

2026 TU Student Summer Research Conference

September 24, 2026

4:00-7:00 p.m.

Research@10 West

Conference Schedule

3:30 p.m.	Doors Open
4:00 p.m.	Opening Remarks Dr. Sidd Kaza, Vice President of Research, Towson University
4 - 4:50 p.m.	Poster Session 1
4:30 p.m.	Oral Presentations Begin (concurrent with poster sessions)
5 - 5:50 p.m.	Poster Session 2
6 - 6:50 p.m.	Poster Session 3

Poster Session 1, Atrium, 4 - 4:50 p.m.

Poster #1: Extreme Heat and Hours Worked: Evidence on Labor Supply among Outdoor Workers in California and Texas

Student Researcher: *Zahira Argueta-Rivas*

Faculty Mentor: *Dr. James Manley* (Economics)

Poster #2: Comparing Staffing Levels and Behavioral Healthcare Needs by Facility Size in U.S Nursing Homes

Student Researcher: *Martha Agaba*

Faculty Mentor: *Dr. Bo Kyum Yang* (Health Sciences)

Poster #3: Understanding the 2025-2026 Measles Resurgence

Student Researcher: *Harekrushna Das*

Faculty Mentor: *Dr. Farzin Ahmadi* (Health Sciences)

Poster #4: Tone Affects Language Knowledge (TALK)

Student Researchers: *Jennifer Braunstein and Brianna Hinkleman*

Faculty Mentor: *Dr. Michelle Erskine* (Speech-Language Pathology & Audiology)

Poster #5: Brain-Computer Interfaces in Neurodegenerative Disease Care: Anticipatory Ethical Analysis

Student Researcher: *Chloe Bourne*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

Poster #6: Algorithmic Amplification of Political Propaganda via Social Media

Student Researcher: *Owen Grove*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

Poster #7: Social-Emotional Learning in Philadelphia Schools: Comparing Experience to Literature as a Pre-Service Educator

Student Researcher: *Iris Smith*

Faculty Mentor: *Dr. Robert Blake* (Elementary Education)

Poster #8: Waking Up from the American Dream: Representing the Latino and Immigrant Experience Through the Visual Arts

Student Researcher: *Melany Cornejo*

Faculty Mentor: *Dr. Amanda Burnham* (Art + Design, Art History, Art Education)

Poster #9: Characterization of Antibiotic Resistance Profiles of Gut Bacteria in *Onthophagus taurus*

Student Researcher: *Molly Rist*

Faculty Mentor: *Dr. Anne Estes* (Biological Sciences)

Poster #10: Functional Impact of Varicose Projection Astrocytes on Neuronal Degeneration in Alzheimer's Disease

Student Researcher: *Alex Macias*

Faculty Mentor: *Dr. Carmen Falcone* (Biological Sciences)

Poster #11: The Role of VP Astrocytes in Alzheimer's Derived Neuro-Inflammation

Student Researcher: *Eric Mitchell*

Faculty Mentor: *Dr. Carmen Falcone* (Biological Sciences)

Poster #12: Blag 2 Allergen-Specific Immunotherapy: Assessing Shifts in Adaptive Immunity

Student Researcher: *Oluwajomi Akinwumi*

Faculty Mentor: *Dr. Erin Harberts* (Biological Sciences)

Poster #13: Functional Characterization of Rhomboid Proteases in Cyanobacteria: Generation of a *Synechococcus* sp. PCC 7942 g1835 Knockout Mutant and Analysis of its Role in High-light Acclimation and Photosynthesis

Student Researcher: *Ezinne Okafor*

Faculty Mentor: *Dr. Iskander Ibrahim* (Biological Sciences)

Poster #14: Hardware Requirement Integration for the Comprehensive Avionics System for Balloons (CASBa) Async Hat

Student Researcher: *Keira Emshoff*

Faculty Mentor: *Dr. Jennifer Scott* (Physics, Astronomy & Geosciences)

Poster #15: Assessment of Soil Geolocation by ATR FTIR and ICP-OES Spectroscopy

Student Researcher: *Melody Gokce*

Faculty Mentor: *Dr. Kelly Elkins* (Chemistry)

Poster #16: Phenotyping Jamestown Canyon Virus 2000

Student Researcher: *Kathryn Walsh*

Faculty Mentor: *Dr. Kishana Taylor* (Biological Sciences)

Poster #17: Ligand-Directed Engineering of Two-Dimensional Silver Nanoparticles

Student Researcher: *Naomi Uiyoshioria*

Faculty Mentor: *Dr. Mary Sajini Devadas* (Chemistry)

Poster #18: Competition Growth Experiment on *E. coli* with sORF Deletions

Student Researchers: *Doris Nwachukwu, Chloe Sullivan, Kaitlyn Finch, Samreen Khalid, Tobechukwu Amadike, and Toluwani Idowu*

Faculty Mentor: *Dr. Matthew Hemm* (Biological Sciences)

Poster #19: Ion Energy Distributions in Pulsed Laser Deposition Plasmas: Influence of Target-to-Substrate Distance Variation

Student Researcher: *Kayode Adegbo*

Faculty Mentor: *Dr. Rajeswari Kolagani* (Physics, Astronomy & Geosciences)

Poster #20: Seroprevalence of TcdB in Colorectal Cancer Patients and Indole-3-Acetic Acid protection from TcdB

Student Researcher: *Ezekiel Morris*

Faculty Mentor: *Dr. Cynthia Sears* (Johns Hopkins University)

Poster #21: Tennis vs. Table Tennis: Investigating Multi-Skill Motor Learning

Student Researcher: *Katherine Do*

Faculty Mentor: *Dr. Steffen Wolff* (University of Maryland School of Medicine)

Poster #22: Digital Currency and the Threat of Hidden Weapons

Student Researcher: *Mofoluwaso Ilori*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

Poster Session 2, Atrium, 5 - 5:50 p.m.

Poster #1: Rainfall and Mosquito Net Use in Ghana

Student Researcher: *Grace Akumkperik*

Faculty Mentor: *Dr. Seth Gitter* (Economics)

Poster #2: Mosquitos, Malaria & Climate: How Rainfall Influences the Spread of Malaria in Tanzania

Student Researcher: *Sabra Homera*

Faculty Mentor: *Dr. Seth Gitter* (Economics)

Poster #3: Importance of Stimulus Design in Hearing Testing

Student Researcher: *Salma Ghannoum*

Faculty Mentor: *Dr. Saradha Ananthakrishnan* (Speech-Language Pathology & Audiology)

Poster #4: Anticipatory Ethics of Artificial Intelligence Incorporated into Stem Cell Transplants

Student Researcher: *Anika Baratka*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

Poster #5: Thinking Outside the Classroom: Impact of Implementing Computational Thinking Elements Using Game-Based Learning in a Non-Traditional Outdoor Classroom Setting

Student Researcher: *Emily Yackley*

Faculty Mentor: *Dr. Lea Ann Christenson* (Early Childhood Education)

Poster #6: Artificial Intelligence and Advanced Radiologic Imaging in Cancer Detection

Student Researcher: *Sherylyn Quainoo*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

Poster #7: Measuring the Concentrations of Na⁺ and Mg²⁺ Ions in Solution

Student Researcher: *Samir Vempalle*

Faculty Mentor: *Dr. Ana Maria Soto* (Chemistry)

Poster #8: Effect of Region Swapping on the Conformation of an RNA Riboswitch

Student Researcher: *Paige Headley*

Faculty Mentor: *Dr. Ana Maria Soto* (Chemistry)

Poster #9: Effect of Small Molecules on DNA Conformation and Thermal Stability

Student Researcher: *Stevina Zargou*

Faculty Mentor: *Dr. Ana Maria Soto* (Chemistry)

Poster #10: Effects of surface pretreatment on nano-oxidation characteristics of Strontium Titanate

Student Researcher: *Antonio Gomez*

Faculty Mentor: *Dr. David Schaefer* (Physics, Astronomy & Geosciences)

Poster #11: Evaluating the Impact of BECC-Adjuvanted Allergen Immunotherapy on Allergic Airway Inflammation, Immune Responses, and Lung Pathology Following Allergen Challenge in Mice

Student Researcher: *Hayley Bartholomew-Lowery*

Faculty Mentor: *Dr. Erin Harberts* (Biological Sciences)

Poster #12: Detection of LACV from Multiple *Aedes* spp. Mosquitos from Maryland and New Jersey in Vitro

Student Researcher: *Ulysses Matricciani*

Faculty Mentor: *Dr. Kishana Taylor* (Biological Sciences)

Poster #13: Effects of Sonication versus UV Irradiation on Shape Directing Agent 4-Bromodiphenylamine and the Final Morphology of Silver Nanoparticles

Student Researcher: *Lloyce Frimpong*

Faculty Mentor: *Dr. Mary Sajini Devadas* (Chemistry)

Poster #14: Engineering *E. coli* to Study Small Protein Function

Student Researchers: *Alexandria Hunt, Bridget Nyame, Holly Metzger, Madison Hedges-Bailey, and Samantha Adegbite*

Faculty Mentor: *Dr. Matthew Hemm* (Biological Sciences)

Poster #15: The Role of tirc in *Dictyostelium discoideum* Responses to Bacteria

Student Researcher: *Jade Gordon*

Faculty Mentor: *Dr. Michelle Snyder* (Biological Sciences)

Poster #16: Effects of Spin Coating Flourination on the Superconducting Properties of YBCO Thin Films

Student Researcher: *Cristofer Varela Duarte*

Faculty Mentor: *Dr. Rajeswari Kolagani* (Physics, Astronomy & Geosciences)

Poster #17: Presence of Haemogregarina in Northern Map Turtles (*Graptemys geographica*)

Student Researcher: *Joshua Sliwka*

Faculty Mentor: *Dr. Steven Kimble* (Biological Sciences)

Poster #18: Understanding and Establishing Effective Operating Conditions for AM-FM Atomic Force Microscopy

Student Researcher: *Mary Bartlett*

Faculty Mentor: *Dr. David Schaefer* (Physics, Astronomy & Geosciences)

Poster #19: Albert S. Cook Library Through the Lens of Black Students

Student Researcher: *Temi Oyedokun*

Faculty Mentor: *Dr. Jasmine Thomas* (Research & Instruction, Cook Library)

Poster #20: Improving Population Health: Modeling Health Outcomes and their Determinants with Multiple Linear Regression

Student Researcher: *Huong Giang Ho*

Faculty Mentor: *Dr. Xiaoyin Wang* (Mathematics)

Poster Session 3, Atrium, 6 - 6:50 p.m.

Poster #1: Sampling vs. Teasing: How Pre-Release Disclosures Drive Anticipation and Album Sales

Student Researcher: *Changhyuk Byun*

Faculty Mentor: *Dr. Hua Chang* (Marketing)

Poster #2: Strengthening Election Integrity: Developing and Evaluating a Poll Worker Training Application to Mitigate Cyber, Physical, and Insider Threats

Student Researcher: *Keerthana Sujesh*

Faculty Mentor: *Dr. Natalie Scala* (Business Analytics & Technology Management)

Poster #3: Biafra and the Fracture of Culture: Colonial Design, War Trauma, and Western Erosion in Igbo Identity

Student Researcher: *Dez Akano*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

Poster #4: Ethical and Technical Analysis of Gene Editing in Agriculture Biotechnology

Student Researcher: *Evyn Romero Infante*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

Poster #5: Ethical Ramifications of Endometriosis Testing in the United States

Student Researcher: *Hannah Rovner*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

Poster #6: Strings Attached: How Economic Partnerships Between African Countries and Foreign Powers Reproduce Colonial Patterns of Dependency

Student Researcher: *Sabra Homera*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

Poster #7: Stuck in The Middle: Black and Latino Gay/Bisexual Men's Connection to Racial and Queer Communities in The South

Student Researcher: *Nova McLeod*

Faculty Mentor: *Dr. Troy Kearse* (Psychology)

Poster #8: Characterizing the SAM IV Riboswitch from *Mycobacterium tuberculosis*

Student Researcher: *Daniel Golabi*

Faculty Mentor: *Dr. Ana Maria Soto* (Chemistry)

Poster #9: Measuring G With a Gravitational Torsion Balance

Student Researcher: *William Crombie*

Faculty Mentor: *Dr. James Overduin* (Physics, Astronomy & Geosciences)

Poster #10: Constructing a Template Baryonic Tully Fisher Relation

Student Researchers: *Michael Vaudreuil and Nicole Gorberg*

Faculty Mentor: *Dr. Jennifer Scott* (Physics, Astronomy & Geosciences)

Poster #11: Quantum vs. Classical Hamiltonian Evolution

Student Researcher: *Makenzie Earle*

Faculty Mentor: *Dr. Jia-An Yan* (Physics, Astronomy & Geosciences)

Poster #12: Data-Driven Nudging for Turbulent Flow Reconstruction Using Neural Networks

Student Researcher: *Christopher Toomer*

Faculty Mentor: *Dr. Jing Tian* (Mathematics)

Poster #13: Measuring Locomotive Performance in Freshwater Turtle Hatchlings

Student Researcher: *Sam Norris*

Faculty Mentor: *Dr. Krista Kraskura* (Biological Sciences)

Poster #14: Affinity Purification and Detection of Small Proteins in *Escherchia coli*

Student Researcher: *Alani Alleyne, Elani Joseph, and Sasha Vinarev*

Faculty Mentor: *Dr. Matthew Hemm* (Biological Sciences)

Poster #16: Optimizing Engineered Prototypes to Improve Habitat for Captive Aquatic Turtles

Student Researcher: *Dante Meucci*

Faculty Mentor: *Dr. Pamela Lottero-Perdue* (Physics, Astronomy & Geosciences)

Poster #17: Origins of the Juvenile Microbiome of the Northern Map Turtle (*Graptemys geographica*)

Student Researcher: *Litzzy Romero*

Faculty Mentor: *Dr. Steven Kimble* (Biological Sciences)

Poster #18: Reflectometry on GeCu Multilayers

Student Researcher: *Nolan Cote*

Faculty Mentor: *Dr. Vera Smolyaninova* (Physics, Astronomy & Geosciences)

Poster #19: Germanium Copper: Using a Metamaterial Engineering Approach to Induce Superconductivity in Copper

Student Researcher: *Tyler Hannesson*

Faculty Mentor: *Dr. Vera Smolyaninova* (Physics, Astronomy & Geosciences)

Poster #20: BIPOC Student Experiences at Albert S. Cook Library

Student Researcher: *Jaylen Beaner-Walker*

Faculty Mentor: *Dr. Jasmine Thomas* (Research & Instruction, Cook Library)

Poster #21: The Role of Students in Towson University's Women's Studies Program

Student Researcher: *Allison Witt*

Faculty Mentor: *Dr. Christian Koot* (History)

Poster #22: Dynamics of Splenic Immune Cell Populations During an Adaptive Immune Response in the Amphibian *Xenopus*

Student Researcher: *Allison Coyne*

Faculty Mentor: *Dr. Martin Flajnik* (University of Maryland School of Medicine)

Poster #23: Are Accommodations Truly Accommodating?

Student Researcher: *Holly Staggers*

Faculty Mentor: *Dr. Erjona Gashi* (Communication Studies)

Oral Presentations: Parallel Sessions Beginning at 4:30 p.m.

Room 160, Research@10 West

4:30 p.m. Making Archaeology Accessible in K-12 Education

Student Researcher: *D'Angelo Pracht-Scott*

Faculty Mentor: *Dr. Katherine Ahlrichs* (Sociology, Anthropology & Criminal Justice)

4:45 p.m. The Truth Covered in Ivy

Student Researcher: *Brianna Weishaar*

Faculty Mentor: *Dr. Katherine Ahlrichs* (Sociology, Anthropology & Criminal Justice)

5:00 p.m. Students are Using Learning Objectives to Study, but Are They Using Them Effectively?

Student Researcher: *Chloe Romm*

Faculty Mentor: *Dr. Crystal Uminski* (Biological Sciences)

5:15 p.m. Navigating the Aftermath: Understanding Barriers to Care After Sexual Violence for Nigerian Women

Student Researcher: *Chinenye Ofor*

Faculty Mentor: *Dr. Tosin Adebayo* (Communication Studies)

5:30 p.m. Unearthing TU: The Women's Aid Society

Student Researcher: *Leah Reyes*

Faculty Mentor: *Dr. Christian Koot* (History)

Room 162, Research@10 West

4:30 p.m. Language Mixing in Bilingual Spanish-Catalan Speakers After Right-Hemisphere Stroke: An Exploratory Case Study

Student Researcher: *Kylie Houston*

Faculty Mentor: *Dr. Alexandra Durfee* (Speech-Language Pathology & Audiology)

4:45 p.m. AI and Machine Learning on Medicinal Plants with Ethics

Student Researcher: *Anthony Puleo*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

5:00 p.m. ATryn and the Future of Biotech: Ai, Transgenic Animals, and Ethical Responsibility

Student Researcher: *Olanis Sanchez*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

5:15 p.m. Ethics of Artificial Intelligence in the Treatment of Autism Spectrum Disorder

Student Researcher: *Aidan O'Maille*

Faculty Mentor: *Richard Wilson* (Philosophy & Religious Studies)

5:30 p.m. Blood Pressure and Hemodynamic Parameters in Facioscapulohumeral Muscular Dystrophy

Student Researcher: *Mya Toolaabee*

Faculty Mentor: *Dr. Davi Mázala* (Kinesiology)

Room 165, Research@10West

4:30 p.m. The Role of Lipid Signaling in Axolotl Limb Regeneration

Student Researcher: *Daniel Sackey*

Faculty Mentor: *Dr. Prayag Murawala (Mount Desert Island Biological Laboratory)*

4:45 p.m. Effects of Inflammatory Conditions on Brain Cell Energy Proteins

Student Researcher: *Kyle Hastings*

Faculty Mentor: *Dr. Carmen Falcone (Biological Sciences)*

5:00 p.m. Measuring IgG1 Antibody Isotype Responses Following Bacterial Enzymatic Combinatorial Chemistry-Adjuvanted Allergen Immunotherapy in Mice to German Cockroach Antigen

Student Researcher: *Asia Trogdon*

Faculty Mentor: *Dr. Erin Harberts (Biological Sciences)*

5:15 p.m. Functional Tagging of Glomeruli

Student Researcher: *Jake Shaheen*

Faculty Mentor: *Dr. Dinu Florin Albeanu (Cold Spring Harbor Laboratory)*

5:30 p.m. Not Just Pregnancy: A GDF-15 Variant with Female-Specific Health Effects

Student Researcher: *La-Shawna Stegall*

Faculty Mentor: *Dr. Kathryn McDougal (Biological Sciences)*

5:45 p.m. Can We Stop Viruses From Causing Cancer?

Student Researcher: *Erick Del Cid Chavez*

Faculty Mentor: *Dr. Elana Ehrlich (Biological Sciences)*

Room 264, Research@10West

4:30 p.m. Syncretization of Simplex Matrices

Student Researcher: *Raphael Zeldin*

Faculty Mentor: *Dr. Tatyana Sorokina* (Mathematics)

4:45 p.m. Interventions Increasing Students Reaching Entry-Level Mathematics at Towson University, Maryland

Student Researcher: *Amanda Wisoky*

Faculty Mentor: *Dr. Diana Cheng* (Mathematics)

5:00 p.m. Analytical Solutions for the Ekman Model with General Power-Law Eddy Viscosity and their Deflection Angles

Student Researcher: *Efosa Owie*

Faculty Mentor: *Dr. Vincent Martinez* (Hunter College, CUNY)

5:15 p.m. Improved Model for Dust in the Intergalactic Medium and its Implications on Olbers' Paradox

Student Researcher: *Mauro Sgromo*

Faculty Mentor: *Dr. James Overduin* (Physics, Astronomy & Geosciences)

5:30 p.m. Developing Almost Shallow Permutation Classification Through Pattern Counts

Student Researcher: *Isabel Cole*

Faculty Mentor: *Dr. Nathan McNew* (Mathematics)

5:45 p.m. Single-Particle Fluorescence Reveals Molecular-Weight-Dependent Network Dynamics During PEGDA Polymerization

Student Researcher: *Daniel Eisenstein*

Faculty Mentor: *Dr. Khanh-Hoa Tran-Ba* (Chemistry)

Room 266, Research@10West

4:30 p.m. Policy, Heat, and Violent Crime in Baltimore

Student Researcher: *Liam Walker*

Faculty Mentor: *Dr. James Manley* (Economics)

4:45 p.m. How Has Global Warming Impacted Anxiety for Americans in the 1980s and the 2020s?

Student Researcher: *Willow Brenig*

Faculty Mentor: *Dr. James Manley* (Economics)

5:00 p.m. The New-Age Dust Bowl: Impacts of Rising Temperatures in Oklahoma and Kansas on Electricity Costs

Student Researcher: *Alexa Maisel*

Faculty Mentor: *Dr. James Manley* (Economics)

5:15 p.m. Analyzing Post-Disaster Income Inequality Following Hurricane Harvey

Student Researcher: *Samuel Ackerman*

Faculty Mentor: *Dr. James Manley* (Economics)

5:30 p.m. Clearing the Air: The Impact of London's Ultra Low Emission Zone Expansion on Rescue Inhaler Prescriptions

Student Researcher: *Simon Johnson*

Faculty Mentor: *Dr. James Manley* (Economics)

5:45 p.m. Privacy Preservation in Online Processing

Student Researcher: *Saifu Lamin*

Faculty Mentor: *Dr. Akshita Maradapu Vera Venkata Sai* (Computer & Information Sciences)