Colorado College Department of
Mathematics and Computer Science

Countable Bits

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2024-2025 Holding Steady

After a series of years marked by hires, departures, and construction, 2024-2025 was a year of stability in the department with no new hires or major changes. This is not to say it was not a busy year! We had a record number of CS graduates in our 20th year of offering the degree and hosted our first ever senior capstone poster fair. Our faculty and students travelled around the world to participate at Math and CS events. Molly Moran taught a block on Mathematical Symmetry in Spain, Beth Malmskog gave a series of lectures at the 2025 Makerere-CIMPA School on "Effective Algebra and LMFDB" in Uganda, Luis Garcia Puente and Jane McDougall gave talks at the Joint Math Meetings in New Zealand, and several of our students participated in the Budapest Semesters in Mathematics and Computer Science.

Department from left: Joseph Rennie, Bob Hendrich, Ike Igbanusi, Marita Beckert, Blake Jackson, Luis Garcia Puente, Stefan Erikson, Beth Malmskog, Danielle Ellsworth, Molly Moran, Ben Nye, Jane McDougall, Varsha Koushik, David Brown, Rebecca Garcia, Janet Burge, Minho Kim, Mike Siddoway, Paul Zeitz, Eddie Price. Not Pictured: Flavia Sancier-Barbosa, Cory Scott

Phi Beta Kappa Honor Society

The Phi Beta Kappa Honor Society is a national honor society that recognizes exceptional achievement by undergraduates in the liberal arts. It dates back to 1776 and is recognized by employers and graduate schools—students inducted into the society are eligible for scholarships for graduate study, for instance. The Colorado Chapter was chartered in 1904. Students must be in the top 5% of their graduating class, demonstrate coursework across disciplines, and also uphold a high standard of integrity and personal conduct. This year six of our majors are being inducted: **Reuben Alter, Porter Barnes, Zahra Cheeseman, Arez Khidir, Isak Larson, and Jacob Tow.** Congratulations to all of you!

Graduating Majors, Colorado College 2025

Computer Science:

Luke Anderson
Jimmy Andrews
George Beck
Yunus Bolat
Talon Carballeira
Zahra Cheeseman
Esa Chen
Dan Conlin (Fall 2024)
Nathan Curl
Alana Ermeus
Tanner Flagg
Mira Giles-Pufahl
Judy Gonzalez
Isaac Greenwald
Yael Homa
Primera Hour
Henry Howe (Fall 2024)
Walt Jones
Shamdeed Kabir
Oliver Kendall (Fall 2024)
Arez Khdir
Sawyer King
Abe Lipson
Kyle Moriarty
Grace Mun
Kiernan Nesslar
Caleb Peimann
Willa Polman
Karla Prado Padilla
Junhao Qu (Fall 2024)
Mustafa Sameen
Dan Schmidt
Stewart Sessions
Kazu Shimotake
Dylan Shryer
George Sowles
Kaylie Stuteville
Nick Thomas
Anna Vu
Isabelle Wagenvoord
Conor Wellman
Zach Zerbe

Thomas Post Rawles Mathematics Prize

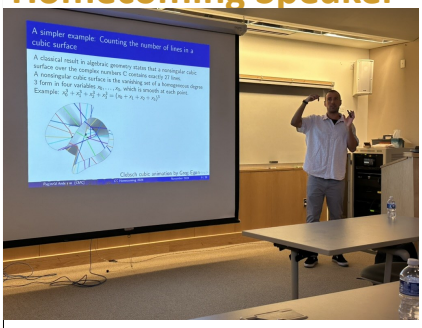
The **Rawles Prize** is awarded based on a competitive exam. It was endowed in 1959 by Thomas H. Rawles in Memory of his son, Thomas Post Rawles.

Top Upper Division:
Mustafa Sameen
Top Lower Division:
Parthib Paul

Dr. Etta Z. Falconer Award for Mentoring and Commitment to Diversity: Rebecca Garcia

The Dr. Etta Z. Falconer Award for Mentoring and Commitment to Diversity is a national honor recognizing exceptional individuals who have demonstrated a sustained commitment to mentoring and increasing diversity in the mathematical sciences. Named after the pioneering mathematician and educator Dr. Etta Z. Falconer, the award celebrates those who, through their mentorship, advocacy, and inclusive leadership, have made a lasting impact on underrepresented communities in STEM. This year's recipient is our very own Dr. Rebecca Garcia, who has spent her career cultivating inclusive spaces where all students—especially those from historically marginalized backgrounds—can thrive. As Director of the Mathematical Association of America's National Research Experience for Undergraduates, as co-director of the Mathematical Sciences Research Institute Undergraduate Program, and as founder and co-director of the former Pacific Undergraduate Research Experience in Mathematics, Dr. Garcia has supported and mentored over 350 undergraduate scholars in the mathematical sciences. Please join us in congratulating Prof. Garcia on this outstanding and well-deserved recognition!

Homecoming Speaker



Dr. Reginald Anderson, Class of 2013 and former member of CC's diving team, returned to campus as this year's homecoming speaker. Dr. Anderson completed his doctoral degree in mathematics from Kansas State University in 2023 and served two years as a postdoctoral scholar and visiting assistant professor at Claremont McKenna College. During his talk, Dr. Anderson shared interesting perspectives on a classic topic at the intersection of algebraic geometry, homological algebra and combinatorics: counting lines on a nonsingular cubic surface. In his next professional move, he will join the mathematics department at University of California Irvine as a Chancellor's Postdoctoral Fellow.

Math Clubs

This year, we merged the three mathematics clubs (Math Club, SIAM, and AWM) into one single Math Club. The merger was effective; it allowed us to pool resources, have great leadership, and have more participation at club events. This year's highlights included: the annual spooky math escape room and pi day pi-k, as well as a SET tournament and a problem-solving workshop with block visitor, Paul Zeitz.

Computer Science Clubs

The **CC Coding Club** continues to be active on campus with blockly meetings focused on developing the professional and technical skills of the club members. Additionally, the club sent two teams to TAMU Hacks, a hackathon held at Texas A&M. **Ronan Takizawa, Parthib Paul**, and **Amy Yang** built Aiplane-UI, a UI library for airline websites. **Isabelle Wagenvoord** and **Konoha Tomono-Duval** built FireFlys, a remote fire detection system.

A new club started this year, the **CC Cyber Club**. This club supports students interested in cybersecurity and is currently unfunded by CCGSA. Members of the Cyber Club held meetings to explore security topics, participated in online capture the flag exercises, and attended security events host at UCCS.

Pi Mu Epsilon Induction

Pi Mu Epsilon is a national mathematics honor whose purpose is the promotion and recognition of scholarly activity in the mathematical sciences. This year, the Colorado Epsilon chapter induction ceremony took place May 2, 2025, with Professors **Gary Gordon** and **Liz McMahon** (Lafayette College) giving the invited address on the mathematics of SET.

Twenty-four new members were inducted into the Colorado Epsilon chapter based on their interest and accomplishments in the field of mathematics. The new inductees are **Alexis Aronie, George Beck, Abby Burnham, Zahra Cheeseman, Will Cohen, Isaac Fayram, Christian Figueroa, Phoebe Frankel, Meryl Goodwin, Leo Gordon, Sonia Gutierrez, Dakota Hinman, Stewart Kristiansen, Brendan McCune, Iván Morales, Peyton Murphy, Nora Nelson Laird, Nam Hai Ninh, Joshua Park, Robert Repenning, Danielle Ryans, Cooper Tull, Conor Wellman, and Zach Zerbe.**

Congratulations to the new members of PME's Colorado Epsilon Chapter!

Graduating Majors, Colorado College 2025

Mathematics:

Ruben Alter (Fall 2024)
Bayliss Baker (Fall 2024)
Porter Barnes
George Beck
Zahra Cheeseman
Will Cohen
Tanner Flagg
Kenna Grenier
Zoe Harrington
Sam Johnson
Ella Lippleman (Fall 2024)
Aiden Little
Hunter Markowich
Brenda McCune
Adam Overman (Fall 2024)
Mustafa Sameen
Jacob Tow
Iverson Wang (Fall 2024)
Conor Wellman
Zach Zerbe

Mathematical Economics:

William Bell
Omar Castro-Frederick
Isaac Fayram
Will Fine
Phoebe Frankel
Cori Grandisson
Curtis Hale
Karly Hamilton
George Jogi
Abby Le
Juan Mota
Peyton Murphy
Nam Ninh
Kampei Omichi
Mahnoor Rehman (Fall 2024)
Surakchya Risal
Aidan Smith
Owen Tennant
Zoe Tomlinson
Alex Ward (Fall 2024)

Varsha's Accessible User Interface Class

Annual Awards in Computer Science

The **Steven Janke Prize** is awarded to a senior who demonstrates unusual talent and achievement in computer science. The award is shared this year by **Dan Schmidt** (above) and **Isabelle Wagenvoord** (below). Dan will spend next year on an international adventure studying the ecology of social technology, funded by a Watson Fellowship. Meanwhile, Izzy will use her considerable talents as our department's CS paraprof.

Fearless Award

The Fearless Award goes to the senior who has demonstrated the strongest engagement by attending many talks and producing excellent summaries or other artifacts. This year's winner is **Porter Barnes**!

Mathematical Symmetry in Spain

Professor Molly Moran led the department's first international block abroad in Block 2 2024. The course, entitled "Mathematical Symmetry in Spain," focused on defining symmetry mathematically, looking at the structure of all the symmetries for bounded figures, frieze patterns, and wallpaper patterns, and finding examples of these patterns in the Andalucía region of Spain.

Professor Moran and fifteen students explored the beautifully ornate Islamic art and architecture in Granada, Sevilla, and Cordoba and related it to the mathematics they studied in the classroom each day. The group also immersed themselves in the local culture for the block. For example, they attended a flamenco show, visited a local olive oil mill, and ate many, MANY, tapas. The culmination of the course was a scavenger hunt for all seventeen wallpaper groups in the Alhambra. 13 of 17 were found – sounds like another trip is in order!

Alumni Visit: Malcom Gabbard

Colorado College alumnus **Dr. Malcolm Gabbard**, class of 2019, visited CC to give a Fearless Friday talk on his research in March. Malcolm's research focuses on knotted surfaces and ways to visualize these objects in four dimensions. By the end of his talk, we were all able to visualize pants in the fourth dimension!
Malcolm successfully defended his dissertation at Kansas State this spring and will begin a postdoctoral position at Rutgers in the fall. Congratulations, Dr. Gabbard!

Putnam Competition

The William Lowell Putnam Mathematical Competition (the Putnam) is an annual math exam taken by top undergraduate math students in the US and Canada. This year, several CC students spent the fall preparing for the Putnam with professors Stefan Erickson and Beth Malmskog. Colorado College scored in the top half of teams nationally this year, an impressive feat for a small school. Nationally, the mode score was 0 as usual, but five of our CC students got non-zero scores! Congratulations to **Porter Barnes, Sonia Gutierrez, Jacob Tow, Connor Wellman,** and **Benn Wheeler**.

A Fond Farewell for Richard Koo

Richard's party. Richard is 2nd from left.

This year **Dr. Richard Koo '82** decided to retire from teaching. Richard has been teaching a block (or more) each year for us since 2015 and is one of the most dedicated alumni of our program. Courses taught include Web Services Design, Database Management Systems, and Programming Language Implementation. He also was willing to brave the Colorado winter to teach Theory of Computation when Matthew Whitehead was out on paternity leave. Richard's successful career and contributions to Colorado College were honored with an honorary doctorate in 2018.

Richard's support to our department has been invaluable. We will miss his perspective on the software industry, his dry sense of humor, and being someone we could count on to bring the good wine to department parties. We wish him a wonderful retirement and best of luck in getting the college to realize he is an alum and not an employee and to stop sending him threatening e-mails about completing his security training.

Annual Awards in Computer Science (cont).

The **Grace Hopper Award** is given to a senior who demonstrates an unusual commitment to the CS community. This year the award is shared by **Yael Homa** (above) and **Arez Khidr** (below). Yael will be working at Lawrence Livermore National Laboratory. Arez will start graduate studies at UCCS in the fall.

Student and Alumni Conference Travel

At the Joint Mathematics Meeting was held in Seattle, WA in January 2025. On Wednesday evening, professors **Molly Moran** and **Joseph Rennie** were joined by CC alumni **Isak Larson, Malcolm Gabbard,** and **Sophie Aiken** and current CC student **Zoe Harrington.** It was a great evening to catch up and see familiar faces.

left to right: Larson, Moran, Aiken, Rennie, Ortiz-Aquino (Gabbard's partner), Gabbard, Harrington

Colorado College also had a strong showing at this year's Pikes Peak Regional Undergraduate Mathematics Conference. Professor **Stefan Erickson** gave the keynote address: "Code Wars", complete with Star Wars sound effects! CC seniors **Conor Wellman** and **Mustafa Sameen** also presented their senior thesis work.

Students **Mustafa Sameen** and **Conor Wellman** gave talks at the Rocky Mountain Section Meeting of the MAA in Boulder.

At the Math For All conference **Mustafa Sameen** gave a research presentation, as did recent graduate **Haoru Yang '24**, now in a doctoral program at the University of Colorado, Boulder.

left to right: Erickson, Nelson Laird, Sameen, Wellman, Figueroa, McDougall, Markowich, Moran

Former mathematics major, and department paraprofessional **Sophie Aiken** presented her research at the AMS Western Sectional Meeting in San Luis Obispo, which took place in early May. Both **Jane McDougall** and **Beth Malmskog** connected with Sophie while there. Sophie is working on her doctoral dissertation in geometry at UC Santa Cruz.

Prof. Beth Malmskog gave a series of lectures at the 2025 Makerere-CIMPA School on "Effective Algebra and LMFDB" at the Makerere University in Uganda.

Annual Awards in Mathematics

The **Florian Cajori Prize** is awarded to a senior who demonstrates unusual talent and achievement in mathematics. The award is shared this year by by **Porter Barnes** (above) and **Iverson Wang** (below). Next year Iverson will begin the PhD program in Mathematics at CU Boulder. Porter will begin a teaching fellowship in London, UK, at the School for Ethics and Global Leadership.

The **Sophie Germain Award** is given to a student of mathematics who demonstrates an unusual commitment to the math community. This year's recipient is **Zoe Harrington.** Lucky for us and our students, Zoe will stay at CC next year to be the math paraprof.

Farewell Joseph Rennie!

For the past three years, Dr. Joseph Rennie was a Visiting Assistant Professor in our department. Joe's journey in mathematics began at Reed College in Portland, OR, where he earned his bachelor's degree. Joe earned his both his masters and doctoral degrees from the University of Illinois at Urbana-Champaign. Joe is a first-generation academic researching higher categories as they relate to/between Logic, Foundations, and Geometry. At Colorado College, Joe taught both Computer Science and Mathematics courses and directed research projects on Automated Theorem Proving and Homotopy Type Theory. In Fall 2025, Joe will start a tenure-track Assistant Professor appointment in the Department of Mathematics and Computer Science at Hampden-Sydney College in Virginia. Our students, faculty, and the larger Colorado Springs community will miss him, and his famous hat, dearly. Joe, we wish you good luck in all your future adventures. Keep climbing mountains!!

Photo credit: Tiffany Wismer

Fearless Friday Recap

The 2024-2025 academic year brought many wonderful speakers to our department for our Fearless Friday seminar series. We began the year with a graph theory talk from **Dr. Rodrigo Ribeiro** of the University of Denver. Though Dr. Ribeiro was our first visitor from elsewhere in Colorado, there were soon more as **Dr. Emily Speakman** of CU Denver presented her work on optimizing equitable access in facility location problems, and **Dr. Katherine Stange** of CU Boulder shared with us a captivating story about Apollonian Circle Packings. Also from CU Boulder, **Dr. Nancy Rodriguez** took us on a journey through the use of mathematical models to gain insight into ecological and social phenomena. Another notable visitor was department alumnus **Dr. Reggie Anderson** (CC 2013) who shared with us his work in homological mirror symmetry. Dr. Anderson is now a Postdoctoral Fellow and Visiting Assistant Professor at Claremont McKenna College. Another Colorado College alumnus, **Malcolm Gabbard**, who is currently finishing his PhD at Kansas State University, presented his fascinating work on knots applied to low-dimensional topology. Malcolm may be our first ever speaker to bring a crocheted mathematical object from one of his research papers! Of course, our political landscape was salient to many of us this year, and we were lucky enough to host **Dr. Daryl DeFord** from Washington State University in November for a very aptly timed talk on studying fairness in political redistricting with mathematics. November was a great month for seminars, as it also **brought Dr. Kathryn Haymaker** from Villanova University to show us the connection between group testing and error correcting codes. Other visiting speakers included **Dr. Brianna Hitt, Dr. Soraya Terrab,** and **Dr. Tom Edgar**. At time of writing, our last visit of the year has been from **Dr. Liz McMahon** and **Dr. Gary Gordon** (Lafayette College) who led a joyful exploration of the mathematics of the card game SET.

In addition to all of our visiting speakers, we were treated to several talks from our own faculty, including Drs. **Stefan Erickson, Joseph Rennie, Eddie Price, Blake Jackson**, and esteemed block visitor **Paul Zeitz** about their own passions and research interests in mathematics and computer science. We also enjoyed a talk from the Colorado College Department of Psychology's Dr. **Ryan Maloney** about the history of artificial neural networks and their relationship to the human brain. We're looking forward to more illustrious visitors and interesting talks next year!

Faculty Research Retreat at Baca Campus

Drs. Flavia Sancier Barbosa, Ike Agbanusi, Ben Nye, Eddie Price, and Beth Malmskog

The Baca Departmental Research retreat continued for its third year in May 2024. Professor Beth Malmskog led the mathematics and computer science faculty in attendance in a project in an area of her current research: redistricting. The group explored how the incorporation of different requirements into the set of allowable maps could change the results we obtain.

There was also non-math/cs fun incorporated into the two-and-a-half-day retreat: evening games, a visit to a local hot spring, and group cooking!

Undergraduate Research

As you may have heard, CC has achieved the Research College and University (RCU) designation from the Carnegie Foundation and the American Council on Education (ACE). Students do summer research supported by CC's SCoRE program, NSF grant funding, and money donated by our alumni. During summer of 2024, we had many students doing research:

- **Iverson Wang** worked with Professor Garcia Puente on "*Counting line orbits on a symmetric quintic threefold surface under the action of the group of symmetries S_5*"
- **Alana Ermeus**'s worked with Professor Kouchik on "*Collaborative sound design with students with visual impairments*".
- **Maddy Spark** worked with Professor Garcia Puente on "*The positive steady state variety of small chemical reaction networks.*"
- **Ella Lippelman** took part in an REU at Williams College.
- **Isaac Fayram** worked with Professor Agbanusi on some topics in Dynamic Optimization and Economics
- **Brooktie Frogge, Josh Park,** and **Erin Leidecker** worked with Professor Burge to build a software tool, "ReCap" so that users can browse and search information captured from design meetings.
- **Hunter Markowich** worked with Professor Kim doing statistical analysis of Colorado's precipitation data.
- **Zach Zerbe, Mira Giles-Pufahl, Charlie Rothschild** and **Dan Schmidt** worked with Professor Scott on various problems and applications related to Convolutional Neural Networks.
- **Mahnoor Rehman, Alex Ward,** and **Bayliss Baker** worked with Professor Sancier-Barbosa on modeling daily returns across major stock market indices
- **William Brice** worked with Professor Rennie on formalizing some group-theoretic results in Homotopy Type Theory.
- **Conor Wellman** worked with Professor McDougall on some problems in Harmonic mappings.
- **Tanner Flagg** and **Quinn Sebo** worked with Professor Nye on implementing and evaluating some Machine Learning models.
- **Esa Chen** worked with Professor Malmskog on partially lifted codes. **Reuben Alter** also worked with Professor Malmskog on Algebraic Geometry codes.
- **Eowyn Poplaski** worked on an infectious disease model with Professor David Brown.
- **Zoe Tomlinson** worked on a project developing teaching materials for Calculus classes with Professor David Brown.

Block Visitors

We were fortunate to have two block visitors returning this year: **Dr. Richard Koo** (special topics in CS), and **Dr. Rob Gordon** (intro probability and statistics). We also had special guest Dr. Paul Zeitz teaching Discrete Mathematics.

Dr. Zeitz is an internationally respected expert in problem solving and the author of the text "The Art and Craft of Problem Solving." He created a "great course" on problem solving for The Teaching Company. Dr. Zeitz is deeply involved in the Math Circle community and is a founder of the San Francisco Math Circle, the Bay Area Mathematical Olympiad, Proof School, and Math in the Mountains, a camp for math-interested students 10-12 years old as well as math teachers. In 2003, Zeitz received the Deborah and Franklin Haimo Awards for Distinguished College or University Teaching of Mathematics from the Mathematical Association of America. We hope to welcome Paul back to CC soon .

2024 Euclid Scholars

First Year Students:

Addie Meyer
Tessa Olsen
Nate Solomon
Mara Vogen

Second Year Students:

Maggie Davis
Sonia Gutierrez
Madeleine Johnson
Rose Koehler
Sabrina Liu
Nora Nelson Laird
Andrew Peng
Julia Snelling
Cheyan Sundell-Turner
Caroline White
Jojo Xie

Sabbatical Plans

Dr. Varsha Koushik plans to spend her sabbatical working on teaching and research. She will be engaging with people with intellectual and developmental disabilities (IDD) in participatory design activities to interactively design features for a collaborative prompt editing interface that uses generative AI to create novel prompt examples for supporting daily activities. She also plans to work on pedagogy, including best practices for group assessment.

Euclid Scholarship Awards

The Euclid scholarship recognizes the outstanding potential and passion for Mathematics, Statistics, or Computer Science among first and second-year students. This year, our department received almost 70 nominations and awarded 15 scholarships, made possible by the generous contributions of alumni and friends.

Faculty Achievements in Research

Here is a brief summary of scholarly work of some of the Math and CS Faculty at CC.

- Professor **Eddie Price** and his collaborators have been thinking about Rees algebras which allows the study of curves and other geometric objects near their singularities. These algebras have surprising applications to the study of chemical reaction networks and geometric modeling. Their paper *On Rees algebras of ideals and modules with weak residual conditions* is currently under review.
- Professor **Varsha Kouchik** and CS student Alana Ermeus worked *On collaborative sound design with students with visual impairments*. Their paper was accepted at the ACM Designing Interactive Systems Conference. Varsha's other paper *A Stakeholder Value Framework for Augmentative and Alternative Communication* was published at the prestigious ACM CHI conference on Human Factors in computing Systems.
- Professor **Mike Siddoway**'s paper, *Leavitt path Algebras and Flat Bimorphic Localizations,* has been accepted for publication. Mike's thoughts are returning to a study of Henselian Rings.
- Professor **Blake Jackson** is currently thinking about some subtle issues in Robot Ethics. In particular, how robot morphology, behavior and general design influence human perceptions of a robot's intelligence and moral agency.
- Professor **Rebecca Garcia** and Co-authors published *Interval and L-interval Rational Parking Functions* in **Discrete Mathematics and Theoretical Computer Science**. Rebecca is currently working with her collaborators on what they call the **wild number** of an edge-labeled graph, which they think will open up a new direction for research in combinatorics.
- Professor **Molly Moran** recently published *A Brief Survey of Z-Boundaries* which appeared in **Contemporary mathematics**. Molly has been thinking more deeply about various instantiations of the notion of a boundary.
- Professors **Minho Kim, Flavia Sancier-Barbosa, Luis Garcia Puente** along with previous Visiting Professor **Shishir Agrawal** published *Using Exact Tests from Algebraic Statistics in Sparse Multi-Way Analyses: An Application to Analyzing Differential Item Functioning* which appeared in **American Statistician**. Recently, Minho and Flavia have been thinking about how to best perform statistical inference for data with missing values.
- Professor **Luis Garcia Puente** also published *Absolute concentration robustness: Algebra and geometry* in the **Journal of Symbolic Computation**. Luis is also a co-PI on a $1.2 million collaborative research **NSF-grant** titled "AIMing: Interactive Conjecture Proving." The objective of this project is to enhance the functionality of interactive theorem provers (ITPs) in mathematical reasoning by integrating advanced artificial intelligence (AI) technologies with formal methods. Professor **Ben Nye** is also collaborating on this NSF funded project.
- Professor **Ike Agbanusi** is working on various issues related to the smoothness of functions and sets. His paper *Banach's Indicatrix Reloaded* is currently under review.
- Professor **David Brown** is more or less consumed by issues involving randomness in biological systems. With two student co-authors, he published *Dynamics of two feed forward genetic motifs in the presence of molecular noise.* Their paper appeared in the journal **BioSystems.** David will play variations of this theme this summer exploring how molecular noise affects signaling in populations of bacteria.

Paraprofessionals

Our two wonderful paraprofs leave us to venture out into the wide world, but fortunately not so far afield that they can't come back to visit if we put on some extra awesome events next year. Obie head up to Boulder to work on analytics for the energy company Ascend Analytics, while Lizzie will split the difference and hop up to Denver to do analytics for the healthcare company Cognizant. As a parting gift, they've left behind some wise and introspective words:

Obie: "A problem clearly stated is a problem half solved."

Lizzie: "I don't think I would have picked computer science as a discipline without the encouragement and support I got from the Math and Computer Science Department at CC. It was a privilege to have been a part of this special place."

Where are they now? 2024 Alumni

Here is where some of our 2024 graduates are currently working/studying: **Tommy Crawford** (Mechanical Engineering M.S. at Tuskegee University), **Leo Fries** (Mathematics PhD at University of Oregon), **Gwen Hardwick** (Amazon), **Hayley Heinecken** (SYSO Technologies), **Obie Kahne** (Paraprofessional at Colorado College), **Isak Larson** (Private Tutor), **John Lê** (Physics PhD at Rice University), **Jingyi Liu** (Applied Math PhD at UCLA), **Sabrina Pitkanen** (Freelance Creative & Hospitality Professional), **Tiia Shea** (Master of Arts in teaching at Colorado College), **Daniel Shelanski** (G2M Insights), **Yousheng Tang** (Economics PhD at Ohio State University), **Haoru Yang** (Applied Math PhD at CU Boulder), **Clayton Arnold** (G2M Insights), **Silas Blanchard** (Big 5 Sporting Goods), **Elizabeth Blaschke** (Paraprofessional at Colorado College), **Alisha Bloom** (Red Bull), **Omar Castro-Frederick** (On Beat Digital), **Tyler Chang** (Computer Engineering M.S. at Columbia University), **Dylan Chapell** (Hansen Gress Corporation), **Lucia Flanagan** (Telnyx), **Fremont Forsberg** (WTW), **Hayley Heinecken** (SYSO Technologies), **Miranda Hunter** (Enterprise Mobility), **August Knox** (Lawrence Livermore National Laboratory), **James Moran** (McGaw YMCA Camp Echo), **Louisa Penrice** (Lexidyne LLC), **Annika Piccaro** (Sierra Nevada Corporation), **Dan Phuong** (Raytheon), **Sabrina Pitakanen** (Freelance Creative & Hospitality Professional), **James Settles** (ShopSimon), **Kathleen Shea** (Lawrence Livermore National Lab), **Tiia Shea** (Master of Arts in teaching at Colorado College), **Teva Tannenbaum** (Arbor), **Calvin Than** (Freelance Artist), **Kaija van Zante** (Grant Thornton).

Are you a 2024 graduate missing from our list? Please contact us, we would love to hear from you!

Math Modeling Contest

More than 21 thousand teams signed up for the 2025 International Contest in Modeling this year. Three teams of three students from Colorado College successfully participated: **Shelly Ai, Nico Davis** and **Christian Figueroa** took on a problem in which they deduced historical information from the wear patterns on stairs, as did a second team formed by **Porter Barnes, Sonia Gutierrez** and **Benn Wheeler**. Another team consisting of **Mauricio Choussy, Bea Hillsberg-Winkler** and **Wyatt Wellehan** created predictions of Olympic medal counts for the 2028 games, using historical data.

Sabbatical Plans (cont.)

Dr. Ben Nye is planning on using his sabbatical to spin up a few new research projects, including architecting new AI systems to assist with higher level mathematics, digging into the ways that we evaluate machine learning models in domains (like healthcare) where getting the details exactly right is vital, and also building some new data visualization tools for dynamically interacting with spaciotemporal datasets. After knocking all of this out by Block 2 at the latest, Ben hopes to be able to spend some time helping his young children with their homework.

2025-2026 Paraprofs

We are incredibly happy to welcome our new paraprofs for the 2024-2025 academic year: **Izzy Wagenvoord** (CS '25) and **Zoe Harrington** (Math '25).

From left: ***Zoe Harrington*** *and* ***Izzy Wagenvoord****.*

Building Community

Tie-die with Ben Nye

The department of Math & Computer Science at Colorado College is revered for many reasons around our beautiful campus. Chief among them is the ruthless efficiency by which the department paraprofessionals bombard the email list (2,205 times to be exact) with exquisitely crafted flyers detailing fun events to build connections and community within the department. None of these events would have been possible without **Marita Beckert**, the department's Administrative Assistant, who sponsored Walmart shopping sprees for Lizzie and Obie while doing all the actual hard parts of coordinating an event. Thanks Marita! We kicked off the year with an Ice Cream Social and Open House to introduce new students to the department and, of course, to further expand our email list to the younger generation. Halloween came soon after so we revolutionized the classic Nails and Pizza event by adding pumpkins to paint and candy to eat. The United Math Club also held their second annual escape room – and students actually escaped this year! Then, with pre-registration around the corner and students already tired of pizza, we made them wake up early (before 9am) to eat Monica's breakfast burritos and iron out their spring schedules with professors. In Block Four, we went back to the fundamentals and hosted Snowflakes & Nails & Pizza, outsourcing the manufacture and design of holiday decorations to our wonderful students. The Pi-Day Pi-K is always the marquee event of the spring semester so we started our preparations early in collaboration with the United Math Club. Computer Science Professor **Ben Nye** was kind enough to share the skills he learned at his daughter's 4th birthday with the rest of the department so we could tie-dye last year's pi-k t-shirts at the Tie-Dye with Ben-Nye event. Ramen was served because we will do anything for our students and it happens to be cheaper than pizza. Despite the cold weather, the Pi-Day Pi-K was a raging success with the fastest time accomplished by Math Professor **Beth Malmskog's dogs**. Dr. Malmskog came in a close third. To cap off another email-filled year, the United Math Club hosted a surprisingly intense SET Tournament and we celebrated the graduating class formally at the Senior Dinner and informally at the End of Year Picnic. Finally, students of all departments who find themselves in the Tutt Science building continue to appreciate and abuse our snack bowl, but at least they poured their hearts and souls into the blockly doodle sheets which decorate the paraproffice and remind us of the wonderful community we have been a part of over the years.

Pumpkin Decorating

Thank You Graders and QRC Tutors!

"Having graders makes my life greater" - Professor Blake Jackson. We couldn't have said it better ourselves. We appreciate all their hard work. A special thanks to our graduating graders: **Luke Anderson, Jimmy Andrews, Porter Barnes, George Beck, Nathan Curl, Isaac Fayram, Phoebe Frankel, Kenna Grenier, Zoe Harrington, Kathryn Hawkes, Yael Homa, Primera Hour, Walt Jones, Grace Mun, Peyton Murphy, Kiernan Nesslar, Nam Ninh, Mustafa Sameen, Kaylie Stuteville, Nick Thomas, Zoe Tomlinson, Anna Vu, Isabelle Wagenvoord,** and **Cathy Xiao.**

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