

<https://www.arengforum.org/>

2023 Arkansas Engineering Forum & Southeast Symposium on Contemporary Engineering Topics (SSCET) September 15, 2023

University of Arkansas - Little Rock, Engineering and Information Technology Bldg.
2801 S. University Ave, Little Rock, AR

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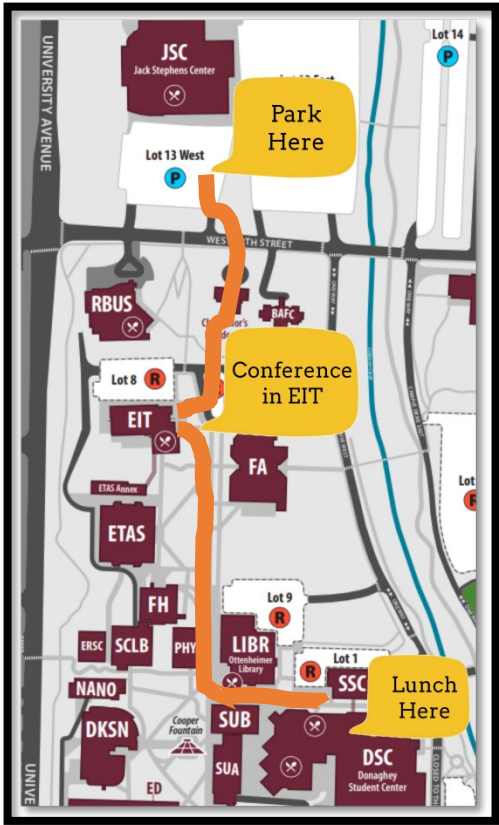


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2023 SSCET & AEF Main Schedule				
Friday, September 15 th , 2023				
7:00 AM	Check-In and Badge Pick-Up			EIT Lobby
8:00 AM	Welcome	Lawrence Whitman	Dean, College of STEM	EIT Auditorium
8:20 AM	Keynote	Charles Long	SVP Entergy	EIT Auditorium
9:00 AM	Morning Symposium Tracks			<i>See Attached Details</i>
10:30 AM	Break and Student Posters			EIT (2 nd Floor)
10:45 AM	Track Breakout Sessions			<i>See Attached Details</i>
12:15 PM	Lunch Banquet and Keynote Speaker: Scott Anderson, External Affairs Officer, Forge Institute <i>"Forging Cyber Expertise: Empowering Engineering through Cyber"</i>			Ledbetter Room (See Attached Map)
1:45 PM	Afternoon Symposium Tracks			<i>See Attached Details</i>
3:15 PM	Break, Student Posters			EIT (2 nd Floor)
3:30 PM	Track Breakout Sessions			<i>See Attached Details</i>
5:00 PM	Adjourn			



The student poster session is on the 2nd-floor. Judging will occur between 9:45 AM and 11:00 AM. Students: Please stay by your posters during the judging and afternoon break.

For PDH completion certificates, checkmark each session you attend, sign your name below on this page, and turn in this agenda to the welcome desk (2nd floor) at the end of the day. The certificate will be emailed to the address provided with you signature.

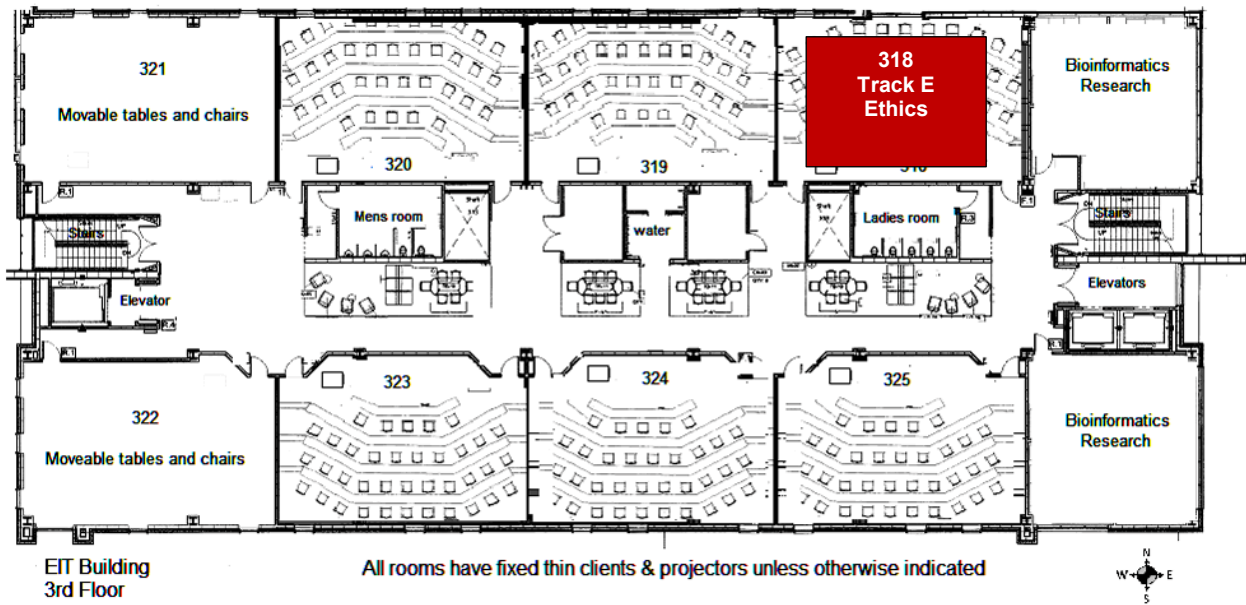
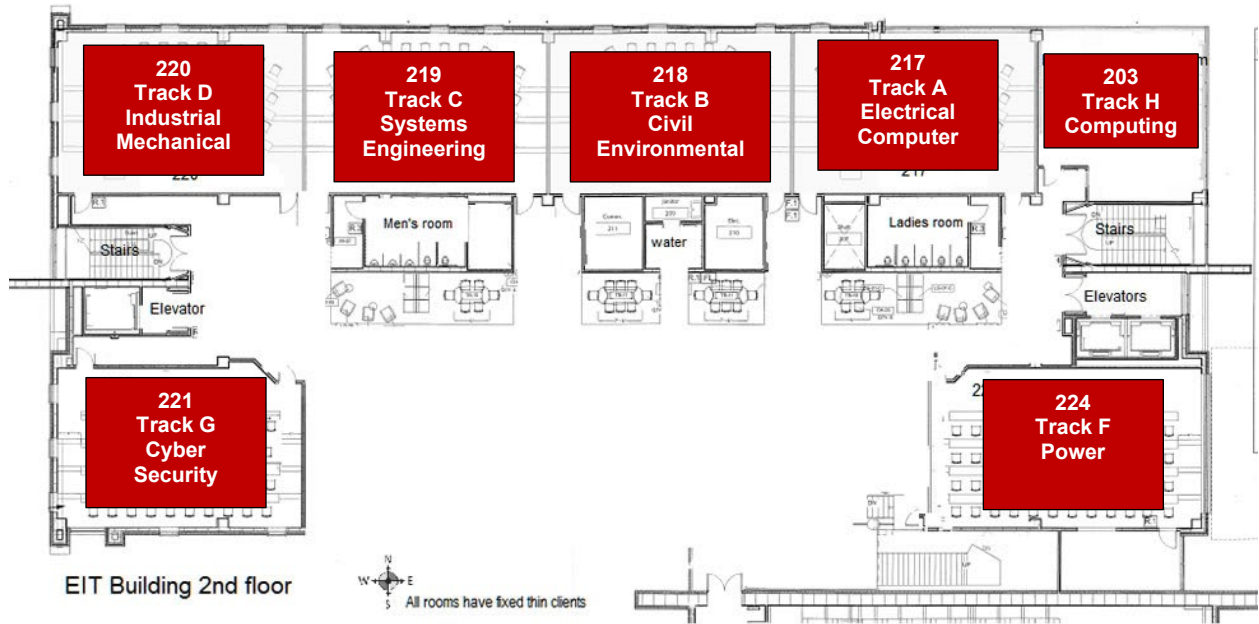
Note: Sessions presented by a student are not eligible for PDH hours (Student presenters are noted in the following track schedules)

By signing this form, I affirm that I attended the entire portion of the indicated sessions:

Full Name (Printed): _____ Email address: _____

Signature: _____ Date: _____

A PDH completion certificate will be emailed to the address provided above.



Track A (Room 217): Electrical and Computer Engineering and HPC - John Daigle (UoM)				
Attended	Time	Topic	Presenter	Affiliation
<input type="checkbox"/>	9:00 AM	A Hybrid Finite Volume/Finite Element Solver for Investigating the Space Charge Effect on the Electric Field in Liquid Argon Time Projection Chambers	Shuang Tu	JSU
<input type="checkbox"/>	9:30 AM	Verifying the Identity of Radios Using RF Fingerprints In the Presence of a Mimicking Adversary	Don Reising	UTC
<input type="checkbox"/>	10:00 AM	Industrial applications of microwaves supporting Arkansas's economy	Amirreza Awal (Student Presentation)	UofA
	10:30 AM	Break		
<input type="checkbox"/>	10:45 AM	Development of SiGeSn Technology for Monolithic Infrared Silicon Photonics	Wei Du	UofA
<input type="checkbox"/>	11:15 AM	Chiplet-Package Co-Design CAD Tools for Heterogeneous-System-in-Package (HeSiP)	Yarui Peng	UofA
<input type="checkbox"/>	11:45 AM	Impacts on Grid-Side Voltage Due to the Current Unbalance Amplification Caused by Induction Motors	Alex Cogburn (Student Presentation)	LA Tech
	12:15 PM	Lunch		
<input type="checkbox"/>	1:45 PM	Evaluating Source Unbalance Impact on Harmonic Emissions from AC-DC Rectifiers	Austin Taylor (Student Presentation)	Auburn
<input type="checkbox"/>	2:15 PM	Analysis of Aperiodic Traffic in 5G NR V2V Communications	Avijit Sarker (Student Presentation)	UofM
<input type="checkbox"/>	2:45 PM	A Machine Learning Approach to Managing 5G Network Slicing in the O-RAN Environment	Mohammad Omari (Student Presentation)	UofM
	3:15 PM	Break		
<input type="checkbox"/>	3:30 PM	A Heterogenous Multi-Robot System for Early Radiation Detection in Power Plants	Timothy Sellers (Student Presentation)	MSU
<input type="checkbox"/>	4:00 PM	Nature Inspired Intelligence and Optimization Techniques to Safety-Aware Robot Navigation and Mapping	Tingjun Lei (Student Presentation)	MSU
<input type="checkbox"/>	4:30 PM	Performance Improvement through Lean System: Case of KSEW	Syed Abdi (Student Presentation)	UALR
	5:00 PM	Adjourn		
Track B (Room 218): Civil, Coastal, and Environmental Engineering - Robert Whalin (JSU), Chair				
Attended	Time	Topic	Presenter	Affiliation
<input type="checkbox"/>	9:00 AM	Use of Cold Mix Asphalt and 100% Reclaimed Asphalt Pavement Toward Sustainability and Carbon Neutrality	Shenghua Wu	USA
<input type="checkbox"/>	9:30 AM	Is Chlorine Burn Effective in Controlling Microbial Drinking Water Quality? A Comprehensive Study in a Full-Scale Chloraminated Engineered Water System	Chiqian Zhang	ASU
<input type="checkbox"/>	10:00 AM	Evaluation of Transportation Geoinfrastructure Health using Near-Surface Remote Sensing and Geophysical Testing	Sadik Khan	JSU
	10:30 AM	Break		
<input type="checkbox"/>	10:45 AM	An Overview of the Flood Coordination Study Work at Lamar University and the Inception of The Center for Resiliency	Liv Haselbach	Lamar
<input type="checkbox"/>	11:15 AM	Multi-Scale Modeling of Granular Material Including Grain Morphology and Individual Grain Fracture	Anne Turner	UALR
<input type="checkbox"/>	11:45 AM	Understanding the Drowsy Driving Crash Patterns in Louisiana	Ashifur Rahman	ULL
	12:15 PM	Lunch		
<input type="checkbox"/>	1:45 PM	Data-driven transportation decisions using performance measures – an assessment of Louisiana's freight operations	Julius Codjoe	ULL
<input type="checkbox"/>	2:15 PM	Updating and Implementing the Grade Severity Rating System	Milhan Moomen	ULL
<input type="checkbox"/>	2:45 PM	Enhancing Groundwater Flux Modeling by Harnessing Data from Remote Sensing and Machine Learning	Pooja Preetha	AAM
	3:15 PM	Break		
<input type="checkbox"/>	3:30 PM	Nationwide Evaluation of the State of Practice of Performance Measurements for Intelligent Transportation Systems	Kwabena Abedi	ULL
<input type="checkbox"/>	4:00 PM	Estimation of the Soil Unconfined Compressive Strength (UCS) using Basic Geotechnical Properties and Aided with Machine-based Learning Technique	Mudhaffer Alqudah	UofM
<input type="checkbox"/>	4:30 PM	PREDICTING THE CRITICAL SHEAR STRESS AND ERODIBILITY COEFFICIENT OF LEVEE SOILS USING BASIC GEOTECHNICAL PROPERTIES	Haitham Saleh	UofM
	5:00 PM	Adjourn		

Track C (Room 219): Systems Engineering - Shelia Barnett (ERDC), Chair				
Attended	Time	Topic	Presenter	Affiliation
<input type="checkbox"/>	9:00 AM	Systems Approach towards Integrating Artificial Intelligence with Flood Control Structure Inspection	Emily Leathers	ERDC
<input type="checkbox"/>	9:30 AM	Weather Warning Recommendation Model	Martin Tran	UofA
<input type="checkbox"/>	10:00 AM	Extending the NATURE autonomy stack to 1/10th scale RC vehicles	Christopher Hudson	MSU
	10:30 AM	Break		
<input type="checkbox"/>	10:45 AM	Analysis of Lock Repair-Time Estimate Accuracy	Mary Mitchell	ERDC
<input type="checkbox"/>	11:15 AM	Process Data Communication Method for Modeling the 3D Printing Process	Elton Freeman	ERDC
<input type="checkbox"/>	11:45 AM	Weather Intelligence Data Pipeline for Military Installation Decision Support	George Gallarno	ERDC
	12:15 PM	Lunch		
<input type="checkbox"/>	1:45 PM	Exploring Artificial Intelligence (AI) Enabled Wargaming Agent Training with Deep Reinforcement Learning	Christina Rinaudo	ERDC
<input type="checkbox"/>	2:15 PM	Using a Systems Approach for Leveraging Smart Cities Technologies to Improve Situational Awareness and Enhanced Operational Assessment for the Army	Brent Panozzo	ERDC
<input type="checkbox"/>	2:45 PM	Revisiting Delphi - Requirements Analysis Through Modifications in Subject Matter Expert Elicitation Techniques	George Galarno	ERDC
	3:15 PM	Adjourn		

Track D (Room 220): Industrial and Mechanical Engineering - Eric Specking (UofA), Chair				
Attended	Time	Topic	Presenter	Affiliation
<input type="checkbox"/>	9:00 AM	MoistNet: Neural Architecture Search and Bayesian Optimization-driven Model for Moisture Content Prediction in Wood Chips	Mohammad Marufuzzaman	MSU
<input type="checkbox"/>	9:30 AM	A Comprehensive Investigation of Pedestrian Hit-and-Run Crashes: Applying XGBoost and Binary Logistic Regression Model	Ahmed Hossain	ULL
<input type="checkbox"/>	10:00 AM	Business Process Reengineering: Transforming Enterprise Systems in the Department of Defense	Shelia Barnett	ERDC
	10:30 AM	Break		
<input type="checkbox"/>	10:45 AM	Optimizing Development of Scenario-Related Information for Tabletop Exercises and Simulations: A Systems-Based Approach	Jaylen Hopson	ERDC
<input type="checkbox"/>	11:15 AM	Machine Learning-based Reliability Improvement of All-terminal Networks	Farid Hashemian	UofA
<input type="checkbox"/>	11:45 AM	An Analysis of Forecast Visibility Prediction to Support Extreme Weather Decision Support Systems	William Anderson	ERDC
	12:15 PM	Lunch		
<input type="checkbox"/>	1:45 PM	Investigating the Impact of Psychological Safety on Engineering Design Teams' Identification of Users	Jenn Campbell	UofA
<input type="checkbox"/>	2:15 PM	Tribological behavior of MoS ₂ coating enhanced by MAX phases	Sujan Ghosh	UALR
<input type="checkbox"/>	2:45 PM	Transient Flow Simulation for Aerospace Propulsion Problem	Alakananda Bandyopadhyay	AAM
	3:15 PM	Break		
<input type="checkbox"/>	3:30 PM	Sulfur-Infiltrated Lignosulfonate Carbon Material for High-Energy Li-S Batteries	Noureen Siraj	UALR
	4:00 PM	Performance Improvement through Lean: Case of Karachi Shipyard & Engineering Works	Syed Abdi (Student Presenter)	UALR
	4:30 PM	Adjourn		

Track E (Room 318): Ethics and Engineering Education - Silke Spiesshoefer (UofA), Chair				
Attended	Time	Topic	Presenter	Affiliation
<input type="checkbox"/>	9:00 AM	Affirmative Scientific Support for Scholars in Energy Technologies (ASSSET)	Farzad Ferdowsi	ULL
<input type="checkbox"/>	9:30 AM	The Role of AI Coding Assistants: Revisiting the Need for Literate Programming in Data Science and Engineering Education	Marcus Birkenkrahe	Lyon
<input type="checkbox"/>	10:00 AM	Change in Engineering Education: A Historical Review and a Look at the Future	Silke Spiesshoefer	UofA
	10:30 AM	Break		
<input type="checkbox"/>	10:45 AM	Scalable Undergraduate Research? Vertically Integrated Projects: Impact, Scalability, and Status	Julie Sonenberg-Klein	GT
<input type="checkbox"/>	11:15 AM	Discovering Your(their) Engineering Identity	Rebecca Macdonald	USA
<input type="checkbox"/>	11:45 AM			
	12:15 PM	Lunch		
<input type="checkbox"/>	1:45 PM	Ethics: Artificial intelligence - its use in the classroom and in practice and ethical implications	Norma Jean Mattei	UNO
<input type="checkbox"/>	2:15 PM	Ethics: Artificial intelligence - its use in the classroom and in practice and ethical implications	Norma Jean Mattei	UNO
<input type="checkbox"/>	2:45 PM	Ethics: Large Language Models, AI, and Calculators - An Ethical Engineering Dilemma?	Lawrence Whitman	UALR
	3:15 PM	Break		
<input type="checkbox"/>	3:30 PM	Engineering Ethics: Refresher and Thoughts for Today's Professional Engineering	Lawrence Whitman	UALR
	4:00 PM	Adjourn		

Track F (Room 224): Power Engineering - Juan Balda (UofA), Chair				
Attended	Time	Topic	Presenter	Affiliation
<input type="checkbox"/>	9:00 AM	An innovative, energy-efficient hydraulic ram pump system	Ashokkumar Sharma	UALR
<input type="checkbox"/>	9:30 AM	Learning-Assisted Generation Scheduling for Future Renewable Energy-Dominated Low-Inertia Power Grid	Xinpeng Li	UH
<input type="checkbox"/>	10:00 AM	An optoelectronic switch using silica-based glasses: Light energy retention on dielectric surfaces.	Cristian Bahrim	Lamar
	10:30 AM	Break		
<input type="checkbox"/>	10:45 AM	Mirroring Power: Advancing Energy Systems through Cutting-Edge Digital Twinning	Farzad Ferdowsi	ULL
<input type="checkbox"/>	11:15 AM	Advances in Real-Time Numerical Analysis of Electrical Distribution Networks	Abdel Karrar	UTC
<input type="checkbox"/>	11:45 AM	Maximum Power Point Tracking for Photovoltaic Systems	Ali Abushida	UALR
	12:15 PM	Lunch		
<input type="checkbox"/>	1:45 PM	Power Factor Correction of Linear Loads Under Unbalanced Voltage Conditions	Prashanna Bhattarai	LA Tech
<input type="checkbox"/>	2:15 PM	Next Generation DMS for Active Distribution Systems	Sakis Meliopoulos	GT
<input type="checkbox"/>	2:45 PM	An optimal day-ahead energy trade and pricing considering electric vehicles in microgrid	Mostafa Sedighzadeh	SPP
	3:15 PM	Break		
<input type="checkbox"/>	3:30 PM	Battery Energy Storage: A Review of Medium-Voltage Grid-Connected Front-End Converters	Juan Balda	UofA
<input type="checkbox"/>	4:00 PM	Solid state circuit breakers: opportunities and challenges	Xiaoqing Song	UofA
<input type="checkbox"/>	4:30 PM	Smart Grid Operations and Control Challenges	Tariq Masood	UTT
<input type="checkbox"/>	5:00pm	Micro Grid Operations and Control Challenges	Tariq Masood	UTT
	5:30 PM	Adjourn		

Track G (Room 221): Cyber Security - Chris Farnell (UofA) and Cheryl Wang (THS), Chairs				
Attended	Time	Topic	Presenter	Affiliation
<input type="checkbox"/>	9:00 AM	Uncovering the Digital Trail: Leveraging Digital Forensics in Incident Response to Improve Investigation and Recovery	Becky Passmore	UALR
<input type="checkbox"/>	9:30 AM	Securing the Future of Industrial Environments for Safe and Available Operations	Martin Diaz	Fortinet
<input type="checkbox"/>	10:00 AM	Uncovering the Importance of Business Resiliency in Cybersecurity	Kourtney Connell	Arvest
	10:30 AM	Break		
<input type="checkbox"/>	10:45 AM	Forging Cyber Resilience: A Collective Defense	Scott Anderson	Forge
<input type="checkbox"/>	11:15 AM	Scaling (Down) Cybersecurity: The ins and outs of securing small organizations	Christopher Wright	SWTP
<input type="checkbox"/>	11:45 AM	AI-based Cyber Event OSINT	Qinghua Li	UofA
	12:15 PM	Lunch		
<input type="checkbox"/>	1:45 PM	Blockchain for a Secure and Privacy-Preserving Smart Grid	Mahmoud Abouyoussef	UCA
<input type="checkbox"/>	2:15 PM	Predictive Modelling for the Cybersecurity of an Information System Based on an MDP and a POMDP	Lidong Wang	MS State
<input type="checkbox"/>	2:45 PM	Cybersecurity in Health Systems: A Case Study in a Business Continuity Plan	Cheryl Alexander-Wang	THS
	3:15 PM	Break		
<input type="checkbox"/>	3:30 PM	The impact of the latest AI developments on cybersecurity: opportunities and challenges	Qingsong "Roger" Zhao	LSU-S
<input type="checkbox"/>	4:00 PM	The Power of the Network	Mark Bowling	ExtraHop
<input type="checkbox"/>	4:30 PM	Zero Trust for Operational Technology	Binoop Chandy	SEL
<input type="checkbox"/>	5:00pm	Distributed Adaptive Beam Nulling to Survive Jamming Attacks in 3D UAV Mesh Networks	Paulo Alexandre Regis	SLU
	5:00 PM	Adjourn		
Track H (Room 203): Computing Systems and Software Engineering - Bernard Chen (UCA), Chair				
Attended	Time	Topic	Presenter	Affiliation
<input type="checkbox"/>	9:00 AM	Wineinformatics: Merging Wine Reviews from Different Sources for Accurate Wine Grade Category Prediction	Bernard Chen	UCA
<input type="checkbox"/>	9:30 AM	An Ad-Hoc Ramble on Generative Artificial Intelligence: ChatGPT and GAN – Enabled Web Services	Mariofanna Milanova	UALR
<input type="checkbox"/>	10:00 AM	Human Perception Representation in Video Understanding: From Black-box to Graybox.	Thi Ngan	UofA
	10:30 AM	Break		
<input type="checkbox"/>	10:45 AM	Predictive Coding Agents	Bonny Banerjee	UM
<input type="checkbox"/>	11:15 AM	Effective Online Learning Techniques for Mining Imbalance Data Streams	Zhong Chen	SIU
<input type="checkbox"/>	11:45 AM	DNA: Deformable Neural Articulations Network for Template-Free Dynamic 3D Human Reconstruction from Monocular RGB-D Video	Khoa Vo (Student Presentation)	UofA
	12:15 PM	Lunch		
<input type="checkbox"/>	1:45 PM	Applying Neural Networks in Wineinformatics with the New Computational Wine Wheel	Pedro Navarrete (Student Presentation)	UCA
<input type="checkbox"/>	2:15 PM	Bio-inspired Machine Learning and AI	Xuan Bac Nguyen (Student Presentation)	UofA
<input type="checkbox"/>	2:45 PM	Fairness Domain Adaptation Approach to Semantic Scene Understanding	Tranh-Dat Truong (Student Presentation)	UofA
	3:15 PM	Break		
<input type="checkbox"/>	3:30 PM	Visual Object Tracking: From Traditional to Modern Approaches	Anh-Pha Nguyen (Student Presentation)	UofA
	4:00 PM	Adjourn		

University Affiliations	
Jackson State University	JSU
Mississippi State University	MSU
University of Mississippi (Ole Miss)	UofM
Louisiana Tech University	LA Tech
Louisiana State University - Shreveport	LSU-S
Southeastern Louisiana University	SLU
University of Louisiana Lafayette	ULL
University of New Orleans	UNO
University of Memphis	UM
University of Tennessee Chattanooga	UTC
Alabama Agricultural and Mechanical University	AAM
Auburn University	Auburn
University of South Alabama	USA
Georgia Technical University	GT
Arkansas State University	ASU
Lyon College	Lyon
University of Arkansas Little Rock	UALR
University of Central Arkansas	UCA
University of Arkansas	UofA
Lamar University	Lamar
University of Houston	UH
University of Texas - Tyler	UTT
Southern Illinois University - Carbondale	SIUC

Company Affiliations	
Arvest Bank	Arvest
Entergy	Entergy
US Army Engineer and Research Development Center	ERDC
ExtraHop	ExtraHop
Forge Institute	Forge
Fortinet	Fortinet
Schweitzer Engineering Laboratories	SEL
Southwest Power Pool	SPP
SW Tech Partners (Sullivan Wright Technologies)	SWTP
Technology & Healthcare Solutions, Inc.	THS