

American Society for Engineering Education 2019 Midwest Section Conference *Applied Learning and Industry Partnerships Enhancing Engineering Education*



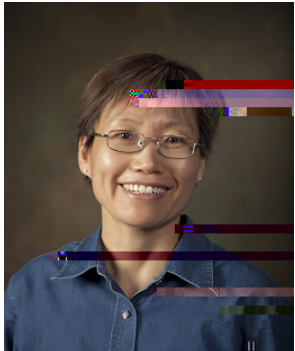
September 15-17, 2019
Wichita State University

WELCOME

A MESSAGE FROM THE WSU DEAN OF THE COLLEGE OF ENGINEERING



CONFERENCE COMMITTEE



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WELCOME

KEYNOTE SPEAKERS



JEFF SMITH

Senior Director
Manufacturing Operations



JOHN O'LEARY

Senior Director
Manufacturing Operations



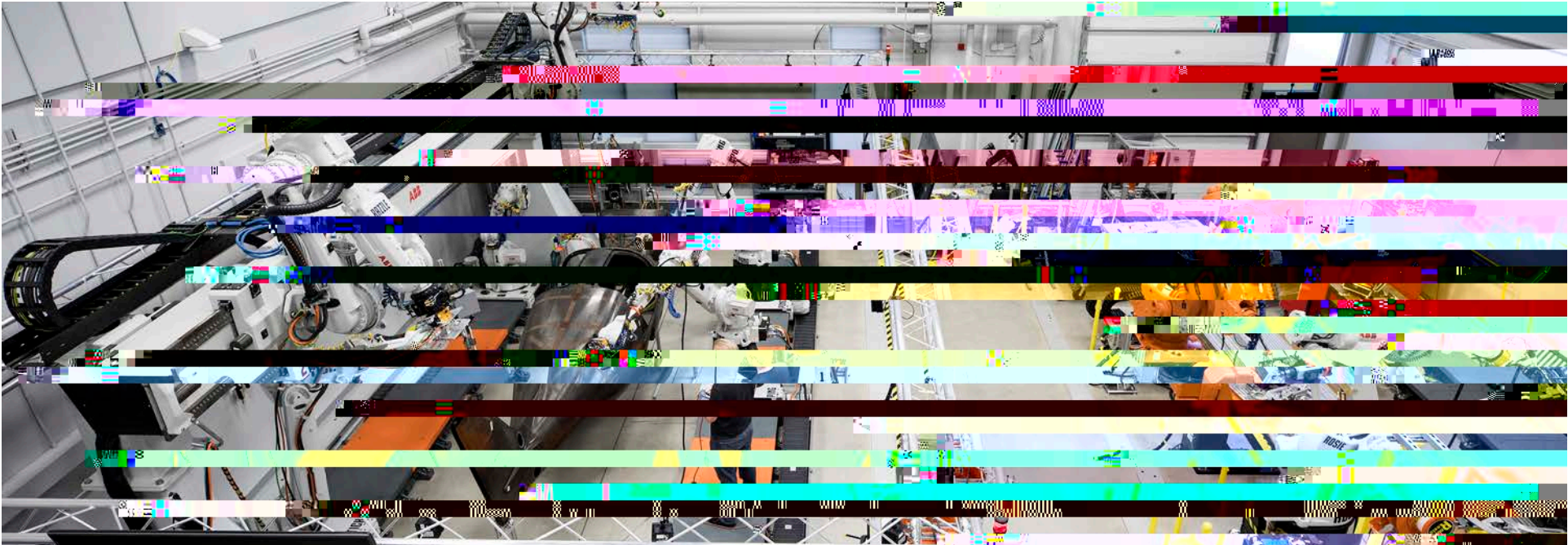
JOHN TOMBLIN

Senior Director
Manufacturing Operations



ROBERT O'SPINA | Institute for

A SPECIAL THANK YOU TO OUR SUNDAY RECEPTION SPONSOR



SUNDAY, SEPTEMBER 15, 2019

4:30 - 7:30	<p style="text-align: center;">Registration, Reception & Networking Experiential Engineering Building (EEB) Lobby</p>
5:30	<p style="text-align: center;">Welcome Address</p>
6:00 , 6:15 & 6:30	<p style="text-align: center;">Experiential Engineering Building Tours</p>

MONDAY, SEPTEMBER 16, 2019

7:30			

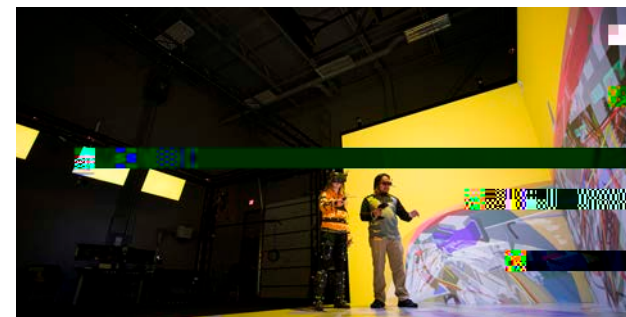
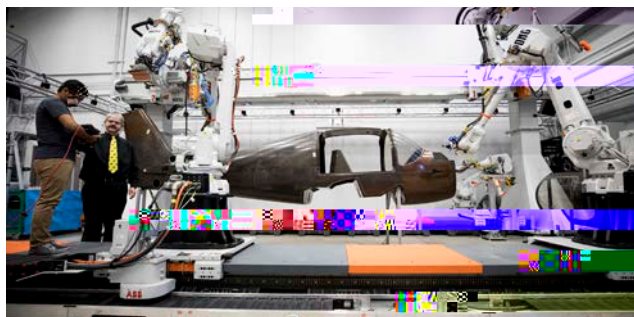
AGENDA

MONDAY, SEPTEMBER 16, 2019 CONT.

3:30 - 5:00	Lucas Room (RSC 265)	Beggs Ballroom West
6:00 - 8:00	Banquet, Keynote Address & Section Awards Beggs Ballroom East	
8:00 - 9:00	Midwest Section Executive Meeting Pike Room (RSC 266)	

TUESDAY, SEPTEMBER 17, 2019

7:30	Registration & Breakfast Aster Lounge & Beggs Ballroom East	
8:30 - 9:00	Closing Keynote Address Beggs Ballroom East	
9:15 - 10:35	Lucas Room (RSC 265)	Pike Room (RSC 266)
10:45 - 11:45	Lucas Room (RSC 265)	Herrman Room (RSC 262)
12:00 - 1:00	Lunch & Conference Awards Beggs Ballroom East	







SESSION ABSTRACTS

CONCURRENT SESSION I

PROBLEM-BASED LEARNING

Tank Depressurization Experiments for the Classroom or Laboratory

INDUSTRY & ENTREPRENEURSHIP



SESSION ABSTRACTS

CONCURRENT SESSION II

STATICS & DYNAMICS EDUCATION

Prerequisite Testing as a Tool to Gauge Incoming Student Capability and Knowledge in an Engineering Statics Course

Abstract: This abstract discusses the implementation of prerequisite testing in an engineering statics course. The study involved a cohort of 100 students, with 300+ data points collected. The results show that prerequisite testing effectively gauges incoming student capability and knowledge, leading to improved course outcomes.

Restructuring a Modeling Dynamics Course with Absorb-Do-Connect Learning Units

Abstract: This abstract describes the restructuring of a modeling dynamics course using Absorb-Do-Connect Learning Units. The course was redesigned to focus on learning objectives and student engagement. The results show that this approach led to improved student performance and understanding of the course material.

Student Performance Characteristics in a Hybrid Engineering Statics Course

Abstract: This abstract examines student performance characteristics in a hybrid engineering statics course. The study analyzed student performance across different learning modalities and identified key factors influencing success. The results show that a hybrid approach can effectively support diverse learning styles and improve student performance.

POSTERS

Effect of an Engineering Camp on Elementary Students Understanding of Engineering and Attitudes toward Engineering

Abstract: This abstract reports on the impact of an engineering camp on elementary students' understanding of engineering and their attitudes toward the field. The study found that participation in the camp significantly increased students' knowledge and positive attitudes toward engineering, suggesting the value of hands-on learning experiences for young children.

Work in Progress: Evaluating the Impact of an Expanded Sophomore Design Curriculum for Aerospace Engineering Students

Abstract: This abstract presents a work-in-progress report on evaluating the impact of an expanded sophomore design curriculum for aerospace engineering students. The study is currently underway and aims to assess the effectiveness of the new curriculum in enhancing student design skills and knowledge.

Abstract: This abstract discusses the implementation of a student-built electric motor project as a culminating project in an introductory physics course. The project was designed to provide students with a hands-on learning experience and to reinforce their understanding of physics concepts.

Student-Built Electric Motor Project as a Culminating Project in Introductory Physics

Abstract: This abstract describes the implementation of a student-built electric motor project as a culminating project in an introductory physics course. The project was designed to provide students with a hands-on learning experience and to reinforce their understanding of physics concepts. The results show that this approach led to improved student performance and understanding of the course material.

SESSION ABSTRACTS

CONCURRENT SESSION II

POSTERS

Master Control Unit for a Large Electric Lunar/Mars Rover

Abstract (Author: [Name])
This poster describes the development of a Master Control Unit (MCU) for a large electric Lunar/Mars rover. The MCU is designed to manage the power distribution and control the movement of the rover. It is implemented on a 64-bit microcontroller and is capable of controlling up to 20 motors. The MCU is designed to be robust and reliable, and is capable of operating in a harsh environment. The MCU is currently being tested on a rover prototype, and the results of the testing are being used to refine the design. The MCU is a key component of the rover, and its successful implementation will enable the rover to operate autonomously on the surface of the Moon or Mars.

Let's Go Full STEAM Ahead: Addressing Gender Parity

Abstract (Author: [Name])
This poster discusses the importance of addressing gender parity in the field of STEAM (Science, Technology, Engineering, Art, and Mathematics). It highlights the challenges faced by women in these fields and offers strategies for promoting gender equity. The poster emphasizes the need for a supportive environment that encourages women to pursue careers in STEAM. It also discusses the benefits of gender diversity in the workplace, including increased innovation and productivity. The poster concludes by calling for action to address gender parity in STEAM, and offers resources for individuals and organizations interested in this issue.

IGNITE PRESENTATIONS

Doing the Things That Scare You Just a Little Bit

Abstract (Author: [Name])
This ignite presentation explores the concept of "doing the things that scare you just a little bit." It discusses the benefits of stepping out of your comfort zone and taking on challenges. The presenter shares personal experiences and offers practical advice for overcoming fear and embracing uncertainty. The presentation concludes by encouraging the audience to take small steps towards their goals and to embrace the possibility of failure as a learning opportunity.

Strong-Seal Strength Research

Abstract (Author: [Name])
This poster presents research on the strength of strong-seal materials. The study involves testing various seal materials under different conditions to determine their tensile strength and durability. The results of the testing are used to identify the most effective seal materials for different applications. The poster also discusses the importance of proper seal installation and maintenance. The research findings are expected to contribute to the development of more reliable and long-lasting seal products.

SESSION ABSTRACTS

CONCURRENT SESSION V

OUTREACH & DIVERSITY

University-Led Engineering Outreach to Adults: Public Engagement and Senior Adult Initiatives

Abstract text describing the outreach initiatives, including details about public engagement and senior adult initiatives.

RESEARCH EXPERIENCES

