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Welcome!

Welcome to the second issue of the Math/CS Chatter—the alumni newsletter of the Department of Mathematics and Computer Science at Dickinson College.

After teaching in a mostly remote fashion during the 2020-2021 academic year, we were glad to have had a more or less normal year. Our classes were held in person and our department was able to hold a number of events throughout the year.



Tome Sweet Tome

We hope that you enjoy learning about the exciting things happening at Dickinson College and in the Department of Mathematics and Computer Science.

New Data Analytics Major

As mentioned in the previous newsletter, Dickinson approved a new major in data analytics in the spring of 2021. Subsequently, the Department of Data Analytics was created in order to support the new major, co-chaired by Professors Dick Forrester and Emily Marshall.

The new program is off to a great start and already has 40 majors! You can follow the Department of Data Analytics on social media:

Twitter@DickinsonData: <https://twitter.com/DickinsonData>

Facebook: <https://facebook.com/dickinsondata>

Girls Who Code



Girls Who Code is a national non-profit organization working to close the gender gap in technology. Their programs aim to inspire women and equip them with the computing skills needed to pursue 21st century opportunities. Computer Science majors Katya Egorova '22 (left) and Pamela Ortiz '22 (right) founded a Dickinson chapter of Girls Who Code to create a welcoming space for women in STEM to gather outside the classroom.

“We want to show women that they belong in the tech world and that a computer science major is worth pursuing”

Ortiz. “I love everything about coding! It can be challenging, “We want to show women that they belong in the tech world and that a computer science major is worth pursuing,” says Egorova.

Dickinson was fortunate to host a fireside chat with Reshman Saujani, the founder and CEO of Girls Who Code, in February of this year. The event was standing room only and brought awareness to the gender disparity in technology and discussed more ways girls and women can get involved in computer science.

CEO of Duolingo Receives Award

Co-founder and CEO of language-learning platform Duolingo, Luis von Ahn, was presented with Dickinson’s Joseph Priestley Award in March. The Joseph Priestley Award recipient is chosen by a different science department each year. The Department of Mathematics & Computer Science selected this year’s recipient.



Von Ahn, who is also the co-inventor of CAPTCHA and reCAPTCHA technologies, gave the 70th annual Joseph Priestley Award Celebration Lecture, “How Duolingo Uses AI to Assess, Engage and Teach Better,” in the ATS Auditorium. He spoke about the artificial intelligence (AI) capabilities of Duolingo to change teaching strategies and improve results. He also discussed how Duolingo takes advantage of an AI-usable dataset to constantly tailor and improve the user experience.

Congratulations to the Class of 2022

- This year we graduated 18 Computer Science majors and 40 Mathematics majors during the May 22nd commencement.
- Graduate school plans for the class of 2022 include:
 - Master of Science in data analytics at the University of Chicago
 - Postbaccalaureate Program in computer science at Columbia University
 - Ph.D. program in mathematics at Stockholm University
- Employment for the class of 2022 includes:
 - Research Assistant Fellow at the Center for Retirement Research at Boston College
 - Software Development Engineer at Amazon
 - Software Engineer at Freddie Mac
 - Associate Software Engineer at Slack
 - Two-year research assistant at Columbia University Medical Center in Manhattan
 - Software Engineer at Asana (web and mobile work management platform)
 - Investment Analyst at CornerStone Partners, LLC
 - Product Manager at Microsoft

Judy Faulkner '65 Presented with Honorary Degree

Dickinson College presented Judy Faulkner ('65) with an honorary Doctor of Civic Engagement degree during commencement on May 22. Faulkner graduated with a bachelor's degree in mathematics from Dickinson and then went on to earn a master's degree in computer science from the University of Wisconsin–Madison. She founded the healthcare company Epic in 1979, which stores more than 250 million medical records and is utilized by 2,400 hospitals worldwide. In 2019, Forbes called her “the most powerful woman in healthcare.”

During the COVID-19 pandemic, Epic did not charge customers for pandemic-related services, for which it could have earned an additional \$1 billion in revenue. Faulkner and her family have established the Roots & Wings Foundation to provide vital support to low-income children and their families. She has also signed The Giving Pledge, committing that 99% of her assets will go to philanthropy.



Prof. MacCormick, Judy Faulkner '65, Prof. Forrester, and Prof. Richeson

2022 Departmental Prizes and Awards

THE JANE HILL PRIZE IN COMPUTER SCIENCE

Awarded to that member of the freshman class who excels in computer science

Pranav Mishra ('25)

THE WILLIAM W. LANDIS MEMORIAL PRIZE IN MATHEMATICS

Endowed by George G. Landis '20. Awarded to a member of the freshman class

Elsa Hritz ('25)

THE HENRY P. CANNON MEMORIAL PRIZE IN MATHEMATICS

Endowed by the trustees. Awarded to a member of the sophomore class who excels in mathematics

Souha Alioua ('24)

THE FORREST E. CRAVER MEMORIAL PRIZE IN MATHEMATICS

Awarded to a member of the junior class

John Chu ('23)

THE LANCE E. KOHLHAAS MEMORIAL PRIZE IN MATHEMATICS

Awarded to a graduating mathematics major who has demonstrated excellence in that field and shows promise in an actuarial or mathematics career. Endowed by the friends and family of Lance E. Kohlhaas, class of 1986

Alex Nash ('22)

THE RICHARD HOWLAND PRIZE IN MATHEMATICS AND COMPUTER SCIENCE

Awarded to a senior for excellence in mathematics or computer science

Ngan (Elly) Do ('22)

THE CAROLINE HATTON CLARK MATHEMATICS SCHOLARSHIP

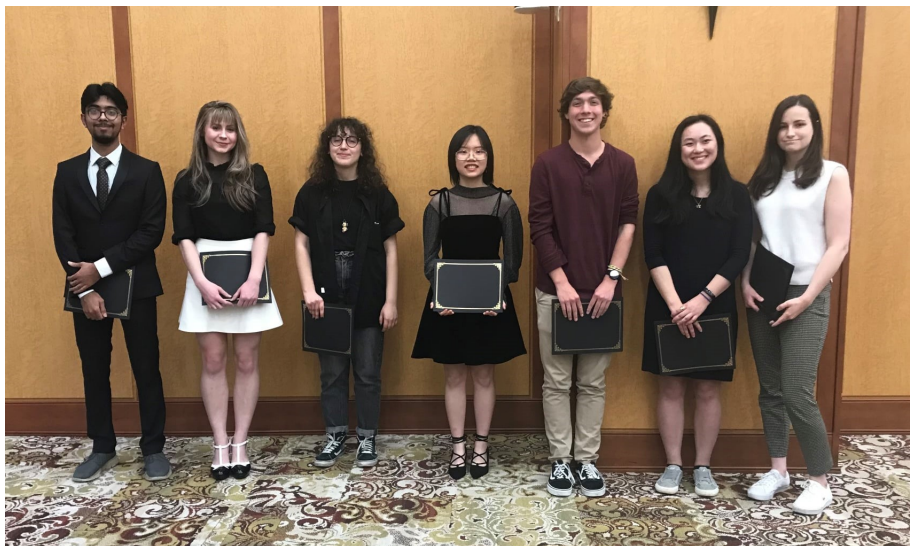
Awarded for outstanding achievement in mathematics

James Marks ('23)

THE RICHARD HOWLAND MEMORIAL SCHOLARSHIP

Endowed through gifts and a bequest from the estate of Kenneth Howland in memory of his son, Richard Howland, former faculty member at Dickinson College

Leah Goldberg ('23)



Faculty Highlights

Professor Richeson:

- Has been writing for *Quanta Magazine*, the online science magazine funded by the Simons Foundation. He has published five articles, and one was republished by *Wired* magazine.

Professor Dick Forrester:

- Published a paper "Strengthening a Linear Reformulation of the 0-1 Cubic Knapsack Problem via Variable Reordering" in the *Journal of Combinatorial Optimization*.

Professor Braught and Siddiqui:

- Their paper "Factors Affecting Project Selection in an Open Source Capstone" was accepted to the 27th annual conference on Innovation and Technology in Computer Science Education (ITiCSE).
- Prof. Braught travelled to Dublin in July to present the paper.

Professor Koss:

- Published a paper "Crowdsourcing solutions in the online mathematics classroom" in the *International Journal of Mathematical Education in Science and Technology*.

Professor MacCormick:

- Authored the PageRank chapter in the new book "You Are Not Expected to Understand This": How 26 Lines of Code Changed the World, which is available for preorder on Amazon.

Professor Schaefer:

- Was promoted to Full Professor on July 1, 2021!
- She also had a baby boy, Emerson Magnus, who arrived shortly after commencement. Prof. Schaefer was thrilled that Emerson listened to her request and waited to arrive until after the semester ended.



Alumni Updates

Rosalie Dance

- After 48 years of teaching mathematics at the secondary level (28 years) and university level (20 years), she retired and took a job at the Mathematical Association of America directing a grant program called Tensor-SUMMA.
- The purpose of the Tensor-SUMMA program is to fund projects nationwide that serve to attract young people (middle school to college level) to mathematics from groups who are under-represented in mathematics (African-Americans, Latinx, Native Americans, Pacific Islanders).
- She recently retired from that very interesting position after ten wonderful years.

Ron Watkins ('77)

- Graduated from Dickinson in 1977 with a BS in Mathematics. His first job was in Philadelphia as an Actuarial Analyst but he quickly moved into software and spent the rest of his career in that industry.
- He retired from IBM in 2016 and is currently an Adjunct Professor at American University teaching Business Analytics in the MBA & MS Analytics programs.

Michael Miller ('78)

- Graduated with a major in Mathematics and a minor in Physics in 1978. He then went on to earn a Masters in Mathematics from Northeastern (1985) and a PhD in Operations Research from the Operations Research Center at MIT (1996).
- He spent the first 2/3 of his career as a consultant doing data analytics and OR projects and the last 1/3 as a college faculty member. He recently retired from the Goizueta Business School at Emory University where he was an Associate Professor in the Practice of ISOM.
- He is not totally retired, and is back working as a consultant, but only on a pro bono basis. He is currently working on projects for the Atlanta 911 Call Center and for the Democratic Party of Georgia.

Traci Fisher, maiden name Ganning ('85)

- Graduated with a BS in Computer Science and started work two weeks after graduation at Verizon, a job she worked at for six years, moving into the management ranks. She worked at SCT for approximately six years and then took time off to raise her children.
- She is now back to work for a 'virtual' marketing agency doing project management and is currently focusing on HubSpot certification.

Julie Johnson ('85)

- Is a Professor in the Practice at Vanderbilt University and was promoted to Associate Chair of Computer Science.

Alumni Updates Continued

Topher Hughes ('96)

- Started his career as a network security engineer, ultimately working at Cisco, before transitioning to get a PhD in the geosciences. He was then a tenure-track faculty member at Eastern Kentucky University, after post-doc'ing or visitor instructor'ing at JPL / Caltech, SUNY Buffalo, and Clarion University.
- Never wanting to get bored, he's now a brand new (May, 2021) Masters in Finance working as a P&C Analyst at NAIC. He's also finishing off the hours he needs to become a CPA.
- Somewhere in there he also thru-hiked the Appalachian Trail and got remarried. He is most certainly the only hacker / hiker / planetary geologist / CPA from our department. If there's another, he'd definitely love to hear from them!

Bradford D. Fischer ('99)

- Is an Associate Professor in the Department of Biomedical Sciences at the Cooper Medical School of Rowan University where he teaches neuroscience to MD students.
- He has a Behavioral Pharmacology research laboratory where he uses quantitative methods to study drug interactions.

Julia Filiberti Allen ('12)

- Recently completed her Ph.D. at the University of Maryland with a dissertation titled "Towards Trust and Transparency in Deep Learning Systems through Behavior Introspection & Online Competency Prediction."
- She's been busy since leaving Dickinson in '12, having maintained full-time employment in the R&D field, Army National Guard service (completed May 2020), and continued graduate education in parallel for about 8 years.

Rebecca Thompson ('13)

- Recently completed her master's degree in chemistry at Montclair State University and is currently teaching chemistry and physics at Montclair Kimberley Academy.

Natalie Stanley ('13)

- Is an Assistant Professor at the Department of Computer Science at UNC Chapel Hill.
- She also opened the UNC CompCy Lab, focused on extracting, organizing, and representing information from single cells profiled with flow and mass cytometry.

Alumni Updates Continued

Olivia Wilkins ('15)

- Recently defended her Ph.D. (in observational astrochemistry) from Caltech and started a NASA Postdoctoral Program (NPP) Fellowship at NASA Goddard.
- She also wrote and illustrated a book called *Astrochemistry* for the American Chemical Society, which was published in July 2021.

Chris Jones ('19)

- Graduated from Dickinson in 2019 with a BS in Biology and Computer Science. From Dickinson, he went to work as a Clinical Scientist at the pharmaceutical company GeneOne Life Science (The CEO of GeneOne is a Dickinson alum and board member, Young Park '87).
- While at GeneOne, he worked on clinical trial planning, genetics, and the development of pre-clinical animal models for studies of a small-molecule drug with potential applications as a prophylactic against infection by SARS CoV-2. This work at GeneOne gave him the opportunity to hold an appointment as a visiting scientist at the Monell Chemical Senses Center in the lab of Danielle Reed, PhD where he conducted much of his genetics research into the TAS2R bitter taste receptor genes in ferrets and hamsters and what homology those genes might have to the human genes.
- While working at GeneOne and Monell he also took classes through Johns Hopkins and just graduated in August of 2021 with a Master's in bioinformatics. After graduating, he left his position at GeneOne and Monell and is now a PhD student in the Genomics and Computational Biology program at the University of Pennsylvania's Perelman School of Medicine.

Jessie Anker ('21)

- Is doing an internship at Iris Software (a consulting company) and is consulting at Citibank as a software engineer intern.

A Year in Photos



Pints with Profs



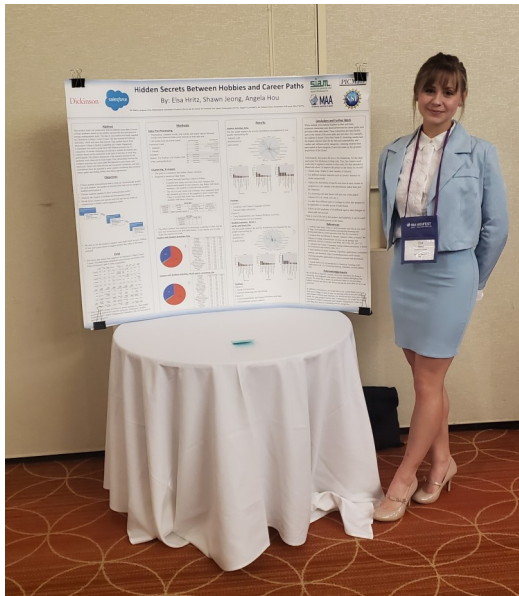
Congratulations to Alex Nash '22! He was awarded departmental honors. He's pictured here with his advisor, Professor Lorelei Koss.



While at a conference at Furman University, Professor Dave Richeson met up with his former research students (and current tenured professors at Furman), Liz Bouzarth Foster (Dickinson '03) and Christian Millichap (Dickinson '08)!



A little calculus in the outdoor classroom



Elsa Hritz presented her research at MathFest 2022 in the PIC Math Showcase



End of the Year Picnic



We Want to Hear From You!

Please let us know if there is anything you want to have included in the next edition. Did you get a new job? Enter grad school? Get a promotion? Get married or have children? Retire? Did something cool or impressive that others might want to know about? We would love to include your updates in the next newsletter.

Send all communications to:

Prof. Dick Forrester

forrestr@dickinson.edu