

GRADUATION

This academic year we graduated five of our undergraduate math majors and two graduate math majors. In the fall of 2021 the following math majors graduated with B.S. degrees in mathematics: Patrick Bartol, Angus Bryant, Madison Pearson, and Rylan Smith. Patrick and Angus are continuing their education in the TN Tech Department of Mathematics and pursuing master's degrees.

Jacob Copeland, one of our graduate assistants, received his master's degree in mathematics during the fall commencement.

This semester, math major Connor Pinson is graduating with a B.S. degree in mathematics and Sydney Clere, one of our graduate assistants, is graduating with her M.S. degree in mathematics.

Sydney was also selected as the winner of the Stanley Dolzycki Memorial Award and the Math Graduate Teaching Award for spring 2022. In addition, she successfully defended her thesis titled, "An Introduction to Wavelets and Multiresolution Analyses with an Application to Digital Signal Processing." **Way to go Sydney!** Special thanks go out to her advisor, Associate Professor Amy Chambers, for her assistance in helping Sydney achieve her goals.

Congratulations to you all and may you have bright futures!

MATH CLUB

The Math Club had another busy semester, meeting once a month to discuss various mathematical topics. At their last meeting of the year, new officers were elected for the 2022-2023 academic year.

New officers are: President, Blaine Sweider and Vice-President, Meredith Hall.

NEW MATH CONCENTRATIONS

The Math Department has created four new concentrations in the Mathematics B.S. Degree.

The currently existing tracks (Pure Mathematics, Applied Mathematics, Statistics, and Actuarial Mathematics) will be elevated to the new concentrations (Pure Mathematics, Applied Mathematics, Statistics and Data Science, and Actuarial Science).

Most of the curricula in the new concentrations correspond to the current tracks. The significant changes are listed below:

Pure Mathematics. Two pure mathematics sequences (MATH 4110-4120 Advanced Calculus I-II and MATH 4010-4020 Modern Algebra I-II) will be required. In addition, students must complete at least one sequence from the applied mathematics sequence list. MATH 4993 Mathematical Research (3 credit hours) will be added as a capstone course.

Applied Mathematics. The sequence of MATH 4210-4220 Numerical Analysis I-II as well as MATH 4510 Advanced Math for Engineers are required. In addition, students must complete one sequence from each of the pure mathematics and the applied mathematics sequence list.

Statistics and Data Science. Two applied mathematics sequences (MATH 3070-3080 Statistical Methods I-II, and MATH 4470-4480 Probability & Statistics I-II) are required. In addition, students must complete at least one sequence from the pure mathematics sequence list. The

significant change includes the additional courses (27 hours) from Computer Science, CSC 1300, 1310, 2220, 2310, 3300, 4220, and 4260. MATH 4993 Mathematical Research (3 credit hours) will be added as a capstone course.

Actuarial Science. Three applied mathematics sequences (MATH 3070-3080 Statistical Methods I-II, MATH 4470-4480 Probability & Statistics I-II, and MATH 4550-4560 Mathematics of Investment I-II) are required. In addition, students must complete at least one sequence from the pure mathematics sequence list. The significant change is the requirement of a Minor in Business (21 hours) consisting of ECON 2010-2020, ACCT 3720, BMGT 3510, MKT 3400, FIN 3210, and LAW 3810.

COOL MATH JOBS

In this issue, we are going to take a look at another cool math job, actuarial math.

Being an actuary may not sound like a cool math job, but if you are looking for a challenging career and love analytical problem solving, then this may be the job for you. Most actuaries are very satisfied in their jobs and enjoy what they are doing. As an actuary, you will have good employment prospects, job security, job growth opportunities, and the best thing about being an actuary is the salary. The median salary for actuaries is over \$100,000. Of course, you won't make that much just starting out and it does take a long time to become a certified actuary, but beginning salaries for actuaries are much higher than for most jobs that only require a bachelor's degree. You will need to take a series of tests to be a fully certified actuary professional and if you do these while on the job, you may receive raises for passing them.

The first step to becoming an actuary is to get your bachelor's degree. Most actuaries have degrees in mathematics or statistics. Then you must pass a series of

exams to be certified. You can take some of these exams while you're getting your degree. You should have a strong background in mathematics, statistics, and business, so you might want to minor in business.

Most actuaries work for insurance companies and receive on the job training throughout their careers. They get to use their mathematical skills and do problem solving on a daily basis. Some of the problem solving for an entry-level actuary are 1) how to create VBA or Python code, 2) finding ways to decrease premiums even when expenses are increasing, and 3) how to display scads of information in a way that others can absorb.

One con of an actuarial position is that you probably won't be out of the office much, so you will need to decide if that is a good fit for you or not. You will also be working all day long in the office at the beginning of your career and studying for and taking exams on your own time. It may take six to eight years to complete all the exams you need to be a fully certified actuary, so you will have to be dedicated.

For more information on what an actuary does, you might want to watch these YouTube videos:

https://www.youtube.com/watch?v=oy6_S6EzOHw

https://www.youtube.com/watch?v=sxPmYZdGs_Q

WAY TO GO!

Congratulations to Seth Agee on securing a position with Dynetics in Huntsville, Alabama. Seth completed his bachelor's and



master's degrees in math here at TN Tech. He has been teaching as a one-year temp this year for the Department of Mathematics.

Seth will begin his new job this summer.

His official title will be Scientist 2 and he will be working in the EW and RF Threat System Development Department alongside fellow TN Tech Math Department alumni Riley Robinson. Seth says he could not have done it without the mentorship of Motoya Machida these past few years as well as Patsy, Vickie, and the office staff who helped him along every part of his journey here in the Math Department. Seth says thank you to everyone who has helped him along his way. **Way to go Seth!**

The College of Arts and Sciences honored its outstanding students on April 19th. Math majors receiving awards were as follows:

- Grateful Heart Mathematics Scholarship – **Meredith Hall**
 - Dr. R. H. Moorman Memorial Award – **Josie Millican**
 - Dr. S. A. and Mrs. Vijay Patil Scholarship – **Reed Johnson**
 - Richard P. Savage, Sr. Mathematics Scholarship – **Kayleigh Schooley**
 - Stanley W. Erwin M. D. Scholarship – **Reed Johnson and Josie Millican**
 - Stanley Dolzycki Memorial Award – **Sydney Clere**
 - Math Graduate Teaching Award – **Sydney Clere**
- Congratulations Everyone!**

The Math Department successfully completed the review of our undergraduate and graduate programs. Both programs received excellent scores and the reviewers had some very good comments about both programs. **Great Work!**

Our graduate students did a wonderful job presenting talks at the Graduate Seminars this year. Several of our faculty also presented talks on research they are interested in. Thanks go to everyone who participated in the graduate seminars and to Amy Chambers for coordinating the seminars.

After a two-year hiatus, the Math Department hosted the 64th TMTA HS Math

Contest. A total of 14 area schools participated with 229 students testing in six categories. Thanks go to all our math faculty who assisted as proctors or in other ways, and special thanks go to Yung-Way Liu and Patsy Peavyhouse on coordinating this event. **Great job folks!**

Congratulations to Sydney Clere on winning her division at Tech's Research and Creative Inquiry Day. The title of her research project is "An



Introduction to Wavelets and Multiresolution Analyses with an Application to Digital Signal Processing." Sydney's thesis advisor is Associate Professor Amy Chambers. Sydney is shown receiving her award from Interim Dean Jeff Roberts from the College of Arts and Sciences.

👍 WAY TO GO EVERYONE!!

OUTSTANDING FACULTY AWARD

Congratulations to Sam Narimetla on being awarded the 2021-2022 TN Tech University Outstanding Faculty Award for Teaching. To be considered for this award, faculty must be nominated by a student,



faculty member, alumnus, or administrator. The nominee must then provide supporting

documentation to the Awards Committee. The committee then takes into consideration all of the information it has available to select the recipient of this prestigious award. The winner receives a cash award, a plaque,

is recognized at the Faculty Awards Recognition Reception in the fall, and will also be recognized in the spring Commencement Ceremonies. **Outstanding!**

Congratulations on your award and keep up the good work!

VICKIE'S NEW ADVENTURE



Most of you know who Vickie Mayberry is as she worked in the Math Department for 32 years. If you had a problem, you would go to Vickie because she had the knowledge and experience to solve it.

Well, now you will have to go to the College of Arts and Sciences Dean's Office to find Vickie. On October 15, 2021, Vickie officially became the Administrative Associate for the Dean and moved to Henderson Hall room 208. Congratulations Vickie! We truly miss having you in the math office, and we wish you well in your new job.

Associate Professor Brian M. O'Connor asked Vickie a few questions about her time in the Math Department.

BMOC: I know you grew up in the Upper Cumberland and came to Tennessee Tech. Tell us about that.

VM: I was the first of seven to graduate from high school (Alvin C. York Institute 1980) from Jamestown, TN. I walked upon the campus of Tennessee Tech as a poor country girl and was housed in White Hall dormitory with two wonderful sophomore girls from Nashville, TN. We stayed roommates for two years until I became a Resident Advisor my Junior Year.

BMOC: When did you come to the Math Department?

VM: I came to the Math Department in May 1989 from Records and Registration where I only worked part-time.

BMOC: Did you have jobs before that?

VM: Why yes, I married my husband Ronnie in August of 1984 before I finished school and I worked at Kroger part-time for over a year. Then I went to work full-time at Aqua Tech (prewash factory for denim) and stayed there for a year and a half. While at Aqua Tech I knew that I had to get back into school and finish my degree so I stopped working and went back to school full-time and graduated summer of 1988. That is when I could not find a job with my degree and called Shirley Dyer in Records and Registration to see if she needed any help during registration. She hired me and I worked for them for over a year part-time which was really like full-time. During my time with Records and Registration was when we converted from the quarter system to semester, and when the math position came open I applied for it.

BMOC: What have been your duties in the department?

VM: I was hired mainly to take care of the budget and as a technical typist for the departmental faculty. I learned TeX to type set all the research papers for the departmental faculty. I took care of the budget and whatever else needed to be done.

BMOC: Have they evolved over the years?

VM: Of course, I started out as a Secretary I and after several reclassifications ended up as a Secretary III or Administrative Associate 3. The things I did was endless, from helping students register, clearing a paper jam from the copier to balancing an \$80,000 mini grant for a Mac Lab.

BMOC: What department chairs did you work for?

VM: Alice Mason hired me and I worked for her until she stepped down in 1998 when Rafal Ablamowicz was hired as Chair. He stayed Chair for the next eight years until he stepped down in 2006 and Allan Mills came in as Interim Chair. Allan Mills was Interim Chair for a couple of years until becoming full departmental Chair of the Math

Department. He remained Department Chair until August of 2020 when he took the Interim Associate Dean's position in the College of Arts and Sciences. Michael Allen stepped in as Interim Chair when Allan Mills left.

BMOC: Any recollections on that?

VM: I was very grateful to Alice for giving me the chance when she hired me and she was a dear friend. Rafal Ablamowicz always pushed me to be the best that I could be and broadened my computer skills greatly. Allan Mills was a great colleague. He and the departmental staff worked well in all areas for the department. I've known Michael Allen ever since he was a math graduate student when I first started working here in 1989. Michael has been a very good friend over the years and was easy to work under (and Michael says it was easy **to work for** Vickie too). I was blessed to have had such great mentors to work with.

BMOC: What other departmental secretaries did you work with?

VM: When I first started work in the Math Department I worked with the one and only great Mamie Love Burgess. She was a jewel that no one trophy could hold. She was a dear, dear friend with a wealth of knowledge. When she retired we hired Amy Knox who stayed for a year, but took a position on campus using her degree which was to help in writing research grants etc. After Amy we had a couple of secretaries that just did not pan out with the department until we hired the one and only ever Patsy Peavyhouse. She still remains as the sole backbone of the Math Department.

BMOC: Any remembrances?

VM: About a month after I was hired I was left alone for a week while Alice and Mamie took a trip to the Highlands in NC. I was really nervous but they said I could handle it. Well I must have since the department is still standing. During Patsy's reign she left us for a year or so but we were lucky to get her back. We just could not find anyone who

could replace her. She has been one of the greatest friends and colleagues that I could have ever been BLESSED to work with. She is the backbone of the department as I mentioned before and will be deeply MISSED when she retires.

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

VM: Well, there was Ed Dixon so professorial in his tie and jacket, Reginald Mazeris, our little Cajun, that I could hear coming down the hall in his penny loafers, S.A. Patil who would leave his truck out of gear and it would roll off until someone would get in touch with us for him to go park it correctly, Ron Sircy (No Mercy Sircy) if he wore a bow tie to class that meant you were having a test that day, Ms. Evelyn Brown, the soft spoken most friendly Calculus I teacher that all the students loved to take (but she so hated the grading of tests 😊!!), Mrs. Frances Crawford who started the TMTA Math Contest which still goes on to this day, Dewey (Decimal) Thurman who spoke so softly and slow that he would put you in a trance but was one of the most sought-after teachers by all students. I have worked with so many great faculty members that there is just not enough room to mention them all.

BMOC: What parts of your job here were most rewarding?

VM: My most rewarding part of my job working in the Math Department was working with all the great men and women who make up the whole departmental faculty. I have made many great friends throughout my years and I would not trade it for anything. Helping students with all of their ups and downs I would put second for they are the reason for our department to function.

BMOC: What was most challenging (other than trying to get faculty to turn forms in on time)?

VM: Trying to get faculty to turn in things on time! 😊 There were times that I could

have screamed, but I would not change any of the experiences that I went through. The Math Department was like my home away from home and the faculty were like my extended family that I just got to see every day. Working in the Math Department was a Blessing upon a Blessing for me and that experience will be cherished in my heart forever.

BMOC: You were lured away from us this past year and are now in the office of the Dean of Arts and Sciences (we miss you). What are your responsibilities there?

VM: Well I am the Staff Advisor for all the Administrative Associates in the College of Arts & Sciences. I onboard all new Admins hired in the college and help them learn any task that they need help with. I take care of nine budgets, some that are over six figures. I help take care of all the departments in the college, from purchasing a \$2,000 computer to purchasing a \$35,000 piece of equipment. Duties range from planning holiday luncheons to donor dinners to awarding scholarships to many students throughout the college. I do so many different things here in the College of Arts & Sciences that I just don't get to work on the student aspect side of things now as much. Mainly helping the college as a whole.

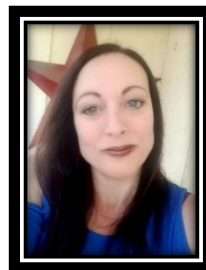
BMOC: Tell us about your family.

VM: I have been married to Ronnie going on 38 years this August 31st. We have one fabulous daughter Kala and our son-in-law Heath Randolph who we heired the farm to and they now live beside us. Kala works at the Judges' office of the General Sessions Court here in Cookeville and Heath works for Crossville Tractor in Crossville, TN. Kala has a small clothing boutique where she sells clothing online or porch pick-up here in Cookeville. She distributes her items to wholesale vendors from all over the states. Heath sells all types of farm equipment from large tractors to lawn care equipment. On Kala and Heath's farm (Randolph Farms) they buy and raise black

angus cattle which is USDA processed and vacuum sealed with the weight shown on each package for sale. Ronnie and I are very proud of them. They both work very hard and strive to be good stewards in all that they do.

NEW FACE IN THE OFFICE

Let's all welcome Alicia Bowman to the Department of Mathematics. Alicia is our new Administrative Associate and we are happy to have her join our team. She will be doing many of the jobs that Vickie did. If you haven't met Alicia yet, stop by the office, Bruner 217, and introduce yourself.



MATH DEPARTMENT STICKER

The Math Department has a cool new sticker. If you are a math major and would like to have one to put on your laptop or whatever, stop by the office, Bruner 217, and ask Patsy for one.



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