COLLEGE OF ENGINEERING

2026 GRADUATE STUDENT SYMPOSIUM

CHECK-IN				
Check-in	Willa Cather (WCDC)	8:00a - 9:00a	GeSAB COE Graduate Programs	PICK UP: Event Badge, Lunch Ticket, etc.

SESSIONS				
Sessions *concurrent*	WCDC Red Cloud B	9:00a - 9:15a	Nicholas Ampimah *CHBE*	Transcriptional Regulation of Plant Cuticle Biosynthesis: A Metabolic Modeling Approach to Enhance Crop Resilience
		9:20a - 9:35a	Moses Dike *CHBE*	Interfacial Engineering-Driven Proton Transport Enhancement in Sulfonated Polysulfone Catalyst Binders
		9:40a - 9:55a	Rajesh Keloth *CHBE*	Lignin-Derived Cationic Polymers for Enhanced Proton Conductivity and Stability in HT-PEMFCs
		10:00a - 10:15a	Abraham Osinuga *CHBE*	Revealing Core Growth Determinants Hidden in a Redundant Proteome: Solving a High-Complexity Biological Problem
		10:20a - 10:35a	Masoud Tabibian *CHBE*	Diffusion Models vs. DCGANs for Class-Imbalanced Lung Cancer CT Classification: A Comparative Study
		10:40a - 10:55a	-	-
Sessions *concurrent*	WCDC Pioneers A	9:00a - 9:15a	Pramodit Adhikari *DSAEC*	Model Updating with Empirical Measurements for Tornado Resilience Framework
		9:20a - 9:35a	Gaurav Khadka *DSAEC*	Evaluating the Effects of Project Bundling on Public-Private Partnerships Procurement
		9:40a - 9:55a	Mohammad Elayan *CEE*	The Empirical Pareto Frontier of Automated Driving: Consensus Across Safety, Interaction, and Efficiency
		10:00a - 10:15a	Nishant Kumar *CEE*	Hydrological Drought Monitoring Modeling Framework Utilizing WRF-Hydro Routing Structures
		10:20a - 10:35a	Gul Ahmad Laiwal *CEE*	A Novel Method of Bridge Health Monitoring
		10:40a - 10:55a	Taisa Menezes Medina *CEE*	Exploring the Stabilization Potential of Electric Arc Furnace Slag in Silty Soils through Multifaceted Micro- and Meso- Scale Characterization
Sessions *concurrent*	WCDC Pioneers B	9:00a - 9:15a	Sanjog Kharel *BSE*	Genome-Informed Thermodynamic Modeling Reveals How Carbonate Dissolution Restructures Microbial Communities in Hydrogen-Fueled Consortia
		9:20a - 9:35a	Rintu Sen *BSE*	Benchmarking Farmers' Irrigation Decisions using Farm Competition Data and a Crop Growth Model
		9:40a - 9:55a	Mohammed Hafiz *Biomedical*	Fibroblast-Mediated Matrix Densification Drives Mechanical Stiffening and Tumor Invasion in a Tunable 3D Lung Model
		10:00a - 10:15a	Euclides Brandao Maluf *EER*	Examining Social Cognitive Career Theory as a Framework for Understanding First-Year AEC Students' Interest and Major Choice Goals
		10:20a - 10:35a	Irene Magara *EER*	Metacognitive Development Through Structured Reflection: A Case Study in Biological and Agricultural Engineering
		10:40a - 10:55a	-	-

WELCOME, KEYNOTE SPEAKERS, AND LUNCH				
Welcome	WCDC Red Cloud A	11:15a - 11:30a	Mark Riley Euclides Brandao Maluf	Opening Remarks
Keynote	WCDC Red Cloud A	11:30a - 12:30p	Mark Stone Mubarak Abu Zouriq	AI in Research
Networking Lunch	WCDC Dining Hall	12:30p - 1:30p	-	-
Keynote	WCDC Red Cloud A	1:30p - 2:30p	Lisa Rohde Sophie Kowalski *Office of Graduate Studies*	How to Prepare for a Successful Interview

3-IN-5 PITCH				
3-in-5 Pitch *5 min per speaker*	WCDC Pioneers Suite (A & B)	2:45p - 4:15p	Kalynn Meyer *BSE*	Real-Time In-Season Variable Rate Corn Fertilizer Application Using Canopy Sensors and UAVs
			Sadia Mannan Mitu *BSE*	Bridging Mid-Infrared and Near-Infrared Soil Spectra Using Domain-Adversarial Transfer Learning
			Trisam Sapkota *BSE*	Ultra Stable Carbon Nanotube Paper-Based Sensors
			Ahmed El-Harairy *CHBE*	Exploring Porphyrin-Based Thin Films for Electrosynthesis of Ammonia
			Hillarus Gohoho *CHBE*	Decarbonize the Stack, Monetize the Sulfur: From Flue Gas to Fertilizer
			Tahereh Razmpour *CHBE*	Cancer Targeting Using Microrobots Navigating Through Tumor Microenvironment Gradients
			Sourav Sutradhar *CHBE*	Lignosulfonic Acid Ionomers with Tailored Ion Exchange Capacities: Advancing Efficient and Sustainable Catalyst Binders for Electrodes
			Olivier Irumva *CEE*	Micro- and Nanoplastics Release and Toxicity from Disposable Coffee Cups Under Consumer-Relevant Conditions
			Mohammadsajjad Roudsari *CEE*	Deep Learning-Based Rebar Layer Extraction from Air-Coupled GPR Scans
			Farzad Yazdipanah *CEE*	Old Asphalt, New Rules: Rethinking Recycled Road Design
			Maxx Seminario *ECE*	An Electrochemical Sensing System-on-Chip for Autonomous Wound Monitoring
			Bijan Paul *SOC*	ClustScreenAI: Clustering-Based Universal Materials Screener

POSTER SESSION

| **Green:** BSE | **Purple:** CHBE | **Blue:** CEE | **Red:** DSAEC | **Gold:** ECE | **Teal:** EER | **Pink:** Biomedical | **Orange:** MME | **Grey**: SOC |

Poster Session	WCDC Red Cloud Suite (A & B)	3:30p - 5:00p	#1 Akeem Adeniran	ET Gage Estimation of Reference Evapotranspiration for High Tunnel Vegetables
			#2 Ehsan Fazayeli	Space Agriculture: Systems Challenges and Opportunities
			#3 Brhanu Fentaw Znabu	Engineering Viral Genomes: Codon Signatures That Predict Flavivirus Host Range
			#4 Insoo Jeon	Image Analysis Enables Rapid and Precise Assessment of Southern Corn Rust
			#5 Mahazabin Mim	Modeling Integrated Green Hydrogen-Ammonia Process for Sustainable Agriculture
			#6 Sadia Nawsheen Nijhum	Metabolite Drivers and Flux Dynamics across All Three Melanin Biosynthetic Pathways in Exophiala Viscosa Reveal Key Bottlenecks
			#7 Khondoker Kabbyo Shariar	Effect of Different Amino Acids on Melanin Production in Polyextremotolerant Fungi Exophiala Viscosa
			#8 Chitresh Anand	Imputation, Uncertainty Quantification, and Anomaly Detection for Meteorological Data
			#9 Omid Armantalab	Mobility Behavior Evolution Under Crisis: Returners, Explorers, and the 15-Minute City
			#10 Anika Azme	Effects of Material Functionalization and Water Chemistry on PFOA Remediation Using Hexagonal Boron Nitride Nanosheets
			#11 Nitish Bastola	Mechanical and Microstructural Evaluation of Low-Temperature Cracking in High-RAP Asphalt Mixtures Under Coupled Effects of Aging and Freeze-Thaw Cycles
			#12 Zenebu Derbew	Redox-Active rGO-nZVI-AgNP Nanocatalyst for Enhanced Degradation of Per- and Polyfluoroalkyl Substances (PFAS)
			#13 Frank Selase Dzawu	Driver Gap Acceptance at Flashing Yellow Arrow Intersections: Critical Gap Estimation and Probability Modeling by Signal Phase
			#14 Cesar Gomez	From Behavior to Exposure: Integrating Expert Weighting and Machine Learning to Assess Multidimensional Drivers of Nano- and Microplastic Exposure Risk
			#15 Muhammad Saiful Islam	Nano- and Microplastic Release Dynamics from Polypropylene and Polyethylene Terephthalate-based Food Contact Plastic Packaging in Different Use Scenarios
			#16 Gracie Kerr	Student Perceptions of Public Sector Transportation Roles in Civil Engineering
			#17 Isabella Madeira Bueno	The Effects of Waste Plastic Size on the Storage Stability of Polymer-modified Asphalt Binders
			#18 Kiarash Shirmahi	Energy Dissipation Optimization for Circular Culverts
			#19 Mina Gerges	Effect of Surface Preparation on Bond Strength and Flexural Performance of Bridge Decks Overlaid with Non-Proprietary UHPC
			#20 Mohammed Hedia	Behavior of Reinforced Concrete Compression Members Strengthened Using UHPC Encasement
			#21 Jacob Abaare	Bridging the Thermal-Visible Gap: Domain Adaptation for Robust Facial Recognition in Surveillance
			#22 Nick Bray	It's The Little Things: The Limits of Technical Diagram Extraction Through Deep Learning
			#23 Sema Guvenc Kilic	Kerr Nonlinearity Induced Intrinsic Nonreciprocity Revealed from 2D Photonic Topological Insulators with Checkerboard Lattice System
			#24 Raymond Smith	Sensing Chiral Molecules Using All Dielectric L-shape Metamaterial Platforms
			#25 Yousra Traouli	Dielectric Functions of Bulk Single Crystal NdGaO3 Determined from Mueller Matrix Generalized Spectroscopic Ellipsometry
			#26 Daniel Reardon	Quantifying Educational Inequality in Early Mathematics: School-Level SES as a Predictor of Future Engineering Readiness
			#27 Riya Budhathoki	A Mixed-Methods Investigation of Thriving in Engineering Undergraduate Students: Exploring Why Students Report Low Thriving Scores
			#28 Oluwamayowa Oluwaniyi	Interpersonal Dynamics in Engineering Labs: The Role of Advisor Support and Group Cohesion
			#29 Adeyemi Oyelami	A Longitudinal Case Study of Students' Metacognitive Regulation and Deep Learning Strategies Use in an Undergraduate Civil Engineering Program
			#30 Brandon McDonald	Thiol-based Neuroprotective Copolymers Acutely Restore Redox Metabolism and Mediate Vasogenic Edema in a Mouse Model of Traumatic Brain Injury
			#31 Nastaran Aghilizadeh	Optimization of Rotational Scan Strategies for Enhanced Microhardness and Defect Mitigation in LPBF AlSi10Mg
			#32 Emmanuel Akinola	Variable Stiffness Actuator in Cable Driven Parallel Robots
			#33 Oluwagbemisola Alo	Blue-Laser Powder Bed Fusion System for Fabrication and In-Situ Characterization of Reflective Metals
			#34 Zahra Kamali Khanghah	Thermal Emission Control via Engineering Surface Microstructures
			#35 Sina Khayam	Modulating Polarized Emissivity in Spin Systems at Low Temperatures Using the Bloch Model: The Role of Magnetic Field
			#36 Alex Abrahsm Paul	Tailoring Nd-Fe-B Microstructure via LPBF like Cooling in Melt Spinning
			#37 Edith Sam	Investigating the Effects of Repetition Rate on Self-Organized Laser Functionalized (SOLF) Copper
			#38 Prabin Sherpaili	Computational Modeling of the Lymph Node
			#39 Simon Thengvall	Prototyping and Testing of a Dust Protection Mechanism for Lunar Docking Applications
			#40 Md Rashedul Hasan	Unlocking Optimal ORM Database Designs: Accelerated Tradeoff Analysis with Transformers

SYMPOSIUM ENDS (5:00p)