

## NEW FACE IN OFFICE



Meet Robin Huff. She is our newest Administrative Associate 3 in the Mathematics Department. Originally from Upstate South

Carolina, Robin relocated to Cookeville in 2018 with her husband and two children. You can find her in Bruner 218. That's located inside the math office on the left. Everyone please give Robin a warm welcome to the Math Department.

## COOL MATH JOBS

### Data Analyst vs. Data Scientist

One of the hottest careers for mathematicians at this time is in the field of Data Science. With a bachelor's degree in math, you can be a data analyst. If you continue your education and get a master's degree, you can become a data scientist and earn more money.

So, what's the difference between a data analyst and a data scientist, you might ask. A data analyst gathers and analyzes data while a data scientist uses that data to develop statistical models to explain the data and make predictions. Data analysts spend their day examining large data sets to identify trends. They use that information to develop charts and create presentations to help businesses make strategic decisions. Data scientists, on the other hand, will take the information the data analyst has found and use it to find patterns and trends, create algorithms and data models, and make recommendations and predictions to upper

management. Data analysts and data scientists use tools such as Python, R, SAS, or SQL. Both will improve their job prospects by keeping up with current trends and new innovations in the data science field.

The average salary for a data analyst is around \$66,000. Entry level positions begin around \$50,000, depending on your location. The median salary for a data scientist is around \$120,000 with entry level positions paying around \$65,000 to \$70,000, again depending on your location.

Usually data analysts and data scientists start out with degrees in mathematics or statistics. A firm foundation in mathematics and statistics, knowledge of specific programming languages, and participating in hands-on projects using real data sets will increase your chances of obtaining a job in the data science field. The TN Tech Math Department can help with that as we are now offering a Mathematics, Statistics and Data Science Concentration. You can find more information on this concentration at the following link:

[https://catalog.tntech.edu/preview\\_program.php?catoid=34&poid=4887&returnto=7464](https://catalog.tntech.edu/preview_program.php?catoid=34&poid=4887&returnto=7464)

## MATH CLUB

For the past two semesters the Math Club has been able to meet multiple times to discuss in-depth topics in graph theory and take time to relax and hang out with refreshments and games. In the fall semester we were able to put on an end of the year party with card games and a hot chocolate bar free for all Tech students. We were also able to host a Valentine's Day event with card making this past spring semester. On top of holding meetings throughout the semester,

the Math Club participated in helping plan the Integration Bee that took place April 13th. Thank you to everyone who came out to support the club and we hope to see you next semester for our club kickoff!

Submitted by Meredith Hall

## PREVIEW DAY

Preview Day was held on the first Saturday in October. It's a day that prospective students have the opportunity to learn about Tech's admissions process, explore different majors, and submit applications on site to attend Tech.

Michael Allen, Spencer Kennon, Sam Narimetla, and Padmini Veerapen did an excellent job representing the Math Department. Thank you for taking time out of your weekend to show your support for the department and to help recruit new math majors.



## WAY TO GO!



Associate Professor Padmini Veerapen attended a week-long conference in September 2022 at the Banff International Research Station (BIRS) located in Canada. While in attendance, she gave a talk on twists of algebras and coalgebras and discussed some awesome noncommutative algebra with mathematicians from around the world. Countries such as Japan, Mexico, and the U.S.A were represented at the conference. Her discussion with Kenta Ueyama from Japan led to a paper that was recently accepted for publication. Dr. Veerapen states that the town of Banff, Calgary is a breathtaking place. It is surrounded by the Rocky Mountains and the views were stunning.

Thank you Dr. Veerapen for representing the TN Tech Mathematics Department at this prestigious conference.

## INTEGRATION BEE



L-R are 3rd, 2nd, and 1<sup>st</sup> place winners. Isaiah Chastain, Charles Hasting, Logan Schenk

April 13<sup>th</sup> saw the return of the Math Department's Integration Bee. After an online qualifying round, nine students participated in person for a top cash prize of \$125 for first place. The first round knocked seven students out of the competition with two remaining to compete for first place. Third place went to Isaiah Chastain, a freshman computer engineering major from Dickson, TN. The final integrand of the day was  $\exp(x) \sinh(x)$ . After a failed, but valiant, effort from Charles Hasting of Maryville, TN, chemical engineering and math, top prize was claimed by Logan Schenk, a mechanical engineering major from Shelbyville, TN.



Many thanks go to mathematics faculty, Motoya Machida, Brian O'Connor, Yung-Way Liu, Sam Narimetla, Tommy Elliott, and special guest judge, retired mathematics faculty Richard Savage, Jr.

## GRADUATION

This spring the Mathematics Department is graduating six undergraduate students with B.S. degrees and three graduate students with M.S. degrees.

Belguetei Ariuntugs, Jonathan Escue, Meredith Hall, Josie Millican, Claire Moore, and Blaine Swieder will all receive bachelor degrees in mathematics on Friday, May 5<sup>th</sup>, after all requirements for the degree are met.

Angus Bryant, David Rowin, and Alizza Schremp are all busily completing the requirements to earn their master's degrees

in mathematics and will also graduate on May 5<sup>th</sup>.

Angus, under the supervision of Professor Michael Allen, successfully defended his thesis titled, On Non-Uniform Informatic Polymatroids, on April 5<sup>th</sup>. David, under the supervision of Professor Motoya Machida, successfully defended his thesis, Probabilistic Techniques in **ZKP**, on March 28<sup>th</sup>. Alizza, under the supervision of her thesis advisor, CAS Associate Dean, Allan Mills, successfully defended her thesis titled, Two Proofs of the Matrix Tree Theorem and their Matroid, on March 30<sup>th</sup>.

The Department of Mathematics held a graduation reception on Thursday, April 27<sup>th</sup>, in honor of our graduating math majors. Current math majors and math faculty were there to wish the Math Department's graduating class of 2023 well.

Congratulations to you all on your upcoming graduation! May your futures be bright and may you do great things in your life. We knew you could do it!



## FAREWELL TO PATSY

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After 18 years of serving the math department as the front office secretary/administrative associate, Patsy Peavyhouse will be leaving us on May 12<sup>th</sup> to enter the wonderful world of retirement.

Associate Professor Brian O'Connor asked Patsy some questions about her time at TN Tech.

**BMOC:** Where did you grow up? How did you come to Tennessee Tech.

**PP:** I was born and raised in Clarksville, TN where I attended Austin Peay State University and met my future husband. He was from the small town of Jamestown, TN in the Upper Cumberland. After we married and graduated from APSU, he worked as a high school band/chorus director for several schools in Middle and East Tennessee before we settled down in Jamestown where we raised our daughter. While there, we both worked at Alvin C. York Institute. When our daughter went to college at MTSU, we both found jobs in Cookeville so we would be a little closer to her.

**BMOC:** When did you come to the Math Department? Did you have jobs before that?

**PP:** I originally came to the Math Department in 2001 and stayed a little over a year. During that year, the Math Department hosted an international conference on Clifford Algebras that was coordinated by Rafal Ablamowicz who was the Chair of the department at that time. I left for a few years and came back in 2006. Before TN Tech I worked at various jobs including being a secretary at APSU, a substitute teacher for

various school systems, and as a teaching assistant in special education at Alvin C. York Institute.

**BMOC:** What have been your duties in the Math Department? Have they evolved over the years?

**PP:** I've had many varied duties in the department, but my specialty is permits for math classes. The duties have evolved over the years as more and more things are being done online. When I first started working for the department, a lot of things were done on paper and everything seemed less complicated then. Now, everything is done on the computer and there is much more information you need to know in order to do your job well.

**BMOC:** What department Chairs have you worked for? Any recollections on that?

**PP:** I began my job at Tech working under Rafal Ablamowicz. I'm very proud of the fact that he hired me twice so I must have done a good job the first time to be hired back. Either that, or they were just desperate to fill the position. I began working in the department in 2001 and left a little over a year later. During the four years I was gone, my mother became ill and my husband and I moved to Clarksville to help care for her. In 2006, my old job in the Math Department was open again and my circumstances would allow me to move back to Cookeville so I applied and was hired again by Rafal Ablamowicz. After him, Allan Mills was the Chair for many years and he, Vickie, and I made a good team. After he moved to the College of Arts and Sciences to assume the roll of Associate Dean, Michael Allen became Chair and I've been working with him for the last couple of years.

**BMOC:** What other departmental secretaries did you work with? Any remembrances?

**PP:** I worked with Vickie Mayberry for many years in the department. We have always had a great working relationship and have become great friends over the years.

Vickie left to go to the Dean's office in 2021, but we still talk to each other almost every day. I didn't have the opportunity to work with Mamie Burgess who was the departmental secretary from the time Bruner Hall was built until her retirement, but I did have the privilege of meeting her and spending time with what we called, "The Bruner Staff Committee." The secretaries from Computer Science, Physics, and the Math Department would get together every so often and do lunch. Mamie would always join us on these occasions.

**BMOC:** Which math faculty members, past or present, do you most remember?

**PP:** I remember them all. We've had faculty come and go throughout the years, and as I look back I can recall snippets of conversations I've had with each of them. One of the things I will miss most in retirement is having faculty stop by my office to just sit a moment or two for a chat.

**BMOC:** What parts of your job here were most rewarding? What was most challenging (other than trying to get faculty to turn forms in on time)?

**PP:** It's been very rewarding being around the students and helping them when they have issues trying to get into math classes. Most students are very grateful and appreciative when I'm able to do a permit that will get them into a class. Even though it's very stressful for me during the first week of registration, I get a feeling of achievement when I can solve a problem for students and/or their advisors.

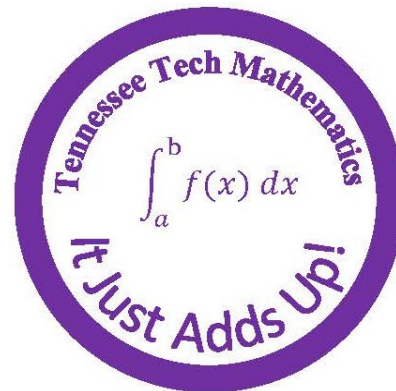
The most challenging thing about the job is not having enough time in my day to get everything done.

**BMOC:** What plans do you have for your retirement?

**PP:** I plan on moving closer to my daughter and grandson so I can become his chauffeur. I also plan on reading all the books I've bought over the years, but never had time to read, maybe play my piano and do a little knitting. After a few days of that, I'll

probably get bored and have to start looking for some volunteer work or maybe start a dog walking business to occupy my time.

I want to thank everyone for being part of my life for the last couple of decades especially those of you who had to suffer through my April Fool's Day jokes, my excessive talking, and my ridiculous office decorations. It's been a joy to work in the Math Department. I will miss seeing everyone, but I'll take memories with me that will last a lifetime.



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