UTeach
Conference
2016

10th Annual

May 24–26, 2016
THE UNIVERSITY OF TEXAS AT AUSTIN

Program

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

Featured Speakers

Keynote

MICHAEL MARDER

Michael Marder is a professor of physics in the Center for Nonlinear Dynamics at the University of Texas at Austin. He is the co-founder of UTeach, has served as its co-director since its inception, and has helped organize its national expansion.

His research in physics focuses on why things break, with investigations that have ranged from comparisons of theory and experiments in the fracture of brittle silicon to studies of hydrofracturing. He is the author of the graduate text *Condensed Matter Physics*.

Michael's work in education includes development of classroom observation protocols and examination of causal effects in longitudinal data, drawing on scientific visualization and statistical mechanics.

Opening Plenary: Computer Science for All Panel

OWEN ASTRACHAN

Owen Astrachan is the Director of Undergraduate Studies in Computer Science and Professor of the Practice at Duke University, where he has taught in four decades and two millennia. In addition to teaching computer science, he builds curricula and approaches to teaching intended for broad adoption and adaptation.

Owen received an NSF Career award for introducing design patterns into undergraduate courses, was an inaugural recipient of the NSF/CISE Distinguished Education Fellow Award for emphasizing problem-oriented approaches, and is the PI for the NSF/College Board CS Principles Project designed to create a broader, more accessible AP course in computer science.

In 1995, he received Duke's Robert B. Cox Distinguished Teaching in Science Award; in 1998, he received the Outstanding Instructor Award while on sabbatical at the University of British Columbia; and in 2002, he received Duke's Richard K. Lublin award for "ability to engender genuine intellectual excitement, ability to engender curiosity, knowledge of field and ability to communicate that knowledge." He enjoys thinking, running, collaborating, and pushing limits gently.

QUINCY BROWN

Quincy Brown, Ph.D., is an AAAS S & T Policy Fellow and co-producer of the 2015 National Maker Faire. She earned her Ph.D. in Computer Science from Drexel University and was the recipient of a CI Fellows Postdoctoral Research Fellowship award. She is also a Computer Science Professor at Bowie State University. Her research interests include HCI, CS Education, and Broadening Participation in Computing. In 2011, she founded Girls Who Will, a summer program for middle and high school girls to engage them in game design, mobile app development, wearable computing, and 3D printing.

Through her research, she seeks to identify methods of facilitating human interaction with advanced technologies, including mobile devices, to support learning. Her current projects include exploring the ways in which young children use touch and gesture interactions with mobile devices, first responders' use of mobile devices during emergency evacuations, and modeling inquiry behaviors on mobile devices.

GAIL CHAPMAN

Gail Chapman, Director of Outreach for Exploring Computer Science, works with partner districts on strategic planning related to implementation of ECS, including professional development, leadership development, and sustainability.

She is co-designer of the ECS curriculum and professional development model and represents the ECS program as lead facilitator for the CS10K Community of Practice.

Prior to joining the ECS team, Gail taught high school mathematics and computer science, including AP Computer Science, for 15 years and subsequently worked on the AP Computer Science program at both ETS and College Board; this work included assessment development, curriculum design, and professional development.

DEBORAH KARIUKI

Deborah Kariuki came from Kenya in 1992 to attend Texas State University, where she completed her Bachelor of Science in Computer Science and Digital Electronics. After working for 12 years as a programmer, Deborah decided to become a teacher and obtained her Masters of Secondary Education.

For the past five years, Deborah has taught a variety of classes in Round Rock Independent School District (Texas), including IB computer science, AP computer science, and independent studies in Computer Applications. She also has sponsored several clubs, including the Texas Alliance of Minority Engineers, the National Technical Honor Society, Computer Science Club, Skills USA, and Computer Applications UIL, all in hopes of recruiting more girls into computer science and engineering. In 2015, Deborah was awarded a $5,000 grant from IBM to engage more girls in computer science. She was also recently nominated and unanimously appointed to the boards of TAME (Texas Alliance of Minority Engineers) and ACET (Alliance of Computing Educators of Texas). She is the vice president of TACSE (Texas Alliance of Computer Science Education), which is the CSTA chapter of Central Texas, and she is the 2015 and 2016 recipient of the National Center for Women in Technology Educator Award for the Austin Affiliate. Deborah was selected as one of the top 100 Computer Science teachers in the country and invited to attend the Hour of Code in the White House in 2014.

CAROL FLETCHER: PANEL MODERATOR

Dr. Carol Fletcher is the Deputy Director of the Center for STEM Education at UT Austin, where she manages the day-to-day operations of a statewide professional development program for STEM teachers (the TRC), serving more than 9,000 educators annually through 57 projects involving all 20 Texas Education Service Centers, 40+ colleges and universities, and 800+ school districts. Carol has also been elected to five terms on the Pflugerville ISD Board of Trustees since 2001, serving as Board President for five years.

Carol is active in legislative and school finance issues as well as issues related to STEM education and school accountability. Her experiences as a teacher, policymaker, parent, and university administrator result in a unique perspective on the challenges and potential solutions our country faces regarding STEM education and workforce development. She has served in numerous leadership roles that bridge the gap between education, workforce,

and policy. In 2014, she convened and chaired the Texas Computer Science Task Force, which resulted in the publication of a white paper called *Building the Texas Computer Science Pipeline: Strategic Recommendations for Success*. She also helped to found the Texas Alliance for Computer Science Education and has served on the Texas Association of School Boards (TASB) Legislative Advisory Council, the Comptroller's Financial Allocation Study for Texas Advisory Board, the Texas Business and Education Coalition (TBEC) STEM Action Team, the UTeach Steering Committee, the Texas Education Agency's (TEA) STEM Educator Standards Committee, TEA Math TEKS PD Advisory Board, E3 Alliance College and Career Success Leadership Team, and NSF's Texas Girls Collaborative Project Champions Board.

Closing Plenary: School 2.0: Creating the Schools We Need

CHRIS LEHMANN

Chris Lehmann is the founding principal of Science Leadership Academy, an inquiry-driven, project-based modern high school in Philadelphia. The school is the first Dell Center of Excellence, was named one of the Ten Most Amazing Schools by *Ladies Home Journal*, was featured in the PBS documentary *Digital Media: New Learners for the 21st Century*, and has been written about in publications including *Edutopia Magazine*, *EdWeek* and the *Philadelphia Inquirer*.

In 2014, Chris won the McGraw Prize in Education. In 2013, he was named Outstanding Leader of the Year by the International Society of Technology in Education. In 2012, Chris was named one of Dell's #Inspire100, one of 100 people changing the world using social media. And in 2011, Chris was honored by the White House as a Champion of Change. In 2013, Chris co-founded Inquiry Schools and serves as chair of its board. Chris has spoken at many conferences, including TEDxPhilly, TEDxNYED, SXSW and ISTE. Chris is co-editor of *What School Leaders Need to Know about Digital Technologies and Social Media*, author of the blog Practical Theory, and dad to Jakob and Theo.

10:00 a.m. – 5:00 p.m. Registration

REGISTRATION | LEVEL 2

11:00 a.m.

STUDENT ORIENTATION | 203
For UTeach students only! Join us for a student orientation from 11:00 am to 11:45 am. We will have lunch afterward in The Carillon, including a welcome from the National Math and Science Initiative.

1:00 – 2:30 p.m. Opening Plenary

OPENING PLENARY: COMPUTER SCIENCE FOR ALL | BALLROOM
Carol Fletcher, *DEPUTY DIRECTOR, CENTER FOR STEM EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN*
Owen Astrachan, *DIRECTOR OF UNDERGRADUATE STUDIES IN COMPUTER SCIENCE AND PROFESSOR OF THE PRACTICE, DUKE UNIVERSITY*
Quincy Brown, *AAAS S & T POLICY FELLOW AND COMPUTER SCIENCE PROFESSOR, NATIONAL SCIENCE FOUNDATION AND BOWIE STATE UNIVERSITY*
Gail Chapman, *DIRECTOR OF OUTREACH, EXPLORING COMPUTER SCIENCE*
Deborah Kariuki, *COMPUTER SCIENCE TEACHER, ROUND ROCK INDEPENDENT SCHOOL DISTRICT*

The President's January announcement of his Computer Science for All initiative is one of a number of indicators that computer science education is becoming a national imperative. In this plenary session, panelists will discuss the power of computational thinking for developing students' creativity and problem-solving skills across disciplines and the importance of broadening access to computer science education, particularly among students from groups historically underrepresented in computing. Implications of this recent momentum in computer science education for teacher preparation will be highlighted.

2:45 – 3:45 p.m.

TWO SESSIONS IN ONE: STUDYING UTEACH STUDENTS | 101
CAN RESEARCH METHODS BE A SUBSTITUTE FOR A RESEARCH EXPERIENCE?
Stephanie Taylor, *DEAN'S FELLOW, UNIVERSITY OF TEXAS AT DALLAS*

Research Methods has specific course objectives, many of which are similar to those of a research experience for undergraduates. While the goals are common, the activities can be quite different. Using the CURE survey, we investigated students from different UTeach courses to see if their attitudes about science and research changed significantly through the course. We were also able to compare students with research experience to those without.

FSU-TEACH GRADUATES IN THE CLASSROOM: AN INDUCTION REPORT ANALYSIS
Ellen Granger, *DIRECTOR, OFFICE OF SCIENCE TEACHING ACTIVITIES, FLORIDA STATE UNIVERSITY*
Sherry Southerland, *CO-DIRECTOR, FSU-TEACH, FLORIDA STATE UNIVERSITY*

FSU-Teach induction program provides teaching supplies, curricula, NCTM/NSTA membership, etc. to graduates. Importantly, graduates are visited twice a year by master teachers for their first two years of teaching. This presentation is an analysis of common threads from observations of our graduates' teaching as recorded in induction visit reports. This analysis provides a classroom snapshot of FSU-Teach teachers early in the profession and is a first step toward data collection on this topic.

UTEACH ACADEMY OF INNOVATIVE TEACHING AND LEARNING: PROFESSIONAL DEVELOPMENT FOR K-12 STEM EDUCATORS| 102
Interactive Presentation
Carrie Culpepper, *MANAGER, UTEACH INSTITUTE*

In 2015, the UTeach Institute and UTeach Austin created a new professional development academy of online courses for teachers in K–12 schools. These courses can be licensed from the Institute and offered by UTeach partner programs to generate revenue for their programs. UTeach faculty and master teachers can also contract individually with the Institute to serve as facilitators of courses as needed. An overview of the academy will be shared, along with information about partnering with the Institute.

ENGINEERING DESIGN PROCESS AND 3D PRINTING | 103
Interactive Presentation
Tom Christensen, *PROFESSOR OF PHYSICS, UNIVERSITY OF COLORADO, COLORADO SPRINGS*
Cory Gavitt, *MASTER TEACHER, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

We will examine the Engineering Design Process (EDP) by considering various models and looking for core elements. We will explore similarities and differences between EDP and the scientific method. We present EDP lessons tested in a high school remedial math class and in Research Methods and include pre and post student survey results. The lessons culminated in a 3D printing challenge, and our session will end with an exploration of how to use EDP and 3D printing in a UTeach program.

HOW TO GET INVOLVED IN YOUR UTEACH PROGRAM| 202
Interactive Presentation
Danielle Cain, *STUDENT, OKLAHOMA STATE UNIVERSITY*
Brittni Foster, *STUDENT, OKLAHOMA STATE UNIVERSITY*

OSUTeach students describe their participation at Oklahoma State University outside of the classroom, including our OSUTeach Club, Ambassadorships, and community interactions. Come share your experiences and discuss options for student involvement at your university.

WHAT IS UTEACH? | 203
Interactive Presentation
Larry Abraham, UTEACH AUSTIN CO-DIRECTOR, PROFESSOR IN KINESIOLOGY AND HEALTH EDUCATION, AND DEAN FOR THE SCHOOL OF UNDERGRADUATE STUDIES, UNIVERSITY OF TEXAS AT AUSTIN

Lee Meadows, ASSOCIATE PROFESSOR, UABTEACH CO-DIRECTOR, UNIVERSITY OF ALABAMA AT BIRMINGHAM

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

UTEACH COURSE OVERVIEW: PERSPECTIVES ON SCIENCE AND MATHEMATICS | 301
Interactive Presentation
Van Herd, LECTURER, 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.

INTEGRATING COMPUTER SCIENCE INTO STEP 1 AND STEP 2 | 107
Interactive Presentation
Jeff Mickel, CURRICULUM COORDINATOR, UTEACH COMPUTER SCIENCE, UTEACH INSTITUTE

Bradley Beth, DEVELOPER, THRIVING IN OUR DIGITAL WORLD, UNIVERSITY OF TEXAS AT AUSTIN

Alicia Beth, MANAGER OF UTEACH COMPUTER SCIENCE, UTEACH INSTITUTE

Learn about computer science lessons and materials being developed for Step 1 and Step 2. We'll demo a Step 1 lesson, and audience members will be asked briefly to share any related work on their own campuses (e.g., integrating computer science into other courses in their programs).

FORGING NEW MODELS OF TEACHER PREPARATION THROUGH CROSS-INSTITUTIONAL PARTNERSHIPS | 108
Interactive Presentation
Elisa Stone, CAL TEACH PROGRAM DIRECTOR, UNIVERSITY OF CALIFORNIA, BERKELEY

Chelsea Arnold, CAL TEACH PROGRAM DIRECTOR, UNIVERSITY OF CALIFORNIA, MERCED

Edward Ham, CAL TEACH LECTURER, UNIVERSITY OF CALIFORNIA, BERKELEY

The Cal Teach programs at UC Berkeley and UC Merced established a partnership in 2012 to offer Merced students the opportunity to get a teaching credential through UC Berkeley. We present benefits that have arisen from combining respective faculty expertise in urban and rural teacher preparation and student interactions from different universities, as well as the challenges of UTeach course alignment and offering remote learning opportunities via video conferencing.

4:00 – 5:00 p.m.

CLIMATE AND DATA LITERACY: EXAMINING EFFECTIVE TEACHING AND LEARNING PRACTICES | 101
Interactive Presentation
Emily Weiss, SCIENCE & LITERACY EDUCATION PROJECT DIRECTOR, UNIVERSITY OF CALIFORNIA, BERKELEY

Catherine Halversen, COURSE DEVELOPMENT PROJECT DIRECTOR, UNIVERSITY OF CALIFORNIA, BERKELEY

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

This new course provides opportunities for students to improve their understanding of climate science, 3D teaching approaches called for in NGSS, and methods for building data literacy. Students learn science by engaging in activities and discussions while using data in authentic and locally relevant ways, all based on how people learn. By exemplifying teaching through a content topic and unpacking pedagogy, the course may serve as an elective complementing the current UTeach curriculum.

LEADING THE CAEP CRUSADE: CONQUERING THE MATH SPA | 102
Interactive Presentation
Deborah Biehahn, MASTER TEACHER, UNIVERSITY OF NORTH TEXAS

Nancy Terry, MASTER TEACHER, UNIVERSITY OF NORTH TEXAS

Pamela Harrell, PROFESSOR, UNIVERSITY OF NORTH TEXAS

This session provides an overview of CAEP requirements for math educators and shares information about the development and implementation of a Unit Plan, an assessment required by CAEP. Join our interactive discussion and discover how well-prepared your program is to meet the new CAEP requirements for math teachers. This session will be useful for UTeach program co-directors and math master teachers.

DISCUSSING THE IMPACT OF THE UC BERKELEY ENGINEERING RESEARCH EXPERIENCES FOR TEACHERS PLUS COMPUTING (BERET +C) PROGRAM IN THE K-12 CLASSROOM | 103
Roundtable Discussion
Edward Ham, LECTURER/COORDINATOR OF FIELDWORK, UNIVERSITY OF CALIFORNIA, BERKELEY

Devin Richards, PROGRAM COORDINATOR, UNIVERSITY OF CALIFORNIA, BERKELEY

The Berkeley Engineering Research Experiences for Teachers plus computing (BERET+C) program provides in-service teachers and pre-service teachers with paid summer research fellowships in a UC Berkeley laboratory. The program guides them to develop and teach lessons that connect computational thinking, engineering research, and NGSS/Common Core Standards to K–12 science and mathematics curricula in the classroom.

MANAGING TEACHING KITS AND INVENTORY: A USER-FRIENDLY SYSTEM AT MINIMAL COST | 202
Interactive Presentation
Diana V. Cantu, INSTRUCTOR/MASTER TEACHER, OLD DOMINION UNIVERSITY

Jessica Coleman, STUDENT WORKER, OLD DOMINION UNIVERSITY

Debra Duffy, PROGRAM COORDINATOR, OLD DOMINION UNIVERSITY

When we first began our implementation, we did not know how to effectively manage our inventory. We started doing it by hand and quickly realized how tedious and ineffective that system was. We spent $250 on a barcode scanner and invested a little time to create an Access database. Come see what we did, how we did it, and how you can do it, too.

UTEACH INSTRUCTIONAL PROGRAM OVERVIEW | 203
Interactive Presentation
Michael DeGraff, *INSTRUCTIONAL PROGRAM COORDINATOR, UTEACH INSTITUTE*
Steve Case, *DIRECTOR, CENTER FOR STEM LEARNING; CO-DIRECTOR, UKANTEACH, 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
Chrysta Carlin, *EXECUTIVE DIRECTOR OF SECONDARY CURRICULUM, LEANDER INDEPENDENT SCHOOL DISTRICT*

> 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.

STEMTEACH: A ONE-YEAR UTEACH-INSPIRED POST-BACCALAUREATE LICENSURE PROGRAM | 107
Interactive Presentation
Rachelle Haroldson, *CLINICAL ASSISTANT PROFESSOR/MASTER TEACHER, STEMTEACH, UNIVERSITY OF WISCONSIN–RIVER FALLS*
Diane Bennett, *ASSOCIATE DIRECTOR, STEMTEACH, UNIVERSITY OF WISCONSIN–RIVER FALLS*

> STEMteach is a novel one-year graduate initial licensure program with optional master's degree for STEM degree holders. This UTeach-inspired and cohort-based program at UW–River Falls makes a career in teaching (truly) attainable for recent graduates, career changers, and military veterans. Presenters will share motivations for creating a UTeach post-bac program, innovations in course combinations (Steps 1/2, CI & PBI), a hybrid design for Perspectives, and the post-bac elements of success.

UTEACH COURSE OVERVIEW: APPRENTICE TEACHING | 108
Interactive Presentation
Pam Powell, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

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

5:15 – 7:30 p.m. Welcome Reception and Poster Session | Ballroom

POSTER DESCRIPTIONS
Course Exposition—Students

A1. MAKE IT OR BREAK IT WITH THE ENGAGEMENT
Brean Prefontaine, *STUDENT, DREXEL UNIVERSITY*
Nicole Naranjo, *STUDENT, DREXEL UNIVERSITY*

> An engagement sets the stage for effective lessons. This poster presents a set of guidelines for engagement based upon personal field experience. Developing an engagement is difficult because you have to pace your time, prime students to become interested in the topic, and develop an innovative and creative way to start the lesson. Our analysis of field experiences helps identify tips and tricks applicable to any pre-service teacher.

A2. STEP 1: ENGAGING STUDENTS WITH ACTIVITY BEFORE CONTENT
Chaise Cremeans, *STUDENT, MOREHEAD STATE UNIVERSITY*
Adam Caskey, *STUDENT, MOREHEAD STATE UNIVERSITY*

> Step 1 explores how to create and implement inquiry-based lesson plans. This poster showcases how the 5E model and NGSS were used to teach a 5th-grade class about waves and light.

A3. SCIENTIFIC DATA GATHERING: A NECESSITY FOR THE MATHEMATICS CLASSROOM
Brian Griffing, *STUDENT, NORTHERN ARIZONA UNIVERSITY*

> This poster presents a Research Methods course project on the damaging effects of high decibel (dB) level music on a simulated eardrum and discusses the great advantages of active student data collection in the mathematics classroom.

A4. A CLOSE LOOK AT STUDENT LEARNING IN STEP 2: ANALYZING EVIDENCE OF STUDENT THINKING IN MIDDLE SCHOOL SCIENCE
Pamela Tarectecan, *STUDENT, UNIVERSITY OF MARYLAND, COLLEGE PARK*

> This poster explores how student interviews and other evidence of student learning collected during class can be used to inform teaching in middle school science.

A5. APPRENTICE TEACHING: A SUMMARY
Krystal Rankhorn, *STUDENT, UNIVERSITY OF TEXAS AT AUSTIN*

> Apprentice Teaching summarizes everything you learn in the UTeach program. It is the elaboration and evaluation of an extensive four-year lesson.

A6. COMPASSION CATAPULT: A PROJECT-BASED EXPLORATION OF QUADRATIC FUNCTIONS
Joshua Price, *STUDENT, WESTERN KENTUCKY UNIVERSITY*
Zachary Pennington, *STUDENT, WESTERN KENTUCKY UNIVERSITY*

> This poster presents a project-based unit in which students explore quadratic functions through building catapults and applying concepts of projectile motion to launch aid supplies to isolated refugees.

A7. STEP 1 AND STEP 2: AN AMAZING JOURNEY INTO AN UNKNOWN WORLD

Mansi Shah, Student, *UNIVERSITY OF NEVADA, RENO*
Abigail McGowan, *STUDENT, UNIVERSITY OF NEVADA, RENO*
Sean Cridland, *STUDENT, UNIVERSITY OF NEVADA, RENO*

> This poster compares and contrasts our experiences in Step 1 (elementary school) and Step 2 (middle school).

Program Exposition—Students

B1. DEVELOPMENT OF PEDAGOGY OUTSIDE THE CLASSROOM

Isaac Quelly, *STUDENT, DREXEL UNIVERSITY*

> DragonsTeach students are discovering that, because of term-length adaptations to the UTeach curriculum, they are benefiting from a unique series of informal field experiences. This poster elaborates on how these experiences enhance the formal field experiences and illustrates the potential pedagogical value for students of other UTeach partner programs.

B2. TEACHING DAWGS NEW TRICKS: THE UTEACH REPLICATION AT LOUISIANA TECH UNIVERSITY

Nicole Schubert, *STUDENT, LOUISIANA TECH UNIVERSITY*
Jennifer Cox, *STUDENT, LOUISIANA TECH UNIVERSITY*

> This poster provides an inside look at the phenomenal first year for Louisiana Tech University's replication. It covers recruiting, retention, peer tutoring, development of the student organization—all from the students' perspective.

B3. TULSA ZOO EDUCATION: EDUCATION BEYOND THE ANIMALS

Meranda Golbek, *STUDENT, OKLAHOMA STATE UNIVERSITY*

> This poster describes the exciting world of zoo education from an intern's perspective, with information about programs and camps as well as reflections and teachable moments.

B4. A PLACE FOR UTEACH

Jessica Bouapraseth, *STUDENT, UNIVERSITY OF TEXAS, ARLINGTON*

> This poster describes the advantages of a defined community space for the UTeach program on a large campus. It is important to have a space to learn, create, and share with fellow UTeach colleagues and access available resources.

B5. PUTTING THEORY INTO PRACTICE: THE VALUE OF APPRENTICE TEACHING

Steven Ng, *STUDENT, UNIVERSITY OF TEXAS AT AUSTIN*
Ryan Bailey, *STUDENT, UNIVERSITY OF TEXAS AT AUSTIN*

> Apprentice teaching is extremely valuable to all potential teachers for putting classroom theory into actual practice. Integrating what teachers are learning with students in a long-term classroom environment helps demonstrate the difference between teaching for a short period earlier in the UTeach program and teaching in a real classroom setting for an entire semester.

B6. DEVELOPING A STUDENT ORGANIZATION: A 5E APPROACH TO LEADERSHIP

Emily Hummell, *STUDENT, WEST VIRGINIA UNIVERSITY*
Olivia Fidler, *STUDENT, WEST VIRGINIA UNIVERSITY*

> Much like inquiry-based learning, managing and running a student organization relies heavily on the use of the 5Es: engagement, exploration, explanation, elaboration, and evaluation.

Research—Students

C1. WOMEN AND MINORITIES IN UTEACH

Kevin Dickard, *STUDENT, CLEVELAND STATE UNIVERSITY*

> This poster presents results of an investigation and analysis of women and minorities in UTeach, with special attention to Cohort 2 programs.

C2. EXAMINING ALGEBRA 1 STUDENTS' SELF-EFFICACY BELIEFS AFTER ENGAGEMENT IN A LESSON FOCUSED ON VERBAL REASONING DURING A CHALLENGING TASK

Joseangel Gonzalez, *STUDENT, NORTHERN ARIZONA UNIVERSITY*

> The purpose of this research was to observe and analyze the extent to which Algebra I students' self-efficacy beliefs are created or changed. The students participated in a two-day lesson during which they engaged in verbal reasoning through a challenging mathematics task.

C3. CROSS-DISCIPLINARY APPROACH TO COMPUTER SCIENCE AND PHYSICS INQUIRY

Christopher Malone, *STUDENT, UNIVERSITY OF ARKANSAS, FAYETTEVILLE*

> Using a visual programming language, Scratch, and a MakeyMakey, students with varying ranges of computer science experience calculated acceleration due to gravity.

C4. POTENTIAL DIFFERENCES IN PROBLEM-SOLVING APPROACHES WHEN USING DIFFERENT TEXTBOOKS

Charles Bertram, *STUDENT, UNIVERSITY OF CENTRAL ARKANSAS*

> Part of a long-term study on factors that impact biology and behavioral health science student attitudes toward introductory physics courses, this project focuses on the impact that changing textbooks has had on student problem-solving skills.

C5. DISPROVING THE KNACK

Kyle Gracia, *STUDENT, UNIVERSITY OF COLORADO, COLORADO SPRINGS*
Taylor Badeau, *STUDENT, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

> This poster presents research that attempts to disprove the notion that only honors-level students can benefit from an engineering approach to mathematics.

C6. DO SEX STEROID HORMONE LEVELS VARY BY OBESITY AMONG U.S. ADOLESCENT MALES?

Neha Soni, *STUDENT, UNIVERSITY OF MARYLAND, COLLEGE PARK*

> This poster presents a statistical analysis using NHANES III data regarding the association between various sex steroid hormones and obesity in males between the ages of 12-19.

C7. EFFECTS OF DISTANCE FROM A UNIVERSITY ON ION CONCENTRATIONS FROM DRINKING WATER SOURCES

Huy Hoang, *STUDENT, UNIVERSITY OF NORTH TEXAS*

Going to a new university increases a student's exposure to new germs. Cleaning with soap and water is an effective part of germ removal. What if hard water is hindering this process? Hard water contains calcium and magnesium ions that react with soap to form soap scum. Soap scum film prevents germs and dirt from being removed from the skin. This project analyzes how ion concentrations change at different distances from a university. Municipal and natural water sources are compared.

Other—Non-Competitive

D1. WISTEM RELATED TO STUDENT SUPPORT AND RECRUITMENT WITH UTEACHTECH

Lindsey Keith-Vincent, *FACULTY/STAFF, LOUISIANA TECH UNIVERSITY*
Diane Madden, *FACULTY/STAFF, LOUISIANA TECH UNIVERSITY*

The poster showcases the collaboration and successes of the partnership between UTeachTech and our WiSTEM (Women Influencing STEM) organization at Louisiana Tech University. Information included will provide insight into the creative recruiting and retention initiative that encourages women and other underrepresented groups to pursue STEM career opportunities and the UTeachTech path.

D2. EPISTEMOLOGICAL VIEWS OF PRE-SERVICE MATH AND SCIENCE TEACHERS

Robin Bollman, *FACULTY, MIDDLE TENNESSEE STATE UNIVERSITY*

This poster reports the epistemological views of MTeach students at various points in their pre-service teacher education program.

D3. MONARCHTEACH INTRODUCES A TECHNOLOGY EDUCATION LICENSURE OPTION

Phil Reed, *FACULTY, OLD DOMINION UNIVERSITY*
Diana Cantu, *FACULTY, OLD DOMINION UNIVERSITY*

MonarchTeach is the first UTeach program in the nation to offer a licensure in Technology Education. This poster provides an overview of the new licensure.

D4. GIVING BACK TO YOUR PARTNER SCHOOLS

Kira Kindley, *STUDENT, OLD DOMINION UNIVERSITY*

This poster details how MonarchTeach organized a field trip to our campus to give 60 middle school students at one of our partner schools access to dissections, field ecology experiments, and physics lessons.

D5. STEM CAMPS: FUN IN THE SUMMERTIME!

Katrina Rothrock, *MASTER TEACHER, UNIVERSITY OF KANSAS*
Edith Eskilson, *MASTER TEACHER, UNIVERSITY OF KANSAS*

UKanTeach hosts middle school STEM camps all summer, inspiring kids to imagine themselves as future STEM professionals. But the camps aren't just for the kids—they also provide important opportunities for our pre-service teachers, our alumni, our Step1/Step2 Combo class, and for local teachers.

D6. RACECAR FUNCTIONS

Casey Brady, *STUDENT, TOWSON UNIVERSITY*

This poster shows a calculus-based activity that has students modeling a functional toy racecar track of their own design through various functions.

D7. UCA STEMTEACH MENTOR TEACHERS' IMPRESSIONS OF INQUIRY-BASED LEARNING

Cassandra Lange, *ALUMNA (DECEMBER 2015), UNIVERSITY OF CENTRAL ARKANSAS*
Andrew Mason, *UNIVERSITY OF CENTRAL ARKANSAS*

Part of the process of adopting the UTeach program is to review how it affects collaborating community members (e.g., teachers who mentor pre-service teachers). To that end, we surveyed central Arkansas mentor teachers on their view of inquiry-based lessons to get their feedback to help improve UCA's STEMteach program.

D8. LESSON STUDY TO IMPROVE INQUIRY

Trenten Albano, *STUDENT, UNIVERSITY OF TEXAS, ARLINGTON*

Lesson Study is a team-oriented pedagogical development. A group of teachers continually observe, discuss, and redesign a lesson they have carefully and thoughtfully designed together.

D9. UTEACH TYLER AND THE INNOVATION ACADEMY: INNOVATION IN CLINICAL STUDY

Michael Odell, *CO-DIRECTOR, UNIVERSITY OF TEXAS, TYLER*
Neil Gray, *CO-DIRECTOR, UNIVERSITY OF TEXAS, TYLER*

The University of Texas at Tyler UTeach Program is fortunate to have access the Innovation Academy (IA) at UT Tyler as a clinical site. The Innovation Academy is a TEA T-STEM designated university charter academy that also serves as a laboratory school for PBI and Apprentice Teaching. The IA utilizes PBL as its main instructional strategy. The poster will describe how UTeach is embedded in the academy.

D10. EDUCATIONAL COOPERATION OF JAPANESE YOUTH FOR THE DEVELOPMENT OF STEM EDUCATION IN ZAMBIA

Kinya Shimizu, *PROFESSOR, HIROSHIMA UNIVERSITY*

Since 2002, the Graduate School of International Development and Cooperation at Hiroshima University has operated a program that dispatches graduate students to the Republic of Zambia as volunteer science and mathematics teachers. This poster describes the master's program to develop professionals in Educational Cooperation.

7:30 p.m.

STUDENT SOCIAL ACTIVITY | MEET IN LOBBY BY REGISTRATION DESK

For UTeach students only! We will meet at 7:30 pm and take a campus tour on our way to the Texas Union Underground for an evening of food and games!

Wednesday, May 25

8:00 – 8:45 a.m. Breakfast

BREAKFAST | BALLROOM

9:00 a.m. – 10:00 a.m. and 10:00 a.m. – 11:00 a.m.

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.

9:00 – 10:00 a.m.

MENTOR TEACHER PILOT STUDY | 101
Interactive Presentation
Edith Eskilson, MASTER TEACHER, UNIVERSITY OF KANSAS
Katrina Rothrock, MASTER TEACHER, UNIVERSITY OF KANSAS
Dr. Laurie Cleavinger, FACULTY, UNIVERSITY OF KANSAS

> After a number of semesters of hearing concerns from mentors and the pre-service teachers in an early field experience, it was time to begin looking more closely at the training we provide to our mentors. We administered a needs assessment and collected additional data that revealed two areas of concern. This resulted in our creating online learning modules. The results of our work along with the impact it had on our mentors and pre-service teachers will be shared, along with possible future research topics.

UTEACH COURSE OVERVIEW: STEP 1 AND 2 | 103
Interactive Presentation
Denise Ekberg, CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN
Lynn Kirby, CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, 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."

ENGINEERING STUDENT TEACHERS: FITTING STEM LICENSURE INTO AN ENGINEERING UNDERGRADUATE DEGREE PROGRAM | 104
Hands-On Workshop
Malinda Zarske, ENGINEERING MASTER TEACHER, UNIVERSITY OF COLORADO, BOULDER
Jacquelyn Sullivan, CO-DIRECTOR OF ENGINEERING PLUS PROGRAM, UNIVERSITY OF COLORADO, BOULDER
Adam Fontecchio, DIRECTOR, CENTER FOR THE ADVANCEMENT OF STEM TEACHING AND LEARNING EXCELLENCE (CASTLE), DREXEL UNIVERSITY
Noah Salzman, ASSISTANT PROFESSOR, BOISE STATE UNIVERSITY
Jeff Writer, MASTER TEACHER, UNIVERSITY OF COLORADO, BOULDER

> Have you been thinking about how to engage engineering majors in your UTeach program? This session provides an overview of several new and novel engineering plus UTeach implementations that integrate engineering curriculum, extensive science or math content, UTeach pedagogy courses, and student teaching. We will present the progression/challenges of establishing a teacher licensure pathway through an engineering degree and get you started on planning your program for these future STEM teachers!

"IS THIS A GOOD USE OF YOUR TIME (AND TALENT)?" ADDRESSING CHALLENGES TO STEM MAJOR AND FACULTY PARTICIPATION | 107
Roundtable Discussion
Mary Urquhart, ASSOCIATE PROFESSOR AND DEPT. HEAD, UNIVERSITY OF TEXAS AT DALLAS
Stephanie Taylor, DEAN'S FELLOW, UNIVERSITY OF TEXAS AT DALLAS

> The successful UTeach teacher preparation model encourages talented STEM majors to give K–12 teaching a try. Yet a message common in research university STEM faculty culture is that involvement in K–12 teaching is of lesser value than other career paths for talented students and junior faculty. In this session, we will explore strategies to counter messages that can negatively impact recruitment of talented students and discourage junior faculty participation in UTeach programs.

THE EFFICACY OF PEER MENTORING | 108
Interactive Presentation
Robin Bollman, MASTER TEACHER, MIDDLE TENNESSEE STATE UNIVERSITY
Sally Millsap, MASTER TEACHER, MIDDLE TENNESSEE STATE UNIVERSITY

> Participants in this session will learn about the design and implementation of the MTeach peer mentoring program. In this program, Problem-Based Instruction students serve as peer mentors to Step 1 and Step 2 students. The presenters will share student reflections about the peer mentoring experience and how peer mentoring has affected MTeach course structure. Participants will have the opportunity to discuss how peer mentoring is implemented at other sites across the UTeach network.

DEVELOPING A MULTI-INSTITUTION COLLABORATIVE RESEARCH PROPOSAL TO MEASURE THE TEACHER EFFECTIVENESS OF GRADUATES OF INNOVATIVE STEM TEACHER PREPARATION PROGRAMS | 203
Hands-On Workshop
Gay Stewart, EBERLY PROFESSOR OF STEM EDUCATION/PHYSICS, WEST VIRGINIA UNIVERSITY

Results of research on teacher effectiveness are unclear. UTeach, an innovative and successful teacher preparation program, with 44 institutions implementing it, still needs to demonstrate the impact of our graduates on their students. The UTeach Institute has been steadily working to develop a multi-institutional, robust initiative to generate research on STEM teacher preparation in general and UTeach's role in particular. In this session, we will develop plans for a collaborative research proposal.

ENHANCE LEARNING IN SCIENCE WITH PEER INTERACTION: EMPHASIS ON THE SPECIAL NEEDS OF ENGLISH LANGUAGE LEARNERS | 301
Hands-On Workshop
Pam Kirkland, MASTER TEACHER, UNIVERSITY OF TEXAS AT DALLAS
James McConnell, MASTER TEACHER, UNIVERSITY OF TEXAS AT DALLAS

The session involves the use of student hands-on activities and discrepant event demonstrations to encourage students in developing scientific questioning skills, analytical thinking, and communication skills. There is also an emphasis on addressing ways to implement ELPS in activities that may encourage English Language Learners to actively participate by creating a lower risk academic environment through fun activities, active communication, and high peer interaction.

EXPLORING SPECIAL EDUCATION THROUGH THE PROJECT-BASED LEARNING MODEL | SALON B
Interactive Presentation
Cindy Watson, MASTER TEACHER, UNIVERSITY OF NORTH TEXAS
Carron Collier, MASTER TEACHER, UNIVERSITY OF NORTH TEXAS
Kenny Hoang, CHEMISTRY APPRENTICE TEACHER, UNIVERSITY OF NORTH TEXAS
Lindsey Howard, APPRENTICE TEACHER, UNIVERSITY OF NORTH TEXAS
La Keisha Leonard, TNT GRADUATE, MATH FACILITATOR AT METSA, RL TURNER HIGH SCHOOL
Nancy Terry, MASTER TEACHER, UNIVERSITY OF NORTH TEXAS

Exploring the PBL model through the lens of a special education project results in deep learning. Experience multiple class products through a gallery walk while capturing "what you know" and "what you need to know." Hear two apprentice teachers discuss how they applied their learning of special education during two semesters of field placement. Acquire the project overview, workshop lessons, and rubrics. The session will culminate in an open discussion addressing your "need to knows."

9:00 – 11:00 a.m.

UTEACH COMPUTER SCIENCE NATIONAL WORKING GROUP (CLOSED SESSION) | SALON A
Roundtable Discussion
Alicia Beth, MANAGER OF UTEACH COMPUTER SCIENCE, UTEACH INSTITUTE
Kimberly Hughes, DIRECTOR, THE UTEACH INSTITUTE, UTEACH INSTITUTE
Amy Moreland, PROGRAM COORDINATOR, UTEACH COMPUTER SCIENCE, UTEACH INSTITUTE

The purpose of the UTeach Computer Science (CS) National Working Group is to identify challenges related to CS teaching licensure/endorsement, pathways for pre-service teachers interested in CS, and issues around K–12 CS education in UTeach states and partner districts/schools. In the fall of each year, we'll distribute a report from the working group to stakeholders at the state, district, and program levels that identifies common challenges and potential solutions and outlines group progress.

9:30 – 11:00 a.m.

FILM: *MOST LIKELY TO SUCCEED* | AMPHITHEATER 204
The feature-length documentary *Most Likely to Succeed* examines the history of education in the United States, revealing the growing shortcomings of conventional education methods in today's innovative world. The film follows students into the classrooms of High Tech High, an innovative new school in San Diego. There, over the course of a school year, two groups of ninth-graders take on ambitious, project-based challenges that promote critical skills rather than rote memorization.

There are two opportunities on the schedule for you to see this film at the conference, and two follow-up activities that will build on many of the ideas from the film. On Wednesday afternoon, join a panel of teachers and an administrator who work in similar settings as they discuss how they collaborate across the content areas. And the closing plenary features Chris Lehmann, founding principal of Science Leadership Academy, examining what it takes for us to create engaging, caring, inclusive, and relevant schools.

10:15 – 11:15 a.m.

TWO SESSIONS IN ONE: MATH AND SCIENCE TEACHER INFLUENCES | 101

HOW HAVE MATH EDUCATORS AT UTEACH SITES BEEN INFLUENCED BY THE PRESENCE OF SCIENCE EDUCATION IN UTEACH COURSES?
Kim McComas, MASTER TEACHER, UNIVERSITY OF ARKANSAS, FAYETTEVILLE

Results of a survey of UTeach math educators will be presented, in which they expressed the influence that working with science educator colleagues and science majors has had on their thinking about mathematics teaching. They described advantages and disadvantages to having math and science majors in the same teacher education program and shared how they might teach math differently if they were to return to the secondary classroom. Come hear the results of this study and share your own experiences!

INFLUENCES AND MOTIVATIONS IN CHOOSING TO BECOME A MATHEMATICS OR SCIENCE TEACHER

Maria Fernandez, ASSOCIATE PROFESSOR, FLORIDA INTERNATIONAL UNIVERSITY
Vishodana Thamotharan, FIUTEACH, ASSOCIATE DIRECTOR, FLORIDA INTERNATIONAL UNIVERSITY
Maria Campitelli, CLINICAL ASSISTANT PROFESSOR/MASTER TEACHER, FLORIDA INTERNATIONAL UNIVERSITY

Mathematics and science education has suffered teacher shortages. Influences on and motivations of undergraduates for becoming mathematics or science teachers were studied at a minority-serving institution. Surveys were collected from undergraduates engaged in early experiences trying teaching. Directions for recruiting/influencing students in becoming mathematics or science teachers were explored.

UTEACH MONEY MATTERS | 102
Interactive Presentation

Amy Chavez, FINANCIAL ANALYST, UTEACH INSTITUTE
Michael Marder, CO-DIRECTOR, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN
Lee Meadows, CO-DIRECTOR, UABTEACH, UNIVERSITY OF ALABAMA, BIRMINGHAM

This session will discuss the financial side of the UTeach program. UTeach Austin and UABTeach will discuss their program costs, funding sources, challenges, and strategies for sustainability.

UTEACH COURSE OVERVIEW: CLASSROOM INTERACTIONS | 103
Interactive Presentation

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

FRAMEWORKS FOR INTEGRATED PROJECT-BASED INSTRUCTION IN STEM DISCIPLINES | 104
Interactive Presentation

Anthony Petrosino, ASSOCIATE PROFESSOR, UNIVERSITY OF TEXAS AT AUSTIN
Candace Walkington, ASSISTANT PROFESSOR, SOUTHERN METHODIST UNIVERSITY
Denise Ekberg, CLINICAL ASSISTANT PROFESSOR, UNIVERSITY OF TEXAS AT AUSTIN

This session will cover four topics in PBI: scaffolding, student-driven inquiry, driving questions, and development of lessons based on national and state standards. This focus will ensure a deep understanding by participants of project-based instruction. The session is anchored in research in the learning sciences but is also designed to be practically useful to UTeach instructors by bridging research and practice. Ideas for a forthcoming book will be discussed.

INTEGRATING ENGINEERING AND MAKING IN RESEARCH METHODS | 107
Interactive Presentation

Noah Salzman, ASSISTANT PROFESSOR, BOISE STATE UNIVERSITY
Henry Charlier, ASSOCIATE PROFESSOR, BOISE STATE UNIVERSITY
Amy Vecchione, ASSOCIATE PROFESSOR, BOISE STATE UNIVERSITY

In this session, we will present a unit we developed for Research Methods that integrates engineering and making. We introduced students to engineering design, identified similarities and differences between scientific research methods and engineering design processes, and presented the fundamentals of 3D design and 3D printing. Attendees will gain a better understanding of engineering design and how engineering can be integrated into the UTeach curriculum via Research Methods.

UKANLEARN INDUCTION AND STEM TEACHER DEVELOPMENT PROGRAM | 108
Interactive Presentation

Katrina Rothrock, MASTER TEACHER, UNIVERSITY OF KANSAS
Edith Eskilson, MASTER TEACHER, UNIVERSITY OF KANSAS
Dr. Laurie Cleavinger, EDUCATION FACULTY, UNIVERSITY OF KANSAS

How can we support beginning STEM teachers and move them rapidly to being effective teachers who will engage in career-long learning? UKanTeach is working with local districts to implement induction support that is in the context of their schools and provides new teachers with hands-on training, resources, and mentoring, including workshops, peer observations using the UTeach Observation Protocol (UTOP), in-school supportive visits, and online support materials and collaboration.

IMPLEMENTING UTEACH | 203
Interactive Presentation

Kimberly Hughes, DIRECTOR, UTEACH INSTITUTE

The UTeach Institute has developed a comprehensive approach to supporting the implementation 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.

EFFECTIVE CLASSROOM MANAGEMENT: STRATEGIES TO CREATE AND CAPTURE A COOPERATIVE CLASSROOM | 301
Hands-On Workshop

Scott Fray, MASTER TEACHER, NAUTEACH, NORTHERN ARIZONA UNIVERSITY
Lynn Kirby, CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN

Similar to what happens in *The Chronicles of Narnia*, participants will be transported to a place that few people believe in. Rather than being introduced to fauns and talking animals, attendees are introduced to a world where they can achieve 100% participation from their students. If you are willing to consider the impossible and enter this world with an open mind, great adventures await! Part 1 of two classroom management sessions.

11:30 a.m. – 12:30 p.m.

GETTING THE E BACK INTO STEM | 101
Interactive Presentation
Matthew VanKouwenberg, *MASTER TEACHER, DREXEL UNIVERSITY*
DragonsTeach has had success with recruiting and keeping engineers in our program. Find out what we're doing and learn about some of the engineering activities our students are teaching.

BEYOND THE INITIAL FUNDING PERIOD FOR UTEACH REPLICATION: WHAT DO OUR PROGRAMS LOOK LIKE NOW? | 102
Roundtable Discussion
Pamela Romero, *ASSOCIATE DIRECTOR, UTEACH INSTITUTE*
Sharon Cardenas, *ASSOCIATE DIRECTOR ACADEMIC PROGRAMS, CENTER FOR SCIENCE TEACHING & LEARNING, COLLEGE OF ENGINEERING, FORESTRY, AND NATURAL SCIENCES, NORTHERN ARIZONA UNIVERSITY*
Kimberly Hughes, *DIRECTOR, UTEACH INSTITUTE*
Jo'el Johanson, *CLINICAL PROFESSOR, COLLEGE OF ENGINEERING, FORESTRY, AND NATURAL SCIENCES, NORTHERN ARIZONA UNIVERSITY*
Mary Urquhart, *CO-DIRECTOR, UTEACH DALLAS; ASSOCIATE PROFESSOR AND DEPARTMENT HEAD, SCIENCE AND MATH EDUCATION, SCHOOL OF NATURAL SCIENCES AND MATHEMATICS, UNIVERSITY OF TEXAS AT DALLAS*
> The UTeach Institute will facilitate a conversation among colleagues from established UTeach programs regarding growth, change, and challenges after the conclusion of the initial grant-funded period. Topics include issues related to institutionalization, fundraising and sustainability, continued adaptations to the UTeach model, and potential opportunities for collaboration, networking, and support.

MOTIVATING MENTORSHIP: INCENTIVES FOR IN-SERVICE TEACHERS TO MENTOR OUR STUDENTS | 103
Roundtable Discussion
Ryan Shiba, *MANAGER, UNIVERSITY OF CALIFORNIA, BERKELEY*
Carrie Culpepper, *MANAGER, UTEACH INSTITUTE*
> Mentor teachers are vital to our programs' existence, yet teachers and administrators are protective of their time and may be hesitant to participate without some type of incentive. What incentives do you use to recruit and retain high-quality in-service teachers? Learn about some of the incentives offered, including continuing education available from UTeach Professional Development. Join us to share best practices on recruiting and retaining mentor teachers while resources are scarce.

UTEACH COURSE OVERVIEW: PROJECT-BASED INSTRUCTION | 104
Interactive Presentation
Victor Sampson, *ASSOCIATE PROFESSOR, DEPARTMENT OF CURRICULUM AND INSTRUCTION, COLLEGE OF EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN*
Daniel FitzPatrick, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, 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.

SUPPORTING NOVICE TEACHERS' USE OF COGNITIVELY DEMANDING TASKS | 107
Hands-On Workshop
Christine Andrews-Larson, *ASSISTANT PROFESSOR OF MATHEMATICS EDUCATION, FLORIDA STATE UNIVERSITY*
Miray Tekkumru-Kisa, *ASSISTANT PROFESSOR OF SCIENCE EDUCATION, FLORIDA STATE UNIVERSITY*
Sherry Southerland, *ANNE & JOHN DAVES PROFESSOR OF SCIENCE EDUCATION, FLORIDA STATE UNIVERSITY*
> The learning benefits of engaging students in cognitively demanding tasks (CDTs) are well documented, as are challenges during the implementation of such tasks. In this session, we describe our integration of CDTs across UTeach courses and explore task analysis through the Task Analysis Guide in Science (Tekkumru-Kisa et al., 2015).

GETTING OFF TO A GREAT START: FIRST-YEAR RESULTS AT LOUISIANA TECH UNIVERSITY | 108
Roundtable Discussion
Glenn Larson, *MASTER TEACHER, LOUISIANA TECH UNIVERSITY*
Chris Campbell, *MASTER TEACHER, LOUISIANA TECH UNIVERSITY*
Nicole Schubert, *STUDENT, LOUISIANA TECH UNIVERSITY*
Cor'ney Williams, *STUDENT, LOUISIANA TECH UNIVERSITY*
Jennifer Cox, *STUDENT, LOUISIANA TECH UNIVERSITY*
Ashley Smith, *STUDENT, LOUISIANA TECH UNIVERSITY*
> Louisiana Tech University has enrolled almost 100 students in a first-year replication of UTeach. Marketing, recruitment, mentoring, student support, and a developing student organization all played a part. Strategies, actions, and results will be shared from both administration and student perspectives.

TEST SCORE CHANGES IN CLASSROOMS TAUGHT BY NOVICE UTEACH ALUMNI | 203
Interactive Presentation
Michael Marder, *CO-DIRECTOR, UTEACH AUSTIN, UTEACH*
> I make use of longitudinal student data from Texas to examine test score changes of students taught by novice UTeach alumni. A novice teacher is one with fewer than four years of experience. I compare classes taught by UTeach alumni with classes taught by novice teachers from alternative certification programs in the same schools. I use test scores of ninth-graders in Algebra I and Biology. The study is conducted by constructing a hierarchical linear model to set expectations and then focusing in on groups of broadly similar schools. In the great majority of school environments, in both math and science, students of novice UTeach alumni either get the same or greater score changes than students of novice alternatively certified teachers. From a formal point of view, the study is unconventional. It relies heavily on graphical presentation of results and is strongly guided by Pearl's view of causality. I will show how these methods guard against statistical artifacts that have influenced some previous studies of teacher quality.

CLASSROOM MANAGEMENT: A DAY AT THE IMPROV | 301
Interactive Presentation
Lynn Kirby, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*
Scott Fray, *MASTER TEACHER, NORTHERN ARIZONA UNIVERSITY*
> New teachers often report that classroom management is the largest problem they face at school. This session will allow participants the opportunity to apply proven classroom management strategies to solve different scenarios taken from today's classrooms. Solutions will be presented in front of the whole group as a skit. Fun will be had by all! And we will learn a lot, too! Part 2 of two classroom management sessions.

12:30 – 1:30 p.m.

LUNCH | TEJAS DINING ROOM

1:45 – 2:45 p.m.

SUPPORTING NEW TEACHERS: INDUCTION PANEL | 101
Panel Discussion
Kevin Garcia, DIRECTOR OF PROFESSIONAL DEVELOPMENT AND ACADEMICS, SOUTHSIDE INDEPENDENT SCHOOL DISTRICT
David Robinson, PLTW ENGINEERING AND ROBOTICS TEACHER, MURCHISON MIDDLE SCHOOL
Mark Townsend, GRADUATE STUDENT, UNIVERSITY OF TEXAS AT AUSTIN
Nicole Reneau, PRE-AP/AP MATH TEACHER, ANDERSON HIGH SCHOOL
Richard Harrison, ALGEBRA I / PRE-ALGEBRA TEACHER, LBJ HIGH 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.

TRACKING UTEACH GRADUATES | 102
Interactive Presentation
Mary Lummus-Robinson, DATA COORDINATOR, UTEACH INSTITUTE
Pamela Romero, ASSOCIATE DIRECTOR, UTEACH INSTITUTE
Casimiro Crawford, DATA COORDINATOR, UTEACH INSTITUTE
> Forty-four universities are now implementing secondary STEM teacher preparation programs based on the UTeach model and 32 have produced graduates. This session will present summary implementation data, present the UTeach Institute's graduate tracking system, and discuss summary data involving graduates.

UTEACH COURSE OVERVIEW: KNOWING AND LEARNING IN MATHEMATICS AND SCIENCE | 103
Interactive Presentation
Catherine Riegle-Crumb, ASSOCIATE PROFESSOR OF STEM EDUCATION, DEPARTMENT OF CURRICULUM AND INSTRUCTION, COLLEGE OF EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN
Walter Stroup, ASSOCIATE PROFESSOR OF STEM EDUCATION, DEPARTMENT OF CURRICULUM AND INSTRUCTION, COLLEGE OF EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN
Karisma Morton, DOCTORAL STUDENT IN STEM 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.

THINK GLOBAL PBL ACADEMY | 104
Interactive Presentation
Steve Zipkes, FOUNDER AND PRESIDENT, ADVANCED REASONING IN EDUCATION; PRINCIPAL, CEDARS NEXT GENERATION STEAM ACADEMY; FORMER FOUNDING PRINCIPAL, MANOR NEW TECH HIGH SCHOOL
Maria Blanco, THINK GLOBAL PBL TRAINER; FORMER MATH TEACHER; UTEACH GRADUATE
> Learn about Advanced Reasoning's Think Global PBL Academy. It's a dynamic three-day academy designed to train educators in the basic elements and best practices for designing and implementing project-based learning in the classroom.

MAKING SENSE OF DATA: TWO NEW DEMONSTRATION LESSONS FOR STEP 2 | 107
Hands-On Workshop
MaLynn Kelso, MASTER TEACHER, FLORIDA STATE UNIVERSITY
Logan Chalfant, MASTER TEACHER, FLORIDA STATE UNIVERSITY
> In both the mathematics and science sections of the FSU-Teach Step 2 courses, students are required to complete a lesson revision project. A component of this task requires students to provide a visual analysis of data, accompanied by narration. Dissatisfied with initial student products, master teachers have developed two activities—one to highlight the necessity and power of graphical analysis, and one to highlight the use of real-time data in a lesson.

UTILIZING A STUDENT-CENTRIC FRAMEWORK FOR TARGETED RECRUITMENT OF STEM MAJORS | 108
Roundtable Discussion
Vishodana Thamotharan, ASSOCIATE DIRECTOR, FIUTEACH, FLORIDA INTERNATIONAL UNIVERSITY
Nicholas Oehm, Jr., MASTER TEACHER, FLORIDA INTERNATIONAL UNIVERSITY
Ingelise Giles, MASTER TEACHER, FLORIDA INTERNATIONAL UNIVERSITY
Maria Fernandez, MASTER TEACHER, FLORIDA INTERNATIONAL UNIVERSITY
> A student-centric framework, based on the Logic Model, will be shared as lens for increasing recruitment of STEM majors. Attendees will apply the framework to their sites and present their findings related to current strengths in approach as well areas for growth. A roundtable discussion will follow to address growth areas, messaging, visibility, and best use of time, resources, and personnel.

UNIVERSITY IMPLEMENTATION PANEL: LESSONS LEARNED | 203
Panel Discussion
Mary Walker, UTEACH ADVISORY COUNCIL MEMBER; ASSOCIATE DIRECTOR (RETIRED), UTEACH INSTITUTE, UNIVERSITY OF TEXAS AT AUSTIN
Steve Case, CO-DIRECTOR, UKANTEACH; DIRECTOR, CENTER FOR STEM LEARNING; ASSISTANT DIRECTOR OF THE CENTER FOR SCIENCE EDUCATION, UNIVERSITY OF KANSAS
Sumudu Lewis, PROGRAM DIRECTOR AND MASTER TEACHER, UTEACH UMASS LOWELL, UNIVERSITY OF MASSACHUSETTS LOWELL
Gay Stewart, CO-DIRECTOR, WVUTEACH; DIRECTOR, CENTER FOR EXCELLENCE IN STEM EDUCATION; EBERLY PROFESSOR OF STEM EDUCATION, DEPARTMENT OF PHYSICS AND ASTRONOMY, WEST VIRGINIA UNIVERSITY
Felice Shore, ASSOCIATE PROFESSOR AND ASSISTANT CHAIR, FISHER COLLEGE OF SCIENCE AND MATHEMATICS, TOWSON 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.

UTEACH CSP: A PROJECT-BASED AP COMPUTER SCIENCE PRINCIPLES COURSE FOR ALL HIGH SCHOOL TEACHERS AND STUDENTS | 301
Interactive Presentation
Jeff Mickel, CURRICULUM COORDINATOR, UTEACH COMPUTER SCIENCE, UTEACH INSTITUTE
Bradley Beth, DEVELOPER, THRIVING IN OUR DIGITAL WORLD, UNIVERSITY OF TEXAS AT AUSTIN
Amy Moreland, PROGRAM COORDINATOR, UTEACH COMPUTER SCIENCE, UTEACH INSTITUTE
> UTeach CSP is a project-based AP Computer Science Principles course developed by UTeach and designed to broaden the participation of young women and students from other groups historically underrepresented in computing. Teachers with no experience in computer science can be successful thanks to intensive professional learning opportunities and ongoing support. Come learn more about the course, why we think ALL students should take it, and why YOU should consider teaching it.

2:00 – 3:30 p.m.

FILM: *MOST LIKELY TO SUCCEED* | AMPHITHEATER 204

The feature-length documentary *Most Likely to Succeed* examines the history of education in the United States, revealing the growing shortcomings of conventional education methods in today's innovative world. The film follows students into the classrooms of High Tech High, an innovative new school in San Diego. There, over the course of a school year, two groups of ninth-graders take on ambitious, project-based challenges that promote critical skills rather than rote memorization.

There are two opportunities on the schedule for you to see this film at the conference, and two follow-up activities that will build on many of the ideas from the film. On Wednesday afternoon, join a panel of teachers and an administrator who work in similar settings as they discuss how they collaborate across the content areas. And the closing plenary features Chris Lehmann, founding principal of Science Leadership Academy, examining what it takes for us to create engaging, caring, inclusive, and relevant schools.

3:00 – 4:00 p.m.

CREATING AN ALUMNI ADVISORY BOARD TO CONNECT STUDENTS AND GRADUATES | 101
Interactive Presentation
Paige Evans, *CLINICAL ASSOCIATE PROFESSOR, UNIVERSITY OF HOUSTON*
Mariam Manuel, *INSTRUCTIONAL ASSISTANT PROFESSOR, UNIVERSITY OF HOUSTON*
Simon Bott, *INSTRUCTIONAL PROFESSOR, UNIVERSITY OF HOUSTON*
> The teachHOUSTON program created an alumni advisory board (teachHOUSTON Alumni Advisory Board, tHAAB) made up of five alumni and a master teacher. The purpose of tHAAB is to (1) create opportunities for networking and mentoring; (2) provide means to share and build resources for graduates of the program; and (3) integrate technology into current courses of the teachHOUSTON program. This session highlights how this board was formed and how the goals are being met.

UTEACH CO-DIRECTORS SPECIAL INTEREST GROUP | 103
Roundtable Discussion
George Johnson, *MECHANICAL ENGINEERING PROFESSOR, CAL TEACH BERKELEY CO-DIRECTOR, UNIVERSITY OF CALIFORNIA, BERKELEY*
Gina Tempel, *ASSOCIATE DEAN OF THE COLLEGE OF SCIENCE, ASSOCIATE PROFESSOR IN GEOLOGY, NEVADATEACH CO-DIRECTOR, UNIVERSITY OF NEVADA, RENO*
> Program co-directors, college deans, and other university leaders will convene to discuss topics of interest to the group.

RECRUITING ENGINEERS AND UNDERREPRESENTED STUDENTS INTO UTEACH PROGRAMS | 104
Interactive Presentation
Jessica Ward, *DIRECTOR OF OPERATIONS, DREXEL UNIVERSITY*
Fatima Conteh, *PROGRAM COORDINATOR, DREXEL UNIVERSITY*
> Join DragonsTeach as we reveal effective strategies for recruiting engineers and discuss how to use community-building activities to encourage more involvement from underrepresented populations in STEM. Topics covered will include building relationships with colleges/departments, identifying your target audience, program visibility, integrating student group efforts with recruitment, using incentives, and knowing your recruitment timeline.

"TALK MOVES": FACILITATING PRODUCTIVE DISCUSSIONS IN K–12 CLASSROOMS | 107
Interactive Presentation
Anita Sanyal, *MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK*
Sarah Henson-Darko, *MASTER TEACHER, UNIVERSITY OF MARYLAND*
Catherine VanNetta, *MASTER TEACHER, UNIVERSITY OF MARYLAND*
> In our Step 1 courses, we use discussions about K–12 classroom videos to help our undergraduates take a close look at classroom interactions. In this session, we will show a video of a K–12 classroom and facilitate a discussion with student participants about the ideas and teacher moves evident in the video. This is the first of a two-session sequence on facilitating discussion. This session is for undergraduates, and the following session is for faculty and instructors. Faculty and instructors are also welcome in this session.

DEVELOPMENT OFFICERS AND FUNDERS PANEL: SUSTAINING YOUR PROGRAM WITH PRIVATE SUPPORT | 203
Panel Discussion
Tracy LaQuey Parker, *SENIOR VICE PRESIDENT OF BUSINESS DEVELOPMENT; UTEACH ADVISORY COUNCIL MEMBER, PARKER SOLUTIONS GROUP*
Geannine Callaghan, *DIRECTOR OF FOUNDATION RELATIONS, TOWSON UNIVERSITY*
James Shaw, *CEO, MOREHEAD STATE UNIVERSITY FOUNDATION; VICE PRESIDENT, UNIVERSITY ADVANCEMENT, MOREHEAD STATE UNIVERSITY*
Dr. Claude Everett and Joyce Milton Cooke, *PRIVATE DONORS TO UTEACH AUSTIN, COOKE LAW FIRM*
> Panelists will discuss the importance of private fundraising to support the sustainability of UTeach programs. Panelists include individual and corporate donors as well as development representatives from UTeach partner programs. Donors will discuss what motivated their gift and provide insight into their expectations when providing support. Development officers will discuss their successes and challenges related to fundraising for various components of their programs.

THE NUTS AND BOLTS OF RÉSUMÉS AND COVER LETTERS | 301
Interactive Presentation
Devin Richards, *PROGRAM COORDINATOR, UNIVERSITY OF CALIFORNIA, BERKELEY*
> Do you struggle with the eternal question of whether a résumé should be one or two pages? Not sure how to advise students with cover letters and résumés? If so, then this session is for you! Join the UC Berkeley Cal Teach team for an interactive session on résumés and cover letters. Learn how to craft your résumé to highlight your individual strengths, develop a cover letter that leaves a reader wanting more, and avoid common pitfalls.

UTEACH COURSE OVERVIEW: RESEARCH METHODS | SALON A
Interactive Presentation
Pawan Kumar, *PROFESSOR, DEPARTMENT OF ASTRONOMY, UNIVERSITY OF TEXAS AT AUSTIN*
Denise Ekberg, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, 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.

4:15 – 5:15 p.m.

USING AGENT-BASED MODELING ACROSS THE UTEACH STEM PROGRAM | 101
Hands-On Workshop
Walter Stroup, ASSOCIATE PROFESSOR, STEM EDUCATION, UNIVERSITY OF TEXAS AT AUSTIN

Agent-based modeling (ABM) is an important tool for scientific inquiry and dynamic systems modeling and a growing presence in schools-based STEM education. During this hands-on session, participants will be introduced to ABM (using NetLogo Web) and to the use of ABM across the UTeach STEM program. Examples from Knowing and Learning and Classroom Interactions will be highlighted. Participants can use any device capable of running a current browser (BYO computer, tablet, or smart phone).

UTEACH NATION: HOW THE NATIONAL UTEACH ALUMNI NETWORK BENEFITS YOUR GRADS | 102
Interactive Presentation
Jo Hamilton, MEMBER SERVICES AND COMMUNICATIONS COORDINATOR, UTEACH INSTITUTE
Mariam Manuel, ALUMNA AND MASTER TEACHER, TEACHHOUSTON, UNIVERSITY OF HOUSTON

Find out more about how the National UTeach Network Alumni Network is working to support and connect alumni from across the country. Our goal is to strengthen UTeach partner programs' local alumni efforts by providing avenues for meaningful networking between grads. Membership is free to alumni and comes with opportunities for mentoring and leadership. The National UTeach Alumni Network is part of the UTeach STEM Educators Association (USEA) and promotes inquiry-based education for all students.

COLLABORATIVE SELF-STUDY OF A MATHEMATICS EDUCATOR AND A SCIENCE EDUCATOR TEACHING KNOWING AND LEARNING AT DIFFERENT INSTITUTIONS | 103
Roundtable Discussion
Stephen Burgin, ASSISTANT PROFESSOR OF SECONDARY SCIENCE EDUCATION, UNIVERSITY OF ARKANSAS, FAYETTEVILLE
Yating Liu, ASSISTANT PROFESSOR OF MATHEMATICS EDUCATION, OLD DOMINION UNIVERSITY

This presentation focuses on the lessons learned by a mathematics educator and a science educator who regularly held phone conversations and exchanged emails as they simultaneously taught Knowing and Learning at two different institutions. What began as an effort to revise syllabi quickly became more useful in providing support to the discipline-specific feedback given to students, in particular as they worked to develop protocols for the clinical interview assignment.

EXAMINING TEACHER-STUDENT DISCOURSE AND PATTERNS OF QUESTIONING IN CLASSROOM INTERACTIONS | 104
Interactive Presentation
Felice Shore, ASSOCIATE PROFESSOR, TOWSON UNIVERSITY
Diana Cheng, ASSISTANT PROFESSOR, TOWSON UNIVERSITY
Victoria (Tori) Newman, PRE-SERVICE TEACHER, TOWSON UNIVERSITY
Samantha (Sami) Forsythe, PRE-SERVICE TEACHER, TOWSON UNIVERSITY

Leading productive discussions is a teaching practice cultivated over a career, but it begins with having an appreciation for how well-orchestrated discourse can elucidate content. In this presentation, we describe our efforts to help students develop their teacher talk moves and their responsiveness to students. CI instructors will share the evolution of teach transcript assignments, and students will share their experiences analyzing and even rewriting their own transcripts to learn from their own teaching.

USING VIDEO OF CLASSROOMS TO INTERPRET LEARNING AND TEACHING | 107
Interactive Presentation
Anita Sanyal, MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK
Catherine VanNetta, MASTER TEACHER, UNIVERSITY OF MARYLAND
Sarah Henson-Darko, MASTER TEACHER, UNIVERSITY OF MARYLAND

We use video analysis to help undergraduates "see" student ideas in math and science and to think deeply about how K–12 teachers facilitate discussions. Our presentation focuses on how we use this approach to help undergraduates more closely explore teaching and learning. This session is the second of a two-session sequence on facilitating discussion. This session is for faculty and instructors, and the previous session is for undergraduates.

DEVELOPMENT SPECIAL INTEREST GROUP | 108
Roundtable Discussion
Maria Allen, ASSOCIATE DIRECTOR, DEVELOPMENT, UTEACH INSTITUTE
Ronda Brandon, VICE PRESIDENT, UTEACH EXPANSION PROGRAM, NATIONAL MATH + SCIENCE INITIATIVE
Pamela Romero-Eddington, ASSOCIATE DIRECTOR, UTEACH INSTITUTE

Does your message resonate with your donors? Bring your outward-facing materials, branded items, and factsheets to share and discuss.

SCHOOLWIDE IMPLEMENTATION OF PROJECT-BASED LEARNING | AMPHITHEATER 204
Roundtable Discussion
Steve Zipkes, FOUNDER AND PRESIDENT, ADVANCED REASONING IN EDUCATION; PRINCIPAL, CEDARS NEXT GENERATION STEAM ACADEMY; FORMER FOUNDING PRINCIPAL, MANOR NEW TECH HIGH SCHOOL,
Russell Young, LANGUAGE ARTS FACILITATOR, PLANO ACADEMY HIGH SCHOOL
Julia Eaddy, CHEMISTRY FACILITATOR, PLANO ACADEMY HIGH SCHOOL
Kevin Ng, ENGINEERING FACILITATOR, PLANO ACADEMY HIGH SCHOOL
Maria Blanco, THINK GLOBAL PBL TRAINER; FORMER MATH TEACHER; UTEACH GRADUATE

In this session, we'll hear from a group of teachers as they discuss how they have collaborated across disciplines to develop a project-based learning environment throughout an entire high school.

ROUNDTABLE WITH UTEACH GRADUATES (RESTRICTED TO CURRENT UTEACH STUDENTS) | 301
Roundtable Discussion
Kevin Garcia, DIRECTOR OF PROFESSIONAL DEVELOPMENT AND ACADEMICS, SOUTHSIDE INDEPENDENT SCHOOL DISTRICT
Mark Townsend, GRADUATE STUDENT, UNIVERSITY OF TEXAS AT AUSTIN
Nicole Reneau, PREAP/AP MATH TEACHER, ANDERSON HIGH SCHOOL
David Robinson, PLTW ENGINEERING AND ROBOTICS TEACHER, MURCHISON MIDDLE SCHOOL
Richard Harrison, ALGEBRA I/PRE-ALGEBRA TEACHER, LBJ 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 a variety of contexts, etc.

INNOVATING STEM TEACHER PREPARATION FOR ELLS IN THE MAINSTREAM STEM CLASSROOM THROUGH TEACHER COLLABORATION AND TWO-WAY CONTENT-BASED INSTRUCTION | SALON A
Interactive Presentation
Margo DelliCarpini, *DEAN, COLLEGE OF EDUCATION, MOREHEAD STATE UNIVERSITY*
> This session focuses on preparing teachers to develop ELLs' academic language in the mainstream, secondary STEM classroom through teacher collaboration between mainstream and ESL teachers and Two-Way Content-Based Instruction (CBI), a pedagogical approach that builds on and extends teacher collaboration and traditional CBI. Language-driven content objectives and content-driven language objectives are collaboratively developed, enhancing academic language development and ultimate success for ELLs.

6:00 – 9:00 p.m.

RECEPTION AND DINNER HOSTED BY EXXONMOBIL CORPORATION | BALLROOM
ENERGY AND EDUCATION
Michael Marder, *CO-DIRECTOR, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*
> Energy and education are two primary resources needed for the future. Energy makes possible everything convenient about our lives, from cell phone networks to abundant food transported across the country. Education makes possible the innovation needed for the continued extraction of and eventual transition away from the forms of energy, mainly hydrocarbons, we now take for granted. The role of UTeach is clear: To help prepare the next generation of STEM educators who will help produce the informed citizens, leading researchers, bold innovators, and wise leaders on whom our future depends.

Thursday, May 26

8:00 – 9:15 a.m. Breakfast

BREAKFAST | BALLROOM

8:00 – 9:15 a.m. Breakfast Meetings

20TH ANNIVERSARY STUDENT FOCUS GROUP | 104
Roundtable Discussion
Amy Winters, *MANAGER OF CONTENT AND COMMUNICATIONS, UTEACH INSTITUTE*
Melanie Haupt, *WRITER / EDITOR, UTEACH INSTITUTE*
> Come hear our ideas for promoting UTeach's 20th Anniversary and give us your thoughts on how we can better communicate with students!

FLORIDA REPLICATION SITES MEETING (CLOSED) | 103
Ashley Welch, *MANAGER OF SITE SUPPORT, UTEACH INSTITUTE*
> This is a closed session for current Florida replication sites and will focus on topics of interest and relevant updates.

TENNESSEE REPLICATION SITES MEETING (CLOSED) | 107
Michael DeGraff, *INSTRUCTIONAL PROGRAM COORDINATOR, UTEACH INSTITUTE*
> This is a closed session for current Tennessee replication sites and will focus on topics of interest and relevant updates.

ARKANSAS REPLICATION SITES 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 MEETING (CLOSED) | 301
Larry Abraham, *UTEACH AUSTIN CO-DIRECTOR, PROFESSOR IN KINESIOLOGY AND HEALTH EDUCATION, AND DEAN FOR THE SCHOOL OF UNDERGRADUATE STUDIES, UNIVERSITY OF TEXAS AT AUSTIN*
> This is a closed session for current Texas replication sites and will focus on topics of interest and relevant updates.

GEORGIA REPLICATION SITES MEETING (CLOSED) | SALON A
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.

MARYLAND/DC REPLICATION SITES MEETING (CLOSED) | SALON B
Martha Perez, *DATA COLLECTION / EVALUATION COORDINATOR, UTEACH INSTITUTE*
> This is a closed session for current Maryland and Washington, DC, replication sites and will focus on topics of interest and relevant updates.

9:30 – 11:00 a.m.

CLOSING PLENARY | AMPHITHEATER 204
BUILDING SCHOOL 2.0: CREATING THE SCHOOLS WE NEED
Chris Lehmann, *PRINCIPAL, SCIENCE LEADERSHIP ACADEMY*
> What is School 2.0? What are the pedagogical ideas that form it? Examine ideas of constructivist pedagogy and the use of 21st century tools to create schools that are engaging, caring, and relevant places of learning for everyone involved. The history of the formation of the Science Leadership Academy will form the backdrop for this conversation.

11:15 a.m. – 12:15 p.m.

ACTIVE RECRUITING: GET GIRLS INTO COMPUTER SCIENCE / INFORMATION TECHNOLOGY | 101
Interactive Presentation
Lecia Barker, *ASSOCIATE PROFESSOR, SCHOOL OF INFORMATION, UNIVERSITY OF TEXAS AT AUSTIN*
> High school teachers can attract girls into their computer science and IT classes! The absence of girls in CS/IT classes is often due to misconceptions and a sense that girls do not belong. This talk provides a useful, usable structure for developing plans and messages to attract girls into classes. Participants will receive free, research-based resources from the National Center for Women & IT to jumpstart their efforts.

MASTER TEACHER SPECIAL INTEREST GROUP | 102
Roundtable Discussion
Paige Evans, *CLINICAL ASSOCIATE PROFESSOR, TEACHHOUSTON, UNIVERSITY OF HOUSTON*
> This session is for master teachers to share ideas and learn from one another. This year's session will focus on working through common issues in Step 1 and Step 2 including logistics and managing mentor teachers, partners, and others.

4 STANDARDS, 3 SUBJECTS, 1 GOAL | 103
Interactive Presentation
Sandra Leiterman, MASTER TEACHER, UNIVERSITY OF ARKANSAS, LITTLE ROCK

PBI is trending nationally from micro-scale in classrooms to macro-scale across schools and districts. It has a successful track record, yet still generates skepticism among people unfamiliar with the benefits of PBI. Learn how PBI promotes 21st-century learning skills through the use of NGSS Engineering Practices, CCSS Math and English Practices, and ISTE Standards for both students and teachers, which will build a solid case for you to use PBI in your new classroom.

20TH ANNIVERSARY COMMITTEES (CLOSED MEETING) | 104
Roundtable Discussion
Kimberly Hughes, DIRECTOR, UTEACH INSTITUTE
Amy Winters, MANAGER OF CONTENT AND COMMUNICATIONS, UTEACH INSTITUTE

If you are on a 20th Anniversary committee, please join us to hear a report on what all the other committees are doing and see our plan of action.

THE UTEACH STEM EDUCATORS ASSOCIATION (USEA): EXCELLENCE IN STEM EDUCATION | 105
Interactive Presentation
Carrie Culpepper, USEA MANAGER, UNIVERSITY OF TEXAS AT AUSTIN
Pradeep Max Dass, NAUTEACH CO-DIRECTOR; 2016-2017 USEA PRESIDENT, NORTHERN ARIZONA UNIVERSITY
Martha Day, SKYTEACH CO-DIRECTOR; ASSISTANT PROFESSOR OF SCIENCE EDUCATION; 2015-2016 USEA PRESIDENT, WESTERN KENTUCKY UNIVERSITY
Mariam Manuel, ALUMNA AND MASTER TEACHER, TEACHHOUSTON; USEA EXECUTIVE BOARD MEMBER, UNIVERSITY OF HOUSTON

The UTeach STEM Educators Association (USEA) was founded in 2014 and includes all UTeach partner programs, the National UTeach Alumni Network, and affilitate members. Max Dass, USEA president for 2016–2017, and Martha Day, immediate past-president, will speak about the vision for the future of the association. USEA manager, Carrie Culpepper, will share information about member benefits. Come hear how you can be actively involved in the association and help achieve its mission of STEM literacy for all!

USING MULTIMEDIA IN UTEACH COURSEWORK | 106
Interactive Presentation
Steve Case, DIRECTOR, CENTER FOR STEM LEARNING; CO-DIRECTOR, UKANTEACH, UNIVERSITY OF KANSAS

In this session, you will hear how UKanTeach is working to infuse multimedia into their blended Perspectives on Science and Mathematics course. I will share several resources they are using, including HHMI's BioInteractive materials. The audience will be encouraged to share resources they are developing and/or adapting for courses as well.

UTEACH APPLICATION Q&A (CLOSED SESSION FOR UNIVERSITIES THINKING ABOUT IMPLEMENTING UTEACH) | 107
Closed Meeting
Pamela Romero, ASSOCIATE DIRECTOR, UTEACH INSTITUTE
Ashley Welch, MANAGER OF SITE SUPPORT, UTEACH INSTITUTE
Amy Chavez, FINANCIAL ANALYST, UTEACH INSTITUTE

This session will include a very brief overview of the UTeach Implementation Application materials, process, and timeline. The majority of the session will be set aside for questions and answers about the application process.

UTEACH COURSE OVERVIEW: FUNCTIONS AND MODELING | 108
Interactive Presentation
Daniel FitzPatrick, CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH 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.

BROKEN AIRPLANES, BROKEN SCHOOLS | AMPHITHEATER 204
Interactive Presentation
Michael Marder, CO-DIRECTOR, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN

Britain produced the first passenger jet and was poised to dominate air travel. Then planes started falling out of the sky. British engineers failed to fix them in time and ceded the civilian aerospace industry to the U.S. for decades. The root of the problem was mistaken theories about why things break and how to keep them safe. The U.S. produced the first system of universal high school education and was first with college for the masses. Then U.S. self-assurance plummeted as international assessments showed its students far behind the rest of the world. This is driving aggressive reforms to fix our failing schools. But what if these theories for why schools break and how to keep them safe are just as mistaken as the early British theories for airplanes? What will happen to our educational system then?

11:15 a.m. – 1:30 p.m.

LUNCH | TEJAS DINING ROOM

1:30 p.m.

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.

HHMI BioInteractive

HHMI BioInteractive's team develops free resources based on real data, highlighting research practices. Our short films, virtual labs, apps and print materials combine important science with engaging presentation. These multimedia resources are developed, vetted, and field-tested by educators and scientists.

National Math + Science Initiative

NMSI is transforming education across the nation by building college readiness through exceptional teaching. We are a non-profit focused on delivering effective educational programs to states and schools by providing training and resources.

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.

Edthena

Edthena helps educators analyze teaching using classroom videos and online collaboration. Teachers upload videos, and others provide time-stamped feedback. Perfect for methods courses, field observations, and peer-to-peer learning as part of ongoing professional development. Edthena currently partners with UTeach Tyler.

Promethean

Promethean is a global education company that improves learning productivity by developing, integrating and implementing innovative 21st century learning environments that help make everyone more engaged, empowered and successful. We will be demonstrating ActivPanel, which incorporates a range of unique design features that focus on improving the user experience in educational settings, and ClassFlow, which gives teachers access to a wealth of teaching activities, tools, and templates.

Think Global PBL

Think Global PBL Academies bring internationally recognized PBL experts to schools and districts around the world for the most comprehensive and engaging training available. Come and talk with founding members (and current practitioners) about how Project-Based Learning is not "just fluff"—it's a pedagogical revolution!

UTeach STEM Educators Association (USEA)

The UTeach STEM Educators Association (USEA) is dedicated to maintaining and strengthening the connections between UTeach partner programs across the country and to supporting UTeach alumni in long-term careers as successful STEM educators.

UTEACH PARTNERS AND SUPPORTERS

ExxonMobil

HHMI BioInteractive

National Math + Science Initiative

Educational Advancement Foundation (EAF)

Edthena

Promethean

Think Global PBL

UTeach STEM Educators Association (USEA)

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.

https://goo.gl/fAZTz0

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