

C(c) News

The Newsletter of the Mathematics Department at the College of Charleston

Inaugural Issue

There is always so much happening at the CofC Math Department – research, awards, events, etc. – but there has never been a place for us to summarize it all. This newsletter will hopefully provide a way for faculty, students and alumni to keep up with it all!

Whats up with C(c)?

The *punny* title was proposed by Professor **Garrett Mitchener**. (Try saying it out loud as if it were the name of a function and variable in a calculus class.)

Bidding Farewell

The Math Department is losing four treasured members of our faculty. **Bev Diamond**, who served as interim provost as well as a math professor, is retiring this summer. **Jason Howell**, **Justin Webster** and **Crystel Wohlfalka** are each moving to new jobs elsewhere. We were very lucky to have all of them here and wish them luck in the future!



Mathematicians Gather at CofC

The College of Charleston hosted two international mathematics research conferences this academic year. In October 2016, we were the venue for the *International Symposium on Biomathematics and Ecology Education and Research* featuring over 200 experts working at the intersection of biology and mathematics. Then, in March 2017, over 400 hundred mathematicians from around the world came to our campus for a general meeting of the *American Mathematical Society*.

These professional conferences in Charleston are wonderful opportunities for CofC both because they bring the research experts here where our students and faculty can hear them and also because the attendees leave with a very positive impression of the College and its math department.



COLLEGE of CHARLESTON

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.

Math 4+1 Combined Program

Students in our new "4+1" program can earn a bachelor's degree *and* a masters degree in mathematics in only 5 years (as compared to the 6 it would normally take). This is achieved by allowing them to take courses in their senior year which count both as fulfilling requirements for their undergraduate degree and also count as graduate level courses at the same time.

Ben Cox started work on this program in 2011 when he was graduate director. But, it is under our current directors, **Annalisa Calini** and **Martin Jones**, that the first four students have graduated from the program in May 2017!

This program allows strong mathematics and statistics students to obtain excellent preparation for pursuing Ph.D. degrees in mathematics or statistics. Students who enroll in this highly competitive program are required to have a minimum 3.5 GPA. For more information, write to calinia@cofc.edu and jonesm@cofc.edu.

While other professors are using white boards and Power Points, math professors are often staying with good old-fashioned chalk. See our department chair **Bob Mignone** explain why in [this YouTube video](#):

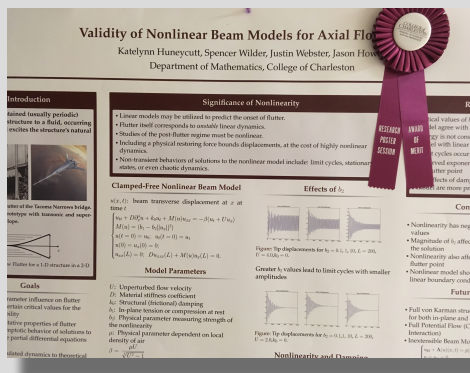


Undergraduate Students:

Each year, a student who recently took calculus at CofC is awarded a \$100 prize in the Harrison Randolph Calculus Contest. This year, it was **Bach Nguyen** who won the prize based on his answers to the test that was administered on April 14th.

The prestigious Barry Goldwater Scholarship covers the cost of tuition, fees, room and board and books up to \$7,500. The College was one of just a handful of schools around the country with three or more honorees, one of whom was math major **John Cobb**.

Congratulations to **Katelynn Honeycutt** and **Spencer Wilder** whose research poster "Validity of Nonlinear Beam Models for Axial Flow" won an award of merit at the SSM Poster Session.



The recipients of the 2017 Outstanding Student award from the math department are **Arianna Tolerton, Christopher Johnson, Elyana Crowder, Emanuel Valencia, Emma Collins, Isabel Johnston, Katelynn Huneycutt, Kaya Tollas, Na Duong, Payden Shaw, Sonia Kopel,** and **Spencer Wilder**.

Isabel Johnston and **Emanuel Valencia** are the recipients of the 2017 Susan Prazak Endowed Award for Future Teachers of Mathematics.

Sonia Kopel won this year's **Ewa Wojcicka** Mathematics Award.

Christopher Johnson was the recipient of the A. Scott Ward Award (yes, it really is the "A Ward Award...") for Excellence in the Mathematical Sciences.

Graduate Students:

Cameron Ismail (MS '17) successfully defended his Master Thesis: *Universal Structures in Algebra* under the direction of Dr. Liz Jurisich.

Our MS graduates get jobs quickly after (and sometimes even before) graduation: **Chris Ewald** (current student) landed a great job in NYC and is completing the program long-distance. **Khylee Habermas** (MS '17) is an Operations Research Analyst at SPAWAR; **Kaitlyn Manley** (MS '17) will begin teaching at St. Timothy's School, a private all-girl boarding school in Maryland; **Michael Hooi** (MS '17) left ATD to start his own tech company in Downtown Charleston; and **J Truver** (MS '17) is continuing his studies in Statistics at Duke University.

Alumni

Tyler Perini ('16) who worked with Amy Langville when he was an applied math major here at CofC is now a PhD student at Georgia Tech studying operations research. We are proud to congratulate Tyler on his NSF Graduate Research Fellowship of \$34K in stipend and \$12K in cost-of-education allowance for five years.

Hau Chan ('10) will be joining the Department of Computer Science and Engineering at the University of Nebraska-Lincoln (UNL) as a tenure-track assistant professor in the Fall of 2018. Before joining UNL, he will hold postdoctoral positions at the USC Center for Artificial Intelligence and the Harvard Innovation Science Laboratory.

Faculty

Martin Jones received the 2017 Norine Noonan Award from the School of Sciences and Mathematics for his contributions to the school and community as a teacher, scholar and activist.

Stephane Lafortune was awarded a Collaboration Grant from the Simons Foundation. These grants funded by mathematician (and Wall Street wizard) Jim Simons aim to foster research by increasing collaborative contacts between mathematicians.

Math Movies and Plays

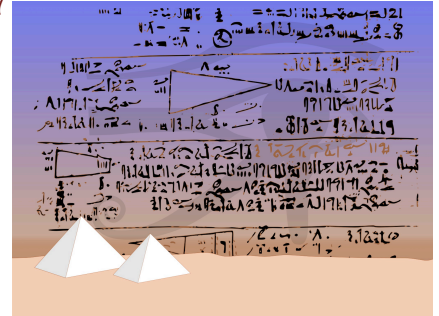
There have been some good math movies recently, with "The Imitation Game" and "Hidden Figures" telling the important true stories of some of history's most interesting mathematicians. And then on February 10th we hosted our own "Mathematical Short Film Festival".

In addition, Charleston was fortunate enough to have a live production of the Play *Emilie: La Marquise Du Châtelet Defends Her Life Tonight* at the South of Broadway Theater on Montague Avenue. A group of 18 math students and faculty had a "field trip" in October to see that play about an 18th century mathematical physicist.

(If you are interested in works of fiction about mathematicians, check out Professor Kasman's [Math Fiction Homepage](#) and look into his Spring 2018 "Math in Fiction" class.)

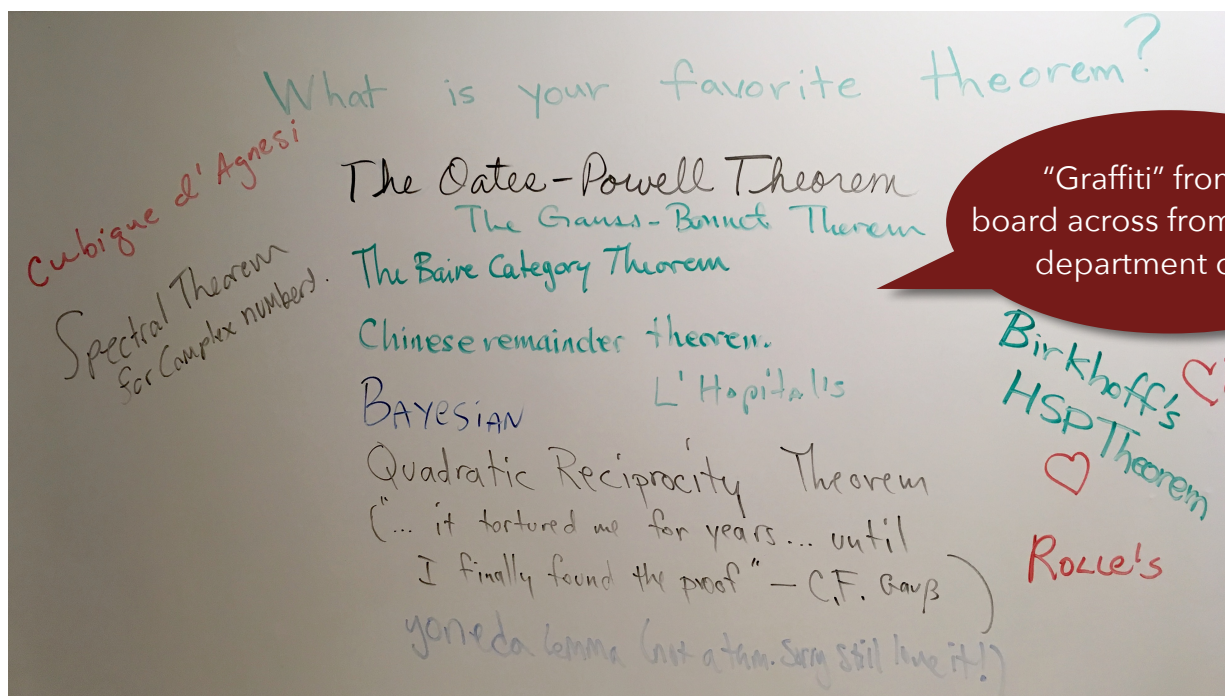
CofC Math Meet 2017

The annual Math Meet was held on Saturday February 11. Around 500 high school students from around the southeast participated.



The theme was mathematics of the ancient world. The t-shirt and poster featured geometry problems from the Rhind Papyrus, an ancient Egyptian mathematics text. All-day sprints featured problems based on Egyptian fractions and the Maya calendar. This year's estimation station was about estimating the amount of rope in the Gordian knot.

Directors **Garrett Mitchener** and **Kate Owens** thank **Becca Brnich, Joe Casagrande, Emma Grabowski, Katelyn Huneycutt, Vegas Kremser, Bree Lewis, Jasmine Mai, Kate Mizgireva, Kara Powers, Hannah Swinbank, Larsen Tedder, Lauren Tubbs, and Liz Ward** for helping out! See <http://mathmeet.cofc.edu> for a list of the winners and sample problems.



CofC Math Prof in Uganda

Professor **Dinesh Sarvate** first went to Uganda in 2014–2015 as a Fulbright Scholar. The Fulbright program is sponsored by the U.S. Department of State's Bureau of Educational and Cultural Affairs. Approximately 8,000 Fulbright grants are awarded each year and over 300,000 "Fulbrighters" have participated in the program since its inception in 1946.

Professor Sarvate returned to Uganda again this year as a Fulbright specialist to continue working on curriculum development and teacher training as well as his research into the mathematics of combinatorial design. In this picture, Professor Sarvate (right) poses with Ugandan science teacher Yassin Igga.



Curricular Innovations

We are always striving to keep the topics covered and the educational methods used current. Here are just a few examples of recent courses at the cutting edge:

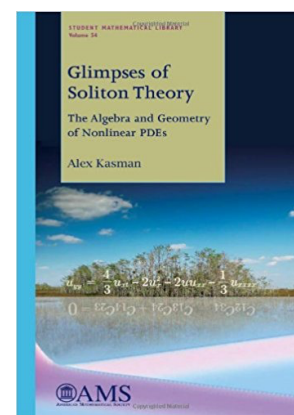
EVSS 659 Environmental Statistics: Environmental sustainability is a major focus at the College, and all environmental science students should be conversant in the language of statistics. The purpose of the EVSS 659 course is to build on an undergraduate foundation in statistics. Students who complete the course are comfortable reading statistical analyses in the literature, designing and analyzing their own statistical studies, and writing and talking comfortably using the language of statistics.

HONS 382 Game Theory: This interdisciplinary honors course was co-taught by Professors Liz Jurisich (Math) and Calvin Blackwell (Economics). Students learned how to model a variety of aspects of human interaction, and more generally animal behavior, using Game Theory. We studied situations involving both co-operation and competition. Student presentations included topics such as analyzing the effect of traffic apps such as "waze", methods of negotiation, silent auction bidding, evolutionary strategies and more.

MATH 485 Glimpses of Soliton Theory: This course was not just innovative in its topic, which combines the mathematics of algebraic geometry with the physics of waves and particles, but also in its medium. It was offered as an entirely online course featuring video lectures based on the textbook by CofC's Professor Alex Kasman.

Our graduate program was recently restructured, with a new **Statistics Concentration** that is already attracting applicants from the region and the nation.

Our graduate program is looking for ways to deliver instruction to students who cannot always make it campus. We are currently in the process of equipping one of our classrooms with video-capturing technology and we have been experimenting with online courses.



Our 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.

Message from the 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 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.)