



ASEE Gulf-Southwest Conference

*Reimagining Engineering Education for a
Changing World | March 23-26, 2021*

Hosted by



Baylor University®

SCHOOL OF ENGINEERING & COMPUTER SCIENCE

About ASEE Gulf-Southwest Section 2021

The ASEE Gulf-Southwest Section has a rich tradition of regional engineering education conferences. As part of the ASEE Zone III, this spring conference is an excellent opportunity each year to gather educators from across Louisiana, Texas and New Mexico to explore engineering education. Encouragement and collaboration are customary at this conference. New friendships are made and new ideas formed as a result of this conference. The ASEE GSW Section is one of the more active ASEE sections.

This year the engineering education community adapted to the rapidly changing requirements imposed by the COVID-19 pandemic. Very quickly educators were thrust into teaching in an online environment. The challenge was not only to deliver the material in a new medium, it was also to keep our students engaged with the course and with life. As we are facing an uncertain future, no one knows what the new “normal” will be. The 2021 conference is an opportunity to discuss the lessons learned with the transition to online education. More importantly, where do we go from here.

The 2021 ASEE Gulf-Southwest Annual Conference will be hosted by Baylor University and held virtually March 23-26, 2021.

Letter from the Dean

Dear 2021 ASEE Gulf-Southwest Conference Participants



On behalf of the School of Engineering and Computer Science at Baylor University, I welcome you to the 2021 ASEE Gulf-Southwest Conference. While Baylor is the oldest continually operating university in Texas, chartered in 1845, the School of Engineering and Computer Science represents one of the newest programs on campus. Last year we celebrated our 25th Anniversary. Our program attracts students from across the U.S. and includes three departments with Ph.D. programs in each. We have a dedicated research facility, the Baylor Research Innovation Collaborative, where most engineering research is conducted. It's an excellent example of re-purposing an old tire manufacturing plant into a modern research center. We prepare our graduates for professional practice and responsible leadership with a Christian worldview. Thank you for attending this conference where you can improve your skills and to be exposed to new ideas. It is an incredible time to be an engineer. Innovation and creativity are alive and well

despite the pandemic.

While we all hoped this conference could be held on campus, sadly it was not to be. Last spring engineering education had to adapt very quickly to the changing conditions. Everyone had a part to play and we were all stretched in many ways. The transition to deliver an academic program completely online happened quickly and is a testimony to the quality of people in engineering education such as yourselves. It is only fitting that we come together at this conference to learn from each other and to help us become better at what we do in this "new normal". The title of the conference, "Reimagining Engineering Education in a Changing World", states our challenge for the future. I trust you will make many new friends at the conference and come away renewed in your desire to be the best you can be for your students and your university. Look for one or two ideas that can help you both in and out of the classroom. Then go back to your institution and see how they might work.

While we are disappointed that you will not experience the Baylor campus, I trust that you will take some time to learn about Baylor University and our distinctive role as a Christian university in the Baptist tradition. Perhaps the future might hold an opportunity to drop by our campus and visit our facilities. We would look forward to seeing you.



Dennis L. O'Neal
Dean

Letter from the Program Chair

Dear 2021 ASEE Gulf-Southwest Conference Participants

After months of waiting and planning, the ASEE Gulf-Southwest Conference is finally here! Our conference, “Reimagining Engineering Education for a Changing World,” describes what we have been through over the past year. For some it was a difficult transition to technology. For others, some of whom were already teaching online, it was not a big stretch. What is true is that last spring each institution and their faculty stepped up to the plate and were able to deliver entire engineering education programs online given a short notice. The learning curve was very steep. It might not have been perfect, but it worked and did get the job done.



It is good for us to come together at a conference like this and reflect on engineering education experienced over the past year. There are things that went very well. There are things that could have gone better. Each institution responded in ways that were unique to their campus culture. We learned about modalities: synchronous, asynchronous, and hybrid. While things went well for the most part, there were underlying issues that needed attention. One is assessment. Is online testing as important? Are there other ways to assess a student’s progress? What about mental health issues for both faculty and students? Students are under increased pressure with how classes are being conducted. This is going to be an increasingly important topic for years to come. Is the quality of education the same as before the pandemic? I learned about ZOOM fatigue. What will become the “new normal”? What about Covid testing? Will the vaccine be required? I could go on and ask even more questions. Many of these topics are going to be presented in this conference and others will be explored for years to come.

While these questions might sound somewhat overwhelming, be assured there is hope, especially when faculty such as you attend conferences such as this. We have many best practices to share with each other in hopes that we can improve the quality of our instruction. The students will ultimately benefit but so will we. Technology can be our friend. I hope that you will use this opportunity at the conference to connect with other faculty and encourage one another. Our ASEE Gulf-Southwest Conference attendees have a wealth of experience from which to draw. Be sure to make those connections as this will help us navigate the changing world that lies ahead.



Kenneth W. Van Treuren, Professor
Associate Dean for Research and Faculty Development
2021 ASEE Gulf-Southwest Conference Program Chair

ASEE Gulf-Southwest Conference 2021 Committees

Program Chair: Ken Van Treuren, *Baylor University*

Technical Program Chairs:

- Anne Spence, *Baylor University*
- Cindy Fry, *Baylor University*

Registration and Budget: Joseph Donndelinger, *Baylor University*

Website Administrator: Jill Anderson, *Baylor University*

Program Planning and Conference Hosting:

- Ken Carriveau, *Baylor University*
- Scott Koziol, *Baylor University*

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- Edward Anderson, *Texas Tech University*
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- David Ewing, *The University of Texas at Arlington*
- Cindy Fry, *Baylor University*
- Cyrus Hagigat, *The University of Toledo*
- Catherine Anne Hubka, *University of New Mexico*
- Nathan Jackson, *University of New Mexico*
- Amir Karimi, *The University of Texas at San Antonio*
- Tariq Khraishi, *University of New Mexico*
- Scott Koziol, *Baylor University*
- Byron Newberry, *Baylor University*
- Anne Spence, *Baylor University*
- Roman Taraban, *Texas Tech University*
- Ken Van Treuren, *Baylor University*

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Tuesday, March 23rd

Pre-Conference Seminar

Host: Ken Van Treuren

1:00pm – 2:00pm:

Session 1: Teaching and Learning Seminar One
“Post-Pandemic – Designing for the Unexpected”,
Chris Zakrzewski

2:00pm – 2:15pm:

Break

2:15pm – 3:15pm:

Session 2: Teaching and Learning Seminar Two
“Resilient Pedagogy: Base Isolation for Teaching”,
Christopher Richmann

Speaker Biographies and seminar information are located on the next two pages

Pre-Conference Seminar Presenter

Pre-Conference Speaker: Tuesday, March 23, 2021, 1 pm

Dr. Chris Zakrzewski, Director of Learning Design, *Baylor University*



Dr. Chris Zakrzewski is the Director of Learning Design at Baylor University. He has spent 15 plus years in higher education working with administrators and faculty to develop a culture of innovative empowerment. Chris believe strongly that teaching innovation is a journey and that it requires a commitment to positive one-on-one interaction with faculty to flourish. Chris has spent time in the classroom teaching undergraduate and graduate class in-person, online and in hybrid formats. Chris most recently spent time as the Director of Educational Technology and the NYU School of

Professional Studies and before that as the Assistant Provost for Technology and Instructional Innovation at Saint Xavier University. Chris speaks across the country on creating cultures of innovation and on the development of innovative learning spaces. Most recently Chris' work on Experiential Problem-based Learning was published in the Journal of Problem-based Learning in Higher Education.

Presentation: Post-Pandemic – Designing for the Unexpected

Abstract: As we explore what higher education will look like post-pandemic, there are strategies that we can integrate across modalities to ensure continuity of teaching and learning. The recent weather in Texas and the immediate action by university leadership to switch modalities is a perfect example of what might lie ahead. This workshop will build upon what we have learned this past year about clarity, consistency and connectedness.

Pre-Conference Seminar Presenter

Pre-Conference Speaker: Tuesday, March 23, 2021, 2:15 pm

Dr. Christopher Richmann, Assistant Director for the Academy for Teaching and Learning,
Baylor University



Dr. Christopher Richmann is Assistant Director for the Academy for Teaching and Learning and affiliate faculty in the Department of Religion. His research focuses on the pentecostal-charismatic tradition and Lutheran spirituality. In the areas of teaching and learning, Dr. Richmann has special interests in academic authority, teaching as vocation, and how theories of human development influence teaching. He has published research in *International Journal for the Scholarship of*

Teaching and Learning, and along with Dr. Lenore Wright, Dr. Richmann edited *Called to Teach: Excellence, Commitment, and Community in Christian Higher Education* (Pickwick). In addition to his duties as Assistant Director for the ATL, Dr. Richmann teaches courses in history of Christianity in the Religion Department and courses in world cultures in the Baylor Interdisciplinary Core.

Presentation: Resilient Pedagogy: Base Isolation for Teaching

Abstract: When disruptions to teaching caused by personal matters, weather conditions, or institutional incidents are (or seem) infrequent and low-intensity, instructors tend to take an ad-hoc approach, making adjustments that may or may not be efficient, coherent, or in the best interest of learning. The COVID pandemic, however, has normalized disruption, calling for a “resilient pedagogy” that, like base-isolation in buildings, can ensure that disruptions have a minimal negative impact. This session will share the principles and examples of resilient pedagogy and encourage participants to create or adjust course elements that protect teachers’ work and students’ learning in times of disruption.

Wednesday, March 24th

<i>12:00pm – 12:50pm:</i>	Opening Remarks and Keynote Presentation
<i>12:50pm – 1:00pm:</i>	Break
<i>1:00pm – 2:15pm:</i>	Concurrent Sessions
<i>2:15pm – 2:35pm:</i>	Break
<i>2:35pm – 3:50pm:</i>	Concurrent Sessions

Keynote Biography and Concurrent Session Papers are located on the next pages

ASEE Gulf-Southwest Keynote Presentation

Keynote Speaker: Wednesday, March 24, 2021

Dr. Nancy Brickhouse, *Vice President and Provost, Baylor University*



As Baylor's chief academic officer, Dr. Brickhouse oversees the University's 12 colleges and schools, research enterprise, University Libraries, and centers and institutes. She previously served as provost at Saint Louis University (SLU), a Jesuit research university with 8,000 undergraduate students and 6,000 graduate students at its main campus in St. Louis. During her tenure, she played a key role in repositioning SLU's finance, operations, and academic endeavors to meet a rapidly changing higher education landscape. She is a tenured Professor of education and a nationally recognized scholar. Dr. Brickhouse graduated from Baylor *magna cum laude* with a bachelor's degree in chemistry, going on to earn a master's degree in chemistry and a doctorate in science education from Purdue University.

Presentation: Baylor and Engineering: Past, Present, and Future

Abstract: Hear from Baylor University's provost, Dr. Nancy Brickhouse, about the changes that Baylor University has undergone since her time as an undergraduate in Baylor's College of Arts & Sciences, as well as what she sees in the university's future. Learn about the impact that the pandemic has had on Baylor, and hear about the role Dr. Brickhouse envisions for Engineering in the university's strategic plan.

1:00pm – 2:15pm: Concurrent Sessions

Day 1, Session 1, Track A: Undergraduate Papers

Moderator: Ken Carriveau

Host: Scott Koziol

- [35092](#) An Improved Magnetically Bistable Piezoelectric Energy Harvester
Carolyn Fulton, Brian P. Bernard (Schreiner Univ), Brian P. Mann (Duke Univ)
- [35077](#) Senior Capstone Project Raven: Study of an Autonomous System Design for Power Line Inspection Based on the Quanser QDrone Platform
Jovany Avila, Tristan Brouwer, Nick Castillo IV, Michael Frye (Univ of the Incarnate Word)
- [33848](#) Taking Control of Control Systems: A student developed, multimedia and simulation tool for control systems education
Matilda Ho, Casey Hatfield, Jieun Kim (Univ of Texas-Dallas)
- [35095](#) Delivering Hands-On Introductory Design Experiences in a Hybrid Curriculum
Lorena I. Velásquez, Jett Emms, Curtis O'Malley (New Mexico Inst. Of Mining and Tech.)
- [35138](#) Learning About Equity from an Undergraduate Research of a University Campus Parking System
Andrea Ramić, Dick. T. Apronti (Angelo State Univ)

Day1, Session 1, Track B: Faculty/Staff/Professional Papers

Moderator: Paul Griesemer

Host: Ken Van Treuren

- [34393](#) Blended Learning to the Rescue: How one Construction Management Program is Mitigating the Risk of COVID-19 in the Classroom
Peter D. Rogers (Univ of Southern Mississippi)
- [35091](#) Simulation of Production and Inventory Control using the Computer Game Factorio
Bonnie S. Boardman, Caroline C. Krejci (Univ of Texas-Arlington)
- [35141](#) Integrating Computational Thinking in an Interdisciplinary Programming Course for Engineering Undergraduates
Prabha Sundaravadivel (Univ of Texas-Tyler)
- [35082](#) A Cornerstone Course for Engineering Education: The Design Graphics Collaboratory
Ronald E. Barr (Univ of Texas-Austin)
- [35083](#) Using MUTISIM software to reinforce use and application of Norton's theory in electrical circuits
Cyrus Hagigat (Univ of Toledo)

2:35pm – 3:50pm: Concurrent Sessions

Day 1, Session 2, Track A: Faculty/Staff/Professional Papers

Moderator: Matthew Green

Host: Scott Koziol

- [35151](#) The Development of a Texas A&M University Faculty of Engineering Education
Tracy Hammond, Karan Watson, Samantha Ray, Robert Lightfoot, Shawna Thomas, Drew Casey (Texas A&M Univ)
- [34685](#) Efficacy of Using Producer Price Indexes for Bulk Chemical Prices in Student Design Projects
David E Hubbard (Texas A&M Univ)
- [35066](#) Evaluation of a Peer-Led Team Learning Course Designed to Increase Underprepared Students Success in Engineering
David Joseph Ewing (Univ of Texas-Arlington)
- [35101](#) Automating Project Team Formation with Heterogeneous Project Preferences and Skill Mix Constraints
Joseph Donndelinger, Adam Weaver, James Carlton Bates, Timothy Russell (Baylor Univ)
- [35144](#) Broad faculty participation in course-level evaluation of student outcomes supporting continuous improvement of an undergraduate engineering program
Randall D. Manteufel, Amir Karimi (Univ of Texas-San Antonio)

Day 1, Session 2, Track B: Graduate Papers

Moderator: Anne Spence

Host: Ken Van Treuren

- [35105](#) Recent Strategies for improving Undergraduate Engineering Education: A Review
Monikka M. Mann, George Tan (Texas Tech Univ)
- [35140](#) UAV Parameter estimation through machine learning
Andres Enriquez Fernandez, Louis J. Everett, Miguel Cedeno (Univ of Texas-El Paso)
- [35155](#) Indentation Testing of 3D Metal-Printed Alloys used in Aerospace Applications
Laith Ahmed Alqawsami, Tariq Khraishi, David A. Otazu, Pankaj Kumar (Univ of New Mexico)
- [35158](#) Child vs Adult Speaker Diarization of naturalistic audio recordings in preschool environment using Deep Neural Networks
Prasanna V. Kothalkar, John H. L. Hansen (Univ of Texas-Dallas), Dwight Irvin, Jay Buzhardt (Univ of Kansas), Beth S. Rous (Univ of Kentucky)

Thursday, March 25th

<i>12:00pm – 12:50pm:</i>	Opening Remarks and Keynote Presentation
<i>12:50pm – 1:00pm:</i>	Break
<i>1:00pm – 2:15pm:</i>	Concurrent Sessions
<i>2:15pm – 2:35pm:</i>	Break
<i>2:35pm – 4:05pm:</i>	Concurrent Sessions

Keynote Biography and Concurrent Session Papers are located on the next pages

ASEE Gulf-Southwest Keynote Presentation

Keynote Speaker: Thursday, March 25, 2021

Lauren Dreyer, Sr. Director Starlink Business Operations, SpaceX



Lauren Dreyer is SpaceX's Sr. Director of Starlink Business Operations. She previously held roles in SpaceX as a Principal Operations Engineer, and Sr. Director of Human Resources and Business Operations. Dreyer joined SpaceX in 2006 after receiving a Bachelor of Science in mechanical engineering from Baylor ('05) and an MBA from Texas A&M ('06). In her 14+ years at SpaceX, Dreyer has pursued unique applications of her engineering and business skills and supported sales, compliance, risk management, advanced projects, human resources, recruiting, and corporate finance. Notable accomplishments include closing billions of dollars of launch contracts, negotiating technical and business terms for the world's largest single commercial launch deal ever signed, managing site selection of the world's first commercial orbital launch site in south Texas, and being appointed by Governor Abbott to the Texas Aerospace and Aviation Advisory Committee.

Presentation: Launching Our Future: SpaceX Overview

Abstract: SpaceX was founded under the belief that a future where humanity is out exploring the stars is fundamentally more exciting than one where we are not. Today SpaceX is actively developing the technologies to make this possible, with the ultimate goal of enabling human life on Mars. Lauren Dreyer, SpaceX's Sr. Director of Starlink Business Operations, will provide a brief overview of SpaceX's progress to date and plans for the future.

1:00pm – 2:15pm: Concurrent Sessions

Day 2, Session 1, Track A: Undergraduate Papers

Moderator: Tracy Hammond

Host: Joe Donndelinger

- [35086](#) Distance Measure Concepts for Bayesian Inference of Chaotic Dynamical System Parameters
Colin Burdine (Baylor Univ)
- [35094](#) Design and Development of a House with Recycled and Renewable Materials
Hannah Lynn Johnson, Ulan Dakeev (Sam Houston State Univ)
- [35102](#) Design of An Innovative Module for Mars Habitation
Edgar Reyes, Mohammad Abu Rafe Biswas, Andres C Garcia, Benjamin Lee Stilwell, Jongin Aaron Sithideth, Christian Puckett, Christopher Nobinger, Cassandra Ellis (Univ of Texas-Tyler)
- [35107](#) Development of a Hybrid Ultraviolet Imaging Algorithm for Optical Sensing Systems
Ron D. Cooper Jr., Okan Caglayan (Univ of the Incarnate Word)
- [35118](#) Automated Oscillating Fan Using Microcontroller
Iftekhar Ibne Basith, Joseph Strachan (Sam Houston State Univ)

Day 2, Session 1, Track B: Graduate Papers

Moderator: Lynn Peterson

Host: Anne Spence

- [35071](#) Towards Scalable Clinical Immersion Experiences for Engineering Students
Brandon Bakka, Henry Grady Rylander III, Mia K. Markey (Univ of Texas-Austin), Julia N. Savoy (Univ of Wisconsin-Madison)
- [35078](#) Creation of a Novel Tool for the Design and Evaluation of UAS Propellers
Brett Bennett, Kenneth Van Treuren (Baylor Univ)
- [35114](#) Thermoelectric Generation in Waste Heat Recovery Methods
David Walden, Kenneth R. Leitch, Roy Jean Issa, Emad Manla (West Texas A&M Univ)
- [35154](#) Stress Field of a Rectangular Dislocation Loop
Luo Li, Tariq Khraishi (Univ of New Mexico)
- [35176](#) FPGA/MATLAB Hardware in the Loop Testbed for Stochastic Artificial Neural Networks
Jacob Boline, Matthew Carrano, Scott Koziol (Baylor Univ), John DiCecco, Eugene Chabot (Univ of Rhode Island)

2:35pm – 4:05pm: **Concurrent Sessions**

Day 2, Session 2, Track A: Faculty/Staff/Professional Papers

Moderator: Mohammad Biswas

Host: Joe Donndelinger

- [35040](#) Design and Development of Virtual Reality Engineering Expeditions - Innovations in Online Engineering Education
Araceli Martinez Ortiz, Cindy D. Rojas Annicchiarico, B. J. Spencer (Texas State Univ)
- [35065](#) Teaching Engineering Virtually: A Rapid Response to Address the Academic Challenges Generated by COVID-19
Eleazar Marquez (Rice Univ), Samuel Garcia Jr. (Texas State Univ)
- [35087](#) Analysis of undergraduate students' learning experience regarding hands on laboratory courses using new innovated techniques of hybrid delivery
Md Shahriar J. Hossain, Rafiqul Islam (Northwestern State Univ)
- [35093](#) Interactive Creativity Activities in Remote Learning
David Novick (Univ of Texas-El Paso)
- [35097](#) Teaching Modalities During the COVID-19 Pandemic
Dani Fadda, Oziel Rios, Roopa Vinay (Univ of Texas-Dallas)
- [35098](#) Online delivery of engineering courses where hand calculations are vital
Dani Fadda, P. L. Stephan Thamban (Univ of Texas-Dallas)

Day 2, Session 2, Track B: Faculty/Staff/Professional Papers/Abstract Only

Moderator: Scott Koziol

Host: Anne Spence

- [35089](#) Delivering a Hyflex Statics Course in a Flipped Classroom Model
Paul R. Griesemer (Univ of Mary Hardin-Baylor)
- [35146](#) Engineering Leadership: Transitioning from Soft Skills to Hard Data
B. Michael Aucoin, Brandon Bowen (Texas A&M Univ)
- [35111](#) Intro to Mechanical Engineering: A New Course to Improve Major Trajectory
Ahmed Hasan, Tariq Khraishi (Univ of New Mexico)
- [35073](#) REU: A Balancing Act (Abstract Only)
Margo Cousins, Laura Suggs, Mia K. Markey (Univ of Texas-Austin)
- [35112](#) Preparing for an Online ABET Visit
Matthew G. Green, Chad L. File (LeTourneau Univ)
- [35113](#) Preparation of Documents for ABET Accreditation During the COVID-19 Pandemic
Amir Karimi, Randall D. Manteufel (Univ of Texas-San Antonio)

Friday, March 26th

<i>12:00pm – 12:50pm:</i>	Opening Remarks and Keynote Presentation
<i>12:50pm – 1:00pm:</i>	Break
<i>1:00pm – 2:30pm:</i>	Concurrent Sessions
<i>2:30pm – 2:50pm:</i>	Break
<i>2:50pm – 4:05pm:</i>	Concurrent Sessions
<i>4:05pm – 4:15pm:</i>	Break
<i>4:15pm – 4:30pm:</i>	Best Paper Awards
<i>4:30pm – 4:45pm:</i>	Promotion for ASEE GSW 2022
<i>4:45pm – 4:55pm:</i>	Closing the Conference

Keynote Biography and Concurrent Session Papers are located on the next pages

ASEE Gulf-Southwest Keynote Presentation

Keynote Speaker: Friday, March 26, 2021

Kimberly Mackenroth, Vice President and CIO, *Textron Inc.*



Kimberly A. Mackenroth is vice president and chief information officer for Textron Inc. In this role, she leads the business unit chief information officers and the Textron Information Systems (TIS) organization. She oversees Textron's Information Management Council and manages Textron's information technology supplier and outsourcing relationships. Mackenroth joined Bell in 1996 and held numerous positions of increasing responsibility across functions such as supply chain, manufacturing and integrated product teams in support of helicopter programs. Appointed as director of IT in 2008, she led a multi-discipline team that provided IT services to the global business during a period of significant business system

change. In 2011, she was named VP & CIO of Textron Tools & Test, a position she held for two years before being appointed to her role at Textron Aviation. She holds a B.S. in management from Baylor University and an M.B.A. from the University of Texas at Arlington.

Presentation: Bridging Our Path to the New Normal

Abstract: Textron is a multi-industry company employing 35,000 talented makers, thinkers, creators and doers worldwide. We serve customers in industries spanning aerospace and defense, specialized vehicles, turf care and fuel systems. Throughout the COVID-19 pandemic, Textron has focused on fulfilling our commitments to our customers while swiftly enhancing the safety of our workplaces to protect the health of our employees. We have also worked closely with our business partners and suppliers and provided help and supplies to the communities where we work and live. Discover some of the ways we are rising to meet the challenges of this unprecedented event.

1:00pm – 2:30pm: Concurrent Sessions

Day 3, Session 1, Track A: Faculty/Staff/Professional Papers

Moderator: Ken Van Treuren

Host: Ken Carriveau

- [35108](#) Simulated Laboratory-Based Learning in A Thermal Fluid Laboratory Course
Mohammad Abu Rafe Biswas, Benjamin Stilwell, Edgar Reyes (Univ of Texas-Tyler)
- [35142](#) Improving the Instructional Strategies of Traditional Electrical Engineering Course during the Pandemic
Yasser Mahgoub, Prabha Sundaravadivel (Univ of Texas-Tyler)
- [35143](#) Personal Experiences from Teaching Virtually Online During the COVID-19 Pandemic
Tariq Khraishi (Univ of New Mexico)
- [35075](#) Innovative Neighborhood for the Homeless: A Combined Technological-Socioeconomic Approach to Engineering Senior Design
Nathan Howell, Kenneth R. Leitch, Vinu Unnikrishnan, Erick Butler (West Texas A&M Univ)
- [35123](#) Self-publish textbook for Embedded System Education using an MSP432 microcontroller
Byul Hur (Texas A&M Univ)

Day 3, Session 1, Track B: Faculty/Staff/Professional Papers

Moderator: Scott Koziol

Host: Anne Spence

- [35096](#) A Mini-Maker Faire Via Zoom
*Wei Zhan, Bugrahan Yalvac, Byul Hur (Texas A&M Univ),
Yonghui Wang (Prairie View A&M Univ)*
- [35104](#) Virtual Engineering Summer Camp in the age of COVID-19 Pandemic
Anveeksh Koneru, George Nnanna (Univ of Texas-Permian Basin)
- [35106](#) STEM Enhancement in Earth Science (SEES): A Reimagining of an Onsite NASA/TSGC/UTCSR high school internship program
Celena Miller, Margaret Baguio (Univ of Texas-Austin)
- [35119](#) Outreach and Recruitment with 3D Printing and CAD
Mehmet Emre Bahadir (Southeastern Louisiana Univ)
- [35080](#) First-Year Engineering Program Curriculum ReDesign
Randy H. Brooks (Texas A&M Univ)
- [35081](#) A Pre-Baccalaureate Engineering Course for the Road Ahead
Randy H. Brooks (Texas A&M Univ)

2:50pm – 4:05pm: Concurrent Sessions

Day 3, Session 2, Track A: Faculty/Staff/Professional Abstract Only

Moderator: Ari Torrabla

Host: Ken Carriveau

- [35125](#) Work in Progress: Conversion of Collaborative Problem-Based Learning Activities from Face-to-Face to Online*
Charles Patrick (Texas A&M Univ)
- [35135](#) Teaching with STEM Project-Based Learning in a Virtual Summer Camp*
Michael S. Rugh, Mary Margaret Capraro, Robert M. Capraro (Texas A&M Univ)
- [35150](#) How the Pandemic Improved My Teaching: Consolidating gains from a time of loss*
Byron Newberry (Baylor Univ)
- [35115](#) Adjustments Made in Students Delivery of Project Results in Undergraduate and Graduate Courses Due to Covid-19 Pandemic*
Amir Karimi (Univ of Texas-San Antonio)

Day 3, Session 2, Track B: Faculty/Staff/Professional Papers/Abstract Only

Moderator: Cyrus Hagigat

Host: Anne Spence

- [35134](#) Implementation of a new student initiative: Promoting Student Success and Well-Being
Nina Kamath Telang, Nisha Abraham, Althea Louise Woodruff (Univ of Texas-Austin)
- [35051](#) Emergency Management Technology Program*
HuiRu Shih, Kionna J. Taylor, Amaris Edwards (Jackson State Univ)
- [35133](#) Students Involvements in Learning of Pollution Prevention and Energy Efficiency Assessment of Businesses in New Mexico*
Jalal Rastegary, Jason Dana, Patricia Sullivan, Amirreza Barin (New Mexico State Univ)
- [35120](#) Proposing a University Core Course in Leadership Innovation in Engineering*
Peter Golding, Mike Thomas Pitcher, Diane Elisa Golding, Cole Hatfield Joslyn, Anneliese Mari Fensch (Univ of Texas-El Paso)
- [35122](#) Experience Teaching a Two Course Sequence in Engineering Innovation & Leadership*
Peter Golding, Mike Thomas Pitcher, Cole Hatfield Joslyn, Anneliese Mari Fensch (Univ of Texas-El Paso)

**No paper included in proceedings. Please contact authors for further details*

Conference Papers and Abstracts Only

Located In

<https://baylor.box.com/s/bc4ije7dg4hthrqers4srmq61k84gjof>

Baylor ATTENDIFY web platform

https://ve.attendify.com/index/4tuo80/s_4tuo80/login