SHPE Faculty Development Symposium 2024 Agenda
Location: Anaheim Marriott, Northeast Ballroom
October 31, 2024
8:00 am – 6:00 pm

Agenda

Time	Activity	Speaker
8:00-8:45 am	Registration & Breakfast	N/A
8:45-9:00 am	Welcome Remarks	SHPE's CEO Suzanna Valdez-Wolfe
9:00-10:00am	Session #1 Topic: *Leadership Pathways*	Dr. Abel Chavez
10:00 – 10:15	Break	
10:15-11:15 am	Concurrent Session #2 Topic: *Building a Strong Research Portfolio*	Carlos M. Rinaldi-Ramos
	Concurrent Session #2 Topic: *Building a Strong Teaching Portfolio*	Alejandro Gutiérrez
11:15 – 12:15 pm	Session #3 Topic: *Mental Health*	Matilde Sánchez-Peña
12:15-1:15 pm	Lunch	Members of the Industry Partnership Council
1:15 – 2:15 pm	Session #4 Topic: *Mentoring and Advising Students*	Dr. Alvaro Cardenas
2:15-3:15 pm	Deans Panel TT	Deans from the Academic Partnership Council
	Agency Reps Panel NTT	Dept of Energy, NSA, NIST
3:15-4:15 pm	Agency Reps Panel TT	Dept of Energy, NSA, NIST
	Deans Panel: NTT	Deans from the Academic Partnership Council
4:15-4:30 pm	Break	
4:30 – 5:30 pm	Session #5 Topic: *Culturally Responsive Teaching*	Homero Murzi
5:30 – 6:00 pm	Department of Education	
6:30 – 9:30pm	Networking	At a local restaurant

Session Descriptions

Session #1: Leadership Pathways

Presenter: Dr. Abel Chavez

Speaker Bio:

Dr. Abel Antonio Chávez will begin his third year as the president of Our Lady of the Lake University (OLLU) in July. In the short time he has served as OLLU's 10th president, Dr. Chávez has energized the university by leading efforts to secure more than $34 million in donations and grants and raised its profile through extensive outreach with local, state and national leaders.
An integrative leader and learner, Dr. Chávez has served in multiple roles in and beyond higher education. A civil and environmental engineer, he is a global leader in community-based energy, material, and greenhouse gas emissions accounting and has partnered with various local governments and institutions of higher education across the world. His personal and professional background affords him a unique perspective and holistic understanding of the university operation.

Abstract: What is leadership? Who is a leader? How long have you been a leader and in leadership?

Leadership is just like the richness and complexity of what makes you uniquely you; it is complex, and there is no one-size-fits-all definition. As an influential leader whose many gifts are moving society forward, your journey allows you to center your passion to shoulder your calling. Undoubtedly, you already have lots of "Ganas" (or desire), though having the tools and resources to help you navigate and build the future you aspire to makes your leadership journey more enjoyable. In this session, Dr. Abel A. Chávez, President of Our Lady of the Lake University (OLLU) in San Antonio, TX, will share his leadership journey and reflect on the principles and some of the tools and 'hacks' that have guided him, and are guiding him. As OLLU's president, he leads OLLU to becoming the country's leading Latino/a university.

Dr. Chávez is the first Latino to lead OLLU, the same institution that is the birthplace of many Latino/a and Hispanic movements that have shaped our country, including the birthplace of HACU (Hispanic Association for Colleges and Universities), the organization that led Congress to create the Hispanic Serving Institutions designation formally.

Moderator: Alex Mejia

Moderator Bio: Dr. Joel Alejandro (Alex) Mejia is an Associate Professor with joint appointment in the Department of Biomedical Engineering and Chemical Engineering and the Department of Bicultural-Bilingual Studies at The University of Texas at San Antonio. Prior to academia, he worked as a project engineer for the Department of Defense, Rio Tinto, and FLSmidth Minerals. Dr. Mejia's work seeks to analyze and describe the assets, tensions, contradictions, and cultural collisions many Latino/a/x students experience in engineering through *pláticas* and *testimonios*. His research has contributed to the integration of critical theoretical frameworks in engineering education to investigate deficit ideologies and their impact on minoritized communities. He is particularly interested in approaches that contribute to a more expansive understanding of engineering in sociocultural contexts, engineering education in bilingual contexts, and the impact of critical consciousness in engineering practice. Dr. Mejia received the NSF CAREER Award in 2020 for his project titled "CAREER: Breaking the Tradition of Silence through Conocimiento and Consciousness Raising among Latinx Engineers."

Concurrent Session #2: Building a Strong Research Portfolio

Presenter: Dr. Carlos M. Rinaldi-Ramos - Department of Chemical Engineering and J. Crayton Pruitt Family Department of Biomedical Engineering, University of Florida, Gainesville, FL 32611

Presenter Bio:

Carlos M. Rinaldi-Ramos has served as the Chair and Dean's Leadership Professor in the Department of Chemical Engineering at the University of Florida since 2017, and a Professor in Chemical Engineering and the J. Crayton Pruitt Family Department of Biomedical Engineering since 2012. Prior to that, he was a Professor at the University of Puerto Rico, Mayagüez from 2002 to 2012. He received his Bachelor of Science degree in chemical engineering at the University of Puerto Rico, Mayagüez, and completed degrees in Master of Science in Chemical Engineering, Master of Science in Chemical Engineering Practice, and Doctor of Philosophy in Chemical Engineering at the Massachusetts Institute of Technology. At the University of Florida, he has participated in numerous faculty searches and tenure and promotion actions and is frequently asked to provide letters for tenure and promotion cases at other institutions. As chair of chemical engineering, he has recruited 11 tenure track faculty and 4 teaching track faculty, led the department towards a >30% increase in research expenditures and 45% in the size of the PhD program, and recently secured >$40M in State and University funds to renovate the department's facilities. Dr. Rinaldi-Ramos is a leading researcher in the field of biomedical applications of magnetic nanoparticles and is committed to broadening participation of women and minorities in science and engineering. He was awarded the Presidential Early Career Award for Scientists and Engineers (PECASE) and is Fellow of the American Association for the Advancement of Science (AAAS), the American Institute for Medical and Biological Engineering (AIMBE), the American Institute of Chemical Engineers (AIChE), and the Society of Rheology.

Abstract:

Building and maintaining a strong research portfolio is critical for success as an engineering faculty member in many academic institutions. This workshop is intended to inspire and guide aspiring and new faculty members through the essential components of a research-focused career. Drawing on his experience as a principal investigator and in recruiting and mentoring engineering faculty, Dr. Rinaldi-Ramos will provide an overview of a typical research career path in engineering, emphasizing key skills that are crucial for success. Participants will learn how to effectively manage their time, generate and select impactful research ideas, and strategically plan their research from inception to publication. Dr. Rinaldi-Ramos will discuss strategies for "managing up" (working effectively with supervisors and senior colleagues), "managing down" (mentoring and setting expectations students and trainees), and "managing sideways" (working with peers at similar career stages), as well as the importance of building a strong professional network. The session will provide insights into navigating the tenure and promotion process, balancing research with teaching responsibilities, and contributing to the broader academic community. By the end of the workshop, attendees will be equipped with actionable strategies to build a robust and sustainable research portfolio necessary for a successful and fulfilling career as an engineering faculty.

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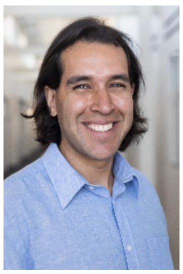
Concurrent Session #2: Building a Strong Teaching Portfolio



Presenter: Alejandro Gutierrez

Presenter Bio:
Alejandro Gutiérrez is an Associate Teaching Professor of Mechanical Engineering and Associate Dean of Student Success at the School of Engineering at the University of California Merced. He is an alumnus of the Faculty Development Symposium and a faculty advisor for the UC Merced SHPE chapter. Throughout his career, he has focused on engineering education and professional development for Hispanic students and faculty.

Abstract:
In this workshop, we will discuss the steps to create a teaching portfolio that will help you advance your career. We will focus on gathering and interpreting student learning data, documenting your teaching effectiveness, highlighting your activities to improve student learning, and writing a compelling teaching statement. This will be a hands-on active experience, so be ready to work on your own teaching portfolio during the session!

Moderator: Sindia Rivera-Jimenez, PhD.

Moderator Bio: Dr. Rivera-Jiménez is an Assistant Professor in the Department of Engineering Education (EED) at the University of Florida, with affiliations in the Department of Chemical Engineering and the Institute of Higher Education in the College of Education. She directs the Engineering Communities & Participatory Change (EcoPaC) Research Group, focusing on propagating and sustaining transformative and effective STEM teaching and learning through institutional practices and involvement in professional society. Her research interests include theory-driven educational design to re-envision learning environments, developing innovative pathways for student transfers and success in four-year institutions, and understanding faculty learning through communities of practice. Through a transformative philosophical framework aimed at broadening the participation of underserved individuals in the engineering workforce, she utilizes multiple theories and mixed methods to understand participant realities and promote policies for change. Dr. Rivera-Jiménez received her bachelor's and doctoral degrees in Chemical Engineering from the University of Puerto Rico, Mayagüez. Before joining the University of Florida, she was an Assistant Professor in the Food Science and Technology Program in the College of Agriculture at the University of Puerto Rico, Mayagüez, and served as a chemistry faculty member in the Department of

Natural Science at Santa Fe Community College. Committed to broader impacts through service, she hosts "The Engineering Professor Speaks Education Podcast," a bilingual series exploring effective engineering education, and she is the co-founder and Senior Advisor of the LatinX in Chemical Engineering affinity group at AIChE.

Session #3: Mental Health: Focusing on Faculty

Presenter: Dr. Matilde Sánchez-Peña

Presenter Bio:

Dr. Matilde Sánchez-Peña is an assistant professor of Engineering Education at the University at Buffalo – SUNY where she leads the Diversity Assessment Research in Engineering to Catalyze the Advancement of Respect and Equity (DAREtoCARE) Lab. Her research focuses on developing cultures of care and well-being in engineering education spaces, assessing gains in institutional efforts to advance equity and inclusion, and using data science for training socially responsible engineers.

Abstract:

Engineering faculty have a plethora of demands, which tend to put a strain on our wellbeing. Latine faculty, often have additional demands that are derived from our own intersectionality that requires us to take care of our comunidad. As a result, we can fall into the mindset of constant giving as a responsibility that we gladly satisfy without paying attention to our own needs. The goal of this workshop is to provide a space for revisiting this provider paradigm; recognizing the old adage "you cannot pour form an empty cup," we will explore how we can advance into a role-modeling paradigm that prioritizes faculty mental health as a basic need to keep helping others.

Moderator:

Moderator Bio:

Session #4: Mentoring and Advising Students

Presenters: Dr. Alvaro Cardenas

Presenter Bio:

Alvaro A. Cardenas is an Professor of Computer Science and Engineering at the University of California, Santa Cruz. Before joining UCSC he was the Eugene McDermott Associate Professor of Computer Science at the University of Texas at Dallas, a postdoctoral scholar at the University of California, Berkeley, and a research staff member at Fujitsu Laboratories. He holds M.S. and Ph.D. degrees from the University of Maryland, College Park, and a B.S. from Universidad de Los Andes in Colombia. His research interests focus on security and privacy of emerging technologies and cyber-physical systems, including autonomous vehicles, drones, and SCADA systems controlling the power grid and other critical infrastructures. He is the recipient of the NSF CAREER award, the 2018 faculty excellence in research award from the Erik Johnson School of Engineering and Computer Science, the Eugene McDermott Fellow Endowed Chair at UTD, and the Distinguished Service Award from the IEEE Computer Society Technical Committee on Security and Privacy. He has also received best paper awards from various venues, including the ACM CPS & IoT Security Workshop, IEEE Smart Grid Communications Conference, and the U.S. Army Research Conference. Cardenas' research has been funded by NSF, ARO, AFOSR, NSA, NIST, MITRE, DHS, DoT, Google, Phoenix Technologies, and Intel.

Abstract:

Moderator: Mariantonieta Gutierrez Soto

Moderator Bio: Mariantonieta Gutierrez Soto, PhD, is an assistant professor of Engineering Design with affiliation in the Department of Architectural Engineering and the Department of Civil and Environmental Engineering at Penn State. She is the Director of the Design of Resilient, Engineered, Autonomous, and Multifunctional (DREAM) structures lab. She is currently the Global Engineering program coordinator at the School of Engineering Design and Innovation for study abroad courses to Germany, Singapore, and Spain. Dr. Gutierrez Soto holds a M.S. and Ph.D. degree in Civil Engineering with a focus on structures from the Ohio State University under mentorship and guidance of renowned Prof. Hojjat Adeli. She was the recipient of the "Teacher Who Made a Difference" award in 2020 and the "Faculty Research Mentor of the Week" award in 2019 from the University of Kentucky. She received the Presidential Fellowship in 2016. She was faculty advisor of SHPE at University of Kentucky (2018-2021). Her current research interests include structural control for vibration mitigation of civil infrastructure, post-extreme event reconnaissance missions, and more. Her research has been sponsored by the National Science Foundation and the Convergence of Multifunctional Materials Center at Penn State. More information can be found at sotostructures.com.

Moderator: Alex Mejia

Moderator Bio: Dr. Joel Alejandro (Alex) Mejia is an Associate Professor with joint appointment in the Department of Biomedical Engineering and Chemical Engineering and the Department of Bicultural-Bilingual Studies at The University of Texas at San Antonio. Prior to academia, he worked as a project engineer for the Department of Defense, Rio Tinto, and FLSmidth Minerals. Dr. Mejia's work seeks to analyze and describe the assets, tensions, contradictions, and cultural collisions many Latino/a/x students experience in engineering through pláticas and testimonios. His research has contributed to the integration of critical theoretical frameworks in engineering education to investigate deficit ideologies and their impact on minoritized communities. He is particularly interested in approaches that contribute to a more expansive understanding of engineering in sociocultural contexts, engineering education in bilingual contexts, and the impact of critical consciousness in engineering practice. Dr. Mejia received the NSF CAREER Award in 2020 for his project titled "CAREER: Breaking the Tradition of Silence through Conocimiento and Consciousness Raising among Latinx Engineers."

Agency Panel:
Moderator: Alejandro

Deans Panel:
Moderator: Sindia

Session #5: Culturally Responsive Teaching

Presenters: Dr. Homero Murzi

Presenter Bio:

Dr. Homero Murzi (he/él/his) is an Associate Professor and Director of Engineering Education at Marquette University with honorary appointments at the University of Queensland (Australia) and University of Los Andes (Venezuela). Homero is the leader of the Engineering Competencies, Learning, and Inclusive Practices for Success (ECLIPS) Lab, a research community focused on studying contemporary and inclusive pedagogical practices, emotions in engineering, competency development, and understanding the experiences of Latinx and Native Americans in engineering from an asset-based perspective. Homero has been recognized as an NSF CAREER awardee, a Diggs Teaching Scholar, a Graduate Academy for Teaching Excellence Fellow, a Global Perspectives Fellow, a Diversity Scholar, a Fulbright Scholar, and was inducted into the Bouchet Honor Society. Homero serves as the Incoming Chair of the American Society for Engineering Education (ASEE) Faculty Development Division, and the Chair of the Research in Engineering Education Network (REEN). He holds degrees in Industrial Engineering (BS, MSc) from the National Experimental University of Táchira, Master of Business Administration (MBA) from Temple University, and Engineering Education (PhD) from Virginia Tech.

Abstract:

In this talk, I plan to discuss the importance of incorporating the voices of our students in our teaching practices. My goal is to help participants improve their learning environments and teaching practices by acknowledging and supporting the cultural knowledge students possess. Just as our learning environments are complex, so are the individuals that comprise them. Everyone has visible as well as "invisible" cultural identities and culturally relevant pedagogy attends to those differences. Learning happens when we can connect the new knowledge we are receiving to our previous experiences, so being able to make those connections despite our backgrounds is really important. Similarly, a key aspect of learning is to feel safe. When we feel safe and recognize that our ideas are valued, we have the motivation to engage with the collective construction of knowledge. Best practices around CRP and some research results will also be shared.

Moderator: Mariantonieta Gutierrez Soto, Ph.D

Moderator Bio: Mariantonieta Gutierrez Soto, PhD, is an assistant professor of Engineering Design with affiliation in the Department of Architectural Engineering and the Department of Civil and Environmental Engineering at Penn State. She is the Director of the Design of Resilient, Engineered, Autonomous, and Multifunctional (DREAM) structures lab. She is currently the Global Engineering program coordinator at the School of Engineering Design and Innovation for study abroad courses to Germany, Singapore, and Spain. Dr. Gutierrez Soto holds a M.S. and Ph.D. degree in Civil Engineering with a focus on structures from the Ohio State University under mentorship and guidance of renowned Prof. Hojjat Adeli. She was the recipient of the "Teacher Who Made a Difference" award in 2020 and the "Faculty Research Mentor of the Week" award in 2019 from the University of Kentucky. She received the Presidential Fellowship in 2016. She was faculty advisor of SHPE at University of Kentucky (2018-2021). Her current research interests include structural control for vibration mitigation of civil infrastructure, post-extreme event reconnaissance missions, and more. Her research has been sponsored by the National Science Foundation and the Convergence of Multifunctional Materials Center at Penn State. More information can be found at sotostructures.com.