



HONORS COLLEGE
The UNIVERSITY of OKLAHOMA

37TH ANNUAL UNDERGRADUATE RESEARCH DAY

8:30 a.m. to 3 p.m. | Conference

3 to 4 p.m. | Reception

Saturday, April 26, 2025

Thurman J. White Forum Building

PROGRAM SCHEDULE

8:30 to 9 a.m.	Registration
9 to 9:30 a.m.	Dean's Welcome Forum Room
9:30 to 11 a.m.	Session I Oral Presentations, Non FYRE Life Sciences 1, Room B1 Life Sciences 2, Room B3 Life Sciences 3, Room B5
9:30 a.m. to Noon	Session I Poster Presentations, Non FYRE Super Suite A2/4/6
10 a.m. to Noon	Session I FYRE Poster Presentations Super Suite B2/4/6
Noon to 1 p.m.	Lunch Forum Room
1 to 2:30 p.m.	Session II Oral Presentations, Non FYRE Engineering, Room B1 Social, Political, and Geographical Sciences, Room B3 Fine Arts and Humanities, Room B5
1 to 3 p.m.	Session II FYRE Poster Presentations Super Suite B2/4/6
3 p.m.	Reception and Awards Announcements Conference Room B

8:30-9 A.M. - REGISTRATION AND BREAKFAST

9-9:30 A.M. - WELCOME WITH DEAN MICHAEL MARKHAM

9:30-11 A.M. - SESSION I ORAL PRESENTATIONS

**LIFE SCIENCES 1
ROOM B1**

“Regulation and Evolution of a Novel Gene that Specifies a Reproductive Structure in *Drosophila*”

Ashley Bentz, Biology major, sponsored by John P. Masly, Ph.D., School of Biological Sciences

“Comparative Analysis of Proteoform Clean-Up Methods for Improved Top-Down Proteomics”

Kendalyn Firenza, Biochemistry major, sponsored by Luca Fornelli, Ph.D., School of Biological Sciences

“Analysis of Folic Acid Conjugated Graphene Quantum Dots-Hexagonal Boron Nitride (FA-GQBN) Nano-Assemblies for Targeted Photodynamic Therapy of Endometrial Cancer Cells”

Jessica Jaramillo, Biomedical Engineering major, sponsored by Tahrira Rouf, Ph.D., Stephenson School of Biomedical Engineering

“Using Herbarium Samples to Analyze the Timeline of Plant Invasions”

Lena Jurik, Plant Biology and Biochemistry major, sponsored by Abigail Moore, Ph.D., School of Biological Sciences

“Impact of RNAi Knockdown Treatment of Candidate Cell Death Target Genes on Human Papillomavirus E6 Phenotype”

Arabella Martin, Microbiology major, sponsored by Mojgan Padash Barmchi, Ph.D., School of Biological Sciences

**LIFE SCIENCES 2
ROOM B3**

“Surveying Tree Regrowth After the 720 Fire in Blaine County, Oklahoma, with Regard to Slope Aspect”

Brendan Meade, Planned Program major, sponsored by Jeremy Ross, Ph.D., School of Biological Sciences

“Investigating The Effects of Anxiety and Stoicism on Pain Perception in Young Adults”

Damilola Morodolu, Health and Exercise Science major, sponsored by Christopher Black, Ph.D., Department of Health and Exercise Science

9:30-11 A.M. - SESSION I ORAL PRESENTATIONS (cont.)

LIFE SCIENCES 2 (CONT.) ROOM B3

“In Vitro Study of Inspiratory Flow Rate Effects on Particle Emissions and Size Distribution from Dry Powder Inhaler”

Maya Joseph, Human Health and Biology major, sponsored by Changjie Cai, Ph.D., OU Health Sciences Center Department of Occupational & Environmental Health

“Identifying the Targets of a Protease Important for Cell Detachment from a Biofilm”

Tess Placek, Microbiology major, sponsored by Kara DeLeon, Ph.D., School of Biological Sciences

LIFE SCIENCES 3 ROOM B5

“Using ParD Antitoxin Truncations to Better Understand the Gyrase-ParE Complex”

Anne Rogers, Biochemistry major, sponsored by Christina Bourne, Ph.D., Department of Chemistry and Biochemistry

“Characterizing Hormone Profiles in an Avian Species Undergoing a Range Expansion”

Emma Singletary, Biology major, sponsored by Alexandra Bentz, Ph.D., and Anna James, School of Biological Sciences

“Investigating the Impact of Calcium on Cell Aggregation and Biofilm Stability in *Desulfovibrio vulgaris* Hildenborough”

Bethany Sseruwagi, Microbiology major, sponsored by Kara DeLeon, Ph.D., School of Biological Sciences

“In Hot Water: Unraveling Long-term Effects of Heat Waves on Male Threespine Stickleback Behavior and Physiology”

Katherine Valles, Biology major, sponsored by Laura Stein, Ph.D., School of Biological Sciences

1-2:30 P.M. - SESSION II ORAL PRESENTATIONS

ENGINEERING ROOM B1

“Effectiveness of the Ender3 3D Printer in Producing Lipid Nanoparticles”

Thao Tran, Biomedical Engineering major, sponsored by Stefan Wilhelm, Ph.D., Stephenson School of Biomedical Engineering

1-2:30 P.M. - SESSION II ORAL PRESENTATIONS (cont.)

ENGINEERING (CONT.) ROOM B1

“Characterizing a Brain-ECM Inspired Bioink: Mechanical and Cytocompatibility Assessments for 3D-Bioprinting”

Kaitlyn Williams, Biomedical Engineering major, sponsored by John Clegg, Ph.D., Stephenson School of Biomedical Engineering

“An AI-Driven Framework for Enhanced Cardiovascular Risk Stratification via APIs, Supervised Learning, Unsupervised Learning, and Advanced Neural Architectures for Personalized Risk Assessment”

Akshay Singh, Computer Science and Pre-Med major; with Aman Kansal, sponsored by Javeed Kittur, Ph.D., Gallogly College of Engineering: Engineering Pathways

“Parametric Study of Magnus Effect-Enhanced Aerofoils”

Pero Planinic, Mechanical Engineering major, sponsored by Hamidreza Shabgard, Ph.D, School of Aerospace and Mechanical Engineering

“Evaluating Properties of SEM Shale Images Using Convolutional Neural Networks and Feature Mapping”

Lucas Livingstone, Petroleum Engineering major, sponsored by Deepak Devogowda, Ph.D., Mewbourne School of Petroleum and Geological Engineering

FINE ARTS AND HUMANITIES ROOM B3

“Ancient Roman Villas in Portugal”

Madeline Woodard, Classical Studies major, sponsored by Joey Williams, Ph.D., and Sue Alcock, Ph.D., Department of Classics and Letters

“A Creative Study of Modern Place-Based Fiction in Texas and Oklahoma”

Chloe Boggs, English: Writing major, sponsored by Crag Hill, Ph.D.

“Avengers, Angels, Martyrs, Mothers: The Roles of Female Partisans in Films of the Great Patriotic War”

Logan Pizzeck, Russian major, sponsored by Emily Johnson, Ph.D, Department of Modern Languages, Literatures and Linguistics

“Victor Pelevin’s ‘Buddha’s Little Finger’: Russian Postmodernism, Chapaev, and Disillusionment”

Hudson Howard, Russian and History major, sponsored by Emily Johnson, Ph.D., Department of Modern Languages, Literatures and Linguistics

1-2:30 P.M. - SESSION II ORAL PRESENTATIONS (cont.)

FINE ARTS AND HUMANITIES (CONT.) ROOM B3

“As You Like It Scenic Design”

Abby Pirtle, Theater major with Scenic Design emphasis,
sponsored by Professor Jon Young, Helmerich School of Drama

“Waiting For Lefty Scenic Design”

Goldie Snow, Theater major with Scenic Design emphasis,
sponsored by Professor Jon Young, Helmerich School of Drama

SOCIAL, POLITICAL, AND GEOLOGICAL SCIENCES ROOM B5

“Investigating Oligocene to Earliest Miocene Cryptic Extension in
the Ecuadorian Andes”

**Braeden Moreland, Geology major, sponsored by Sarah George, Ph.D.,
School of Geosciences**

“Regionalism in Mali: Azawad and its Political Agenda”

**Abba Diallo, International Studies major, sponsored by
Afshin Marashi, Ph.D., Department of International and Area Studies**

“Sleep Sooner”

**Mayme McClure, Psychology major, and Caren Ho;
sponsored by Nicole Campbell, Ph.D., Department of Psychology**

9:30 A.M.-NOON - SESSION I POSTER PRESENTATIONS

SUPER SUITE A2/4/6

A1: “Investigating Monarch Butterfly Migration and Reproduction Patterns
in Oklahoma Using iNaturalist Data”

**Anayat Yousuf, Biology and Public Health majors, and Julia Fellows;
sponsored by Priscillia Crawford, Ph.D., OU Oklahoma Biological Survey**

A2: “Using Citizen Science Data from Journey North to Understand
Monarch Migration and Reproduction in Oklahoma”

**Julia Fellows, Biology major, and Anayat Yousuf; sponsored
by Priscilla Crawford, Ph.D., OU Oklahoma Biological Survey**

9:30 A.M.-NOON - SESSION I POSTER PRESENTATIONS (cont.)

SUPER SUITE A2/4/6

A4: “Bugs in the Blood: Exploring Trypanosoma Dynamics in Mexican Free-Tailed Bats”

Mackenzie Hightower, Biology major, sponsored by Daniel Becker, Ph.D., School of Biological Sciences

A7: “Phenotype Differences in Offspring”

Patricia Gribbin, Biology major, sponsored by Laura Stein, Ph.D., and Michelle St. John, Ph.D., School of Biological Sciences

A8: “Granular Biomaterial for the Delivery of Cytokines and Macrophages”

Esmeralda Castaneda, Biomedical Engineering major, sponsored by John Clegg, Ph.D., and Chris Pierce, Stephenson School of Biomedical Engineering

A9: “Therapeutic Effects of Different Polymer Surface Decoration of Nanogels on Murine Macrophages”

Kevin Nguyen, Chemical Engineering major, sponsored by John Clegg, Ph.D., Stephenson School of Biomedical Engineering

A10: “Using Self-Supervised Hierarchical Clustering for Data Curation”

Luke Terry, Computer Science major, sponsored by Dimitrios Diochnos, Ph.D., School of Computer Science

A11: “A Novel Approach to Portable Spectrophotometry Using Arduino Technology Transforming Field Analysis”

Kaustubh Pandit, Mechanical Engineering major, sponsored by Jude Okolie, Ph.D., Gallogly College of Engineering: Engineering Pathways

A12: “The White Falcon: Icelandic Memory of The Second World War and Its Occupiers”

Sofia Givens, History major, sponsored Melissa Stockdale, Ph.D., Department of History

A13: “Evaluating a Convection Permitting Simulation in Urban Areas Across the Continental U.S.” and “Understanding the Influence of Convective Weather on Ozone Pollution across the U.S.”

Liam Thompson, Meteorology and Environmental Sustainability major, sponsored by Chenghao Wang, Ph.D., School of Meteorology and Department of Geography and Environmental Sustainability

A15: “Constraints on Outflow Properties of Broad Absorption Line Quasars through Long-Baseline Observations”

Jorge Escalera, Astrophysics major, sponsored by Karen Leighly, Ph.D., Homer L. Dodge Department of Physics and Astronomy

9:30 A.M.-NOON - SESSION I POSTER PRESENTATIONS (cont.)

SUPER SUITE A2/4/6

A16: "The Contexts of Health, Adolescent Resilience, and Measuring Stress (CHARMS) Lab: LGBTQ+ Youth Resiliency and Identity"

Elena Price, Neuropsychology Pre-Med major, sponsored by Michael Sladek, Ph.D., Department of Psychology

A17: "Climate Friendly Labels Exacerbate Misunderstanding of Greenhouse Gas Emissions of Beef Production"

Destiny Reyes, Psychology major, sponsored by Adam Feltz, Ph.D., Department of Psychology

A18: "Attitudes Towards Helping Behavior in Elderly People: The Role of Culture of Honor"

Ali Anderson, Psychology major, and Madison Waters; sponsored by Mauricio Carvalho, Ph.D., Department of Psychology

A19: "Exploring the Impact of Group Empathy on Attitudes Toward Immigrants"

Abby Irwin, Psychology major, sponsored by Mauricio Carvalho, Ph.D., Department of Psychology

A20: "The Role of Culture in Eating Disorders Among Asian American Women"

Rohit Nair, Psychology major, and Carsen Hill; sponsored by Mauricio Carvalho, Ph.D., Department of Psychology

A21: "Rent Projection Design"

Cara Oates, Theatre major with an emphasis in Scenic Design, sponsored by Jon Young, Helmerich School of Drama

10 A.M.-NOON: SESSION I FYRE POSTER PRESENTATIONS

SUPER SUITE B2/4/6

B1: "Crystallographic Studies of a Chemically Modified RNA Quadruplex"

Price Martin, Biology and Biochemistry majors, sponsored by Blaine Mooers, Ph.D., OU Health Sciences Center Department of Biochemistry & Physiology

B2: "Microbial Analysis of Infectious Pathogens in Early Childhood Education Institutes"

Tanvi Gopalam, Human Health and Biology major, sponsored by Changjie Cai, Ph.D., OU Health Sciences Center Department of Occupational and Environmental Health

10 A.M.-NOON: SESSION I FYRE POSTER PRESENTATIONS (cont.)

SUPER SUITE B2/4/6

B3: “Exploring Dihydroneopterin Aldolase Structural Variations Across Microorganisms”

Phillip Pernik, Biochemistry major, sponsored by Christina Bourne, Ph.D., Department of Chemistry and Biochemistry

B4: “Native Mass Spectrometry Analysis of Protein Complexes”

Rory Polson, Biology major, sponsored by Cynthia Nagy, Ph.D., Department of Chemistry and Biochemistry, and Luca Fornelli, Ph.D., School of Biological Sciences

B5: “Assessing Bartonella Infections in Molossus Bats from an Anthropogenic Landscape in Northern Belize”

Grace George, Biology major, sponsored by Daniel Becker, Ph.D., School of Biological Sciences

B6: “Effects of Copper on Decision Making Behavior in Drosophila Melanogaster Females”

Anna Akula, Biology major, sponsored by Elizabeth Everman, Ph.D., School of Biological Sciences

B7: “Fig-associated Microbes Influence the Population Growth and Behavior of Fig-associated Nematodes”

Nicole Estrada, Biology and Pre-Med Major, and Austin Link; sponsored by Gavin Woodruff, Ph.D., School of Biological Sciences

B8: “Artificial Selection of Lifespan in Obligate Outcrossing Nematodes”

Catherine Everitt, Biology major, Val Yocom, and Jonathan Palamattam; sponsored by Gavin Woodruff, Ph.D. School of Biological Sciences

B9: “Artificial Selection of Lifespan in Obligate Outcrossing Nematodes”

Val Yocom, Biology major, sponsored by Gavin Woodruff, Ph.D., School of Biological Sciences

B10: “Allelopathic effects of Juniperus Virginiana on Native Grassland Plant Species in Oklahoma”

Michael Dinh, Chemical Engineering major, sponsored by Heather McCarthy, Ph.D., School of Biological Sciences

B11: “Comparing Grassland Diversity in Open Grasslands Versus Areas Encroached by Juniperus Virginiana”

Daniel Pham, Biology major, sponsored by Heather McCarthy, Ph.D., School of Biological Sciences

10 A.M.-NOON: SESSION I FYRE POSTER PRESENTATIONS (cont.)

SUPER SUITE B2/4/6

B12: “The Kinetics of Reducing Ti^{4+} in a Metal Organic Frame”

Camden Torchia, Chemical Engineering major, sponsored by Hyunho Noh, Ph.D., Department of Chemistry and Biochemistry

B13: “The roles of Protein Kinase SRPK3 in Phosphorylation of its Substrate Proteins”

Ryan Westrope, Chemical Biosciences major, sponsored by Je-Hyun Yoon, Ph.D., and Hyejin Mun, Ph.D., OU Health Sciences Center Department of Oncology

B14: “Role of microRNAs in Maintaining the Health of the Retinal Pigment Epithelium”

Shelby Naser, Chemical Biosciences major, sponsored by Jiyang Cai, Ph.D., OU Health Sciences Center Department of Biochemistry & Physiology

B15: “Biomaterials and Cell Culture: Fundamentals and Hydrogel Applications”

Alberto Corredor, Biomedical Engineering major, sponsored by Jonh Clegg, Ph.D., Stephenson School of Biomedical Engineering

B16: “Cloning and Characterizing TOGARAM-1: Investigating Its Role in Cilia and Ciliopathies”

Lucas Daggs, Chemical Biosciences major, sponsored by Julie Van De Weghe, Ph.D., and Rose Johnson, OU Health Sciences Center Department of Molecular, Cellular, and Developmental Biology

B17: “Investigating the Lipid Content in Pancreatic Cancer Tissue”

Aanya Veragiwala, Community Health major, sponsored by Kamiya Mehla, Ph.D., OU Health Sciences Center Department of Oncology

B18: “Soil Drought effects on Carbon Emissions”

Wesley Norris, Chemical Biosciences major, sponsored by Lara Souza, Ph.D., School of Biological Sciences

B19: “The Heat Is On: Behavioral Changes in Male Stickleback Fish Activity and Exploration Following Heat Waves”

Sophia Anderson, Biology major, sponsored by Laura Stein, Ph.D., School of Biological Sciences

10 A.M.-NOON: SESSION I FYRE POSTER PRESENTATIONS (cont.)

SUPER SUITE B2/4/6

B20: “Neural Correlates for Divided Attention in Children: Relationships with Behavioral Treatment and Demographic Factors”

Sanjana Kota, Chemical Biosciences major, sponsored by Lauren Ethridge, Ph.D., Department of Psychology

B21: “Synthesis, Purification, and Characterization of Alkyle Pyrophosphates Analogs”

Shae Patel, Biomedical Engineering major, sponsored by Prashant Mandal, Ph.D., Department of Chemistry and Biochemistry

B22: “Validation of a Transgenic Mice Model to Investigate Uncoupling Protein 1 Independent Mechanisms in Aging”

Sophia Hassany, Biology major, sponsored by Priya Balasubramanian, Ph.D., OU Health Sciences Center Department of Neurosurgery

B23: “Role of Uncoupling Protein 1 in the Metabolic Benefits of Thermogenic Stimulation in Aging”

Matthew Moore, Biochemistry major, and Sophia Hassany, sponsored by Priya Balasubramanian, Ph.D., College of Medicine

B24: “Comprehensive Evaluation of Human Donor Liver Viability with Polar-Sensitive Optical Coherence Tomography”

Thien-An Nguyen, Biochemistry major, sponsored by Qinggong Tang, Ph.D., and Feng Yan, Stephenson School of Biomedical Engineering

B25: “Characterizing Cancer Cells to be Targeted with Gas Vesicles”

Isabel Harlan, Biomedical Engineering major, sponsored by Sangpil Yoon, Ph.D., and Sydney Turner, School of Electrical and Computer Engineering

B26: “The Role of Histone Modification in Overcoming Glioblastoma Therapeutic Resistance”

Maria Pawlowska, Biology and Pre-med major, sponsored by Sree Deepthi Muthukrishnan, Ph.D., OU Health Sciences Department of Oncology Science

B27: “Immunoregulatory Role of Vascular Cells in Glioblastoma”

Jaden Trinh, Chemical Biosciences major, sponsored by Sree Deepthi Muthukrishnan, Ph.D., OU Health Sciences Center Department of Oncology

10 A.M.-NOON: SESSION I FYRE POSTER PRESENTATIONS (cont.)

SUPER SUITE B2/4/6

B28: “Understanding the Interactions of Cells and Nanoparticles Using Flow Cytometry”

Arianna Dambold, Biomedical Engineering major, sponsored by Stefan Wilhelm, Ph.D., Stephenson School of Biomedical Engineering

B29: “Optical Detection of Gold Nanoparticles Inside Immune Cells”

Zahrah Dairo, Biomedical Engineering major, sponsored by Stefan Wilhelm, Ph.D., Stephenson School of Biomedical Engineering

B30: “Viewing RNA Structure and Gene Expression Through Nanopore Sequencing”

Aubree Churchill, Biology major, Kamila Silvestre Diaz, Tommy Pham, and Gabe Gandebeaur; sponsored by Susan Schroeder, Ph.D., School of Biological Sciences

B31: “Mapping RNA Methylation Changes in Tomato Infected with TMV: A Nanopore Sequencing Approach”

Hazel Kamila Silvestre Diaz, Microbiology major, Aubree Churchill, and Gabe Jandebeur; sponsored by Susan Schroeder, Ph.D., Department of Chemistry and Biochemistry

B32: “Constructing Overexpression of Wild Type TtcA Plasmid”

Nathan Rouse, Chemical Biosciences major, sponsored by Valentin Rybenkov, Ph.D., and Hang Zhao, Ph.D., Department of Chemistry and Biochemistry

B33: “Cloning and Mutant ttca Gene”

Isabella Kunnath, Chemical Biosciences major, sponsored Valentin V. Rybenkov, Ph.D., OU Health Sciences Center Department of Chemistry and Biochemistry

B34: “Inhibitory Effects of Cytotoxic Drugs on Pancreatic Cancer Cells”

Matthew Boyd, Biology major, sponsored by Vira Chumak, Ph.D., and Kamiya Mehla, Ph.D., OU Health Sciences Center Department of Oncology

B35: “The Examination of Nitrite Oxidizing Bacteria Under Various Conditions to Ensure Proper Growth in a Mixed Culture”

Caroline Honea, Microbiology major, sponsored by Wei Qin, Ph.D., School of Biological Sciences

NOON-LUNCH

1-3 P.M.: SESSION II FYRE POSTER PRESENTATIONS

SUPER SUITE B2/4/6

C1: "Inertial Damper Optimal Design and Performance Assessment for Multi-Story Buildings Under Seismic Excitation"

Max Cheng, Aerospace Engineering major, sponsored by Aikaterini Kiprioti, Ph.D., School of Civil Engineering and Environmental Science

C2: "Storm Surge Surrogate Model Exploration Using MATLAB & Python"

Andrew Patrick, Astrophysics and Japanese majors, sponsored by Aikaterini Kyprioti, Ph.D., School of Civil Engineering and Environmental Science

C3: "'Roses': Oklahoma Women's Rugby Club"

Fallon Burleson, Political Science major, and Goldie Snow; sponsored by Andreana Prichard, Ph.D., and David Song, Ph.D., Honors College

C4: "The Listening Project x Hearing Vietnamese American Voices"

Hughes Brayden, Finance and Economics majors, sponsored by Andreana Prichard, Ph.D., and David Song, Ph.D., Honors College

C5: "Evaluating the Efficiency of the Heat of Immersion Method Compared to the Washburn Method: A Wettability Study"

Ansh Chouhan, Biochemistry major, sponsored by Brian Grady, Ph.D., School of Sustainable Chemical Biological and Materials Engineering

C6: "*In Vitro* Study of Aperture Size Effects on Particle Emissions and Size Distribution from an Inhaler?"

Maddox Ellis, Biology major, and Peyton Wheeler; sponsored by Changjie Cai, Ph.D., OU Health Sciences Center Department of Occupational & Environmental Health

C7: "Meta-Analysis of Chronic School Absenteeism"

Sophie Chang, Biology major, sponsored by Dan Li, Ph.D., OU Health Sciences Center Department of Health Promotion Science

C8: "Primary and Secondary School Absenteeism in the United States of America"

Kylar Dailey, Community Health (Pre-Med) major, and Sophie Chang; sponsored by Dan Li, Ph.D., OU Health Sciences Center Department of Health Promotion Science

1-3 P.M.: SESSION II FYRE POSTER PRESENTATIONS (cont.)

SUPER SUITE B2/4/6

C10: “Precise Assessment and Segmentation for Strokes Outcome Prediction”

Sanchith Velmurugan, Computer Engineering major, Luke Finnegan, and Van Lang; sponsored by David Ebert, Ph.D., and Gopichandh Danala, Ph.D., Data Institute of Societal Challenges

C11: “Computational Fluid Dynamics Simulations for Photothermal Treatment of Cancer”

Johnathon Rawlings, Chemical Engineering major, sponsored by Dimitrios Papavassiliou, Ph.D., School of Sustainable Chemical, Biological and Materials Engineering

C12: “Developing Course-Grained Computations for the Investigation of Biomolecule Behavior under Hydrodynamic Forces”

Isabelle Wood, Chemical Engineering major, sponsored by Dimitrios V. Papavassiliou, Ph.D., School of Sustainable Chemical, Biological and Materials Engineering

C14: “Exploring a Database of Arctic Cloud Properties Derived From In-Situ Aircraft Measurements”

Sydney Schubert, Meteorology major, and Sao Sithisack; sponsored by Greg McFarquhar, Ph.D., School of Meteorology

C15: “Data comparison of Arctic Cloud Properties from In-Situ Aircraft Measurements”

Sao Aphisith Sithisack, Engineering Physics major, sponsored by Greg McFarquhar, Ph.D., School of Meteorology

C16: “Using Physics Informed Neural Networks to model heat transfer in one and two dimensions”

Conner Russian, Aerospace Engineering major, sponsored by Iman Ghamarian, Ph.D., School of Computer Science

C17: “Transformers on Time Series Data”

Max Herbert, Mathematics major, sponsored by Iman Ghamarian, Ph.D., School of Aerospace and Mechanical Engineering

C18: “Difference in Vasodilation of Forearm Arteries between Rock Climbers and Non-Rock Climbers”

Robel Solomon, Biology major, sponsored by J. Mikhail Kellawan, Ph.D., and Matt Stanford, Department of Health and Exercise Science

1-3 P.M.: SESSION II FYRE POSTER PRESENTATIONS (cont.)

SUPER SUITE B2/4/6

C19: “Temporal Variability of Water Quality Parameters in Wastewater from an OU Dormitory”

Kamryn Matthews, Electrical Engineering major, sponsored by Jason Vogel, Ph.D., School of Civil Engineering and Environmental Science

C20: “Enhanced All-in-One Data and Text Mining Tool”

Tam Le, Computer Engineering major, sponsored by Manika Lamba, Ph.D., School of Library and Information Studies

C21: “Exploring the Relationship Between Concerns of Losing Face and Social Anxiety”

Carsen Hill, Psychology major, and Jermelia Spivey; sponsored by Mauricio Carvallo, Ph.D., Department of Psychology

C22: “Exploring the Relationship between Concerns of Losing Face and Social Anxiety”

Jermelia Spivey, Human Health and Biology major, and Carsen Hill; sponsored by Mauricio Carvallo, Ph.D., Department of Psychology

C23: “Polygons in Motion: How Vertices Move in Relation to Each Other”

Colin Hieronimus, Mathematics and International Development majors, sponsored by Michael Jablonski, Ph.D., Department of Mathematics

C24: “Characterization of CRISPR-Cas9 from Streptococcus Pyogenes NZ131”

Ayan Zubair, Chemical Biosciences major, sponsored by Rakhi Rajan, Ph.D., Department of Chemistry and Biochemistry

C25: “Destruction of Per- and Polyfluoroalkyl Substances Using Ozonolysis and UV Irradiation”

Aaron Mauk, Mechanical Engineering major, sponsored by Reza Foudazi, Ph.D., School of Sustainable Chemical, Biological and Materials Engineering

C26: “The Effects of SDS and Silica on Foam Stability and Swelling Capacity in Foam-Templated Porous Hydrogels”

Sydney Hulen, Chemical Engineering major, sponsored by Sarah Onyembe, Ph.D., and Reza Foudazi, Ph.D., School of Sustainable Chemical, Biological and Materials Engineering

C27: “Synthesis and Characterization of Alkyl Pyrophosphates”

Avery Glinnsman, Chemical Biosciences major, sponsored by Shanteri Singh, Ph.D., Department of Chemistry and Biochemistry

C28: “Analysis of Microplastics Found in Poultry, Swine, and Bovine Manures Used for Land Application Treatments”

Leena Ahmad, Biology major, sponsored by Tingting Gu, Ph.D., School of Biological Sciences

1-3 P.M.: SESSION II FYRE POSTER PRESENTATIONS (cont.)

SUPER SUITE B2/4/6

C29: “Architectural Proportion Through the Lenses of Sensory Psychophysics”
Serenity Houser, Biology major, and James Fawcett; sponsored by Tiziana Proietti, Ph.D., Gibbs College of Architecture: Interior Design

C30: “Understand Researching by Reflecting on Designing a Low-Cost, Smart Compost System”
Jackson Clymer, Chemistry major, and Anthony Voci; sponsored by Wesley T. Honeycutt, Ph.D., School of Electrical and Computer Engineering, and Farrokh Mistree, Ph.D., School of Aerospace and Mechanical Engineering

C31: “Relevance Classification”
Shawn Agarwal, Electrical Engineering major, sponsored by Wolfgang Jentner, Ph.D., Data Institute for Societal Challenges

C32: “The Effect of Adding Glue to the Cochlea’s Basilar Membrane During Acoustic Wave Transmission Using Finite Element Analysis”
Brady Sloat, Mechanical Engineering major, sponsored by Yijie Jiang, Ph.D., School of Aerospace and Mechanical Engineering

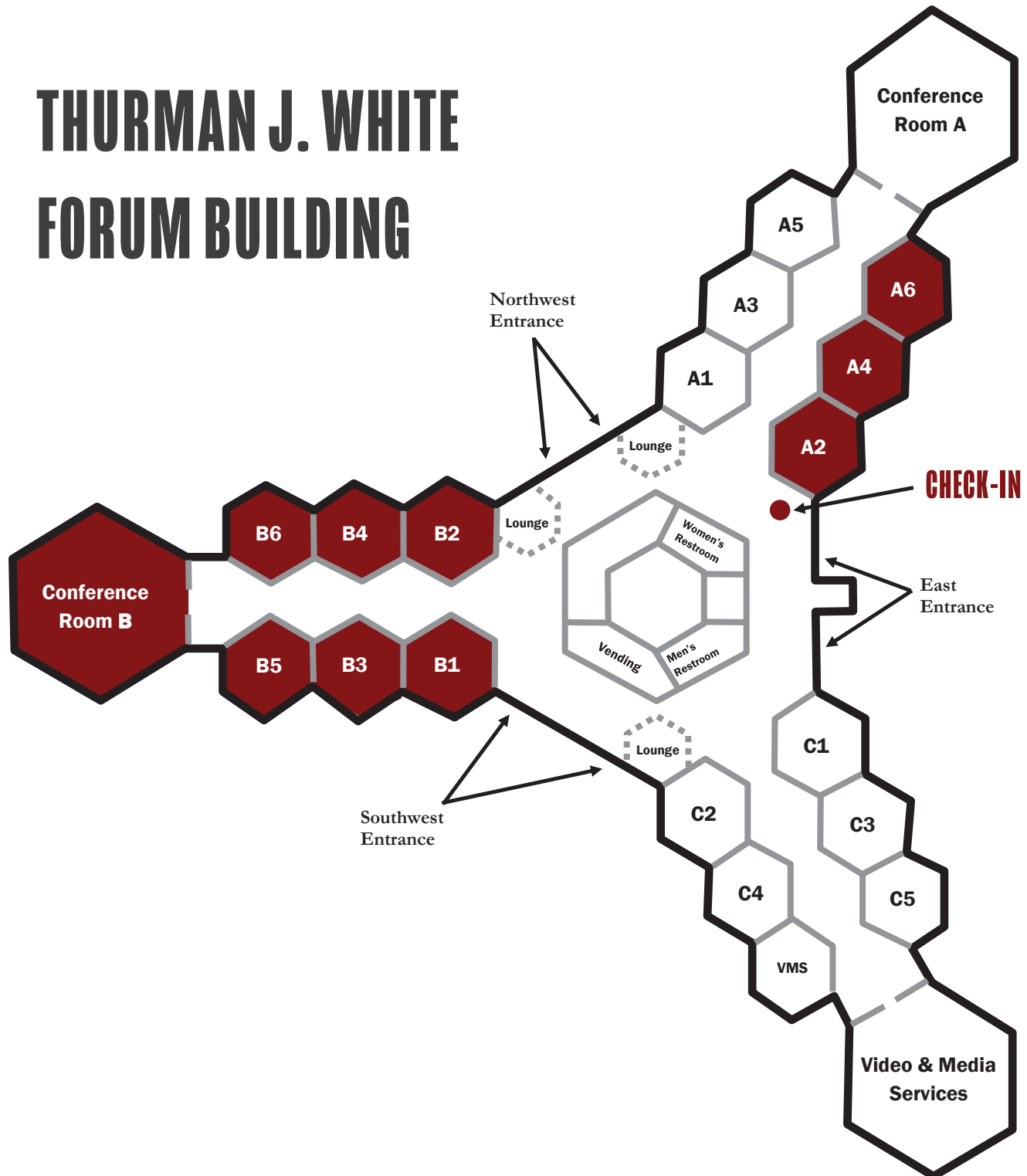
C33: “Long Term Marijuana Use and Mental Health: Evidence from 12 Years of Data”
Isabella Perna, Letters (Constitutional Studies) major, and Jasmine Nguyen; sponsored by Yu Lu, Ph.D., Department of Health and Exercise Science

C34: “Synthesis of Pentagonal and Hexagonal Cyclophanes”
Meiling Wade, Chemistry and Biochemistry major, and Jennifer T. Ou; sponsored by Yuanning Feng, Ph.D., Department of Chemistry and Biochemistry

C35: “Optical Properties of Perovskite Nanoplatelets”
Ethan Leehan, Chemical Biosciences major, sponsored by Yitong Dong, Ph.D., Department of Chemistry and Biochemistry

C37: “Artificial Selection of Lifespan in Outcrossing Nematodes”
Jonathan Palamattam, Biology major, Val Yocom, and Catherine Everitt; sponsored by Gavin Woodruff, Ph.D., and Kim Moser, School of Biological Sciences

THURMAN J. WHITE FORUM BUILDING



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ACKNOWLEDGEMENTS

The Honors College gives special thanks to all of our judges, volunteers, the Forum Building, and personnel who made this event possible. Undergraduate Research Day would be impossible without the efforts of all involved. Thank you!