UTeach Conference 2017

11th Annual

May 23–25, 2017

THE UNIVERSITY OF TEXAS AT AUSTIN

Program

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

Featured Speakers

Keynote

THOMAS KALIL

Thomas Kalil is a Senior Advisor to the Eric and Wendy Schmidt Group and Entrepreneur-in-Residence at UC Berkeley.

Previously, Thomas Kalil served as the Deputy Director for Technology and Innovation for the White House Office of Science and Technology Policy and Senior Advisor for Science, Technology and Innovation for the National Economic Council. Working with agencies across the federal government, OSTP's Technology and Innovation Division developed dozens of White House initiatives that are designed to foster American leadership in innovation, emerging technologies, and the industries of the future.

From 2001 to 2008, Kalil was Special Assistant to the Chancellor for Science and Technology at UC Berkeley. In 2007 and 2008, Kalil was the Chair of the Global Health Working Group for the Clinton Global Initiative, where he developed new public and private sector initiatives in areas such as maternal and child health, under-nutrition, and vaccines.

Kalil served as the Deputy Assistant to President Clinton for Technology and Economic Policy, and the Deputy Director of the White House National Economic Council. He was the NEC's point person on a wide range of technology and telecommunications issues, such as the liberalization of Cold War export controls, the allocation of spectrum for new wireless services, and investments in upgrading America's high-tech workforce. He led a number of White House technology initiatives, such as the National Nanotechnology Initiative, the Next Generation Internet, bridging the digital divide, e-learning, increasing funding for long-term information technology research, making IT more accessible to people with disabilities, and addressing the growing imbalance between support for biomedical research and for the physical sciences and engineering. He was also appointed by President Clinton to serve on the G-8 Digital Opportunity Task Force.

Kalil received a B.A. in political science and international economics from the University of Wisconsin at Madison and completed graduate work at the Fletcher School of Law and Diplomacy. He is the author of articles and op-eds on S&T policy, the use of prizes as a tool for stimulating innovation, nanotechnology, nuclear strategy, newborn health, vaccines, the impact of mobile communications in developing countries, U.S.-Japan trade negotiations, U.S.-Japan cooperation in science and technology, the National Information Infrastructure, distributed learning, and electronic commerce.

Opening Plenary

BRIANNA RAPINI

Brianna Rapini received her B.S. in Biology from the University of Texas at Austin and is a 2005 UTeach alumna. She received her master's degree in educational administration from Sam Houston State University. In her career, Rapini has been an AP Biology/Biology teacher, science instructional specialist, science program coordinator, and instructional technology specialist. She was awarded Professional Support Staff of the Year at Klein Collins High School in 2015–2016. Currently, Rapini enjoys teaching Biology part-time at Klein Collins High School and working with her sister, Sarina Peterson, on *The Amoeba Sisters* YouTube channel.

AMBER RODRIGUEZ

Amber Rodriguez graduated in 2014 with a degree in Biology and was the first science graduate of the UTeach program at the University of Texas at Brownsville. Rodriguez teaches Environmental Systems at Homer Hanna Early College High School, her alma mater. She is the Environmental Systems Strand leader and co-sponsor of the Thelma Buckley Chapter of the National Honor Society. She also serves as a new teacher mentor for her department and participates in the I-3 Cohort at her campus to implement Common Instructional Framework strategies in the classroom. Her strand was awarded first place for growing the largest pumpkin in the Brownsville Independent School District Giant Pumpkin Contest in 2016. Rodriguez continues her involvement with UT-RGV's UTeach program by mentoring students currently in the program. In her spare time, she enjoys photography, traveling, and gardening, and she volunteers for the Brownsville Wellness Coalition by supporting their programs, such as the Brownsville Farmer's Market, "Dale" Walking Group, and the Community Gardens initiative.

WILLIAM CHAN

William Chan graduated from the University of Texas at Austin with a bachelor of science in Chemistry in 2008. Since then, he has been working at William P. Clements High School in Sugar Land, Texas. He began his career as a Chemistry teacher and then transitioned to teaching AP Environmental Science. Chan has a passion for chemistry teaching professional development. He presented at the NSTA national conference annually between 2010 and 2014 on the topic of chemistry teaching and learning.

Since 2013, he has been a facilitator at the Rice Excellence in Secondary Science Teaching (RESST) program at Rice University to help teachers develop inquiry-based pedagogy. Last year, Chan received the University of Chicago Outstanding Educator Award. He has begun collaborating with Shenzhen Middle School in China to bring inquiry-based instruction into their classrooms through modeling and professional development sessions.

Closing Plenary

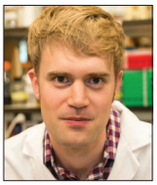
LINDSAY PATTERSON, MARSHALL ESCAMILLA, AND SARA ROBBERSON LENTZ / *TUMBLE*

Tumble is a science podcast for kids that focuses on how science works. Each episode explores stories of science discovery, with the help of scientists and curious kids. *Tumble* has a devoted listenership of children ages 4–12, along with their parents and teachers. It was named one of the "Best of iTunes Podcasts" in 2016, and has been called "Radiolab for kids."

Lindsay Patterson is the creator, producer, and co-host of Tumble. As a science reporter in public radio, she was inspired to start *Tumble* when she realized that there were few podcasts made for kids and a dire need for science literacy in society. She is also the co-founder of Kids Listen, a grassroots advocacy organization for high-quality audio for children.

Marshall Escamilla co-hosts and writes original music for *Tumble*. By day, he's the middle and high school music teacher at Headwaters School in Austin, Texas. By night, he's a musician and volunteer government official.

Sara Robberson Lentz is *Tumble*'s associate producer and editor. Her background is in multimedia storytelling and science. During the day, she's Managing Editor and Digital Content Producer for the University of Texas at Austin.



TYLER DEWITT / *SCIENCE WITH TYLER DEWITT*

Dr. Tyler DeWitt is a research scientist, educator, and digital content creator who is passionate about changing how we approach teaching and learning in the sciences. DeWitt is the creator of one of the most popular instructional channels on YouTube, with tutorial videos on Chemistry, Physics, and Math that are used throughout the world as a supplement to or replacement for traditional textbooks. He is currently working on a project funded by Google to create a 3D VR tour through the inside of a human cell.

DeWitt's TED Talk, about the need to make science education accessible and engaging, has been viewed more than one million times. DeWitt has taught high school Chemistry, Biology, and English at schools in both the United States and South Korea, and he worked as a project manager to develop new K–12 science curricula for the state of Florida. DeWitt holds a Ph.D. in Microbiology from MIT, where he served as a founding staff member of the MIT+K12 video outreach project. At MIT, he was a National Science Foundation Fellow and a Graduate Resident Tutor.

JOE HANSON / *IT'S OKAY TO BE SMART*

Dr. Joe Hanson is a science writer, biologist, and YouTube educator. He is the creator, host, and writer of *It's Okay To Be Smart*, an educational science show from PBS Digital Studios that celebrates curiosity and the pleasure of finding things out.

Hanson received his Ph.D. from the University of Texas at Austin, and his past research has ranged from cancer biology to gene-editing technologies. His science writing has been featured in *WIRED*, *Nautilus*, and ScientificAmerican.com, and he once had a Twitter conversation with someone in space, which was pretty cool.

MODERATOR: BRIANNA RAPINI

Brianna Rapini is a UTeach graduate, a biology teacher, and, with her sister Sarina Peterson, co-creator of *The Amoeba Sisters* YouTube channel. *The Amoeba Sisters* features cartoon videos that use humor to engage students with topics that connect to secondary science standards.

Since its creation in 2013, the channel has grown to more than 14 million cumulative views and 100,000 subscribers. In January 2017, *The Amoeba Sisters* was included with four other channels on the Discov'Her, L'Oreal Foundation list of The Women Science YouTubers to Follow in 2017.

Tuesday, May 23

10:00 a.m. – 1:00 p.m.
Registration Check In

REGISTRATION | LEVEL M2

11:00 a.m. – 12:30 p.m.

STUDENT ORIENTATION | 203

For UTeach students only! Join us for a student orientation from 11:00 to 11:45 a.m. We will have lunch afterward at The Carillon.

1:00 – 2:30 p.m. Opening Plenary

UTEACH NATION: WE CHANGE THE WORLD | BALLROOM

Brianna Rapini, *PRE-AP BIOLOGY TEACHER, KLEIN COLLINS HIGH SCHOOL*
Amber Rodriguez, *ENVIRONMENTAL SYSTEMS TEACHER, HANNA HIGH SCHOOL*
William Chan, *AP ENVIRONMENTAL SCIENCE, WILLIAM P. CLEMENTS HIGH SCHOOL*

Over the past 20 years, thousands of students have passed through UTeach classrooms across the country, each on their way to changing the face of STEM education in America, all making individual contributions to UTeach's rich history. In this plenary session, UTeach graduates tell the stories of their journey from students to teachers to leaders in their communities and beyond. They will share how their common UTeach experience inspired them to create opportunities for students to discover a love of learning, new technologies, and different ways of thinking about and interacting with the world.

2:45 – 3:45 p.m.

MEET THE FUNDERS: CORPORATE AND COMMUNITY FOUNDATIONS PANEL | 101

Panel Discussion

Meagan Longley, *VICE PRESIDENT, COMMUNITY IMPACT, AUSTIN COMMUNITY FOUNDATION*
Julie Fisher, *SENIOR COMMUNITY AFFAIRS SPECIALIST, SAMSUNG AUSTIN SEMICONDUCTOR, LLC*
John Fitzpatrick, *EXECUTIVE DIRECTOR, EDUCATE TEXAS / COMMUNITIES FOUNDATION OF TEXAS*
Melanie P. Moore, *EXECUTIVE DIRECTOR, KDK-HARMAN FOUNDATION*

Panelists from corporate, community, and family foundations will discuss the what, why, and how of foundation funding. Each type of foundation has different goals when considering funding a proposal. Find out what the foundations look for when determining what makes a good investment for their company, clients, or family.

UTEACH COURSE OVERVIEW: PERSPECTIVES ON SCIENCE AND MATHEMATICS | 103

Interactive Presentation

Gregory Gilson, *ASSOCIATE PROFESSOR OF PHILOSOPHY, UNIVERSITY OF TEXAS RIO GRANDE VALLEY*

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.

UTEACH STEM EDUCATORS ASSOCIATION (USEA): EXCELLENCE IN STEM EDUCATION | 104

Interactive Presentation

Carrie Culpepper, *USEA MANAGER, UNIVERSITY OF TEXAS AT AUSTIN*
Michael Odell, *UTEACH TYLER CO-DIRECTOR; 2017-2018 USEA PRESIDENT, UNIVERSITY OF TEXAS AT TYLER*
Mariam Manuel, *MASTER TEACHER, TEACHHOUSTON; USEA EXECUTIVE BOARD TREASURER AND ALUMNI REPRESENTATIVE, 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 affiliate members. Presenters will discuss the vision for the future of the association and the benefits of being a USEA member. Come hear how you can be actively involved in the association and help achieve its mission of STEM literacy for all.

CONSIDERING THE INTEGRATION OF PRINCIPLES OF AMBITIOUS TEACHING INTO THE NAUTEACH PROGRAM | 105

Roundtable Discussion

Ron Gray, *ASSISTANT PROFESSOR OF SCIENCE EDUCATION, NORTHERN ARIZONA UNIVERSITY*
Scott Fray, *ASSISTANT CLINICAL PROFESSOR OF SCIENCE EDUCATION, NORTHERN ARIZONA UNIVERSITY*
Jo'el Johanson, *ASSISTANT CLINICAL PROFESSOR OF MATHEMATICS EDUCATION, NORTHERN ARIZONA UNIVERSITY*
Pradeep (Max) Dass, *CO-DIRECTOR, NAUTEACH, NORTHERN ARIZONA UNIVERSITY*

In this session, we'll discuss an effort in the NAUTeach program to integrate principles of ambitious teaching throughout the program through the co-construction of a new program framework. This work draws on other work in mathematics and science education to identify core instructional practices for novice teachers and the teacher education methods we can employ in our programs. The framework will be provided and examined from multiple different perspectives. We look forward to substantive feedback and discussion on our recent efforts.

A LOOK INTO TEACHER CANDIDATES' REFLECTIVE TEACHING PRACTICE | 107

Hands-On Workshop

Michelle Buchanan, *MASTER TEACHER, UCA STEMTEACH, UNIVERSITY OF CENTRAL ARKANASAS*

Participants will access Video Ant online. Using prepared videos, they will explore how to annotate videos using Video Ant. They will also create an "Ant" and share their "Ant" with another participant to experience annotation-sharing tools. Participants will brainstorm how they can use Video Ant in early field to develop reflective teacher candidates and improve instruction. UCA STEMteach candidates will share their testimony using Video Ant.

YOUR OWN APP ON YOUR PHONE AND YOUR STUDENTS' PHONES IN AN HOUR! | 108

Hands-On Workshop

Sean Bauld, *CO-FOUNDER, BLOXMOB*

BloxMob allows teachers and students to quickly build apps: how to's, quizzes, mapping, chatting, and more. Help students learn design, UX/UI, critical thinking skills, systems thinking, meeting audience needs, and entrepreneurship and innovation concepts. We will cover best practices for engaging and empowering students with app building to unleash their creativity and help them be makers and creators. BloxMob works with iOS and Android.

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*

Elisa Stone, *CAL TEACH CO-DIRECTOR, EXECUTIVE DIRECTOR OF THE BERKELEY SCIENCE AND MATH INITIATIVE, UNIVERSITY OF CALIFORNIA BERKELEY*

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.

PBS LEARNINGMEDIA AS A SAFE, HELPFUL, POWERFUL RESOURCE FOR TEACHERS AND STUDENTS | 301

Interactive Presentation

Benjamin Kramer, *VP OF EDUCATION, KLRU-TV, AUSTIN PBS, UNIVERSITY OF TEXAS, AUSTIN*

With five years of experience with LearningMedia and more than one million teacher accounts, PBS knows that good teachers are using PBS LM to enhance and extend their students' learning. Whether a student is struggling with new concepts and skills or pursuing independent pathways, the resource gives people autonomy in finding what they need. And for teachers, it may provide a new spark to enliven their lessons and activities. All for free, all part of PBS's mission to serve the U.S. Educators will be encouraged to give PBS LearningMedia a test drive during the session, including developing folders and artifacts that they can use in their classes.

4:00 – 5:00 p.m.

DEVELOPMENT SPECIAL INTEREST GROUP: GETTING TO THE "YES" | 101

Roundtable Discussion

Maria Allen, *ASSOCIATE DIRECTOR, DEVELOPMENT, UTEACH INSTITUTE*

This SIG will be a continuation of the Meet the Funders panel. Based on what we have learned, are we presenting our program in a way that meets both the funders' and our program's needs? We will have a roundtable discussion on the best ways to present your "ask" to engage foundations in your program. Come prepared to talk about your take on what our panelists shared with us and discuss your best practices for engaging funders.

UTEACH COURSE OVERVIEW: APPRENTICE TEACHING | 103

Interactive Presentation

Pamela Powell, *CLINICAL ASSOCIATE PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

Kelli Allen, *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.

WORKING TOGETHER ON CAEP | 104

Roundtable Discussion

Carol Williamson, *MASTER TEACHER, UKANTEACH, UNIVERSITY OF KANSAS*

Laurie Cleavinger, *LECTURER, UNIVERSITY OF KANSAS*

Ann Dominick, *ASSISTANT PROFESSOR, UABTEACH, UNIVERSITY OF ALABAMA, BIRMINGHAM*

Lee Meadows, *CO-DIRECTOR, UABTEACH, UNIVERSITY OF ALABAMA, BIRMINGHAM*

Jeffrey Carver, *CO-DIRECTOR, WVUTEACH, WEST VIRGINIA UNIVERSITY*

Is your university in the process of preparing for CAEP review? What assessments and evidence will you use to earn accreditation for your teacher preparation program? How can we work together as UTeach Institute partners to improve our CAEP process? Join this roundtable discussion to share resources and expertise in meeting CAEP standards and earning accreditation for your institution.

CREATING AN INITIAL COMPUTER SCIENCE LICENSURE OPTION WITHIN UATEACH | 105

Interactive Presentation

Bryan Hill, *ASSISTANT DEAN, COLLEGE OF ENGINEERING, UNIVERSITY OF ARKANSAS, FAYETTEVILLE*

Kim McComas, *MASTER TEACHER, UATEACH, UNIVERSITY OF ARKANSAS*

Peggy Ward, *MASTER TEACHER, UATEACH, UNIVERSITY OF ARKANSAS*

Recently, UAteach went through the process of creating an initial licensure for computer science. The process included mapping our current CS courses with the state's competencies for CS licensure. We will discuss the process of working with CS faculty, integrating CS into UAteach courses, and increasing CS student enrollment in UTeach.

HIGH SCHOOL RESEARCH INITIATIVE: LOW-STAKES ENGAGEMENT IN UNIVERSITY RESEARCH COURSE | 107

Interactive Presentation

Gwen Stovall, *CLINICAL ASSISTANT PROFESSOR, COLLEGE OF NATURAL SCIENCES, UNIVERSITY OF TEXAS AT AUSTIN*

Denise Ekberg, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

Piloted in the 2016–2017 school year, the HRI offers a dual-enrollment course in science research, offering high school science credit (CTE Scientific Research and Design 8724.H900.Y, 8724.NC10.Y) as well as UT course credit (HRI Research Methods, NSC 309). This unique course combines open inquiry research for the first semester and university-partnered research collaborations for the second semester. Trained by a UTeach Master Teacher, the high school teachers teach the class at high school campuses. This new partnership is designed to give high school students an authentic open inquiry experience in order to attract more students into STEM research fields.

STUDENTS' SENSE-MAKING ABOUT CLIMATE CHANGE IN PERSPECTIVES ON SCIENCE AND MATHEMATICS | 108

Interactive Presentation

Diana Cheng, *ASSISTANT PROFESSOR, DEPARTMENT OF MATHEMATICS, TOWSON UNIVERSITY*

Jane Wolfson, *PROFESSOR EMERITUS, ENVIRONMENTAL SCIENCE STUDIES, TOWSON UNIVERSITY*

Asli Sezen-Barrie, *ASSISTANT PROFESSOR, PHYSICS, ASTRONOMY & GEOSCIENCES, TOWSON UNIVERSITY*

Rachael Talbert, *TOWSON UTEACH MATH SECONDARY MAJOR, TOWSON UNIVERSITY*

We plan to share our two-week unit to enhance UTeach students' understandings of climate change, developed with the support of an NSF grant with NGSS 3D standards in mind. Various perspectives were highlighted: scientific data providing evidence for climate change (including data showing the relationship between changes in carbon dioxide level and global temperatures), as well as the recent rapid rates of warming and ways to reduce global greenhouse gas emissions. We will show videos of our students' discussions.

UTEACH INSTRUCTIONAL PROGRAM OVERVIEW | 203

Interactive Presentation

Steve Case, *DIRECTOR OF THE CENTER FOR STEM LEARNING; ASSISTANT DIRECTOR OF THE CENTER FOR SCIENCE EDUCATION; CO-DIRECTOR, UKANTEACH, UNIVERSITY OF KANSAS*

Shelly Rodriguez, *CLINICAL ASSOCIATE PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

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.

LANDING YOUR FIRST TEACHING POSITION | 301

Hands-On Workshop

Chrysta Carlin, *EXECUTIVE DIRECTOR OF SECONDARY CURRICULUM, LEANDER INDEPENDENT SCHOOL DISTRICT*

UTeach students: Are you putting your résumé together? Nervous about your first job interview? Want to be ready for both of these in the near future? This session will help you find out exactly what administrators are looking for when hiring teachers for their campuses. Get feedback on your résumé, ask questions, and leave with great tips and suggestions.

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

BALLROOM

Course Exposition—Students

A1. THE PHYSICS OF CLIMBING

Chaya Burton, *STUDENT, CSUTEACH, CLEVELAND STATE UNIVERSITY*

This is a physics lesson in a single poster. It contains all of the information and equations to explain the physics behind rock climbing.

A2. DEVELOPING LESSON PLANS TO MAXIMIZE ENGAGEMENT BY UTILIZING FOCUS GROUPS

Paul Cheung, *STUDENT, DRAGONSTEACH, DREXEL UNIVERSITY*

As many educators know, asking the right question is key. A fantastic way to cater to student interest is conducting a focus group. This shaped a lesson plan on material science in a chemistry classroom. Without those insights, the lesson would not have been nearly as successful and engaging.

A3. STATISTICS BEYOND THE TEXTBOOK

Stephanie Sandusky, *STUDENT, MTEACH, MIDDLE TENNESSEE STATE UNIVERSITY*

Huijuk Choe, *STUDENT, MTEACH, MIDDLE TENNESSEE STATE UNIVERSITY*

Math textbook data is not always practical for making real-world connections. In our poster, we explain the benefits of taking students through all parts of the statistical cycle by making connections to a basketball-themed lesson that we did with high school freshmen about frequency tables.

A4. THE EFFECTS OF SCUFFING A BASEBALL

Alyssa Odle, *STUDENT, NAUTEACH, NORTHERN ARIZONA UNIVERSITY*

Pitchers would often scuff baseballs before a pitch to get a better grip or a curve on the ball. Major League Baseball now considers this a form of cheating, and it can result in the cheating pitcher being ejected from the game and issued a 10-game suspension. What is the relationship between the scuffing of a baseball and friction? How would scuffing a baseball affect the speed of the pitch? This poster will answer those questions and model how these findings can be used to create a math lesson for grades 6–12.

A5. OSU'S RESEARCH METHODS OF MATHEMATICS

Brittni Foster, *STUDENT, OSUTEACH, OKLAHOMA STATE UNIVERSITY*

Danielle Cain, *STUDENT, OSUTEACH, OKLAHOMA STATE UNIVERSITY*

OSU is one of the only UTeach schools to offer a mathematical research methods course for students in the program. Our poster will describe the course and objectives as well as our experiences in the class. We will display our approaches to several mathematic research problems.

A6. THE CONTINUITY AND EXPANSION OF APPRENTICE TEACHING

Amanda Schantz, *STUDENT, TUTEACH, TEMPLE UNIVERSITY*

With continuous reflection and growth goal development, I evaluate my effectiveness as a novice teacher. Furthermore, to expand the extensive lessons of the UTeach model, I develop my lessons with focus on differentiation and blended learning. Here I'm showcasing my exponential functions unit.

A7. URBAN TEACHING DYNAMICS

London Smith, *STUDENT, TUTEACH, TEMPLE UNIVERSITY*

Taylor Neel, *STUDENT, TUTEACH, TEMPLE UNIVERSITY*

Take a look into the pedagogy used in a Philly high school Biology class. Shared personal experience from Classroom Interactions and established research is combined here to demonstrate the best instructional activities. Discussed is a framework for developing content with respect to urban students.

A8. GAMIFY CI (CLASSROOM INTERACTIONS)

Mariah Osborn-Swift, *STUDENT, UCCSTEACH, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Alex Hewett, *STUDENT, UCCSTEACH, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Gamifying a class means students are provided choices in their coursework. Each task provides points, giving students options on what they feel they need further experience in related to the course content. Our poster demonstrates how we redeveloped a UTeach course using this process.

A9. BEYOND THE CALCULATOR: INTERSECTIONS OF TECH AND MATH IN FUNCTIONS AND MODELING

Christine Jean, *STUDENT, TERRAPIN TEACHERS, UNIVERSITY OF MARYLAND, COLLEGE PARK*

The amount of educational software in our tech-focused world has skyrocketed. In Functions and Modeling, we used tools such as Desmos and Geogebra for function visualization and statistical analysis.

A10. EXPLORING STUDENT–TEACHER INTERACTIONS: A REFLECTION ON OUR PBI EXPERIENCE

Andrea Dai, *STUDENT, TERRAPIN TEACHERS, UNIVERSITY OF MARYLAND, COLLEGE PARK*

Dane Grossnickle, *STUDENT, TERRAPIN TEACHERS, UNIVERSITY OF MARYLAND, COLLEGE PARK*

This poster describes how our thinking about the roles of students, teachers, and the interactions between them evolved through our PBI course and fieldwork experience. We discuss the importance of valuing students as individuals and developing a supportive classroom culture.

A11. PROGRAMMING: A BRIDGE BETWEEN COMPUTER SCIENCE AND MATH EDUCATION

Mao Leonard, *STUDENT, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

This poster presents a Foundations, Functions, and Regression Models course project on the identification of function types based on patterns of inputs and outputs using computer programming. It analyzes the incorporation of programming to enhance math education.

A12. ENGAGING HIGH SCHOOL STUDENTS IN AUTHENTIC STEM PRACTICES THROUGH PROJECT-BASED INSTRUCTION

Stephanie Soto, *STUDENT, UTEACHRGV, UNIVERSITY OF TEXAS, RIO GRANDE VALLEY*

Khristopher Hirschmann, *STUDENT, UTEACHRGV, UNIVERSITY OF TEXAS, RIO GRANDE VALLEY*

We will report on a novel, authentic, interdisciplinary Project-Based Instruction (PBI) unit that integrated mathematics, science, and technology. High school students investigated environmentally safe ways to control mosquito populations in order to prevent the spread of the Zika virus.

A13. "MAY THE ADAPTATIONS HELP YOUR SONGBIRDS FLY IN FAVORABLE CONDITIONS!"

Addie Rouse, *STUDENT, SKYTEACH, WESTERN KENTUCKY UNIVERSITY*

Paige Peterson, *STUDENT, SKYTEACH, WESTERN KENTUCKY UNIVERSITY*

PBI GRAND CHALLENGE: Scientists in Alaska and Kentucky are collaborating in neurological research on human language acquisition in the brain. The researchers need students to design an animal model of a songbird that is perfectly biologically adapted to both a deciduous forest and tundra biome.

Program Exposition—Students

B1. GWTEACH AND DC: OUR LOCATION IS THE BEST FOR OUR VOCATION

Shelly Mishra, *STUDENT, GWTEACH, GEORGE WASHINGTON UNIVERSITY*

Scott Dai, *STUDENT, GWTEACH, GEORGE WASHINGTON UNIVERSITY*

An essential element of a UTeach program is location and taking advantage of the location to maximize productivity and impact on the university and local community.

B2. BUILDING A COMMUNITY FOR NEW TEACHERS

Harlee Morphis, *STUDENT, MTEACH, MIDDLE TENNESSEE STATE UNIVERSITY*

Community is the key to success for the MTeach program. This poster will share a variety of student-centered strategies implemented by the MTeach program to build community and increase retention at the university level and beyond.

B3. EXPANDING MSUTEACH THROUGH EXPLORE

Rayann Whitaker, *STUDENT, MSUTEACH, MOREHEAD STATE UNIVERSITY*

Stephen Burke, *STUDENT, MSUTEACH, MOREHEAD STATE UNIVERSITY*

Students invested in MSUTeach collaborated on forming a student organization this semester. While the organization is in its infancy, the students have created a framework to expand not only MSUTeach, but also to the community of STEM majors at Morehead State University.

B4. KIDS IN ENGINEERING DAY: OPERATION C5

Emma Latham, *STUDENT, UABTEACH, UNIVERSITY OF ALABAMA, BIRMINGHAM*

Kids in Engineering Day is an annual student-led event on the campus of UAB. The main element of this program is to foster problem-solving skills through hands-on activities, but it is hard to explicate this element without demonstration. This interactive poster defies conventionality.

B5. UTEACH NATION STUDENTS ON FACEBOOK

Brett Gonser, *STUDENT, UCA STEMTEACH, UNIVERSITY OF CENTRAL ARKANSAS*

Melissa Maxson, *STUDENT, UCA STEMTEACH, UNIVERSITY OF CENTRAL ARKANSAS*

Why wait conference to conference for UTeach Nation students from different campuses to share ideas with one another? Facebook becomes an easy solution for students across the nation to share ideas: lesson plans, club meeting activities, concerns, etc.

B6. TEACHER ASSISTANTSHIP: BRIDGING THE GAP BETWEEN THEORY AND EXPERIENCE

Mary Stilley, *STUDENT, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Teacher Assistantship is a new program that provides an authentic classroom experience. UTeach students are paired with effective mentor teachers to apply theory to daily classroom experiences, thereby improving apprentice and first-year teaching experiences.

B7. NETWORKING THROUGHOUT UTEACH AND HOW IT BENEFITS EVERYONE INVOLVED: TOGETHER WE CAN CHANGE HOW STUDENTS LEARN!

Lori Gibson, *STUDENT, UTEACH ARLINGTON, UNIVERSITY OF TEXAS AT ARLINGTON*

Jacob Walker, *STUDENT, UTEACH ARLINGTON, UNIVERSITY OF TEXAS AT ARLINGTON*

Creating UTeach events benefits all participants. With ample opportunities, UTeachers learn to network inside the education system. Sharing experiences, ideas, and achievements, we are able to gain, and in turn bestow, better knowledge on students than one individual normally can provide.

B8. NOTHING IS IMPOSSIBLE: DEVELOPING PERSISTENCE IN HISPANIC FEMALES IN STEM CAREERS VIA RESEARCH INTERNSHIPS

Leslie De la Pena, *STUDENT, UTEACHRGV, UNIVERSITY OF TEXAS, RIO GRANDE VALLEY*
Erica Hinojosa, *STUDENT, UTEACHRGV, UNIVERSITY OF TEXAS, RIO GRANDE VALLEY*

This poster describes an internship program at UTeachRGV that provides students with the opportunity to engage in STEM teaching and research. Interns teach summer camps and are currently conducting research investigating factors that influence Hispanic female attitudes and participation in STEM.

Research—Students

C1. MEASURING URBAN HIGH SCHOOL STUDENT OUTCOMES IN A PROTEIN DESIGN COURSE

James Gillahan, *STUDENT, CSUTEACH, CLEVELAND STATE UNIVERSITY*

In an urban district where technology and advanced science study is not as common, our study created an opportunity for students to complete an advanced protein design course similar to one offered at a local private school. We hoped to measure student outcomes and develop curriculum.

C2. TO TEACH OR NOT TO TEACH: EXAMINING PERSISTENCE OF INTERESTS IN MATHEMATICS AND SCIENCE TEACHING

Andrew Marichal, *STUDENT, FIUTEACH, FLORIDA INTERNATIONAL UNIVERSITY*
Natasha Blanch, *STUDENT, FIUTEACH, FLORIDA INTERNATIONAL UNIVERSITY*

Our work draws upon a large national survey study to better understand the timeline of when students first express an interest in math or science teaching as a career, and which variables predict whether students will persist in these teaching goals by the time they begin college.

C3. PROSPECTING FOR IRON IN THE GALACTIC SUPERNOVA REMNANT W49B

Taylor Ray, *STUDENT, MOREHEAD STATE UNIVERSITY*

This poster provides an analysis of the galactic supernova remnant W49B, which was formed by the death of a white dwarf star. To find the true nature of W49B, spectra was extracted from multiple regions across W49B where the abundance of oxygen and iron were measured and compared to determine the history of the star.

C4. PROSPECTIVE TEACHERS' UNDERSTANDING AND IMPLEMENTATION OF THREE-DIMENSIONAL LEARNING IN A SCIENCE LESSON

Madeleine Taylor, *STUDENT, TOWSON UTEACH, TOWSON UNIVERSITY*
Rosa Diaz, *STUDENT, TOWSON UTEACH, TOWSON UNIVERSITY*

This research focuses on the development of prospective secondary science teachers' knowledge and understanding of standards (NGSS, Common Core) for use in designing science lessons. Findings suggest engaging in a model 3D lesson and planning and implementing their own lessons are major contributors.

C5. EFFECTS OF HEAT ON COLOR GELS USED IN THEATER LIGHTING

Zeph Kenna, *STUDENT, UTEACH NORTH TEXAS, UNIVERSITY OF NORTH TEXAS*

Many color filters are used in theatrical lighting. Which color of gel filter used in theatrical lighting is most resistant to heat? Since gel filters are fragile, they constantly need to be checked for damage. Results show that some filters "burn out" faster than others at different temperatures.

C6. THE QUANTITATIVE DETERMINATION OF CAFFEINE CONTENT OF ENERGY DRINKS

Mariah Cherry, *STUDENT, UTEACH ARLINGTON, UNIVERSITY OF TEXAS AT ARLINGTON*

This poster describes an experiment to determine the caffeine content of several energy drinks using HPLC.

C7. THE EFFECT OF DOCUMENT LENGTH ON SENTIMENT ANALYSIS METHODS

Bradley Post, *STUDENT, WVUTEACH, WEST VIRGINIA UNIVERSITY*

Sentiment Analysis classifies English text based on its apparent sentiment. Different methods of sentiment analysis are applied over documents of varying length, and the accuracy of each method is compared. Naive-Bayes, Maximum Entropy, and Support Vector Machine algorithms are used.

C8. THE PRACTICE OF INQUIRY INSTRUCTION IN STEM AND THE POWER OF TEACHER BELIEFS

Hannah Robertson, *STUDENT, SKYTEACH, WESTERN KENTUCKY UNIVERSITY*

The aims of this correlational study are to 1) extend the skills learned from Inquiry 3, 2) examine math and science teachers' (n = 34) beliefs about and self-efficacy for designing inquiry-based instruction, and 3) determine the predictive ability of beliefs on behavioral intentions.

Other—Non-Competitive

D1. CLEAR CONNECTIONS: ADDING A FIELD EXPERIENCE TO KNOWING AND LEARNING IN MATHEMATICS AND SCIENCE

Jennifer Edelman, *ASSISTANT PROFESSOR, UNIVERSITY OF WEST GEORGIA*

This poster will highlight the successes and challenges as one UTeach program sought to add a field experience component to the Knowing and Learning course. Our most successful experience was the creation of a secondary mathematics tutoring clinic. After completing a field experience in K&L, students reported having a clearer understanding of how learning theories shape classrooms and teaching.

D2. NEW PERSPECTIVE FOR PERSPECTIVES: MAKER MOVEMENT MODULE

Rachelle Haroldson, *MASTER TEACHER, UNIVERSITY OF WISCONSIN-RIVER FALLS*

This poster provides an overview of a hybrid version of Perspectives that includes a Maker Movement module.

D3. MAKING MAKERSPACES WORK AT THE PK–3 LEVEL FOR UNIQUE INITIAL FIELD PLACEMENTS

Diane Madden, *ASSOCIATE DIRECTOR, LOUISIANA TECH UNIVERSITY*
Lindsey Keith-Vincent, *CO-PI, PROGRAM LEAD, LOUISIANA TECH UNIVERSITY*
Lynn Clark, *DIRECTOR OF THE CHILDREN'S COALITION, LOUISIANA TECH UNIVERSITY*

This poster will describe hands-on Maker activities geared towards PK–3. The work is an extension of designing unique field experience opportunities and spaces for our UTeachTech students.

D4. MASTER TEACHERS PROFESSIONAL DEVELOPMENT: OPPORTUNITIES FOR CONNECTION

Dr. Kristin Sherman, *SENIOR LECTURER / MASTER TEACHER, TEACH NORTH TEXAS, UNIVERSITY OF NORTH TEXAS*

The Master Teachers of Teach North Texas have come together to find funding for professional development and extend outreach to other faculty members on campus. This outreach fostered positive relationships with other departments and provided opportunities for growth for all involved.

POSTER SESSION, *CONTINUED*

D5. INQUIRY, 5E'S, OR STUDENT CENTERED: ARE THEY THE SAME?

Peggy Ward, *CLINICAL ASSISTANT PROFESSOR, UNIVERSITY OF ARKANSAS, FAYETTEVILLE*

This poster will share partial results of a study conducted to explore how select UTeach Arkansas pre-service science teachers view inquiry instruction.

D6. DEVELOPING AND SUSTAINING RELATIONSHIPS WITH K-12 SCHOOL PARTNERS: WHAT CAN UTEACH DO FOR YOU?

Anne Gaquere-Parker, *ASSOCIATE PROFESSOR OF CHEMISTRY, UNIVERSITY OF WEST GEORGIA*

Rebecca Gault, *ASSISTANT PROFESSOR OF MATHEMATICS EDUCATION, UNIVERSITY OF WEST GEORGIA*

Kim Scasny, *SCIENCE MASTER TEACHER, UNIVERSITY OF WEST GEORGIA*

We will present ideas regarding ways to recruit and sustain relationships with K–12 partners after the grant funding period has ended.

D7. BUILDING BRIDGES: USING PEER MENTORING TO MAXIMIZE STUDENT POTENTIAL

Jessica Ward, *DIRECTOR OF OPERATIONS, DREXEL UNIVERSITY*

Richard Giduck, *DRAGONSTEACH PEER MENTOR, DREXEL UNIVERSITY*

Jadzia Watsey, *DRAGONSTEACH PEER MENTOR, DREXEL UNIVERSITY*

Shayna Singh, *DRAGONSTEACH PEER MENTOR, DREXEL UNIVERSITY*

Isaac Quelly, *DRAGONSTEACH PEER MENTOR, DREXEL UNIVERSITY*

Kathyn Volk, *DRAGONSTEACH PEER MENTOR, DREXEL UNIVERSITY*

This poster presentation will showcase how the DragonsTeach Peer Mentor program evolved into something beyond standard student support. Conference attendees will learn how the DragonsTeach Peer Mentors helped address program challenges and leverage peer mentorship to increase overall student engagement in STEM education.

D8. INTENTION TO TEACH, IDENTITY, AND TURNOVER OF UTEACH GRADUATES

Joanne Goodell, *PROFESSOR AND DIRECTOR OF THE CENTER FOR FACULTY EXCELLENCE, CLEVELAND STATE UNIVERSITY*

Michael Horvath, *ASSOCIATE PROFESSOR, CLEVELAND STATE UNIVERSITY*

Bill Kosteas, *CHAIR, DEPARTMENT OF ECONOMICS, CLEVELAND STATE UNIVERSITY*

Using three years of data from the end-of-program and alumni surveys, we investigate factors affecting job entry and persistence. Strength of teacher identity and satisfaction with student teaching predict both intent and actual job entry. Grads with stronger science identity are more likely to leave.

7:15 p.m.

STUDENT SOCIAL ACTIVITY | MEET IN LOBBY BY REGISTRATION DESK

For UTeach students only! We will meet at 7:15 p.m. and take a campus tour on our way to the Texas Union Underground for an evening of food and games!

Wednesday, May 24

8:00 – 8:45 a.m. Breakfast

BREAKFAST | BALLROOM

9:00 – 10:00 a.m. and 10:00 – 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.

INCREASING PRE-SERVICE TEACHER RETENTION THROUGH A SUMMER INTERNSHIP PROGRAM | 101

Interactive Presentation

Paige Evans, *CLINICAL ASSOCIATE PROFESSOR / MASTER TEACHER, TEACHHOUSTON, UNIVERSITY OF HOUSTON*

Donna Stokes, *ASSOCIATE PROFESSOR, UNIVERSITY OF HOUSTON*

Mariam Manuel, *INSTRUCTIONAL ASSISTANT PROFESSOR, UNIVERSITY OF HOUSTON*

Leah McAlister-Shields, *ACADEMIC PROGRAM MANAGER, UNIVERSITY OF HOUSTON*

Participants will have the opportunity to experience modules in the internship institute that are hands-on and/or interactive. Topics include team building, classroom management, professionalism, working with middle school students, college career readiness, engineering challenges, technology, bully prevention, and growth and fixed mindset. Participants will engage in discussion regarding recruitment and retention efforts for their programs. Links to materials will be provided.

BRIDGING UTEACH AND ENGINEERING WORKSHOP | 103

Interactive Presentation

Adam Fontecchio, *VICE DEAN, GRADUATE COLLEGE, DREXEL UNIVERSITY*

Noah Salzman, *ASSISTANT PROFESSOR, ELECTRICAL AND COMPUTER ENGINEERING, BOISE STATE UNIVERSITY*

Jacquelyn Sullivan, *CO-DIRECTOR, INTEGRATED TEACHING AND LEARNING PROGRAM, UNIVERSITY OF COLORADO, BOULDER*

Malinda Zarske, *INSTRUCTOR, ENGINEERING, UNIVERSITY OF COLORADO, BOULDER*

Jennifer Stanford, *ASSISTANT PROFESSOR, BIOLOGY, DREXEL UNIVERSITY*

Jessica Ward, *DIRECTOR OF OPERATIONS, DRAGONSTEACH, DREXEL UNIVERSITY*

Educators from Boise State University, Drexel University, and University of Colorado Boulder will briefly share their institutions' approaches to engineering. Participants will then be grouped with similar universities (co-op, urban, large, etc.) for breakout discussions focused on drafting a plan for their own institution on how to engage engineering faculty and university administrators to recruit and support engineering students in UTeach programs.

"MAKING" YOUR WAY THROUGH STEP 1: A MAKER FINAL PROJECT | 104

Interactive Presentation

Shelly Rodriguez, *CLINICAL ASSOCIATE PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

Participants will have the opportunity to explore a variety of Maker tools and technologies that are introduced in Step 1 at the University of Texas at Austin.

A MODEL FOR A YEAR-LONG APPRENTICE TEACHING INTERNSHIP | 105

Roundtable Discussion

Joanne Goodell, *PROFESSOR AND DIRECTOR OF THE CENTER FOR FACULTY EXCELLENCE, CLEVELAND STATE UNIVERSITY*

James Kilbane, *CLINICAL ASSISTANT PROFESSOR OF STEM EDUCATION, CLEVELAND STATE UNIVERSITY*

Participants will take part in a discussion of the rationale for our choice to make our Apprentice Teaching a year-long experience. We will share the issues and challenges we face as accountability measures for K–12 schools and teacher education programs expand and intensify. We are also very interested in hearing from the participants about how their programs structure the Project-Based Instruction and Apprentice Teaching experiences and what benefits and challenges those implementations bring.

IMPROVING UTEACH GRADUATES' ABILITIES TO SUPPORT UNDERSERVED POPULATIONS | 106

Interactive Presentation

Gay Stewart, *EBERLY PROFESSOR OF STEM EDUCATION AND PROFESSOR OF PHYSICS, WEST VIRGINIA UNIVERSITY*

Ann Chester, *ASSISTANT VICE PRESIDENT FOR EDUCATION PARTNERSHIPS, WEST VIRGINIA UNIVERSITY*

Attendees will discuss students' opportunities for supporting URM populations. We will present data on the Health Science Technology Academy, which marshals efforts of hundreds of mentors, in-service teachers, scientists, higher education faculty, and staff and students through an after-school club framework to provide rigorous academic content and personal support to children facing social and financial challenges. We will also discuss synergies primarily within UTeach courses that allow UTeachers to engage in similar activities locally.

USING TECHNOLOGY TO AUTOMATE STUDENT PLACEMENTS | 107

Interactive Presentation

Nicholas Oehm, *CLINICAL ASSISTANT PROFESSOR, FLORIDA INTERNATIONAL UNIVERSITY*

Ingelise Giles, *CLINICAL ASSISTANT PROFESSOR, FLORIDA INTERNATIONAL UNIVERSITY*

In this hands-on session, participants will practice collecting student and mentor teacher data electronically and use Excel to manipulate sample datasets. Participants with a basic knowledge of Excel will learn how to use the vlookup, pivot table, and mail merge functions to generate field placements and integrate student data with their mentor teacher data for program tracking.

TWO SESSIONS IN ONE: HELPING TEACHERS LEARN | 108

EXAMINING FACTORS SHAPING SCIENCE TEACHER LEARNING FOSTERED THROUGH PROFESSIONAL DEVELOPMENT AND ENACTMENT OF EDUCATIVE CURRICULA

Ellen Granger, *DIRECTOR, OFFICE OF SCIENCE TEACHING ACTIVITIES; CO-DIRECTOR, FSUTEACH, FLORIDA STATE UNIVERSITY*

Todd Bevis, *DIRECTOR, PROFESSIONAL DEVELOPMENT, FLORIDA STATE UNIVERSITY*

Sherry Southerland, *CHAIR, SCHOOL OF TEACHER EDUCATION, FLORIDA STATE UNIVERSITY*

This session will report on large-scale research that examines factors influencing science teacher learning as they participate in professional development with and enactment of educative curricula. In the context of large-scale, randomized design research, this interactive discussion includes research instruments, design, challenges, and application of results to future research and to teacher preparation and in-service support.

TRANSFORMATIVE TEACHER EDUCATION: WHAT RESEARCH TELLS US ABOUT DEVELOPING PEDAGOGICAL REASONING

Pradeep (Max) Dass, *CO-DIRECTOR, NAUTEACH, NAUTEACH, NORTHERN ARIZONA UNIVERSITY*

Kirsten Daehler, *SENIOR RESEARCH ASSOCIATE, WESTED*

It's one thing to give teachers sufficient background knowledge to be successful in the classroom, but helping them develop pedagogical reasoning involves much more. We will share research findings and a model of professional learning that helps teachers develop sophisticated pedagogical reasoning. Participants will be introduced to a pedagogical content knowledge (PCK) checklist for curriculum analysis and learn what research shows about design principles in STEM professional learning.

CLASSROOM MANAGEMENT (PART 1 OF 2): A PRINCIPLED APPROACH TO CREATING A COOPERATIVE CLASSROOM ENVIRONMENT FOR LEARNING | 301

Interactive Presentation

Scott Fray, *ASSISTANT CLINICAL PROFESSOR, NAUTEACH, NORTHERN ARIZONA UNIVERSITY*

Lynn Kirby, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS, AUSTIN*

Participants begin with a TPS, experience a practice assignment, unpack their experience, discuss real-world challenges they have observed and experienced, and role play using the strategies to solve common classroom management situations.

10:15 – 11:15 a.m.

PARTNERING FOR INDUCTION: HOW PROGRAM CROSS-POLLINATION CAN STRENGTHEN AND SUSTAIN PROGRAMS FOR IN-SERVICE TEACHERS | 101

Interactive Presentation

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

Pam Kirkland, *MASTER TEACHER AND INDUCTION COORDINATOR, UNIVERSITY OF TEXAS AT DALLAS*

Bill Gammons, *MASTER TEACHER, UNIVERSITY OF TEXAS AT DALLAS*

We have been offering select joint workshops for several years between the UT Dallas Regional Collaborative (UTD TRC) for Excellence in Science Teaching and our Induction program. In 2016, we expanded the UTD TRC into math and developed integrated programs with UTeach Dallas Induction. In addition to sharing our own story and its challenges and successes, we will involve participants in discussions and engage in a sample activity inspired by our joint workshops for novice and experienced in-service teachers.

MAXIMIZE YOUR GROWTH: DEVELOPING STRATEGIES FOR TARGETED AND ADAPTIVE RECRUITMENT | 103

Interactive Presentation

Adam Roderick, *ACADEMIC COACH AND PROGRAM ENHANCEMENT SPECIALIST, UNIVERSITY OF ALABAMA, BIRMINGHAM*

Effective recruitment models must be both purposeful and adaptable to be successful across various populations and settings. It is imperative that strategies for recruitment assess available resources, opportunities, collaborative partners, and scope and then establish effective and efficient strategies for executing a successful recruitment campaign based on those assessments. I will provide participants with worksheets designed to assist them in working through session goals. The majority of the session will be guiding participants through the process of developing an adaptive recruitment model.

UTEACH COURSE OVERVIEW: CLASSROOM INTERACTIONS | 104

Interactive Presentation

Jill Marshall, *ASSOCIATE PROFESSOR OF STEM EDUCATION, DEPARTMENT OF CURRICULUM AND INSTRUCTION; CO-ASSOCIATE DIRECTOR, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

Shelly Rodriguez, *CLINICAL ASSOCIATE PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

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.

RESEARCH ON THE RETENTION AND EFFECTIVENESS OF STEM TEACHERS | 105

Interactive Presentation

Melissa Dodson, *PRINCIPAL RESEARCHER, AMERICAN INSTITUTES FOR RESEARCH*

Ben Backes, *RESEARCHER, AMERICAN INSTITUTES FOR RESEARCH*

Whitney Cade, *RESEARCHER, AMERICAN INSTITUTES FOR RESEARCH*

Kate Sullivan, *SENIOR RESEARCHER, AMERICAN INSTITUTES FOR RESEARCH*

Michael Marder, *PROFESSOR OF PHYSICS; CO-DIRECTOR, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

Researchers at AIR are conducting a study of UTeach teachers in comparison to all other teachers in Texas. This session presents findings of teacher retention and effectiveness. We will ask for feedback on study methods and the interpretations of the results. We will also discuss next steps, particularly focusing on how to measure program features and their relationship with teacher and student outcomes.

STUDENT INQUIRY IN PERSPECTIVES ON SCIENCE AND MATHEMATICS | 106

Hands-On Workshop

James Kilbane, *CLINICAL ASSISTANT PROFESSOR OF STEM EDUCATION, CLEVELAND STATE UNIVERSITY*

This will be an interactive workshop to explore an inquiry approach to Perspectives. We will review one instructor's design, and then the participants will develop potential inquiry approaches.

EXPLORING PBI IN THE FIELD: STRUGGLES AND SUCCESSES OF PBI FIELD PLACEMENTS | 107

Roundtable Discussion

April Lanotte, *MASTER TEACHER, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Cory Gavitt, *MASTER TEACHER, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Participants should be prepared to share current placement logistics, successes, and challenges with other sites. Based on attendee experiences, breakout discussions will focus on specific needs and models being used in a variety of settings. This includes addressing program growth, expanding the number of field sites and mentors, and implementing project-based instruction in more traditional classroom settings.

NMSI'S LAYING THE FOUNDATION AND UTEACH: A MATCH MADE IN HEAVEN (TEXAS)! | 108

Hands-On Workshop

Suzanne Culbreth, *MASTER TEACHER, UNIVERSITY OF ALABAMA, BIRMINGHAM*

Paulette Evans, *MASTER TEACHER, UNIVERSITY OF ALABAMA, BIRMINGHAM*

We plan to conduct a 5-E lesson based on the Laying the Foundation (LTF) lesson, Barbie Bungee. We will debrief the lesson to highlight each of the 5-Es and then share the lesson in its original format to facilitate a roundtable discussion of the adaptation of the lesson. Lastly, we will allow participants to investigate our Lesson Plan Menu and explore the options for application to their program.

IMPLEMENTING UTEACH | 203

Interactive Presentation

Pamela Romero, *ASSOCIATE DIRECTOR, UTEACH INSTITUTE*

Ashley Welch, *MANAGER OF SITE SUPPORT, UTEACH INSTITUTE*

Amy Chavez, *FINANCIAL ANALYST, 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, communication of the UTeach model, operational and instructional support, evaluation services, and networking and community building opportunities. Participants will learn about the UTeach application opportunity and selection criteria, initiating a UTeach program, planning and budgeting for a UTeach program, and expectations for program rollout and course fidelity.

CLASSROOM MANAGEMENT (PART 2 OF 2): A DAY AT THE IMPROV | 301

Hands-On Workshop

Scott Fray, *ASSISTANT CLINICAL PROFESSOR, NAUTEACH, NORTHERN ARIZONA UNIVERSITY*

Lynn Kirby, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UNIVERSITY OF TEXAS AT AUSTIN*

Participants will role play scenarios (using the given strategies) to solve common classroom management issues.

11:30 a.m. – 12:30 p.m.

PRE-SERVICE TEACHERS' LEARNING TO SELECT AND IMPLEMENT COGNITIVELY DEMANDING TASKS | 101

Interactive Presentation

Miray Tekkumru-Kisa, *ASSISTANT PROFESSOR, FLORIDA STATE UNIVERSITY*

Kirby Whittington, Ph.D. *STUDENT, FLORIDA STATE UNIVERSITY*

MaLynn Kelso, *MASTER TEACHER, FLORIDA STATE UNIVERSITY*

Sebnem Atabas, *PH.D. STUDENT, FLORIDA STATE UNIVERSITY*

Ryan Coker, *PH.D. STUDENT, FLORIDA STATE UNIVERSITY*

Participants will engage in a task sort activity to examine cognitive demand of science and mathematics tasks assigned to students in class. They will also analyze examples of tasks designed and implemented by pre-service teachers.

IS UTEACH A GOOD INVESTMENT? | 103

Interactive Presentation

Amy Chavez, *FINANCIAL ANALYST, UTEACH INSTITUTE*

Michael Marder, *PROFESSOR OF PHYSICS; CO-DIRECTOR, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

Gay Stewart, *EBERLY PROFESSOR OF STEM EDUCATION; PROFESSOR OF PHYSICS; CO-DIRECTOR, WVUTEACH, WEST VIRGINIA UNIVERSITY*

This session will discuss why UTeach is not just a good investment, but a great investment. We present the "real" cost of UTeach and an ROI analysis on dollars invested in producing high-quality STEM teachers.

UTEACH COURSE OVERVIEW: STEP 1 AND STEP 2 | 104

Interactive Presentation

Lynn Kirby, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

Robyn Carlin, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, GEAUXTEACH, LOUISIANA STATE UNIVERSITY*

This session will provide an introduction to the Step courses, the first two UTeach courses. The Step courses provide students with early opportunities to "try out teaching."

UTEACH MAKER: AN INNOVATIVE MICRO-CREDENTIALING PROGRAM | 105

Interactive Presentation

Shelly Rodriguez, *CLINICAL ASSOCIATE PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

Mike DeGraff, *TEACHER SUPPORT SPECIALIST, UTEACH COMPUTER SCIENCE, UTEACH INSTITUTE*

Jason Harron, *GRADUATE STUDENT, UNIVERSITY OF TEXAS AT AUSTIN*

Those in attendance can expect to be provided with the details of the UTeach Maker endorsement initiative and learn from emergent successes and challenges. Attendees will be provided with a list of Maker resources useful for supporting pre-service science teachers. Participants will have the opportunity to engage with a Q&A panel of UTeach Maker stakeholders including current students.

COURAGEOUS CONVERSATIONS: ATTENDING TO ISSUES OF CLASSROOM EQUITY IN EARLY FIELDWORK COURSES | 106

Interactive Presentation

Sarah Henson-Darko, *MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK*

Anita Sanyal, *MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK*

Participants will have the opportunity to engage in structured discussions of their own successes and challenges related to how they (individually or speaking for their programs more generally) seek to incorporate attention to equity throughout their teacher education program.

UTEACH COURSE OVERVIEW: PROJECT-BASED INSTRUCTION | 107

Interactive Presentation

Victor Sampson, *ASSOCIATE PROFESSOR, DEPARTMENT OF CURRICULUM AND INSTRUCTION; DIRECTOR, CENTER FOR STEM 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.

NAUTEACH: RETENTION EFFORTS AND RESULTS | 108

Interactive Presentation

Sharon Cardenas, *ASSOCIATE DIRECTOR, CENTER FOR SCIENCE TEACHING AND LEARNING, NORTHERN ARIZONA UNIVERSITY*

Each UTeach replication program is interested in how to recruit and retain students from Step 1 through teaching. What are we doing to help our students persist in our programs and in teaching? What is being done to document and study persistence? Data from a retention study will be shared, and session participants will be asked to discuss efforts at their campus to engage and retain students and teachers from our programs.

BEYOND IMPLEMENTATION: SHARING SUCCESSES, STRATEGIES, AND MODIFICATIONS TO THE UTEACH MODEL | 203

Interactive Presentation

Noah Salzman, *ASSISTANT PROFESSOR, IDOTEACH, BOISE STATE UNIVERSITY*

Matthew Wigglesworth, *MASTER TEACHER, IDOTEACH, BOISE STATE UNIVERSITY*

Sara Hagenah, *ASSISTANT PROFESSOR, DEPARTMENT OF CURRICULUM, INSTRUCTION AND FOUNDATIONAL STUDIES, BOISE STATE UNIVERSITY*

We will present some of the innovations and theory that we have developed and implemented at our program and provide an opportunity for representatives of other programs to share their own innovation/modification experiences and identify similarities, differences, and opportunities to build connections and collaborate.

STRAWBERRY MILKSHAKE: DNA AND LACTOSE INTOLERANCE | 301

Hands-On Workshop

Dhani Biscocho, *PRODUCT MANAGER, CAROLINA BIOLOGICAL SUPPLY COMPANY*

Introduce your middle school and high school STEM students to the fascinating world of molecular biology through simple and useful hands-on activities that make biology fun. These activities are designed to make challenging abstract concepts (including DNA, genes, and enzymes) more concrete.

12:30 – 1:30 p.m.

LUNCH | TEJAS DINING ROOM

1:45 – 2:45 p.m.

UNIVERSITY IMPLEMENTATION PANEL: LESSONS LEARNED |101

Panel Discussion

Martha Day, *CO-DIRECTOR, SKYTEACH, WESTERN KENTUCKY UNIVERSITY*

Lee Meadows, *CO-DIRECTOR, UABTEACH, UNIVERSITY OF ALABAMA, BIRMINGHAM*

Paige Evans, *CLINICAL ASSOCIATE PROFESSOR / MASTER TEACHER, TEACHHOUSTON, UNIVERSITY OF HOUSTON*

Margo Dellicarpini, *DEAN, COLLEGE OF EDUCATION, UNIVERSITY OF TEXAS AT SAN ANTONIO*

Vishodana Thamotharn, *ASSOCIATE DIRECTOR, FIUTEACH, FLORIDA INTERNATIONAL 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.

NATIONAL UTEACH DATA: THE GOOD, THE BAD, AND THE NERDY |103

Roundtable Discussion

Pamela Romero, *ASSOCIATE DIRECTOR, UTEACH INSTITUTE*

Mary Lummus-Robinson, *DATA COORDINATOR, UTEACH INSTITUTE*

What do the national UTeach implementation data tell us? In this session, we will discuss broad patterns across nine years of data on national UTeach implementation and invite participants to share experiences from their own programs. Highlighted data will include enrollment and graduate trends and program recruitment and retention data.

UTEACH COURSE OVERVIEW: KNOWING AND LEARNING IN MATHEMATICS AND SCIENCE | 104

Interactive Presentation

Perri Segura, *CLINICAL ASSOCIATE PROFESSOR / MASTER TEACHER, TEACHHOUSTON, UNIVERSITY OF HOUSTON*

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.

INFUSION OF 21ST-CENTURY SKILLS AND GLOBAL COLLABORATION | 105

Interactive Presentation

Mariam Manuel, *MASTER TEACHER, TEACHHOUSTON, UNIVERSITY OF HOUSTON*

Participants will view artifacts from a Classroom Interactions course, including Skype interactions and discussion board posts regarding lesson planning between teachHOUSTON students and pre-service teachers from Spain and the Bahamas. The impact of global collaboration on student attitudes about 21st-century skills will be discussed, as will the study conducted on teachHOUSTON student perceptions of teaching outcomes and ability to identify 21st-century skills. There will also be time for discussion on how others are incorporating these skills in their programs.

TWO SESSIONS IN ONE: STUDYING PRE-SERVICE TEACHERS | 106

CHARACTERIZING INQUIRY-BASED TEACHING PRACTICES OF CAL TEACH BERKELEY GRADUATES AND OUTCOMES FOR NOYCE INFORMAL EDUCATION INTERNSHIPS | 106

Elisa Stone, *CAL TEACH CO-DIRECTOR, EXECUTIVE DIRECTOR OF THE BERKELEY SCIENCE AND MATH INITIATIVE, UNIVERSITY OF CALIFORNIA, BERKELEY*

Maritza Drotleff, *PROGRAM COORDINATOR, UNIVERSITY OF CALIFORNIA, BERKELEY*

Devin Richards, *MANAGER, CAL TEACH, UNIVERSITY OF CALIFORNIA, BERKELEY*

Our research shows that Cal Teach graduates practice different patterns of classroom inquiry in small- and whole-group settings, and Noyce interns gain unique insight into STEM learning at museums.

RESEARCHING TEACHER EDUCATION: A LOOK AT THE IMPLEMENTATION OF TERRAPIN TEACHERS AT THE UNIVERSITY OF MARYLAND | 106

Anita Sanyal, *MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK*

Discussion questions will engage participants in thinking critically about research in teacher education and about what research might look like in their own institutions.

EMBRACING THE SCIENCE AND ENGINEERING PRACTICES: A COLLABORATIVE LESSON DEVELOPMENT MODEL FOR STEP 1 AND STEP 2 | 107

Hands-On Workshop

Katheryn Shannon, *MASTER TEACHER, UTEACH BOSTON, UNIVERSITY OF MASSACHUSETTS, BOSTON*

Mike Gilbert, *ASSOCIATE DIRECTOR, UTEACH BOSTON, UNIVERSITY OF MASSACHUSETTS, BOSTON*

Participants will experience Step 1 and/or Step 2 lessons that were developed, taught, revised, and re-taught in K–8 schools. Resources for teaching the lessons and tutorial videos will be reviewed and feedback sought for lesson improvement. Participants will also be asked to reflect upon their own approach to Step 1 and Step 2 lesson development and share their thoughts about adopting a similar model across UTeach programs. Participant interest in collaborating to create a shared lesson library will be assessed.

SUPPORTING YOUR FIRST 5 YEARS: KNOWLES SCIENCE TEACHING FOUNDATION FELLOWSHIP | 204

Interactive Presentation

Sarah DiMaria, *MATH TEACHER, KNOWLES SCIENCE TEACHING FOUNDATION*

Participants will get an overview of the program from a current fellow and will share experiences that would not be possible without the fellowship. Participants will engage in a sample activity from a professional development session of the fellowship to spark curiosity and ignite collaboration. Participants will walk away with an understanding of how to apply for the fellowship and all of the support KSTF will offer.

UTEACH CSP: A PROJECT-BASED AP COMPUTER SCIENCE PRINCIPLES COURSE FOR ALL HIGH SCHOOL TEACHERS AND STUDENTS | 301

Interactive Presentation

Justin Cannady, *TEACHER SUPPORT SPECIALIST, UTEACH COMPUTER SCIENCE, UTEACH INSTITUTE*

Mike DeGraff, *TEACHER SUPPORT SPECIALIST, 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.

3:00 – 4:00 p.m.

SUPPORTING NEW TEACHERS: INDUCTION PANEL | 101

Panel Discussion

Kelli Allen, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*

Chris Deyo, *MATH TEACHER, NYOS CHARTER SCHOOL*

Shana King, *SCIENCE TEACHER AND INSTRUCTIONAL COACH, CROCKETT HIGH SCHOOL*

Ariel J. Taylor, *MATH SPECIALIST, FORT BEND ISD*

Jazmine Castanon, *MATH TEACHER, MANOR NEW TECH HIGH SCHOOL*

David Robinson, *ROBOTICS AND DESIGN TEACHER, MURCHISON MIDDLE SCHOOL*

Noah Ledbetter, *MATH AND COMPUTER SCIENCE TEACHER, MANOR NEW TECH HIGH SCHOOL*

Rikki Foster, *SCIENCE TEACHER AND DEPARTMENT CHAIR, MANOR NEW TECH HIGH SCHOOL*

Laura Robinette *MINOR, MIDDLE SCHOOL SCIENCE FACULTY, SCIENCE CURRICULUM DEVELOPMENT CHAIR, TRINITY EPISCOPAL 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.

UTEACH CO-DIRECTORS SPECIAL INTEREST GROUP | 103

Roundtable Discussion

Michael Odell, *VICE PRESIDENT OF THE OFFICE OF RESEARCH AND TECHNOLOGY TRANSFER; DIRECTOR OF FEDERAL RELATIONS; EXECUTIVE DIRECTOR, INGENUITY CENTER; PROFESSOR, STEM EDUCATION, CO-DIRECTOR, UTEACH TYLER, UNIVERSITY OF TEXAS AT TYLER*

Program co-directors, college deans, and other university leaders will convene to discuss topics of interest to the group.

CREATING AN ACTIVE LEARNING EXPERIENCE FOR THE CLINICAL INTERVIEW IN KNOWING AND LEARNING | 104

Hands-On Workshop

Marcia Jacobs, *MASTER TEACHER, UNIVERSITY OF NORTH TEXAS*

Brian Fortney, *MASTER TEACHER, UNIVERSITY OF NORTH TEXAS*

The session will focus on engaging Knowing and Learning students in a mock clinical interview process with formative feedback both in small groups and as a whole group. You will be able to engage your Knowing and Learning students in a practice of clinical interview techniques by experiencing the process for yourself!

STEP 1 AND 2 COMBO: SEIZING AN OPPORTUNITY AND LESSONS LEARNED | 105

Interactive Presentation

Nicholas Oehm, *CLINICAL ASSISTANT PROFESSOR, FLORIDA INTERNATIONAL UNIVERSITY*

Leslie Nisbet, *CLINICAL ASSISTANT PROFESSOR, FLORIDA INTERNATIONAL UNIVERSITY*

The session will begin with a large group discussion in which participants will share their individual interests in combining Step 1 and Step 2, and in small group discussions they will list the perceived obstacles and/or previous experiences in offering a Combo class. After sharing obstacles/experiences, we will share the FIUteach Combo model and conclude the session with a role-playing activity that presents some of the challenges and solutions we have encountered.

TEACHER ASSISTANTSHIPS: A SIMPLE INNOVATION FOR IMPROVING THE APPRENTICE TEACHING AND FIRST-YEAR TEACHING EXPERIENCES | 106

Interactive Presentation

Curtis Turner, *MASTER TEACHER, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

Mary Stilley, *STUDENT MATHEMATICS AND TEACHER ASSISTANT AT VISTA RIDGE HIGH SCHOOL, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

In fall of 2015, I was invited by one of our partner high schools to coach four of our recent graduates. I've seen clear areas of common struggle, and I'm trying an innovation to our program this year in an effort to address some of these issues. In this session, we will describe the current innovation as well as plans for upcoming years. Attendees will hear from a UCCSTeach student participating in the innovation who will share how she has benefited.

PBL ON A SMALLER SCALE: FOUR MINI-PBLS TO USE IN YOUR CLASSROOM | 107

Hands-On Workshop

Kate York, *MASTER TEACHER, UNIVERSITY OF TEXAS AT DALLAS*

Katie Donaldson, *MASTER TEACHER, UNIVERSITY OF TEXAS AT DALLAS*

After a brief overview of PBI characteristics and components conducted through a "knows/need to knows" activity, attendees will experience PBL design by participating in a mini PBL. Participants will attend relevant workshops, participate in do-it-yourself (DIY) activities, and create an actual product for their mini PBL. They will then have time to explore the other three mini PBLs before participating in a Q&A session. All session participants will leave with four fully developed STEM PBL units.

UTEACH COURSE OVERVIEW: RESEARCH METHODS | 108

Interactive Presentation

Michael Marder, *PROFESSOR OF PHYSICS; CO-DIRECTOR, 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.

USING VIDEO ANALYSIS TO PROMOTE PRE-SERVICE TEACHERS' EPISTEMIC EMPATHY | 203

Interactive Presentation

Lama Jaber, *ASSISTANT PROFESSOR IN SCIENCE EDUCATION, FLORIDA STATE UNIVERSITY*

First, participants will analyze a video of student inquiry from a responsive classroom to identify students' ideas, interpret the meanings of these ideas, and discuss the merits in students' reasoning. Second, we will examine examples of pre-service teachers' responses to that same video, before and after the course, to discuss evidence of their growth as epistemically empathetic teachers. We will also explore ways to support them as they become more attuned to students' ideas and feelings within inquiry.

TALK MOVES: FACILITATING PRODUCTIVE DISCUSSIONS IN K–12 CLASSROOMS | 301

Interactive Presentation

Catherine VanNetta, *MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK*

Julie Brenner, *MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK*

Sarah Henson-Darko, *MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK*

Anita Sanyal, *MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK*

Kayla Freeman, *MASTER TEACHER, UNIVERSITY OF MARYLAND, COLLEGE PARK*

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. Faculty and instructors are also welcome in this session.

4:15 – 5:15 p.m.

WE HAVE ALUMNI! NOW WHAT? | 101

Interactive Presentation

Carrie Culpepper, *MANAGER, NATIONAL UTEACH ALUMNI NETWORK, UTEACH INSTITUTE*

Jo Hamilton, *MEMBER SERVICES AND COMMUNICATIONS COORDINATOR, NATIONAL UTEACH ALUMNI NETWORK, UTEACH INSTITUTE*

Peggy Pitts, *MEMBER SERVICES COORDINATOR, NATIONAL UTEACH ALUMNI NETWORK*

Michelle Lowry, *SENIOR SOFTWARE DEVELOPER/ANALYST, UTEACH INSTITUTE*

Mariam Manuel, *ALUMNA AND MASTER TEACHER, TEACHHOUSTON, UNIVERSITY OF HOUSTON*

Got alumni? We've got you covered! Learn about the many supports you and your alumni can access from the National UTeach Alumni Network. Hear how to set up an alumni advisory team; how to keep track of your alumni and what they're doing; what types of professional learning are available to UTeach graduates; and how to get your alumni signed up and using the brand-new UTeach Nation Virtual Network.

MASTER TEACHERS SPECIAL INTEREST GROUP | 103

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 sharing model lessons for Step 1 as well as feedback given on Step 2 and CI lesson plans. Additionally, strategies to work through logistical issues such as managing mentor teachers, partners, and teaching schedules/observations will be shared.

IMPROVING KNOWING AND LEARNING IN LIGHT OF MOTIVATED REASONING RESEARCH | 104

Roundtable Discussion

David Long, *ASSISTANT PROFESSOR OF STEM EDUCATION, MOREHEAD STATE UNIVERSITY*
Lee Meadows, *ASSOCIATE PROFESSOR, DEPARTMENT OF CURRICULUM AND INSTRUCTION; CO-DIRECTOR, UABTEACH, UNIVERSITY OF ALABAMA, BIRMINGHAM*
Ann Dominick, *ASSISTANT PROFESSOR, UABTEACH, UNIVERSITY OF ALABAMA, BIRMINGHAM*
Stephen Burgin, *ASSISTANT PROFESSOR, UNIVERSITY OF ARKANSAS, FAYETTEVILLE*
Glenn Waddell Jr, *MASTER TEACHER, NEVADATEACH, UNIVERSITY OF NEVADA, RENO*

Research on motivated reasoning has shown that we face a future with a public more inclined to see some science (such as climate change, evolution, vaccination efficacy, etc.) as illegitimate based upon identity- protective cognition. With teachers continuing as the frontline arbiters of cultural conflict over science, this session will collaboratively generate pathways forward in Knowing and Learning courses that promote active learning rather than identity-protective student reactions.

VERTICALLY ALIGNING CLASSROOM MANAGEMENT THROUGH THREE UTEACH COURSES (CLASSROOM INTERACTIONS, PBI, AND APPRENTICE TEACHING) | 105

Hands-On Workshop

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

Discover how to weave classroom management all the way through the upper-level UTeach courses. You will be able to identify critical classroom management components through participation in tested course activities and reflect on classroom management instruction in your own UTeach curriculum. Explore vertically aligned classroom management strategies in Classroom Interactions, Project-Based Instruction, and Apprentice Teaching. Takeaways include specific classroom management components organized by course, with electronic access to all activities.

INTRODUCING A TIERED MENTOR SYSTEM FOR UTEACH FIELD-BASED COURSES | 106

Interactive Presentation

Patrick McGuire, *ASSOCIATE PROFESSOR, UNIVERSITY OF COLORADO, COLORADO SPRINGS*
Steve Ottmer, *HIGH SCHOOL BIOLOGY TEACHER, UNIVERSITY OF COLORADO, COLORADO SPRINGS*

This session will not be sit and get! The presenters (UCCSTeach co-director and current in-service high school biology teacher and tier 3 mentor) will provide some context to get the session rolling; however, the majority of the session will engage participants in small group discussions and interactive activities. These discussions and activities will revolve around ways other programs can introduce similar tiered mentoring systems. All session attendees will leave with at least one new idea.

TWO SESSIONS IN ONE: TEACHING IDENTITY | 107

STEM TEACHING IDENTITY, PERSISTENCE, AND CONSTRUCTIVIST TEACHING

Vishodana Thamotharan, *ASSOCIATE DIRECTOR, FIUTEACH, FLORIDA INTERNATIONAL UNIVERSITY*
Zahra Hazari, *ASSOCIATE PROFESSOR OF SCIENCE EDUCATION, FLORIDA INTERNATIONAL UNIVERSITY*

We will share quantitative analysis of pre- and post-survey data collected from FIUteach students regarding teaching identity, persistence, and teacher practices. We will discuss instrument validation as well as our findings regarding the relationship between teaching identity and persistence and program impact on teaching identity and constructivist teaching.

TEACHER EDUCATION AND TEACHING IDENTITY

Brian Fortney, *MASTER TEACHER, UNIVERSITY OF NORTH TEXAS*

Discussion will be focused on data gathered during the Fall 2016 and Spring 2017 semesters. Data was gathered from Knowing and Learning course assignments, as well as through interviews conducted after submission of grades. This is an initial set of beliefs about equity that will be evaluated longitudinally, across several semesters, to understand development of identity as a classroom teacher.

UTEACH COURSE OVERVIEW: FUNCTIONS AND MODELING | 108

Interactive Presentation

Mark Daniels, *CLINICAL PROFESSOR OF MATHEMATICS, CO-ASSOCIATE DIRECTOR OF UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*
Daniel FitzPatrick, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, 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.

ROUNDTABLE WITH UTEACH GRADUATES (RESTRICTED TO CURRENT UTEACH STUDENTS) | 301

Roundtable Discussion

Kelli Allen, *CLINICAL ASSISTANT PROFESSOR / MASTER TEACHER, UTEACH AUSTIN, UNIVERSITY OF TEXAS AT AUSTIN*
Shana King, *SCIENCE TEACHER AND INSTRUCTIONAL COACH, CROCKETT HIGH SCHOOL*
Ariel J. Taylor, *MATH SPECIALIST, FORT BEND ISD*
Jazmine Castanon, *MATH TEACHER, MANOR NEW TECH HIGH SCHOOL*
David Robinson, *ROBOTICS AND DESIGN TEACHER, MURCHISON MIDDLE SCHOOL*
Rikki Foster, *SCIENCE TEACHER AND DEPARTMENT CHAIR, MANOR NEW TECH HIGH SCHOOL*
Noah Ledbetter, *MATH AND COMPUTER SCIENCE TEACHER, MANOR NEW TECH HIGH SCHOOL*
Laura Robinette Minor, *MIDDLE SCHOOL SCIENCE FACULTY, SCIENCE CURRICULUM DEVELOPMENT CHAIR, TRINITY EPISCOPAL 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, and more.

6:00 – 9:00 p.m. Reception and Dinner hosted by ExxonMobil Corporation

STUDENTS AS CHANGEMAKERS | BALLROOM

Thomas Kalil, *SENIOR ADVISOR TO THE ERIC AND WENDY SCHMIDT GROUP AND ENTREPRENEUR-IN-RESIDENCE AT UC BERKELEY*

Imagine a world in which clean energy is cheaper than coal, safe drinking water is accessible and affordable to everyone on the planet, and no child goes to bed hungry. Imagine a world where we have vaccines for AIDS, TB, and malaria, and effective treatments for cancer and Alzheimer's. Imagine a society where everyone has anytime, anywhere access to the highest-quality learning opportunities. Imagine a future in which astronauts venture out into the solar system, not just to visit but to stay.

These and other similarly ambitious goals are within reach—particularly if we inspire and empower the next generation of scientists, engineers, entrepreneurs, and civic leaders to imagine and embrace them. Today's changemakers have access to knowledge and resources that would have been unimaginable 20 to 30 years ago, such as access to virtually unlimited computing resources and the ability to use online platforms to crowdsource funding and expertise from around the world. What steps can our educational institutions take to inspire and empower the next generation of changemakers?

Thursday, May 25

8:00 – 9:15 a.m. Breakfast

BREAKFAST | BALLROOM

9:30 – 11:00 a.m. Closing Plenary

BEYOND THE CLASSROOM | AMPHITHEATER 204

Lindsay Patterson, *CREATOR, PRODUCER, AND CO-HOST,* TUMBLE
Marshall Escamilla, *COMPOSER AND CO-HOST,* TUMBLE
Sara Robberson Lentz, *PRODUCER AND EDITOR,* TUMBLE
Joe Hanson, *CREATOR, WRITER, AND HOST,* IT'S OKAY TO BE SMART
Tyler DeWitt, *CREATOR AND HOST,* SCIENCE WITH TYLER DEWITT

What is the future of STEM education? How do we think beyond the classroom when it comes to reaching current and future generations of digital natives? How does "edutainment" coexist with inquiry- and project-based learning, and how can UTeach teachers incorporate these teaching tools into their classrooms? This panel comprises a collection of science educators and communicators using digital platforms (YouTube, podcasts) to inspire a love of science, supplement science education, and reinforce the power of curiosity and critical thinking.

11:15 a.m. – 12:15 p.m.

FLORIDA REPLICATION SITES MEETING | 103

Closed Meeting

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.

MARYLAND/DC REPLICATION SITES MEETING | 104

Closed Meeting

Melanie Haupt, *WRITER/EDITOR, 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.

GEORGIA REPLICATION SITES MEETING | 105

Closed Meeting

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.

TEXAS REPLICATION SITES MEETING | 106

Closed Meeting

Tracie Barrs-Ellis, *SITE COORDINATOR, UTEACH INSTITUTE*

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

TENNESSEE REPLICATION SITES MEETING | 107

Closed Meeting

Jo Hamilton, *MEMBER SERVICES AND COMMUNICATIONS COORDINATOR, NATIONAL UTEACH ALUMNI NETWORK, 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 | 108

Closed Meeting

Amy Moreland, *PROGRAM COORDINATOR, UTEACH COMPUTER SCIENCE, UTEACH INSTITUTE*

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

12:15 – 1:30 p.m.

LUNCH | TEJAS DINING ROOM

1:00 – 2:30 p.m.

USEA ANNUAL BUSINESS MEETING | 301

Business Meeting

Pradeep (Max) Dass, *USEA PRESIDENT; CO-DIRECTOR, NAUTEACH, NORTHERN ARIZONA UNIVERSITY*

Carrie Culpepper, *USEA MANAGER, UTEACH INSTITUTE*

This is the annual business meeting of the USEA Executive Board. All USEA members are welcome to observe the proceedings.

UTEACH PARTNERS AND SUPPORTERS

ExxonMobil

Globally, a strong emphasis on education empowers communities and builds the foundation for human progress. 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.

National Math + Science Initiative

The National Math + Science Initiative (NMSI) is transforming STEM education in America by identifying and replicating successful academic programs across the country that not only have been proven to produce immediate results, but can be sustained over time. We are recruiting and preparing college students to become dedicated math and science teachers and training teachers in grades 3–12 to inspire students to succeed in rigorous math and science courses.

PBS Kids & PBS Learning Media

You probably know PBS and PBS KIDS from your own childhood . . . but did you know that PBS goes WAAAAY beyond television to develop standards-aligned, research-based, field-tested educational resources for PreK–12 classrooms — for free? Stop by the PBS table to speak with representatives from KLRU, the local PBS station (and home of Austin City Limits), to see what is available for you, regardless of the grade level and subject you teach.

Carolina Biological Supply Company

Carolina Biological Supply has proudly supported educators for 90 years, providing innovative science materials to classrooms around the world. Our mission is to provide educators the finest products and services to aid in science literacy. Let Carolina help make your lesson plans even more impactful with our kits, supplies, and resources to confidently prepare your STEM students.

BloxMob

BloxMob is an online social platform where teens build mobile apps for their smartphones. No coding is required, and anyone with a computer and create an app really fast using our building Blox! Build once for both iOS and Android. Teachers and students can quickly build apps: how to's, quizzes, mapping, chatting, and more. Help students learn design, UX/UI, critical thinking skills, systems thinking, meeting audience needs, and entrepreneurship and innovation concepts. Excite and empower students. Unleash their creativity and help them be makers and creators in everything they do.

Educational Advancement Fund

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.

Knowles Science Teaching Foundation

The Knowles Science Teaching Foundation Fellowship (KSTF) is a nonprofit organization dedicated to providing new math and science teachers with professional development, classroom resources and support to improve STEM education in our schools. This 5-year program provides classroom materials grants, professional development grants, stipends, and a cohort of other new STEM educators. Stop by to learn how to apply and speak with a current fellow for more information!

Greater Texas Foundation

Greater Texas Foundation supports efforts to ensure all Texas students are prepared for, have access to, persist in, and complete postsecondary education. We put particular focus on helping underserved and disadvantaged populations. We pursue our mission by forming partnerships, supporting research, sharing knowledge, and making grants.

Texas Tribune

The Texas Tribune is the only member-supported, digital-first, nonpartisan media organization that informs Texans — and engages with them — about public policy, politics, government and statewide issues.

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.

MyEventIstheBomb

MyEventIstheBomb provides interactive photo booths for your events. We provide custom graphics for your event, and guests can send photos straight to their phone and share online.

University Co-op

The University Co-op offers Texas Longhorn clothing, UT gifts, souvenirs, and more.

UTEACH PARTNERS AND SUPPORTERS

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National Math + Science Initiative

PBS Kids & PBS Learning Media

Carolina Biological Supply Company

BloxMob

Educational Advancement Fund

Knowles Science Teaching Foundation

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