after finishing the UTeach program.

FUNDER PANEL: WHY AND HOW DO FUNDERS GIVE? | AMPHITHEATER 204

Panel Discussion

Kathryn Allen, *DIRECTOR OF DEVELOPMENT, NATIONAL MATH + SCIENCE INITIATIVE*

Dennis Neill, *SENIOR PROGRAM OFFICER, CHARLES AND LYNN SCHUSTERMAN PHILANTHROPIC NETWORK*

Dr. Dudley Smith, *PROFESSOR (RETIRED), AND MRS. ANGELA SMITH, TEXAS A&M UNIVERSITY*

Tracy LaQuey Parker, *CO-CHAIR, UTEACH AUSTIN TASK FORCE*

This session will discuss the importance of private fundraising to support the sustainability of UTeach programs. The presenters in this session include individual and foundation donors to UTeach programs. Donors will discuss what motivated their gift and provide insight into their expectations when providing support.

STREAMLINING STEP 2 TO MAKE THE MOST OF A ONE-HOUR COURSE | SALON A

Interactive Presentation

Perri Segura, *CLINICAL ASSOCIATE PROFESSOR, UNIVERSITY OF HOUSTON*

Maria Benzon, *CLINICAL ASSOCIATE PROFESSOR, UNIVERSITY OF HOUSTON*

Learn how we've implemented strategies designed to improve understanding and comprehension of planning and writing lesson plans. In this session we will share how we organize our semester calendar of events, discuss grouping strategies, provide ideas for maximizing mentor teachers, and share our newly developed lesson plan templates and rubrics. Additionally we will share resources and activity ideas that assist students in developing lessons that incorporate and emphasize thinking and problem solving.

TEACHING STATISTICAL INFERENCE IN RESEARCH METHODS USING SPREADSHEET SIMULATION MODELS | SALON B

Hands-on Workshop

Brad Williamson, *MASTER TEACHER, UNIVERSITY OF KANSAS*

Bring your computers. We will explore employing statistical simulation models in Excel to help Research Methods students develop their statistical inference skills. We will build some of these models in the workshop and others will be introduced. We will present models of chi-square, confidence intervals, and t-distributions. In addition, we will also work with and discuss the efficacy of bootstrap and resampling methods in Research Methods. This approach aligns well with Common Core math standards.

4:00pm—5:15pm

PROJECT-BASED LEARNING IN PRACTICE | 101

Interactive Presentation

Tara Craig, *ONRAMPS PROFESSIONAL DEVELOPMENT COORDINATOR, UNIVERSITY OF TEXAS AT AUSTIN*

Megan Parry, *ONRAMPS PARTNERSHIP COORDINATOR, UNIVERSITY OF TEXAS AT AUSTIN*

Maria Blanco-Negley, *MATHEMATICS TEACHER, MANOR NEW TECHNOLOGY HIGH SCHOOL*

Project-based learning sounds great, but what does it look like in a "real" classroom? This interactive presentation will discuss critical elements of a PBL classroom, such as designing engaging driving questions, scaffolding 21st-century skills, creating PBL assessments, establishing accountability, and authoring standards-based curricula. Former and current mathematics and humanities teachers will discuss their unique experiences implementing PBL in public schools, showcase a successful project implemented in an Algebra I classroom at Manor New Tech (Manor, TX), and share lessons learned from a PBL classroom that integrated all four core subject areas at nex+Gen Academy (Albuquerque, NM).

RECRUITMENT, TRAINING, AND RETENTION OF MENTOR TEACHERS: DEVELOPING SCHOOL PARTNERSHIPS | 103

Interactive Presentation

Audie Alumbaugh, *MASTER TEACHER, UNIVERSITY OF CENTRAL ARKANSAS*

Jerry Mimms, *MASTER TEACHER, UNIVERSITY OF CENTRAL ARKANSAS*

One of the hallmarks of the UTeach program is the rich field experiences for the students. These field experiences bring additional requirements with regard to school sites and mentor teachers. At the University of Central Arkansas, we have just finished our second year of implementation. To meet the needs of our program, we have developed partnerships with schools that welcome our students. We recognized immediately that this arrangement needs to be a true partnership (mutually beneficial). We offer professional development opportunities complete with materials and lesson plans as well as outreach programs for entire schools. We now have a list of mentor teachers waiting to take our students. Come and find out what these partnerships are all about.

UTEACH CO-DIRECTORS SPECIAL INTEREST GROUP | 104

Roundtable Discussion

Arthur Popper, *PROFESSOR, UNIVERSITY OF MARYLAND*

Daniel Chazan, *PROFESSOR, UNIVERSITY OF MARYLAND*

This session is for co-directors of UTeach programs to share ideas and learn from one another. The session will intentionally exclude individuals from NMSI and the UTeach Institute, as well as the founders of UTeach, so that co-directors can freely and openly reflect on their UTeach experiences. The goal is to learn from one another and to enable co-directors of newer programs to learn from more experienced colleagues. Constructive feedback will be provided to the UTeach Institute.

A CURRICULUM ALIGNMENT TOOL FOR NEXT GENERATION SCIENCE TEACHER PREPARATION | 107

Interactive Presentation

Kacy Redd, *DIRECTOR, SCIENCE AND MATHEMATICS EDUCATION POLICY, ASSOCIATION OF PUBLIC AND LAND-GRANT UNIVERSITIES*

Mary H. Walker, *ASSOCIATE DIRECTOR, UTEACH INSTITUTE*

APLU and UTeach will unveil an NGSS-aligned tool modified from University of Saskatchewan's Curriculum Alignment Tool (CAT). The CAT collects data about a program's courses, including instructional methods, assessments, and contribution to the university-based STEM pre-service teacher preparation program;s learning outcomes. We will ask participants to review the program learning goals drawn from the NGSS, review the CAT, and provide feedback to further refine the CAT.

UTEACH GRADUATES ROUNDTABLE (RESTRICTED TO CURRENT UTEACH STUDENTS) | 108

Roundtable Discussion

Tracie Ellis, *SITE COORDINATOR, UTEACH INSTITUTE*
Alex Rivera, *SCIENCE TEACHER, INTERNATIONAL HIGH SCHOOL OF AUSTIN*
Giuliana Carra, *LONG-TERM SUBSTITUTE TEACHER, VANDEGRIFT HIGH SCHOOL*
Kevin Sinkar, *PHYSICS TEACHER, NYOS CHARTER SCHOOL*
Brenna Smith, *BIOLOGY TEACHER, ROUSE HIGH SCHOOL*

Everything you've wanted to know about life after UTeach but have been afraid to ask. At least in front of your instructors. UTeach grads will answer questions regarding finding a job, getting through the first two years, the realities of teaching using diverse instructional styles in the "real world," etc.

DEVELOPMENT SPECIAL INTEREST GROUP | 203

Roundtable Discussion

Geannine Callaghan, *DIRECTOR OF STRATEGIC INITIATIVES AND FOUNDATION RELATIONS, TOWSON UNIVERSITY*
Krista Steenbergen, *SENIOR DIRECTOR OF DEVELOPMENT, OGDEN COLLEGE OF SCIENCE AND ENGINEERING, WESTERN KENTUCKY UNIVERSITY*

Join us for a discussion of a variety of topics related to fundraising for UTeach programs.

UNIVERSITY REPLICATION PANEL: LESSONS LEARNED | AMPHITHEATER 204

Panel Discussion

Steven Case, *UKANTEACH CO-DIRECTOR, CENTER FOR STEM LEARNING DIRECTOR, UNIVERSITY OF KANSAS*
Ramon Lopez, *UTEACH ARLINGTON CO-DIRECTOR, PROFESSOR IN THE DEPARTMENT OF PHYSICS, UNIVERSITY OF TEXAS AT ARLINGTON*
Kim Baskette, *MONARCHTEACH PROGRAM COORDINATOR, OLD DOMINION UNIVERSITY*
Theresa Hopkins, *VOLSTEACH MASTER TEACHER, CLINICAL ASSISTANT PROFESSOR, CENTER FOR ENHANCING EDUCATION IN MATHEMATICS AND SCIENCES, UNIVERSITY OF TENNESSEE, KNOXVILLE*
Angela Webb, *ASSISTANT PROFESSOR, COLLEGE OF HUMAN SCIENCES AND EDUCATION, LOUISIANA STATE UNIVERSITY*

This panel brings together colleagues from UTeach partner universities (co-directors, faculty members, master teachers) to discuss lessons learned while implementing a UTeach model program. Panel members will discuss student recruitment and support, institutional support, implementing courses, field placements, working with colleagues in other departments, and fundraising.

"APPY" HOUR: APPLICATIONS FOR UTEACH COURSES, STUDENTS, AND FACULTY | 301

Hands-on Workshop

Pat McGuire, *ASSISTANT PROFESSOR, UNIVERSITY OF UNIVERSITY OF COLORADO, COLORADO SPRINGS*
April Lanotte, *MASTER TEACHER, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Grab your web-enabled mobile device and join us for our very own UTeach "Appy" hour. During this session we will engage in a show and tell of our favorite applications. Audience participation and sharing is strongly encouraged! Implications for how and why the applications presented can support UTeach courses, faculty, and students will be discussed.

INCORPORATING PHET INTERACTIVE SIMULATIONS INTO UTEACH COURSES: LEARN FROM EXEMPLARS AND HELP ENVISION A NEW PHET COMMUNITY WITHIN THE UTEACH NETWORK | SALON A

Roundtable Discussion

Kathy Perkins, *DIRECTOR, PHET INTERACTIVE SIMULATIONS, UNIVERSITY OF COLORADO, BOULDER*
Julie Andrew, *MASTER TEACHER, UNIVERSITY OF COLORADO, BOULDER*
Lynn Kirby, *MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS, AUSTIN*
Elyse Zimmer, *PHYSICS TEACHER, UTEACH GRADUATE, KIPP HOUSTON PUBLIC SCHOOLS*
Michael Marder, *EXECUTIVE DIRECTOR, UTEACH SCIENCE PROGRAM, UNIVERSITY OF TEXAS AT AUSTIN*

Join our session to learn how PhET Interactive Simulations (http://phet.colorado.edu) can be used in your UTeach courses to engage students in creative lesson design and by your UTeach graduates to address the CCSS and NGSS. In the second half of the session, we will engage in a participant-driven discussion around building a new PhET user sub-community within the UTeach Network. We will generate ideas about communication platforms, community resource needs, community development goals, and next steps.

THINKING OUTSIDE THE CLASSROOM: HOW COMMUNITY ENGAGEMENT PREPARES FUTURE TEACHERS TO TUTOR, MENTOR, AND SUPPORT INFORMAL AND FORMAL SCIENCE AND MATH EDUCATION | SALON B

Interactive Presentation

Douglas Baird, *CO-DIRECTOR, TEMPLE UNIVERSITY*
Jennifer Berman, *DIRECTOR, EDUCATION UNITED; TUTEACH ALUMNA, TEMPLE UNIVERSITY*
Tykee James, *STUDENT, TEMPLE UNIVERSITY*

In the course Community Engagement: Science and Mathematics Tutoring, Mentoring and Service, and via our non-profit organization Education United, TUteach students tutor, design curriculum, teach in GED programs, offer science clubs, and provide instruction for robotics and environmental education programs. We will describe Education United and the course, distribute materials, and discuss how community engagement might impact future teachers who volunteer and benefit their communities.

6:00pm—9:00pm

RECEPTION AND DINNER HOSTED BY EXXONMOBIL CORPORATION | BALLROOM

THE THIRD STEM CRISIS: DEFENDING THE ALL- AMERICAN DREAM IN THE NEW MILLENNIUM

James Gates, *UNIVERSITY SYSTEM OF MARYLAND REGENTS PROFESSOR, JOHN S. TOLL PROFESSOR OF PHYSICS, AND CENTER FOR STRING AND PARTICLE THEORY DIRECTOR, UNIVERSITY OF MARYLAND*

"Prepare & Inspire," a 2010 report created by the U.S. President's Council of Advisors on Science and Technology (PCAST) called for the UTeach model to be taken to scale across the Nation as a part of a strategy to meet the challenge of providing a larger cadre of K-12 teachers possessing a deep mastery of content in the STEM fields This presentation is meant to describe the context of this recommendation, as part of a history and array of actions, to create and now retain the American Dream in a period of global competition that requires an economy based on innovation.

Thursday, May 22, 2014

8:00am—9:15am

BREAKFAST | TEJAS DINING ROOM

8:00am—9:15am

FLORIDA REPLICATION SITES BREAKFAST MEETING (CLOSED) | 103

Aaron Smith, *SITE COORDINATOR, UTEACH INSTITUTE*
Kay Caster, *POLICY CONSULTANT, FLORIDA DEPARTMENT OF EDUCATION*

This is a closed session for current Florida replication sites and will focus on topics of interest and relevant updates.

GEORGIA REPLICATION SITES BREAKFAST MEETING (CLOSED) | 104

Rebecca Ellis, *PROGRAM MANAGER, INNOVATION FUND, GEORGIA GOVERNOR'S OFFICE OF STUDENT ACHIEVEMENT*
Chris Costello, *SITE COORDINATOR, UTEACH INSTITUTE*

This is a closed session for current Georgia replication sites and will focus on topics of interest and relevant updates.

TENNESSEE REPLICATION SITES BREAKFAST MEETING (CLOSED) | 107

Herbert J. Brown, *ACADEMIC AFFAIRS ANALYST, TENNESSEE HIGHER EDUCATION COMMISSION*
Victoria Harpool, *FIRST TO THE TOP PROGRAM COORDINATOR, TENNESSEE HIGHER EDUCATION COMMISSION*

This is a closed session for current Tennessee replication sites and will focus on topics of interest and relevant updates.

ARKANSAS REPLICATION SITES BREAKFAST MEETING (CLOSED) | 108

Susan Harriman, *DIRECTOR OF POLICY AND SPECIAL PROJECTS, ARKANSAS DEPARTMENT OF EDUCATION*

This is a closed session for current Arkansas replication sites and will focus on topics of interest and relevant updates.

TEXAS REPLICATION SITES BREAKFAST MEETING (CLOSED) | 301

Tracie Barrs Ellis, *SITE COORDINATOR, UTEACH INSTITUTE*
MIXON HENRY, PROGRAM SPECIALIST, EDUCATOR PREPARATION PROGRAMS, TEXAS EDUCATION AGENCY

This is a closed session for current Texas replication sites and will focus on topics of interest and relevant updates.

9:30am—10:45am

CLOSING PLENARY | AMPHITHEATER 204

INSPIRING AND EQUIPPING TODAY'S STUDENTS TO BECOME TOMORROW'S INNOVATORS

Ray Almgren, *VICE PRESIDENT OF MARKETING, NATIONAL INSTRUMENTS*
Kevin Ng, *ENGINEERING TEACHER, PLANO SENIOR HIGH SCHOOL*
Kristin Brudigam, *MATHEMATICS TEACHER, LAKE TRAVIS HIGH SCHOOL*

For science and engineering, the inspiration is there: from SpaceX launching rockets into space to CERN creating the world's largest particle accelerator. While students can see and learn about these engineering marvels online or through the media, most never get to participate in activities where they actually do engineering.

Over the past decade, collaboration between universities, STEM-focused outreach programs and industry has increased awareness and earlier exposure to science and engineering education to better engage students with technology from a young age. However, the challenge remains to equip students with hands-on, education solutions built on industry-standard technology for a variety of application areas, where they can "do engineering" to build on fundamental concepts and graduate prepared to develop complex systems in advanced research and industry.

To address this challenge, universities and industry must continue to work together to create inspired learning environments for students both inside and outside of the lab. As the complexity of system development continues to grow, we must ensure that we are providing the best tools for students to "do engineering" throughout their entire collegiate career in order to provide more "aha" moments using techniques and tools used in industry.

11:00am—12:15pm

RESEARCH METHODS: ALL FOR ONE, AND ONE FOR ALL: PUTTING THE PIECES AND PEOPLE TOGETHER | 102

Interactive Presentation
Stephanie Taylor, *DEAN'S FELLOW, UNIVERSITY OF TEXAS, DALLAS*
Homer Montgomery, *ASSOCIATE PROFESSOR, UNIVERSITY OF TEXAS, DALLAS*
Georgia Stuart, *GRADUATE TEACHING ASSISTANT, UNIVERSITY OF TEXAS, DALLAS*
Emily Wagoner, *GRADUATE TEACHING ASSISTANT, UNIVERSITY OF TEXAS, DALLAS*
Dennis Teubner, *STAFF, UNIVERSITY OF TEXAS, DALLAS*
Joshua Sisk, *GRADUATE TEACHING ASSISTANT, UNIVERSITY OF TEXAS, DALLAS*

In this session, we will share our solutions to student and faculty frustrations and explore statistics for science, experiments for math and inquiry for all. After four years of honing Research Methods, we have a system wherein students inquire freely in a sandbox of math and science. Four inquiries in one semester require a balancing act of due dates and an instructor team for success. A cast of faculty waiting in the wings to collaborate brings fantastic math-science integration, and is a necessity for creativity.

THE UTEACH STEM EDUCATORS ASSOCIATION (USEA): A NEW PROFESSIONAL ASSOCIATION FOR UTEACH | 103

Interactive Presentation
Julia O'Donnell, *PROFESSIONAL ASSOCIATION COORDINATOR, UTEACH INSTITUTE*
Ellen Granger, *CO-DIRECTOR, FLORIDA STATE UNIVERSITY*
Martha Day, *CO-DIRECTOR, WESTERN KENTUCKY UNIVERSITY*

This session will provide an overview of USEA, the newly established professional association for UTeach programs and alumni. Additionally, this session will demonstrate the new system for tracking UTeach graduates on a national level and present highlights of national graduate data.

DEVELOPING ENGINEERING DESIGN CHALLENGES FROM 5E INQUIRIES | 104

Hands On Workshop
Jill Marshall, *ASSOCIATE PROFESSOR, SCIENCE AND MATHEMATICS EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN*

This hands-on session will focus on examples of 5E science or engineering lessons that have been converted into engineering design challenges, focusing on essential practices of engineering and elements of the design cycle. Examples of student work from UT Austin and elsewhere

will be reviewed according to engineering design rubrics, and participants will work in groups to develop an engineering design challenge based on a current model 5E lesson to be used in UTeach courses next year. Bring a 5E or design challenge lesson plan to share!

2014 UTEACH RFP | 105

Interactive Presentation

Celeste Padilla, *GRANTS AND CONTRACTS COORDINATOR, UTEACH INSITUTE*
Amy Chavez, *FINANCIAL ANALYST, UTEACH INSTITUTE*
Kimberly Hughes, *DIRECTOR, UTEACH INSTITUTE*

This is a "don't miss" session for participants interested in submitting a proposal in response to the National UTeach RFP. UTeach Institute staff and representatives from UTeach partner programs will be available to answer questions about every aspect of implementing a UTeach program on your campus.

PREPARING UTEACH COLUMBUS STUDENTS FOR SUCCESS ON EDTPA: LESSONS LEARNED FROM INITIAL IMPLEMENTATION | 106

Interactive Presentation

Deborah Gober, *PROFESSOR, COLUMBUS STATE UNIVERSITY*
Anna Wan, *ASSISTANT PROFESSOR, COLUMBUS STATE UNIVERSITY*

The state of Georgia is moving toward requiring a passing score on edTPA, a performance-based assessment, as a requirement for initial teacher certification. In Spring 2014, the UTeach Columbus program had its first two apprentice teachers to participate in edTPA. In this session, we will share challenges and lessons learned from our initial experiences with edTPA. We will also discuss ways that we are attempting to integrate edTPA-like experiences in UTeach courses to better prepare our candidates.

UTEACH COURSE OVERVIEW: FUNCTIONS AND MODELING | 107

Interactive Presentation

Mark Daniels, *ASSOCIATE DIRECTOR, CLINICAL PROFESSOR OF MATHEMATICS, UNIVERSITY OF TEXAS AT AUSTIN*

This session will provide an introduction to Functions and Modeling, one of nine UTeach courses. In this course, students engage in explorations and lab activities designed to strengthen and expand their knowledge of the topics found in secondary mathematics.

TEACHING CLIMATE LITERACY WITH EARTHLABS | 108

Interactive Presentation

Kathy Ellins, *PROGRAM MANAGER, INSTITUTE FOR GEOPHYSICS, UNIVERSITY OF TEXAS AT AUSTIN*

EarthLabs climate modules offer sequences for learning secondary science concepts through hands-on experiments and data analysis. *EarthLabs* address the NGSS and Climate Literacy Principles, and align with Earth and Space Science TEKS and AP Environmental Science. Access to *EarthLabs* is free at http://serc. carleton.edu/earthlabs/index.html. The session will describe the curriculum and present opportunities to offer *EarthLabs* instruction.

MASTER TEACHER SPECIAL INTEREST GROUP: SHAKING UP STEP 1 AND 2 WITHOUT STRAYING FROM THE UTEACH MODEL | 301

Roundtable Discussion

Susanne Pyle, *ASSISTANT CLINICAL PROFESSOR / MASTER TEACHER, NORTHERN ARIZONA UNIVERSITY*
Jo'el Johanson, *ASSISTANT CLINICAL PROFESSOR / MASTER TEACHER, NORTHERN ARIZONA UNIVERSITY*
Edith Eskilson, *MASTER TEACHER, UNIVERSITY OF KANSAS*
Katrina Rothrock, *MASTER TEACHER, UNIVERSITY OF KANSAS*

Learn how and why UKanTeach changed their Step 1 course and how NAUTeach created a consecutive-week teach layout in Step 2. Share your own program's modifications and bring home some new ideas.

12:30pm—1:30pm

LUNCH | TEJAS DINING ROOM

1:30pm

ADJOURN

UTEACH PARTNERS AND SUPPORTERS

ExxonMobil

The ExxonMobil Foundation focuses on math and science education because they are — and will increasingly be — the universal languages of the global workplace and are critical tools for success in today's high-tech world. Through ExxonMobil's Math and Science Initiative, more than $818 million has been provided for education programs, with $140 million directed specifically toward teacher training programs in the United States. Through the work of our partners, more than 72,000 teachers have been trained over the past decade.

National Instruments

National Instruments equips engineers and scientists with world-class tools that accelerate productivity, innovation, and discovery. NI's integrated software and hardware platforms have revolutionized system development and help companies create smarter, more advanced technologies to address the world's most pressing challenges. Knowing that many of the world's most significant engineering challenges will be met decades in the future, NI is committed to preparing and inspiring students to become the next generation of innovators.

National Math + Science Initiative

The National Math + Science Initiative was formed to address the 21st-century need for preparing more students for rigorous college courses in mathematics, science, and English language arts. Through AP Summer Institutes, Laying the Foundation Teacher Training, weekend conferences, student study sessions, and support for teachers through an extensive library of online resources, NMSI has impacted the lives of more than 60,000 teachers from across the country. To date, NMSI has provided training in 33 states and will continue to grow across the country over the coming year.

Tokyo Electron America

TEL realizes that quality of life improves for all as business and civic organizations work collaboratively, making our world a better place in which to live and work. As an integral corporate value, we support a spirit of service by giving back to communities in which we have a presence across the globe. One of TEL's key missions is to discover ways to reduce the growing global impact of its business on the environment. We intend to continue our contribution to the sustainable development of society by acting as a core base for the information and communication technology sector, while also carrying on our effort to achieve technological innovation through the development of new businesses.

Educational Advancement Foundation (EAF)

The Educational Advancement Foundation is a 501(c)(3) philanthropic organization that strives to strengthen mathematics education through fostering critical thinking and problem solving by ensuring all students have an inquiry-based learning experience in mathematics.

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After each session, please take a very brief survey.
Go to the link provided or use the QR code
to access the survey and choose your session.

http://goo.gl/WkYEMx

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