



SU DEPARTMENT OF MATHEMATICAL SCIENCES NEWSLETTER | Fall 2024



Faculty Appointments, Advancements and Awards

New Faculty Appointment

We are excited to welcome to Deepak Bastola to the department! Deepak comes to us from a visiting professorship at Carleton College. He earned his Ph.D. in applied statistics from University California, Riverside in 2021, and he also holds an M.S. in astronomy and astrophysics.

New Faculty Roles

Terry Manns completed a very successful first year as our department's inaugural Math Emporium manager and Alex Halperin took over as MATH 155 coordinator.

Promotions



Congratulations to Melissa Stoner and Jason Cai on their well-earned promotions! Melissa was promoted to full professor, and Jason was tenured and promoted to associate professor.

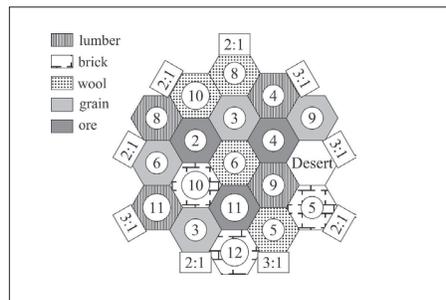
Excellence in Teaching Award

Carvel LaCurts was the 2024 recipient of the Henson School Excellence in Teaching Award. Congratulations Carvel!

Faculty Activities & Accomplishments

Publications

- Kudos to Jathan Austin, with **four** new publications during the 23-24 academic year! These include:
 - "On Pythagorean Triple Preserving Matrices that Contain Fibonacci Numbers" in the *Fibonacci Quarterly*

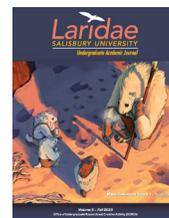


- "Caught 'Red'-Handed? The Probability of Randomly Constructing a Legal *Catan* Board" in the *College Mathematics Journal*, with co-authors Brian Kronenthal, Jonathon Miller, and Susanna Molitoris-Miller
- "A Note on Generating Primitive Pythagorean Triples Using Matrices" in *Notes on Number Theory and Discrete Mathematics*
- "Benefits of Regional High School Mathematics Competitions," in *MAA FOCUS*, with co-authors Carvel LaCurts, Katrina LaCurts, Kurt Ludwick, Laurie Short and Melissa Stoner. (Read more about this under "Department Events.")

Project NExT

Kyle Teller is the latest new faculty member to participate in the Mathematical Association of America's Project NExT (New Experiences in Teaching). Founded in 1994, the Project NExT program is designed to support new Ph.D.s in the early stages of their careers.

- Jason Cai co-authored "Paving Behavior in Ants and Its Potential Application in Monitoring Two Urban Pest Ants, *Solenopsis invicta* and *Tapinoma melanocephalum*," an interdisciplinary, international collaboration with Xuan Chen (SU, Biology) and several colleagues at South China Agricultural University, Guangdong Academy of Forestry and Beijing Forestry University. This article was published in *Insects*.
- Ryan Shifler's article "Curve Neighborhoods and Combinatorial Property \mathcal{O} for a Family of Odd Symplectic Partial Flag Manifolds," co-authored with SU students Connor Bean and Bradley Cruikshank, was published in the *Rocky Mountain Journal of Mathematics*.
- Veera Holdai and Kyle Teller served as faculty mentors for publications in the fall 2023 *Laridae*, the Salisbury University undergraduate academic journal.
 - Veera mentored Bennett High School student Henna Parmar for her paper "Polynomial Projection Models for New COVID-19 Cases in the Months of May-August 2020."
 - Kyle mentored SU student Joseph Kim for his paper "Supervised Learning of Cancer Types Using Gene Copy Numbers."



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Study Abroad – Diana’s Professional Development in Kenya

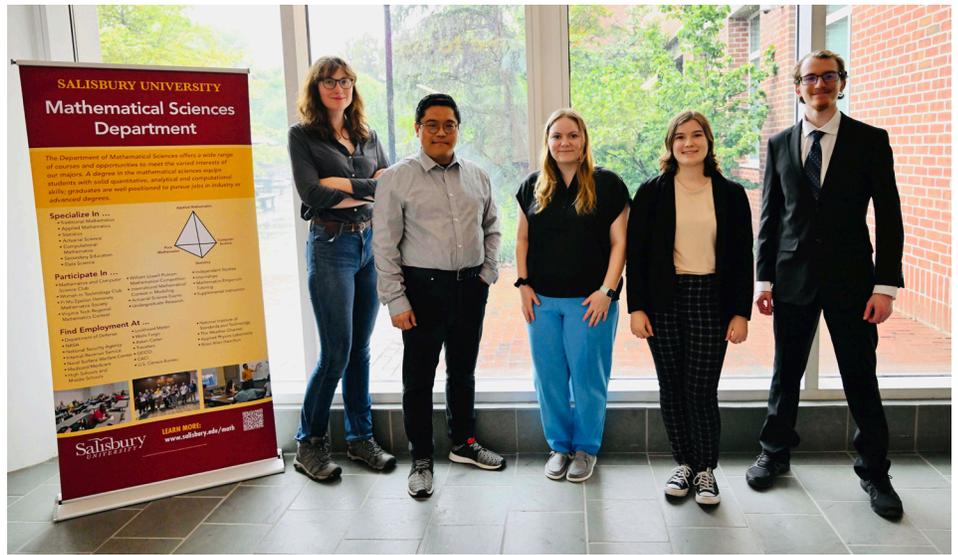


In the winter term, Diana Verzi enrolled in a one-month study abroad course in Kenya on Ecology and Sustainability, led Drs. Fulbert Namwamba and Tami Ransom from the Environmental Studies Department. Diana traveled and lodged with the enrolled students. Together, they visited sites

including the Masai Mara Game Reserve, Kenya National Forest, Lake Victoria and the Giraffe Center in Nairobi. They also spent several days at Kaimosi Friends University, observed the fishing industry off the coast of Lake Victoria and visited a research facility studying water pollution.

Among the many benefits of this were a unique opportunity to observe firsthand how students interact when faced with a challenge, networking with students and faculty in Kenya, and developing potential contacts for future student exchange programs.

Society of Actuaries (SOA)



Salisbury University entered the Society of Actuaries (SOA) Student Research Case Study Challenge, an international collegiate competition. Out of 57 teams from 12 countries, the SU team, Mew Consulting, placed third *in the world*. This was the best finish of any American team, beating out teams from Arizona State (the 2023 first place winner), Penn State, Ohio State, Towson and several other notable actuarial science programs.

Congratulations to the winning team of Cameron Cash, Carly Pfaff, Emily Shaeffer and Lauren Specht, and their advisor Jason Cai!

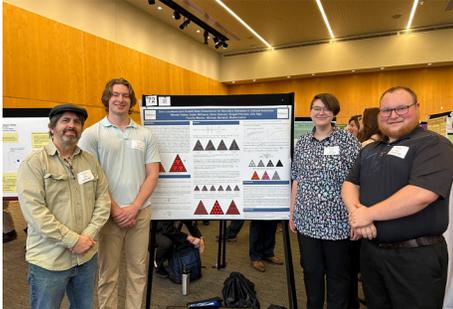
Jason Cai passed two new Society of Actuaries exams: Fundamentals of Actuarial Mathematics (FAM) and Statistics for Risk Modeling (SRM).

Conference Presentations

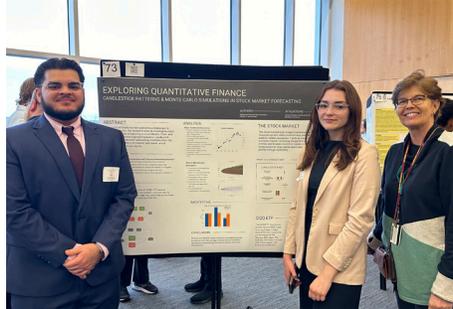
- Jathan Austin presented “Pythagorean Triples and Generalized Fibonacci Numbers” at the fall MAA MD-DC-VA Section meeting.
- Jason Cai presented “The Cyclical Movements in the U.S. Fed Funds Rate and Monetary Base (1990-2022): A Dynamic Perspective from the Markov Regime-Switching Model” at the Western Economic Association International Annual Conference in San Diego.
- Ryan Shifler presented “Positivity Determines the Quantum Cohomology of the Odd Symplectic Grassmannian of Lines,” at the Joint Mathematics Meetings in San Francisco.
- Kyle Teller presented “Data Science, from Questions to Research” at the U.S. Naval Academy.

SU Student Research Conference (SUSRC)

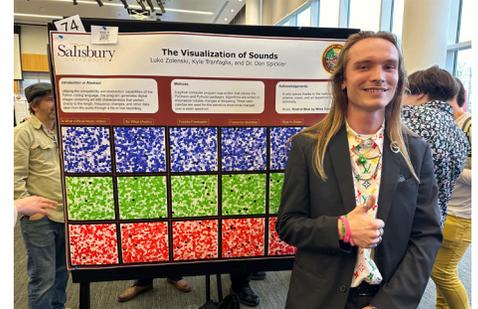
The Mathematical Sciences Department was well-represented at SUSRC. This year, faculty from our department served as mentors for five oral presentations and four posters, as well as two student articles in *Laridae*.



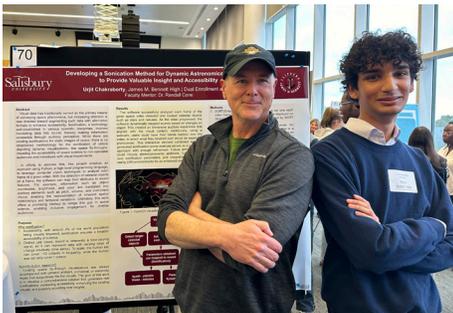
Brian Keenan, Abigail Pierson and Nikolai Vukov with mentor Mike Bardzell (not pictured: co-presenters Dylan Williams and Lilly Ngo)



Muhammad Abdullah and Sarah Chambers with mentor Lori Carmack



Luke Zolenski (not pictured: co-presenter Kyle Tranfaglia and mentor Don Spickler)



Urijit Chakraborty with mentor Randy Cone



Christopher Kotsifakis (mentored by Ben Goodberry)



Emily Shaeffer (mentored by Jason Cai)

Departmental Events

39th Annual Eastern Shore High School Mathematics Competition (HSMC)

The 39th HSMC took place on Wednesday, November 15, 2023. The contest chairs were Carvel LaCurts, Kurt Ludwick and Kyle Teller, and the contest was sponsored by the Leister Foundation and Delmarva Power. Melissa Stoner gave this year's invited talk, "Traffic Jam: Finding Mathematics in Basic Games."

This year, Stephen Decatur High School very nearly swept the awards. In addition to winning first place in the team competition, Decatur had two of the top three individuals as well: Tyler Kim (first) and Daniel Karcheuski (second). The other two winning teams were Worcester Prep

(second) and The Gunston School (third). The third-place individual was Mustafa Kilicarslan from Delmar High School.

The HSMC was featured in the MAA *FOCUS* article "Benefits of Regional High School Mathematics Competitions," co-authored by Jathan Austin, Carvel LaCurts, Kurt Ludwick and Melissa Stoner, along with former HSMC student participants Katrina LaCurts and Laurie Short. The article describes the history and structure of HSMC, highlights some of the many benefits of the competition to participating students and teachers, and provides encouragement and guidance for others who may be inspired to launch a similar math competition.



January Retreat

The department held a faculty retreat on January 25 at the Nanticoke River House in Mardela Springs. We made significant progress toward the ongoing review of our departmental policies.

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Pi Mu Epsilon Induction Ceremony (April 28)



Math/CS Club Picnic (April 28)



Spring Social (May 10)



Graduation Social (May 23)

Last But Not Least



Congratulations Kyle and Victoria Teller on the birth of their son! And, a warm welcome – to the departmental family and to the world! – to Ezekiel Teller, born January 13, 2024.



Make Tomorrow Yours

SU is an Equal Opportunity/AA/Title IX university and provides reasonable accommodation given sufficient notice to the University office or staff sponsoring the event or program. For more information regarding SU's policies and procedures, please visit salisbury.edu/equity.