Andrews University
Seek Knowledge. Affirm Faith. Change the World.

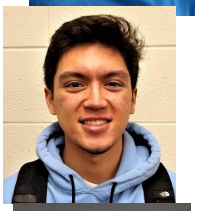
Fall 2022
Volume 19
K. Johnson-McWilliams, Editor

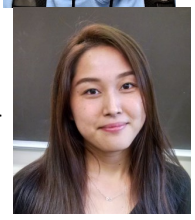
math@andrews

Summer NSF-Sponsored REU

From May 10–July 15, for the second year Andrews University offered a unique mathematical experience funded through the National Science Foundation and administered through the Mathematical Association of America. Anthony Bosman, Assistant Professor of Mathematics, guided the research of four Andrews mathematics students—*(left to right above)* **Yamil Kas Danouche** (senior BSE Computer Engineering/Mathematical Studies; PME), **Davielle Smith** (junior BS Mathematics/BA Music)**, Devin Garcia** (senior BS Physics/Mathematical Studies; PME) and **Justyce Goode** (sophomore BS Mathematics/BS Computer Science)—who were chosen because of their good performance in their courses and an expressed interest in research experience. High schooler **Zachary Duah** joined the group as well.

First Innovation & Entrepreneurship Certificates Earned and Pitch Competition Awards Given





In Fall 2021 Andrews University first offered the 15-credit certificate in Innovation & Entrepreneurship with a total enrollment of 28; that grew to 32 in Spring 2022, when the first set of graduates successfully completed their Innovation & Entrepreneurship Certificate. All three of these graduates are connected to the Department of Mathematics: **Avet Badalyan** (2022 BS Data Science), **Joshua Dulcich** (2022 BS Computer Science/Mathematical Studies; PME), and **Tsz Yi Yeung** (2022 BS Data Science: PME). Avet and Joshua are currently putting their skills to use in forming their own companies. The I&E classes are not reserved for just students seeking to complete the certificate since any student, faculty, or staff can take the courses. The practical skills and knowledge gained prepare people to establish a startup company or to develop or offer an innovative product, process, ministry, organization, or service.

To further help people with these sorts of enterprises, the Office of Innovation & Entrepreneurship held its first Pitch Competition, offering a total of $30,000 of both cash and in-kind awards such as prototyping materials and equipment, consultants, personalized coaching, software licenses, purchase of needed equipment, grant writing assistance, patent application assistance, and rental space in the future innovation center. Participants went through three rounds of scoring with a panel of judges over a several-week period. The final competition took place in front of a live audience on March 31 at Newbold Auditorium, and based on the judges' scoring, the first-place winner in the non-profit category was the Yara Project, led out by **Nilah** and **Nara Mataafa** and **Kalyapi Humpal**. The second place went to Challenge Accepted, led out by **Faith Kaluba** and **Lisa Kamikazi**.

In the for-profit category, 7th Day Films under **Tyler Kern** won first place. The second place went to Timepiece, led out by **Joshua Dulcich (**2022 BS Computer Science/Math Studies; J. N. Andrews Honors Scholars; PME), **Eric Inae** (2022 BS Computer Science/BS Mathematics; J. N. Andrews Honors Scholars; PME), and **Matthew Dulcich** (2022 BS Computer Science). Third Place went to MEVA, headed out by **Orlando Joseph Totobesola**, and fourth place went to MikeSpace Studion, led by **Michael Davis**.

Note from the Chair

Dear Friends of the Math Department,

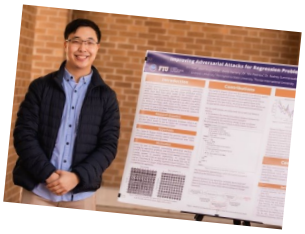
This school year has brought me a renewed appreciation for the opportunity to connect with students. Being able to see their faces, to eat food together at colloquium, and to invite them to my office again has been wonderful! Each individual brings such a wealth of potential, experience, and personality to the relationship that I am privileged to have this as part of my job.

My prayer for each of you is that your relationships and connections will deepen in the coming year and that you will see the image of God in others.

Thank you,
Lynelle Weldon, Chair

P.S. We are looking to revive our pre-covid plans to renovate the Math Center, so please consider directing your donation to this cause for this year.

Research



Publications

Bosman, A. M., & Heck, A. 2023. Understanding and cultivating mathematical resilience in students. *Journal of Adventist Education*.

Bosman, A. M. 2022. Obstructions to shake sliceness for links. *Topology and Its Applications*, 310, 108027.

Kang, J. H., & **Robertson T. E.** 2023. An elliptic nonlinear system of the two functions with application, *Journal of Partial Differential Equations*, 36:2:1-25.

Kang, J. H. 2023. A general predator-prey model with combined growth terms, *Functional Differential Equations*.

Kang, J. H. & **Ford, L. L.** 2023. A predator-prey biological model with combined birth rates, self-limitation and competition terms, *Memoirs on Differential Equations and Mathematical Physics*, 88:1-19.

Kang, J. H. 2022. Uniqueness of steady state positive solutions to a general elliptic system with Dirichlet boundary conditions, *Journal of Applied Analysis and Computation,* 12.6: 2370-85. doi: 10.11948/20210500.

Kang, J. H., & **Robertson T. E.** 2022. An elliptic nonlinear system of multiple functions with application. *Dynamics of Partial Differential Equations*, 19.2:141-162.

Kang, J. H. 2021. Survivals of two cooperating species of animals. *Partial Differential Equations in Applied Mathematics*, 4:1-11. doi.org/10.1016/j.padiff.2021.100142

Presentations

Bosman, A. M. Presentation [virtual]. "Teaching undergraduate topology." Nearly Carbon Neutral Geometric Topology Conference, September 18-25, 2022.

Bosman, A. M. Presentation. "Infinity, omniscience, and paradox." Andrews Research Conference, Berrien Springs MI, May 17, 2022.

Braithwaite, T. A. Presentation. "Art to influence creativity in symbolic music completion." J. N. Andrews Honors Scholars Thesis Symposium, Andrews University, Berrien Springs, MI, April 15, 2022.

Braithwaite, T. A. Poster. "Art to influence creativity in symbolic music completion." J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

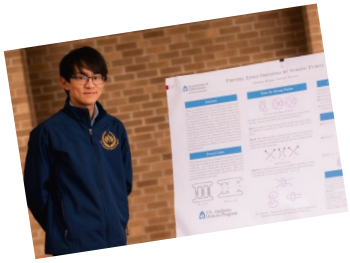
Campbell-Yoo, R. J. Presentation. "A three-dimensional convolutional neural network for ECL sensor analysis." J. N. Andrews Honors Scholars Thesis Symposium, Andrews University, Berrien Springs, MI, April 15, 2022.

Campbell-Yoo, R. J. Poster. "A three-dimensional convolutional neural network for ECL sensor analysis." J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

Duah, Z. A. with **Bosman, A. M.** Poster. "The Delta-crossing number for links." Mid-Michigan Symposium for Undergraduate Research Experiences. Michigan State University, East Lansing, MI, June 27, 2022.

Dulcich, J. M. Presentation. "Exploring the efficiency of neural architecture search (NAS) modules." J. N. Andrews Honors Scholars Thesis Symposium, Andrews University, Berrien Springs, MI, April 15, 2022.

Dulcich, J. M. Poster. "Exploring the efficiency of neural architecture search (NAS) modules." J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

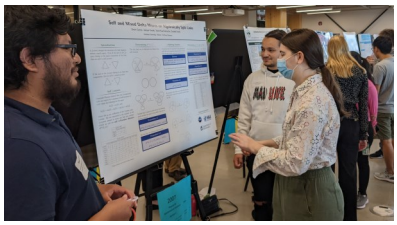


Garcia, D. G., & **Kas-Danouche, Y. A.** with **Bosman, A. M.** Poster. "Self and mixed Delta moves on algebraically split links." Mid-Michigan Symposium for Undergraduate Research Experiences. Michigan State University, East Lansing MI, June 27, 2022.

Green, J. M., Palacios-Worley, G. E., Reyes, M. R., & **Reyes, N. R.** Presentation [virtual]. "The Delta-unlinking number." Michigan Academy of Science, Arts and Letters Conference, March 11, 2022.

Homan, J. R. Presentation. "Classifying pretzel links obtained by strong fusion." J. N. Andrews Honors Scholars Thesis Symposium, Andrews University, Berrien Springs MI, April 15, 2022.

Research (continued)



Homan, J. R. Poster. "Classifying pretzel links obtained by strong fusion." J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

Homan, J. R. Poster. "Mutual information of short-term memory of stellar flares." AU Celebration of Research, Andrews University, Berrien Springs MI, October 22, 2021.

Inae, E. T. Presentation. "Improving adversarial attacks for regression problems in IoT. " J. N. Andrews Honors Scholars Thesis Symposium, Andrews University, Berrien Springs, MI, April 15, 2022.

Inae, E. T. Poster. "Improving adversarial attacks for regression problems in IoT. " AU Celebration of Research, Andrews University, Berrien Springs MI, October 22, 2021.

Jacobs, C. M. Poster. "Temperature and feed optimization in the synthesis of PAMAM dendrimers." J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

Kang, J. H. Presentation [virtual]. "Existence, estimate of positive solutions with uniqueness." Michigan Academy of Science, Arts and Letters Conference, March 11, 2022.

Kang, M. S. Poster. "Chinese medicinal herb *Scutellaria Barbata* modulates apoptosis via induction of pro-apoptotic and anti-apoptotic proteins in MDA-MB-157, 93A, and 93B breast cancer cells." AU Celebration of Research, Andrews University, Berrien Springs MI, October 22, 2021.

Kim, Y. Poster. "Construction an educational MRI model using Helmboltz coils and compass oscillation to visually demonstrate proton precessions." J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

Koliadko, N. L. Presentation [virtual]. "How egg cannibalism in gulls depends on the order eggs are laid in nest." Michigan Academy of Science, Arts and Letters Conference, March 11, 2022.

Koliadko, N. L. Poster. "Impacts of first egg lost to cannibalism on cannibalism of remaining clutch." J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

Lee, M. J. Poster. "Application of approximate Q-learning to simplified macromanagement in StarCraft II." Fall Honors Poster Presentations, Andrews University, Berrien Springs MI, December 1, 2021.

Martin, W. J. Poster. "Transfer entropy approach to identifying cross-scale coupling in simulations of Kelvin-Helmholtz structures." 2022 Summer Workshop, Geospace Environment Modeling, June 23, 2022.

Martin, W. J. Poster. "An information-theoretical approach to analyzing magnetosphere-ionosphere coupling processes in hybrid simulations." 2022 Summer Workshop, Geospace Environment Modeling, June 23, 2022.

Martin, W. J. Poster. "Transfer entropy approach to identifying cross-scale coupling in Kelvin-Helmholtz structures in MHD simulations." Michigan Academy of Science, Arts and Letters Conference, March 11, 2022.

Martin, W. J. Presentation [virtual]. "An information theory approach to identifying cross-scale coupling in Kelvin-Helmholtz structures in hybrid simulations." 2021 Fall Meeting, American Geophysical Union (AGU), December 14, 2021.

Martin, W. J. Poster [virtual]. "An information-theoretical approach to analyzing magnetosphere-ionosphere coupling processes in hybrid simulations." 2020 Fall Meeting, American Geophysical Union, December 15, 2020.

Navarro, A. J. R., & Oh, Y. M. Presentation [virtual]. "Exploring 2nd natural mates and families of primitive curves." Michigan Academy of Science, Arts and Letters Conference, March 11, 2022.

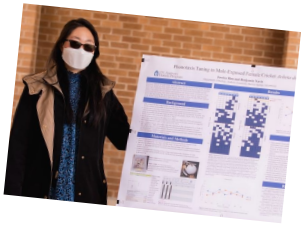
Navarro, A. J. R. Presentation [virtual]. "Exploring 2nd natural mates and families of primitive curves." J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

Oh, Y. M. Presentation [virtual]. "Some notes on Riemannian submanifolds with special vector fields." Michigan Academy of Science, Arts & Letters, Alma College, March 11, 2022.

Oh, Y. M. Presentation [virtual]. "Ricci solutions on Riemannian submanifolds with special vector fields." Kangwon-Kyungki Mathematical Society, July 16, 2021.

Palacios-Worley, G. E., Reyes, M. R., Reyes, N. R., & **Green, J. M.** Poster. "The delta-unlinking number of algebraically split links." AU Celebration of Research, Andrews University, Berrien Springs MI, October 22, 2021.

Reyes, M. R., Green, J. M., Palacios-Worley, G. E., & **Reyes, N. R.** Presentation [virtual]. "The Delta-Gordian distance for links." Michigan Academy of Science, Arts and Letters Conference, March 11, 2022.



Rim, J. S. Poster. "Phonotaxis tuning in male-exposed female cricket *Acheta domesticus.*" J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

Rim, J. S. Presentation. "Phonotaxis tuning in male-exposed female cricket *Acheta domesticus*." J. N. Andrews Honors Scholars Thesis Symposium, Andrews University, Berrien Springs, MI, April 15, 2022.

Rim, J. S. Poster. "Variability of phonotaxis and selective processing of its underlying neural elements in the female cricket *Acheta domesticus*." AU Celebration of Research, Andrews University, Berrien Springs MI, October 22, 2021.

Shepard, K. G., & **Martin, W. J.** Poster. "Determining the origins of helix glitches in LIGO's H1 detector." J. N. Andrews Honors Scholars Poster Presentations, Andrews University, Berrien Springs MI, March 11, 2022.

2021-2022 Graduates

Daniel Arn (BS Computer Science/BS Mathematics; PME) (*left*) graduated in the spring and started a job at Google as a Software Engineer for Google Cloud, out of Durham, North Carolina. He plans to apply to graduate schools to begin a Master's in Computer Science while continuing to work at Google.

Autumn Bange (BS Mathematics Education; PME) (*right*) graduated in December 2021 after finishing her student teaching at Andrews Academy and in January 2022 began teaching mathematics at Blue Mountain Academy in Pennsylvania, where she is continuing this school year as well. She recently married Andrew DeGraw.

Avetik Badalyan (BS Data Science) (*left*) graduated this spring and returned to his home country of Armenia where he plans to start a software company.

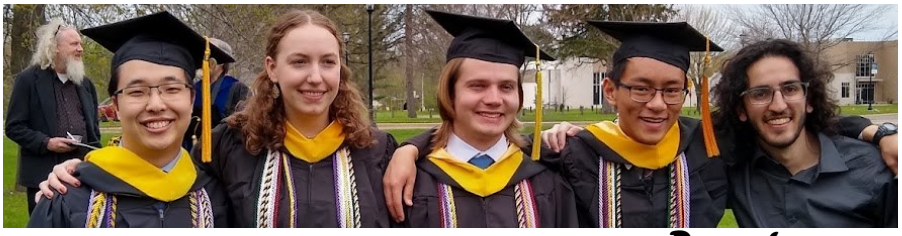
Tyler Braithwaite (BS Computer Science/BS Mathematics; J. N. Andrews Honors Scholar; PME) (*right*) completed training this summer to become as a short-term missionary to Cambodia, serving under Adventist Frontier Missions (AFM). He in charge of the IT on the campus of the school there and teaches a couple of Computer Science classes.

Reise Campbell-Yoo (BS Computer Science/BS Mathematics/BA Religion; J. N. Andrews Honors Scholar; PME) (*left*) has a job as a software engineer working remotely for Vistaprint, a Dutch global e-commerce company that produces physical and digital marketing products for small and micro businesses. Recreationally, he has adopted another cat and is working hard to spoil it as he does his other cats. He also enjoys his bird feeders that often attract more than 30 birds at a time. An added entertainment is observing the various nocturnal animals that visit to pick up fallen bird seed. One night he observed a possum and a white skunk eating together. Another fun activity he enjoys is taking boxing lessons.

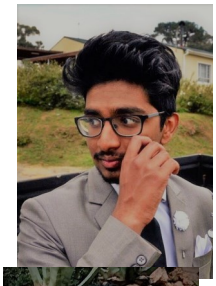
Ben Dronen (BSE Engineering/Electrical and Computer Engineering/BS Computer Science/Mathematical Studies; PME) (*right*) graduated in August, and before starting his job as a Cloud Foundry Service Engineer at Ford Motor Company, he visited family in Tennessee and Alabama and vacationed in California and enjoyed visiting attractions, going on hikes, and relaxing in the pool. Ben's software engineering job is part of the Ford College Graduate program in which the company will rotate Ben through three different positions over three years. His first rotation will be a little longer since he started partway through this year and will last through December 2023. He has been "smartifying" his apartment with a variety of IoT devices (smart lights, speakers, robot vacuum, security system, presence detection, etc.). Recreationally, he is looking forward to going to some Pistons games during this upcoming NBA season.

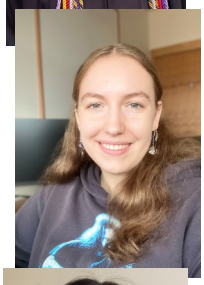
Joshua Dulcich (BS Computer Science/Mathematical Studies; J. N. Andrews Honors Scholar; PME) (*left*) graduated in the spring and is currently developing the company he recently started. (See article on p. 1 about his group winning second prize in the for-profit section of the inaugural Pitch competition.)

Jonathan Homan (BS Mathematics/BS Physics; J. N. Andrews Honors Scholar; PME) (*right*) is working on his PhD in Applied Mathematics at Colorado University, Boulder. He enjoys living in Boulder but hasn't been able to do much besides adjusting to grad school. However, he has gone to the Colorado Symphony several times and is happy to have easy access to a good orchestra.



Eric Inae (BS Computer Science/BS Mathematics; J. N. Andrews Honors Scholar; PME) (*left*) is working on his Ph.D. in Computer Science this fall as a part of the Deans' Fellowship at the University of Notre Dame . He currently studies under Prof. Meng Jiang and his Data Mining Towards Decision Making (DM2 lab). Here is the link to the lab's website: http://www.meng-jiang.com/lab.html. Eric is conducting research in Graph Machine Learning, which involves quite a bit of Graph Theory and material science, and his group is hoping to make graph representations of molecules and to improve the prediction of certain molecular properties.





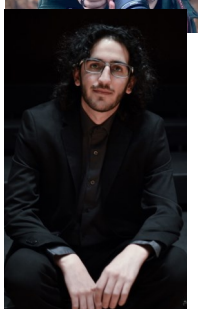
Steven Injety (BS Data Science) (*right*) began working at the Loma Linda University Medical Center as a finance resident after graduating this spring. He will be rotating through various departments but hopes to settle in their analytics and research department. While he's working, he wants to pursue a Master's of Data Science but is not yet sure where he will be attending school.

Lisa Johnston (BS Mathematics/BS Physics; J. N. Andrews Honors Scholar; PME) (*left*) moved to Milwaukee after graduation, where she now has a job as a client systems engineer at Epic Systems, a healthcare software provider. She has acquired a black cat to keep her company.

Jazmyne Lavalas (BS Data Science/BA Spanish Language, Literature, and Culture; PME) (*right*) finished her degree in December 2021 and is working in Canal Winchester, Ohio.

Jessica Rim (BS Psychology/Mathematical Studies: PME) (*left*) graduated this spring and is taking a gap year before medical school to gain more experience in research and medicine.

Heidi Tsang (BSE Mechanical Engineering/Mathematical Studies) (*right*) graduated this spring and is plans to work through the three years of her OPT before hopefully attending the Engineering Management program at the University of Michigan.



Khen TungNung (BS Computer Science/Mathematical Studies; PME) (*left*) is working for Publicis Sapient, an American digital consulting company based in Cambridge, Massachusetts, as a junior software developer. He purchased a Steam deck, which enables him to play games with friends because he doesn't have a desktop where he lives in Georgia.

Jonathan Watson (BA Music/BS Mathematics; PME) (*right*) finished his undergraduate degrees this spring and began his MA in Music here at Andrews University with a focus on piano.

Eunice (Tsz Yi) Yeung (BS Data Science: PME) (*left*) went to Hong Kong after graduation, where the last we heard from her she is looking for a job with a company that needs a data scientist. In her free time, she is learning scuba diving.

Facts Concerning the Fall 2022 Department of Mathematics Student Body

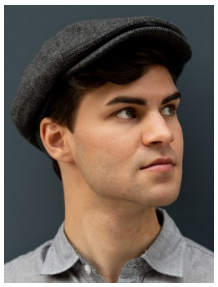
Major	Total	F	M	FR	SO	JR	SR	Dual Majors	Triple Majors	Other Majors
BS Data Science	6	3	3	1	1	3	1	0	0	
BS Mathematics	20	7	13	2	4	5	9	11	1	2 Computer Science, 2 Music, 2 Physics, 2 Premedical, 1 Religion, 1 Engineering, 1 Chemistry
BS Mathematics Education	1	1	0	0	0	1	1	1	0	1 Secondary Certification
Mathematical Studies	14	3	11	0	2	5	7	15	4	1 Biochemistry [ACS], 1 Chemistry, 3 Computer Science, 4 Engineering, 6 Physics, 1 Architecture,
Mathematics Minor	16	7	9	0	2	5	9	2	0	1 Biochemistry, 1 Chemistry, 1 Computer Science, 3 Elementary Ed, 8 Engineering , 1 Religion, 1 Theology

Alumni News

Erik Brown (2007 BS Mathematics/Secondary Certification: PME)—is an Assistant Professor of mathematics at Jackson College in Jackson, MI.

Victoria DeHart (2021 BS Dietetics; PME) switched from Mathematics Education to Dietetics in her junior year, but now she has returned to her love of teaching as a high school mathematics instructor at a charter school in Connecticut.

Samantha Gusky (Kissinger) (2019 BSELED Elementary Education/Elementary Certification/ BS Mathematics Education) (*left*) now teaches 1st and 2nd grades and 10th-grade Geometry for ASPIRE ACADEMY, a fully online school run through the Michigan Conference of SDA. Students and teachers meet every day via Google Meet and conduct all of the learning via Google Classroom.



Mykhaylo Malakhov (2020 BS Mathematics; J. N. Andrews Honors Scholar; PME; Sigma Xi) (*right*), a Biostatics PhD student at the University of Minnesota School of Public Health, was recently awarded an NIH pre-doctoral fellowship in statistical genetics and genomics. He also had a manuscript accepted in the journal *Human Molecular Genetics* (https://doi.org/10.1093/hmg/ddac015). He writes, "I have always wanted to work in an interdisciplinary field where I can make a positive impact on the world, and now I feel that I have found my niche at the intersection of statistics, genomics, and machine learning. I am proud to say that all of this is possible because of the strong foundation I acquired in the Andrews University Department of Mathematics."

Long-time generous supporter of the AU Department of Mathematics, **John Peter Russo** (1961 BA Mathematics) (*left*) , 82, passed away on Sunday, June 5, 2022, at Memorial Hospital of South Bend, ending his 30-year battle with Parkinson's Disease. John graduated first in his class in from Andrews University with a BA in mathematics in 1961 and four years later received his PhD in Mathematics at Florida State University. From 1965-1969 he was an Assistant Professor of Mathematics at Andrews University. Later he served as an Associate Professor of Mathematics and Computer Science at Indiana University South Bend for 34 years and became as the first Faculty Development Officer at IUSB from 1986-1989. This office later became the University Center for Excellence in Teaching (UCET). Other activities included instituting the highly successful Teaching Consultation Program to help professors become better teachers, being co-owner of University Software Consultants from 1987-1992, and teaching programming at Miles Laboratories.

Dr. Russo received many teaching awards, including the prestigious Indiana University AMOCO Foundation Excellence in Teaching Award in 1984. To honor his achievements and pursuit of excellence, upon his retirement in 2003 IUSB established the John P. Russo Fund for Academic Excellence in Computer Science in his honor .

His hobbies included golf, racquetball, baking, and woodworking. He also enjoyed writing a graduate-level book on Group Theory, fishing, hanging out with his buddies on Wednesday nights, and spending time with family.

Qizeng "Francis" Sun (2020 BS Computer Science/Mathematical Studies; PME) (*right*) graduated with a MS in Systems Engineering from Cornell in May 2022.

Danielle Wuchenich (2008 BS Physics/Mathematical Studies/BA Spanish; PME) (*left*) along with 11 colleagues started Liquid Instruments in 2014 in order to allow students, scientists, and engineers to access the computational power of field-programmable gate arrays to create highly versatile instrumentation. In her current position as chief operating officer, Danielle oversees the company's US operations, which are based in Solana Beach, California.

During her junior year at Andrews, Danielle applied for a summer internship with the LIGO (Laser Interferometer Gravitational-Wave Observatory) program and was placed at the Australian National University (ANU). Her principal investigator from the internship worked jointly at JPL and told Danielle that, if she wasn't sure that she wanted to go directly into graduate school after graduation, she could work for JPL. So for five years after graduation, she worked at JPL before completing her PhD at ANU about the same time as her team was doing early prototyping for Moku:Lab. Danielle moved back to the US and started working at Lockheed Martin's Advanced Technology Center, and then her group founded their company with their first seed funding coming from ANU through its Discovery Translation Fund.

Mathematics Awards Ceremony

The 2022 Mathematics Awards Ceremony took place in the Thompson Amphitheater on April 29. The professors presented 51 class awards to 35 individuals.

Scholarship winners:

The recipient of **Harold Buhalts Boyd and Jean Stewart Boyd Endowed Scholarship** was **Jenae Rogers** (Junior Mathematics Education/Secondary Education; PME) (*right*), honored for her academic excellence while working her way through school. This year she is taking a year off to teach in Palau.

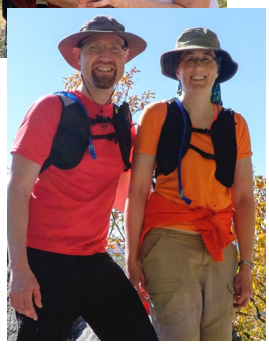
Noelle Koliadko (senior BS Mathematics; BS Computer Science) (*left*) received the **Harold T. Jones Endowed Scholarship** for excellence in mathematics.

Alexander Navarro (senior BS Mathematics/BS Physics; J. N. Andrews Honors Scholar, PME; Sigma Pi Sigma) (*right*) received the **Edward J. Specht Endowed Scholarship** for excellence in mathematics and physics.

The **Louis Ulloth Endowed Scholarship** went to **Dillon Walter** (senior BS Mathematics; PME) (*left*) for excellence in mathematics and the sciences and positive contribution to the department.

The final scholarship winner was **Moises Reyes Rivas** (junior BS Mathematics/ BA Religion), (*right with Dr. Bosman*) who received the **Whitney Wang Watson Endowed Scholarship** for excellence in mathematics and commitment to serving God by helping others, easing suffering, and improving lives.

Physics Professors Leave Andrews

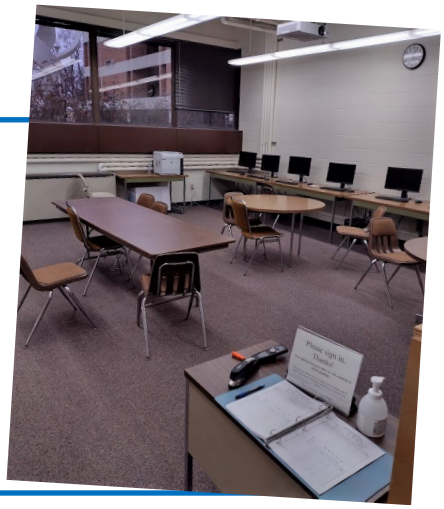


After teaching for 35 years at Andrews University Dr. Mickey Kutzner (*top left)* retired from the Department of Physics at the end of July and moved with his wife to his log cabin in the Bob Marshall Wilderness in Montana. After completing his PhD at the University of Virginia, Dr. Kutzner came to teach at Andrews University. His favorite class was Quantum Mechanics, which was his specialty as a graduate student, but he also enjoyed teaching General Physics. He will teach some online classes from his cabin in Montana.

Also leaving the Department of Physics was Dr. Tiffany Summerscales, who taught at Andrews for 16 years before moving this summer to Pennsylvania to be closer to family. Her husband, Dr. Rodney Summerscales, taught for the Department of Computer Science for 8 years. Both are working remotely, Tiffany as a data scientist for Highmark Health, which is a healthcare company headquartered in Pittsburgh, and Rodney as a senior software engineer for Polywood, a company headquartered in Syracuse, Indiana, that turns recycled plastic into outdoor furniture.

The Department of Mathematics misses these colleagues!

Help us meet our goal to revamp the Math Center!



In 2023 the Department of Mathematics plans to replace the outdated furniture in the Math Center. Many of you will recognize the brown plastic chairs that were in the Commons area before we remodeled that several years ago. The chairs are torn and frayed, and the tables are a hodge-podge of items that we scrounged from Custodial. The plan is to faze in a remodel, starting with new chairs and easily movable tables that will allow flexibility for different classroom uses. (And for those of you who were wondering, yes, the Math Center is still open from 5:00-7:00 Sunday through Thursday for drop-in tutoring.)

Andrews University

Department of Mathematics

Programs

BS in Data Science
BS in Mathematics
BS in Mathematics Education
Mathematical Studies Major
Mathematics Minor
Mathematics Education Minor
Minor in Mathematics of Economics and Finance

***PME** Michigan Gamma Chapter*

*Noah Koliadko, President
*Jenae Rogers, Vice President
*Christopher Inae, Secretary-Treasurer
*Dr. Joon Hyuk Kang, Advisor

eigen *Mathematics & Physics Club*

*Noelle Koliadko, Mathematics President
*Samuel Clough, Physics President

Mission Statement

Through teaching, research, and service, the Department of Mathematics seeks to provide leadership by:

*Preparing a diverse student body with the mathematical understanding, problem-solving skills, and dispositions that enable career excellence;

*Increasing mathematical and scientific knowledge through publication and presentation and engaging undergraduates in research;

*Supporting the broader mathematics education community and mentoring others for generous service through a committed Christian life.

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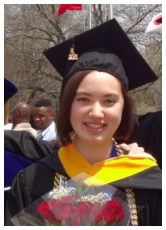
First Row (*left to right):* [Inset]: Sandrine Adap (BS Computer Science, Math Studies)], Andrea Stanko (BS Computer Science), Jenae Rogers (BS Math Ed); Noah Koliadko (BSE Computer Engineering/BS Physics/Math Studies); Christopher Inae (BSE Mechanical Engineering); Jongwan Bae (BS Biochemistry ACS/Math Studies). **Back Row (*left to right*):** Olivier-Yoseph Balasingam (BSE Electrical Engineering); Yamil Kas-Danouche (BSE Computer Engineering/Math Studies); William Yoong (BSE Mechanical Engineering/Math Studies); Hayden Baldwin (BS Computer Science); T Bruggemann (BS Computer Science/BS Physics); Dillon Walter (BS Mathematics); James Shepard (BS Computer Science/BS Math). **Not pictured:** Daniel Fajardo (BS Biology); Julia Randall (BS Chemistry/BA Spanish/Math Studies).

Pi Mu Epsilon Induction

The Michigan Gamma Chapter of Pi Mu Epsilon held its annual induction on Friday, April 8, during the time set aside for eigen*. Fifteen new members joined the society, and the attending members elected **Noah Koliadko** (senior BSE Computer Engineering/ Math Studies/BS Physics) as president and **Jenae Rogers** (senior BS Math Ed/Secondary Ed) as vice president. The two executive officers chose **Chris Inae** (junior BSE Mechanical Engineering) as their secretary-treasurer for the 2022-23 school year.

Edwards Prize—In March 2022, the Seabird Ecology Team, headed by Dr. James Hayward and Dr. Shandelle Henson (*center left*) received word that one of their papers had received the Edwards Prize for the best major article published in volume 132 of the *Wilson Journal of Ornithology*, the highly respected journal of the Wilson Ornithological Society, which has been around since 1886. Titled, "Every-other-day clutch-initiation synchrony as an adaptive response to egg cannibalism in Glaucous-winged Gulls (*Larus glaucescens*)," the paper was based on the Honors thesis of **Sumiko Weir** (2016 BS Biology) (*far left above)* and included **Ashley Polski** (2016 BS Biology) (*far right above*), **WayAnne Watson** (2015 BS Biology) *(right)*, and **Amanda Sandler (**2013 MS Biology) (*left*) . This is the capstone paper of the team's long-standing Protection Island project.



The Edwards Prize, first awarded by the Wilson Ornithological Society in 1970, is named in memory of Ernest P. "Buck" Edwards (1919–2011), who proposed the idea of a prize for best paper and provided initial supporting funds. The Edwards Prize-winning paper is chosen by a panel comprised of the Editor of the *WJO* and the corresponding authors of the two previous award-winning papers. It consists of a plaque presented at the annual meeting of the WOS following completion of each volume of the journal.