STUDENT ACHIEVEMENT

MATH MAJOR JASON BROWN

Jason Brown, senior Math Major, is a man who likes to keep his options open. He doesn't make a plan unless it includes a back-up plan, which probably speaks as much to his incredibly diverse interests as to his practicality. He's followed career interests ranging from Accounting to Healthcare and Radiology, Physics to Computer Science. But the common theme that seems to string all these diverse areas together is that he's tutored other students in pretty much all of them.

It was his involvement in various tutoring programs over the years that made his love of teaching clear to him. His early experiences with tutoring changed the way he thinks about learning: "I learned more from tutoring than while taking classes." Now, he approaches every class he takes with the idea of teaching it to someone else – a strategy that encourages deep learning and under-standing of the material he's presented with. His future teaching interests include Mathematics, Physics, and Chemistry. Ideally, he says, he'd get qualified to teach them all.

While Jason plans to graduate in Fall 2019, he's not certain what path he will take after graduating. It seems clear that it will include more schooling - he's a life-long learner, "addicted to learning." Several factors play into his future education plans, but eventually his goals put him teaching high school students one (or more!) of his many areas of interest.

During his time at CSU, Jason has made the most of the opportunities he's found here. Recently, he used computer science techniques to solve a question published in the math journal Pi Mu Epsilon, having his solution also published. In April, he'll present his work at a conference at Kennesaw State University.

This semester, Jason is taking a class that places empha-sis on real-world problem solving: PIC Math. Details about the class and his particular project follow in the piece below, but he's also learned some important lessons about deep learning to apply to his future teaching in this class. He says "every class should be this way," referring to the relationships developed withIndustry contacts and real problems being presented to students and fully addressed using their own methods. Jason's attitude and willingness to tackle a challenge have served him well at CSU, and will see him well into his career as an educator that never stops learning.

PIC MATH PROGRESS

PICTURED: CHARLES BOGGS, ETHAN BARBER, DR. BEN KAMAU, JASON BROWN, PIC MATH INSTRUCTOR DR. GUIHONG FAN

MATH 3139, PIC Math, taught this semester by Dr. Guihong Fan in conjunction with Earth and Space Science professor Dr. Scott Gunter, is a class designed around students solving real problems in Business, Industry, and Government. This semester, a group of students in the class is studying area tornado patterns with the goal of development a model to predict the strength, location, and damage of future tornadoes in this area. The class recently visited the WRBL television studio in Columbus where they are working with the weather department and Chief Meteorologist Bob Jeswald to analyze the available data to make these predictions possible. While the students are facing many challenges in approaching this "after the fact" tornado data in a way that anticipates future tornadoes, they are working hard to learn what they can!

STUDENT SUCCESS AND ACTIVITIES

PICTURED: FOREFRONT TO BACK: CHRISTOPHER SINKULE, BAO DO, ZACHARY FOLTA, AND TIMOTHY PITTS TAKING THE 2018 PUTNAM EXAM

• Congratulations to the students (pictured) who recently sat for the 2018 Putnam Exam the preeminent mathematics competition for undergraduate college students in the US and Canada, who ranked 235 out of 3,824 competing teams, an excellent ranking!
• Bao Do and Christopher Sinkule sat for the Major Field test and scored perfect scores at the 96th percentile.
• Math Major Christopher Lane recently represented CSU at the 2019 Board of Regents Academic Recognition Day in Atlanta.We congratulate the meaningful achievements of these Math Majors!

2018 MATHEMATIC GRADUATES

JUSTIN HAYES

SAVANNAH HIGHTOWER

TORI WILLIAMS-BANKSTON

JOHN HETZEL

MICHAEL ROHLY

KAITLYN MULLIS

TAYLOR GREATHOUSE

MATH SOCIETY

The Math Society is seeking interested memberfor discussion of interesting theoretical and applied mathematical topics! For information regarding meetings, please contact club president, Bao Do at do_bao@columbusstate.edu or club sponsor, Guihong Fan at fan_guihong@columbusstate.edu

DR. I'S ANNUAL NEWSLETTER PROBLEM

On the unit segment [0, 1] we choose three points at random (with uniform distribution). These points divide [0, 1] into four segments, of lengths a, b, c, and d. Show that the mean of the random variable
X = max(a, b, c, d) is

$$E(X) = \qquad \approx 0.5208\overline{3} \qquad (A021196)$$

and its standard deviation is

$$\sigma(X) = \frac{\sqrt{39}}{48} \approx 0.130104125$$

WELCOME

MARIYA ROSENHAMMER

Mariya Rosenhammer, Lecturer
Mariya earned her undergraduate and graduate degrees in New York and began her teaching career there. She joined the Math Department at CSU in January 2019 after teaching college courses for the past four years. Welcome, Mariya!

DATA ANALYTICS MINOR AND CERTIFICATE

The Department of Mathematics has recently been approved to begin a Data Analytics Minor and Certificate program. We now have 14 students enrolled in the Data Analytics Minor Track, representing the diverse majors of Health Sciences, Chemistry (ACS Professional Track), Computer Science (Cyber Security, Games Programming, and Software Systems), Mathematics, and Information Technology. Our first cohort of students is now working its way through the minor and are currently enrolled in DSCI 3112 Data Mining II course (see photo). DSCI 3116, Ethics and Data Analytics is being taught this semester by Dr. Heather Avery, Vice President, Customer Analytics & Infrastructure at Aflac. For our fall 2019 offering of DSCI 3115, Data Analytics Project course, we are now soliciting Big Data projects from local businesses and encourage CSU faculty to contact Dr. Ron Linton (at linton_ronald@columbusstate.edu) with possible project ideas. **Follow our progress at:**

🐦 @DataScienceCSU   f Coordinator.DataAnalytics.CSU

MATH CONNECTIONS SEMINAR

The Math Department is involved in continued efforts to engage first-year students in informal seminars to promote their abilities to cope with and succeed in their first college-level math courses. Topics of discussion range from general study, note-taking, and time management tips to in-depth looks at how different (non-STEM) professions use the math skills they are currently learning. We are also developing some online format engagements with high school students and teachers in attendance at the 2019 Math Tournament (see article below) to review the very challenging problems they encountered while taking the tournament test. Math Connections aims to fulfill the mission of the USG's Momentum Year initiative and actively work with the community to help prepare students for college-level math courses. For more information, contact Dr. Houbin Fang at fang_houbin@columbusstate.edu.

INTERVIEW WITH DR. CINDY TICKNOR: HONORS COLLEGE DEAN AND AUTHOR

DR. CINDY TICKNOR
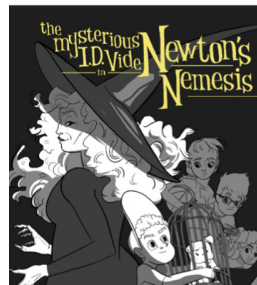
I.D.VIDE NEWTON'S NEMESIS, VOLUME 1 (COVER ART)

While Dr. Cindy Ticknor wears many hats, her roots are clearly planted in the Department of Mathematics here at CSU. Her recent work writing the comic book The Mysterious I.D. Vide in Newton's Nemesis Vol. 1 is certainly a testament to her passion for mathematics and math education.

Each volume in the series deals with a different aspect of the challenging concepts of fractions and division. Geared toward 5th and early 6th grade readers, the comic probably appeals just as much to their teachers! Dr. Ticknor has tested the first volume successfully in area low-income schools with 150 student readers. The feedback has been tremendously positive, as students react strongly to the characters and engage deeply with the concepts.

Illustrated by CSU Art Major Nathan Long, the comics are currently being re-worked in color for added impact. Currently, three volumes of the series have been written, but Dr. Ticknor is already brainstorming for more. The subject area is ripe for this medium, and students have found the experience so enjoyable that they often don't realize they've just internalized a complex topic. Dr. Ticknor began with ideas formulated by Jo Boaler at Stanford University in her book Mathematical Mindsets, with ideas which stem from her Stanford colleague Carol Dweck's work on Growth Mindsets. Mathematical Mindsets tackles the ideas of productive struggle and resilience for students of mathematics in particular. In Newton's Nemesis, readers observe the main character struggling with a concept and getting positive support to persevere. Dr. Ticknor's underlying goal is to discourage students from giving up when facing a challenging problem, and giving them the tools to conquer some of the more difficult concepts in their formative years of education.

Much of her work so far has been self-funded, and she's in the process of fundraising and marketing her work to schools and PTAs for professional development or teacher gifts. Dr. Ticknor has also provided online supplements to support the use of the comic in classrooms. To learn more about Newton's Nemesis and the work Dr. Ticknor is doing, visit CindyTicknor.com.

45TH ANNUAL MATH TOURNAMENT

STUDENTS PREPARE TO TAKE THE CIPHERING PORTION OF THE TOURNAMENT

FACULTY RANDALL CASLETON AND FRIEND OF COLS DR. ZANGA KEEP THE TIME FOR THE CIPHERING COMPETITION

On March 2, 2019, 130 area high school students gathered for the 45th Annual CSU Mathematics Tournament. School sponsors, CSU faculty, volunteers, and students spent the day engaged in mathematical activities including the main individual test, speakers including Matt O'Shields (TITLE), Provost Dr. Deborah Bordelon, and keynote speaker Dr. Ronald Linton, and an energetic group ciphering competition in the afternoon. This major event put on annually by the Department of Mathematics is supported by CSU faculty and student volunteers, interested friend of COLS, Dr. Zanga (pictured above) who generously donates his time every year to help with the ciphering competition and with distributing awards, and our annual sponsors TSYS and the Provost's office. This year's event was successful and very fun for everyone involved!

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