

C(c) News

The Newsletter of the Mathematics Department at the College of Charleston

Covid-19 and the Math Department

A Year to Remember



No matter what, this would have been a memorable year at the College of Charleston and in the math department. It was our first year under the leadership of our new department chair, and the College's new president. It was also the 250th anniversary of the founding of our institution and many special events had been planned on campus to celebrate this special year.

However, other unexpected events including a global pandemic and a renewed focus on the Black Lives Matter movement have overshadowed those plans.

The math department started off the 2019–2020 academic year optimistic about the leadership of our new chair, **Liz Jurisich**, and new president, **Andrew T. Hsu**. We were looking forward to celebrating the College of Charleston's 250th anniversary.

However, by mid-March it became clear that there were going to have to be drastic changes made to all these plans in response to the Covid-19 pandemic. Of course, mathematical modeling and statistical analysis had major roles to play in understanding the situation and determining the appropriate response. Despite our department's expertise in these two areas, our lives were as disrupted by these last minute changes as everyone else's.

The end of the Spring 2020 semester moved entirely online, as will much of the Fall 2020 semester. This gave professors, instructors, and tutors a "crash course" in distance education. We learned quickly that teaching math remotely is not easy to do via Zoom since students often need to see the teacher *writing* the answers. (Some of us have ended up buying white boards for our homes to facilitate teaching from home!)

It was not only classes that moved online. **Monique Sparkman**, a student in our "4+1" joint mathematical sciences undergraduate/graduate degree program, was selected for a prestigious summer internship program in biostatistics at Harvard University's T.H. Chan School of Public Health. Instead of going to Massachusetts, Monique participated in the program remotely from here in South Carolina.

Many research talks that our faculty had scheduled to give at seminars and conferences around the world were cancelled. The annual *Southeastern Lie Theory Conference* which was to be held on campus here in Charleston (featuring a special session in honor of **Ben Cox**) was indefinitely postponed. A notable exception to this trend is the *Mastery Grading Conference* which our associate chair **Kate Owens** co-organized. The original plan for that conference was that fewer than 80 participants would meet for it in Michigan. However, when it was forced to move online, the number of participants grew tremendously. In the end, more than 500 people participated in the online event!



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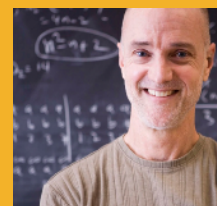
This newsletter is a production of the Department of Mathematics at the College of Charleston. It was edited by Alex Kasman. Write to him with news to include in future issues, questions, or concerns at kasmana@cofc.edu.

Arrivals and Departures

We are pleased to welcome two new faculty members to the Department of Mathematics who begin in Fall 2020:

Daniel Poll, whose research in applied mathematics includes a focus on computational neuroscience, has been hired as an Assistant Professor of Mathematics and comes to us from a postdoctoral position at Northwestern University.

Behrang Forghani, who received his PhD in mathematics from the University of Ottawa, has been hired into a new special assistant professorship that is shared by the Department of Mathematics and the Data Science Program.



Behrang Forghani (left), Daniel Poll (center) and Martin Jones (right)

And we bid a fond farewell to two colleagues: **Martin Jones**, a statistician and probabilist who has been teaching at CofC since 1989 has retired. Professor Jones, who was a recipient of the College-wide Distinguished Teaching Award and spent many years as director of the math graduate program, has been granted the prestigious status of *Professor Emeritus*. One of the math department's two beloved administrative assistants, **Carly Fredericksen**, took another job as of March 4th. The department wishes them both success in their future endeavors and thanks Martin and Carly for their service and dedication.

In Memoriam

Tragically, Professor **Ben Cox** died in September 2019 of a condition he had since childhood. Ben, who arrived at CofC in 1999, was a highly respected researcher in the field of Representation Theory and served many years as director of our graduate program.

Also, **Sue Prazak** passed away in August 2020. Although she retired more than 20 years ago, Sue will always be remembered as one of the greatest teachers in the history of our department through the annual student award named in her honor.

Students:

Unfortunately, because of the campus closure, there was no award ceremony this year, but we are as proud of this year's departmental award recipients as we ever are and send them our heartiest congratulations! Outstanding Student Awards for the Department of Mathematics went to **Katrina Bynum, Terence Carey, Maddox**

Johnston, Chloe Mattila, Jay Van Raalte, Blaine Billings, Posy Olivetti, Michael Lanier, and Shoshana Berkowitz.

The Susan Prazak Award for Future Teachers is given annually in honor of Professor Sue Prazak, who taught at CofC from 1972 to 1999 and sadly passed away this summer.

This year's recipient is **Andrew Skvarna**.

The Scott Ward Award, given each year to a math major displaying outstanding ability in math and a commitment to connect mathematics to another discipline, goes this year to **Michael Lanier**.

The Ewa Wojcicka Award is our department's top award, given in memory of Professor Wojcicka to a recipient showing exceptional ability, creativity and potential in mathematics. This year's recipient of the Wojcicka award is **Jay van Raalte**. Jay, a graduating senior, was also the subject of an article in "The College Today" (June 24, 2020) about her career plans which currently involve both her mathematical and musical abilities.

Zack Hilliard was supported in his first year of graduate study by the prestigious Simon F. Gallagher Fellowship and has just received word

that the scholarship has been renewed to support him in his second year as well..

Monique Sparkman, a student in our "4+1" combined undergraduate/graduate program was selected to participate in a summer research institute on biostatistics at Harvard University.

Congratulations are due to all of those earning a master's degree in mathematical sciences from our program this year (see page 5), but we especially want to single out **Anthony Bishara**, who completed the degree requirements while being a CofC psychology professor!

Alumni:

J. Darby Smith (MS '12), has been promoted to the position of Senior Member of Technical Staff at Sandia National Laboratory as of this summer.

Faculty:

Annalisa Calini served as Applied Mathematics Program Director in the Division of Mathematical Sciences at the National Science Foundation for the 2019-2020 academic year. Professors **Tom Ivey, Bev Diamond** and Calini herself have all previously served in this important position.

Professors **Tom Ivey, Renling Jin, Mukesh Kumar, Stephane Lafortune, Garrett Mitchener**, and **Dinesh Sarvate** received funding for their research from the departmental R&D Committee.

Martin Jones, upon retirement from the College, has been granted the prestigious status of *professor emeritus*.



What can you do with a Master's Degree in the Mathematical Sciences? (Video Series)

To help attract new students and to aid in advising current graduate students, our Mathematical Sciences Graduate Program arranged for the production of videos featuring CofC alumni discussing their career paths after obtaining master's degrees. They represent a variety of different types of careers open to those with degrees in mathematics and statistics.

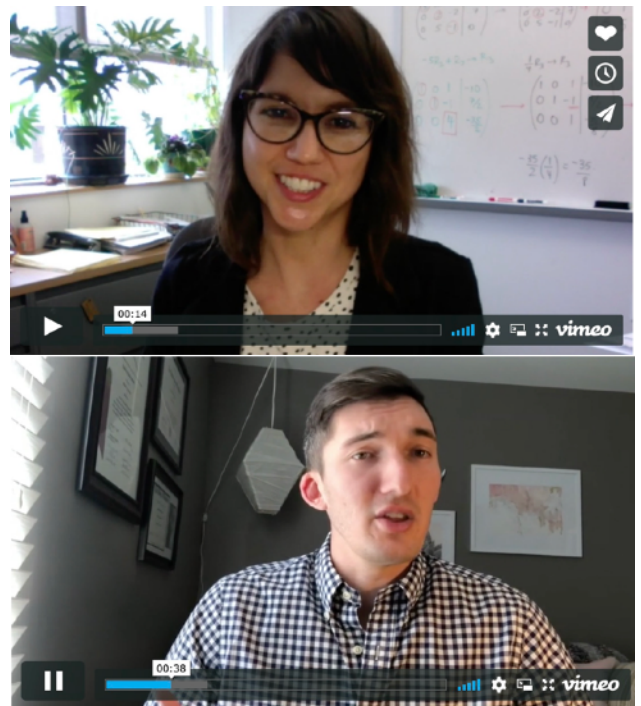
It is hoped that more videos will be posted soon, but for now the five featured videos are:

- ◆ J. Darby Smith / Postdoctoral Researcher / Sandia National Labs
- ◆ Monica Ciciarelli / Math Lab Director / St. Edwards University
- ◆ Thad Sulek / Bank and Forecasting Group / State Farm
- ◆ Bonny Hardesty / Professor / Polk State College
- ◆ Sonia Kopel / Risk Technology Team / Citibank

The speakers address many topics including the quality of instruction they received at CofC and advice for students wishing to follow in their footsteps.

You can watch the videos in this series online by visiting:

<http://blogs.cofc.edu/math/2020/05/12/>



Shown above are stills from the videos featuring Monica Ciciarelli (top) and Thad Sulek (bottom).

Keeping Up with the Latest Math Research News

Like most other scheduled events this year, most of the CofC math colloquium series has been cancelled due to the coronavirus pandemic. But, if you are missing that weekly dose of interesting cutting-edge math, there are still ways you can get something similar.

Check out Talk Math with Your Friends, a Zoom-based math seminar series very similar to our own colloquium, co-founded by our own **Kate Owens**.

Quanta Magazine is a good source for well-researched articles about recent developments in the mathematic sciences.

And, if you're more advanced, you can also check out the latest preprints posted on the arXiv, a repository of actual research papers.



Graduate Program News



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The academic year 2019–2020 was the first year for new grad program co-directors **Alex Kasman** and **Jiexiang Li**, and what a year it was!

We are happy to report that in collaboration with SSM Interim Dean **Sebastian van Delden** and math department chair **Liz Jurisich** we have created a new sort of graduate assistantship. The new “MATH 101S” GAs will receive financial support in exchange for working with undergraduate students struggling in our “College Algebra” course. This is wonderful not only because it will provide financial support to more of our graduate students but also because it will help more of our undergraduates succeed in their math classes.

In the 2019–2020 academic year, **Amber Widmer, Tea Luu, Anthony Bishara, Zachariah Wirszyła, Vicente Munoz Reyes, Jolie Even, Michael Hood, Erin Langenstein, Na Duong, Choral Linhart, Katy Wrenn, Ashley Carroll** and **Colin Frazier** all received Master’s Degrees in the Mathematical Sciences for a total of 13 students successfully completing the program. This was not only an unusually *large* graduating class for our graduate program, it was also an unusually impressive one filled with extremely talented students. Unfortunately, with unemployment rates high and academia struggling to deal with Covid-19, they are either entering the workforce or attempting to continue their education elsewhere at a very inopportune moment.

For more information, please visit <http://math.cofc.edu/grad-progs/> or contact the program co-directors at kasmana@cofc.edu and lij@cofc.edu.

C of C Math Meet 2020

The Math Meet was held on February 22 and was, as usual, a tremendous success. Little did co-directors **Garrett Mitchener** and **Kate Owens** know it would be among the last large events to take place on campus this year. The base 3 representation of numbers was a running theme inspired by the date of the event: 2/22/2020. (See the [Cantor Sprint](#) for an example.)



As for Math Meet 2021, plans are already underway to make the fun and challenging contests that usually comprise the Math Meet available remotely. Even if students are not able to enjoy our beautiful campus, they will still be able to get the benefits of being a Math Meet participant!

Mission Statement: Mathematics is an art, a pure reflection of the human mind. Mathematics is the language of science. It provides powerful tools for understanding our world. Mathematical reasoning and the critical thinking skills that develop with the study of mathematics are foundational necessities for an educated workforce and citizenry in the 21st century. In support of these principles the Department of Mathematics will offer a varied curriculum with flexible programs. The Department will recruit a distinguished faculty of dedicated teacher-scholars, who through teaching seek to impart mathematical knowledge, skills, and critical reasoning, as well as a sense for the utility and beauty of mathematics; and through scholarship will seek to fulfill the professional responsibility of expanding mathematical knowledge and applications, while providing students opportunities for original research. All mathematics courses, whether a part of the general education core curriculum; degree requirements in the sciences, social sciences or business; or for mathematics majors, will have as a goal a transformational learning experience. Students majoring in mathematics will benefit from small classes, personal attention, and a curriculum that allows for concentration in several key sub-disciplines and pre-professional tracks, preparing them for a variety of careers, further study at the graduate level, and the pursuit, for its own sake, of learning the oldest of the liberal arts.

A Message from Liz Jurisich, Math Department Chair



The College of Charleston, like public institutions throughout the country, are increasingly called upon to rely on non-tax based sources to operate and maintain the levels of quality, value and impact that their students, alumni and communities expect. Now more than ever philanthropic giving is critical for us to continue to achieve our goals of education, research and service to the community. Please consider giving to one of these four funds:

R330 General Math Department Fund
R342 Ewa Wojcicka Memorial Math Award Fund

R520 Math Graduate Program
E373 Prazak Award for Future Math Teachers

You can make a donation via credit card by visiting <http://giving.cofc.edu/math>.

Or you can pay by check and mail it to *College of Charleston Foundation / 66 George Street / Charleston, SC 29424*. (Make your check out to "College of Charleston Foundation" and be sure to indicate the fund that you are donating to in the memo and in the cover letter.)