

UREP-C & 100K

FINAL SYMPOSIUM 2025-1

WALC - 1055 - HILER THEATER



Click to join via Teams

Day 1: July 31th

[Day 1: Click to join via Teams](#)

[Day 2: Click to join via Teams](#)

9:00 - 9:15

JUAN DIEGO VELÁSQUEZ DE BEDOUT

Welcoming Remarks

9:15 - 9:30

YESID FAJARDO GALVIS

Strengthening American Infrastructure: Large-scale Planning for Electric Vehicle Public Charging Infrastructure

9:30 - 9:45

SAMUEL VALLEJO DÍEZ

Break-Dance: Influence of Particle Crushing on the Dynamic Behavior of Granular Materials Using Resonant Column Testing

9:45 - 10:00

JUAN FELIPE GONZÁLEZ SANMIGUEL

Enhancing Food Online Prices Using a Refined Temporal Framework
Grocery Sales Tax and Household Nutritional Quality

10:00 - 10:15

SANTIAGO FELIPE TIQUE SARMIENTO

Deep Learning-Based Prediction of CO₂ Migration in Geological Storage Formations: Insights of Sleipner Project

10:15 - 10:30

MIGUEL ÁNGEL CUERVO ESPINOSA

Impact of Porcine Reproductive and Respiratory Syndrome on reproductive performance of sows born on different outbreak phases

10:30 - 10:45

DANIELA KATHERIN SORIANO HERNÁNDEZ

Forecasting U.S. Electricity Demand Using Supervised Machine Learning: A Multivariable Approach with Emphasis on Environmental Drivers and Electric Vehicles

10:45 - 11:00

EDUARD ALEXIS RUIZ RABA

Impact of Disruption in Semiconductor Supply Chain with a Focus on Electric Vehicles in the U.S.

11:00 - 11:15

ESTEPHANY PÉREZ ECHEVERRI

Research and Development of a Marketing Strategy for an Academic Center: A Case Study of The Dauch Center

11:15 - 11:30

MICHELA LONGO ESTRADA

Research and Development of a Marketing Strategy for an Academic Center: A Case Study of The Dauch Center



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Day 1: July 31th

11:30 - 11:45

ANA SOFÍA CUERVO ESCOBAR

Capturing Trip Generation and E-Commerce Demand: Field Data to Surveys

11:45 - 12:00

SAIMOND ANDRÉS RODRÍGUEZ VANEGAS

Synthesis of nanoparticles and thin films of semiconducting materials via solution processing for the fabrication of solar cells

12:00 - 12:15

DANA CAMILA MORENO BURGOS

Roles of Ca²⁺-dependent potein kinases in immune responses in Arabidopsis thaliana.

12:15 - 12:30

LAURA MARTINEZ-GALINDO

Advanced Imaging and Computational Tools to Study Cardiac Remodeling and Placental Changes in Murine Models

13:30 - 13:45

NICOLÁS CHÁVEZ MONTAÑA

Harnessing Bokashi-Derived Microorganisms for Antagonism Against Plant Pathogens

13:45 - 14:00

MARÍA FERNANDA MORENO DE LA ESPRIELLA

Evaluation of Bokashi as a Suppressive Strategy Against Botrytis cinerea in Tomato and Validation of Its Effectiveness Using Multispectral Sensors

14:00 - 14:15

MARÍA PAULA GARCÍA MOLINA

MAGIC-Derived Genotyping and QTL Mapping in *Vigna Unquiculata*: Enhancing Yield Traits and Tannin Characterization

14:15 - 14:30

ANA SOFÍA PÉREZ LÓPEZ

Coffee Leaf Rust Project

14:30 - 14:45

ÁNGELA MARÍA OSSORIO TROCHEZ

Isolation and Molecular Characterization of Endophytic Fungal Isolates from Cacao Trees (*Theobroma cacao*) in Colombia/Aime Lab

14:45 - 15:00

STIWAR ALBEIRO CATANO CÁRDENO

Impacts of artificial light at night on growth and stress responses in American toads /Bernallab

15:00- 15:15

VALERIA ESPINOZA TARAZONA

Data-Free Backdoor Injection Attacks on Vision Transformers / Cyber-Physical-Social Systems Design Lab

15:15- 15:30

LUIS DAVID GARCÍA ALMEIDA

Conceptual Design of an Underwater Actuator for Active Vibration Control in Offshore Pile Driving

15:30- 15:45

MARÍA CAMILA ALZATE CASTRILLÓN

Retrosynthetic Exploration of Small Molecules: A Computational and Experimental Approach



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Day 1: July 31th

15:45 - 16:00

ETNA SOFÍA GONZÁLEZ GRANADOS

Development of a Therapeutic Vaccine against Clostridioides difficile / Hassan Lab

16:00 - 16:15

LUIS ALEJANDRO HERNÁNDEZ GALLEGO

Encapsulation Strategies for Lippia origanoides Essential Oil: A Biocontrol Approach for Cacao Pathogens

16:15 - 16:30

ANA SOFÍA CALLE MUÑOZ

Machine Learning Optimization, Quality Control, & Simulation of Advanced Particle Detection Systems

16:30 - 16:45

SEBASTIÁN VALENCIA ZAPATA

Integrating Modularization and Generative Design for Holistic Design Optimization

16:45 - 17:00

CRISTIAN MAURICIO SÁNCHEZ BULLA

Design of a board game prototype to raise awareness about forced displacement and human trafficking



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Day 2: August 1st

9:00 - 9:15

JHAN CARLO MARÍN OTERO

Political Polarization, Communication, and Peacebuilding in the United States: An Analysis of Discourse in the First 55 Days of President Donald J.

9:15 - 9:30

XIMENA CORTÉS VERGARA

Identifying Metabolic Perturbations Associated with PFOS exposure and Potential Links to Neurotoxicity

9:30 - 9:45

JUAN ANDRÉS GIL DUQUE

Fluid-structure interactions in non-axisymmetric perivascular spaces

9:45 - 10:00

MARÍA FERNANDA OVALLE VERGEL

Elucidation of long-distance signaling involved in sulfur deficiency in Arabidopsis thaliana / Establishment of a genetic transformation protocol in quinoa

10:00 - 10:15

KAREN DAYANA GONZÁLEZ MORALES

Determining Kinetic Parameters of Electrochemical Activation of Propane on Pt Electrodes

10:15 - 10:30

ESTEBAN RAMOS JIMÉNEZ

Role of the gut microbiome in modulating Parkinson's disease pathology

10:30 - 10:45

ANDREA YULIANA RAMÍREZ PRIETO

Physical Activity in Latino men



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Day 2: August 1st

10:45 - 11:00

JUAN PABLO CHITIVA ARTEAGA

Scaling up of the synthesis of zeolite catalysts to obtain desired bulk and atomic-scale properties

11:00 - 11:15

JUAN PABLO ABRIL GUTIÉRREZ

Hydraulic redistribution in forests: Spatial and temporal drivers of variation and consequences for climate feedbacks

11:15 - 11:30

CAROLINA ORTIZ ESCALANTE

Techno-Economic Analysis of Bioproduct Integration in Cacao Cultivation

11:30 - 11:45

IVÓN NATALIA GAITÁN GUTIÉRREZ

HPV Self-Sampling for Cervical Cancer Prevention: A Public Health Internship in Research, Implementation, and Practice

11:45 - 12:00

SAMUEL ARANGO PALACIO

Bistable Structures: Modelling, Fabrication, Design and Aeroelastic Applications / Programmable Structures Lab

12:00 - 12:15

ANNA OSPINA BEDOYA

Modular Pipeline for Terrain Classification in LiDAR Point Clouds & Web Crawlers to Enrich Educational Content from External Sources

12:15 - 12:30

SARA PÉREZ GONZÁLEZ

Therapeutic potential of allosteric regulators of 5-phosphatases/ Aguilar Lab

12:30 - 12:45

SEBASTIÁN GÓMEZ DURANGO

Wear and fatigue behavior of additively manufactured parts after shot peening

12:45 - 13:00

MATEO HUERTAS MARULANDA

Optimizing Membrane-Assisted Bio-Alcohol Dehydration Using Computational and Machine Learning Methods/SECQUOIA

14:00 - 14:15

JUAN CAMILO OSPINA VILLA

Isotropic Fractional Quantum Hall State to Nematic transition at $\nu=7/2$ mediated by nuclear spin polarization/Quantum Semiconductor Systems Lab

14:15 - 14:30

JULIÁN DAVID RODRÍGUEZ HERRERA

The pragmatic acquisition of greetings and requests in Colombian Spanish through a Study Abroad program

14:30 - 14:45

JULIANA VALENTINA SUÁREZ GARCÍA

Development of a testing protocol for the performance-based analysis of post-installed anchors in concrete

14:45 - 15:00

MARIA JOSÉ SÁNCHEZ VÉLEZ

Catalytic Hydrodeoxygenation of Coffee Oil for the Production of Jet-Fuel-Range Hydrocarbons



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Day 2: August 1st

15:00- 15:15

GREGORIO LINCE GUTIÉRREZ

Formation of spherules in impact produced vapor plumes

15:15- 15:30

VALERIA CERTUCHE SÁNCHEZ

Comparative In Vitro Evaluation of Intestinal Permeation Enhancers for Oral Delivery of Octreotide: Salcaprozate Sodium (SNAC) and Palmitoylcarnitine

15:30- 15:45

JESÚS MANUEL MONCAYO RICARDO

QUBE System: An Environmental Sensor Node Approach

15:45 - 16:00

AGUSTÍN LÓPEZ ZAPATA

Ultra-low frequency Doppler Spectroscopy with a Common-Path digital holography system

16:00 - 16:15

THOMAS MARTINOD SALDARRIAGA

Construction of a Weak KAM Solution for the Overdamped Langevin Dynamics HJE

16:15 - 16:30

DIANA CAROLINA CAMARGO BARAJAS

Geometric Explorations in Classical Mechanics with a View Toward Topological Quantum Field Theory

16:30 - 18:30

JUAN DIEGO VELÁSQUEZ DE BEDOUT

Closing Remarks