



The Newsletter of the Mathematics Department at Rowan University

WHO'S NEW IN THE ROWAN UNIVERSITY MATHEMATICS DEPARTMENT

The Rowan Math Department welcomed five new faculty members and a new senior academic advisor during the Fall 2017 semester. Thanh Nguyen joins us as a tenure-track assistant professor. New 3/4-time instructors include Olga Berry, Teri Goodenbour, Jeremy Russell, and James Zulker.



Dr. **Thanh Nguyen** earned B.S. and M.S. degrees in mathematics from Vietnam National University, Hanoi, and a Ph.D. in engineering mathematics from Vrije Universiteit, Brussels. Before joining Rowan University, he spent 10 years at the Austrian Academy

of Sciences, the University of North Carolina at Charlotte, and Iowa State University. His research interests include computational and applied mathematics topics such as inverse problems for partial differential equations, optimization, modeling & simulation, and numerical analysis. He also works on engineering applications, such as nondestructive evaluation, subsurface imaging, and medical imaging. In his free time, Thanh enjoys traveling, playing sports and playing with his kids.



Olga Berry received her mathematical training in the former Soviet Union and began teaching in Kiev, Ukraine, right after the breakup of the USSR. She started a tutoring business after moving to the US and also has taught as an adjunct math instructor at RCGC, Camden

County College, and RCBC. At Camden County College, she has received both the Adjunct Teaching Excellence Award and the Outstanding Service Award for the Adult Basic Skills Program. After

being involved in the US pageant system as a mother, she started competing herself and was named Mrs. Camden County in 2011.

Teri Goodenbour '86 earned an associate's degree in chemical engineering technology at Gloucester County College, a bachelor's degree in mathematics with a minor in secondary education from Glassboro State College, and a master's degree in mathematics learning and teaching from Drexel University. She previously taught mathematics at the middle and high school levels. When she's not in the classroom, Teri can be found at her cabin in the Adirondack Mountains of upstate New York enjoying time with her family. Her hobbies include knitting, kayaking, and too many others to list.



Dr. **Jeremy Russell** earned his Ph.D in 2013 from Northeastern University. He is currently studying modules over non-commutative rings using functorial techniques, homological algebra, and linear algebra. Previously, he was a visiting scholar at University of Manchester and a visiting assistant professor at The College of New Jersey. His hobbies include weightlifting and music.

James Zulker '13, *15 earned a B.S. in physics with a concentration in astronomy, a B.A. in mathematics, and an M.A. in mathematics, all from Rowan University. He has a very strong passion for teaching mathematics, enjoys playing computer games in his free time.



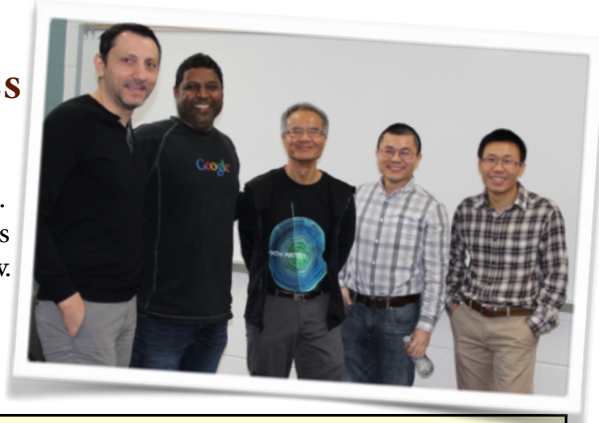
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WHO'S NEW, continued from Page 1

Cristine Mason is the new senior academic advisor for all mathematics B.A. and B.S. majors. She assists students with understanding program requirements, course selection, and utilizing other Rowan resources, such as tutoring or counseling. You can schedule an appointment with Cristine via the [Rowan Starfish \(RSN\)](#) system. Cristine's office (228A) is located inside the mathematics department on the second floor of Robinson Hall. Cristine earned her B.A. in history and education (dual major) from Rowan University in 2005 and her M.A. in counseling in educational settings from Rowan University in 2010. Prior to working at Rowan University, she was a history teacher at multiple high schools in the South Jersey region, as well as an advisor for non-traditional programs at Drexel University in Philadelphia. Cristine also currently teaches Rowan 101 and Essentials of Psychology. When she's not at Rowan, she enjoys spending time with her two young children, traveling, and listening to Bruce Springsteen.

RESEARCH EXPERIENCES FOR UNDERGRADUATES IN MATH AND STATISTICS

Dr. **Min Wang** hosted a workshop in January 2018 to introduce students to research opportunities available both within the Rowan Math Department and at off-campus sites. Faculty who are willing to supervise student research projects and some of their ideas for potential projects are listed below. Interested students should contact the listed math faculty as soon as possible to be considered for a summer position funded by Rowan's SURP program.



Faculty Member	Possible Research Projects
Dr. Abdul Hassen (hassen@rowan.edu) Robinson 229E	<ul style="list-style-type: none"> Elementary number theory (e.g., distribution of primes, recurrence sequences, diophantine equations) Analytic number theory (e.g., modular forms, Dirichlet series, Reimann zeta function and its generalizations) Numbers and polynomials generated by functions (e.g., Bernoulli numbers, polynomial numbers and their generalizations)
Dr. Hieu Nguyen (nguyen@rowan.edu) Robinson 228N	<ul style="list-style-type: none"> Construct multiple insertion/deletion error-correcting codes with high rates Construct maximal ETFs and algorithms to partition them
Dr. Thanh Nguyen (nguyent@rowan.edu) Robinson 230C	<ul style="list-style-type: none"> Mathematical modeling and optimization problems in cancer chemotherapy Determination of material from shape Mathematical problems in determination of pollution sources
Dr. Babis Papachristou (papachristou@rowan.edu) Robinson 230D	<ul style="list-style-type: none"> Using radiomics variables to predict survival of ovarian cancer patients Using functional near-infrared spectroscopy (fNIRS) data to predict food preference Also open to student-initiated projects
Dr. Uma Thayasivam (thayasivam@rowan.edu) Robinson 228F	<ul style="list-style-type: none"> Predictive analytics in biology, marketing, business, the U.S. stock market, etc. Data mining and Bayesian approaches to biomarker discovery for neurodegenerative diseases Peak detection with maximum entropy principal Assessing robust methods for analyzing multivariate data Telemedicine/telehealth statistical learning Also open to student-initiated projects
Dr. Min Wang (wangmin@rowan.edu) Robinson 230B	<ul style="list-style-type: none"> Option pricing and credit value adjustment (CVA) Data analytics on the U.S. stock market
Dr. Marcus Wright (wright@rowan.edu) Robinson 229D	<ul style="list-style-type: none"> Using Mathematica to image/analyze Julia sets Zagier algorithms for solutions of the two squares problem Generalizing chirality of triples to n-tuples Also open to student-initiated projects

ROWAN CHESS CLUB HOSTS TWO FALL TOURNAMENTS

The Rowan Chess Club, advised by math instructor **Ira Fine**, held two successful tournaments during the Fall 2017 semester. In October, Rowan students, alumni, and area chess players participated in a tournament that raised \$700 for Curtis Jones and his family. Curtis is a local chess player who had to quit his job as an electrician when he was no longer able to walk due to his Lou Gehrig's disease (ALS). They also hosted a UCSF-rated tournament at the Rowan Student Center in November which raised \$150 to be donated to the National Brain Tumor Society.



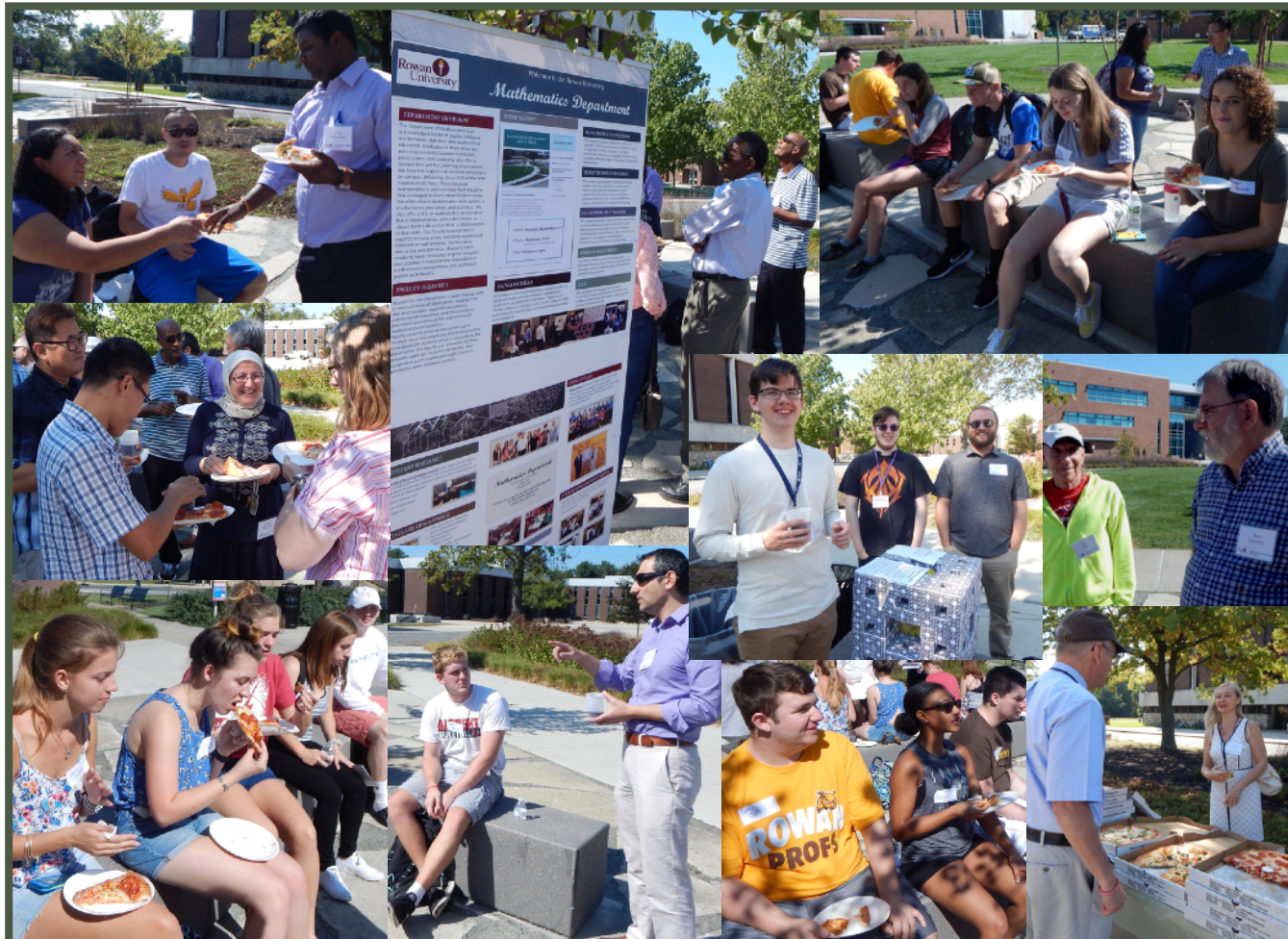
FACULTY SPOTLIGHT: JEFF SAVITZ



Statistics instructor **Jeff Savitz** recently completed a worldwide tour presenting his three-paper thesis on sample size reduction at the 28th European Conference on Operational Research in Poland, at IFORS in Quebec, the ASA conference on Big Data in Philadelphia, and the prestigious INFORMS in Houston to a standing-room-only crowd. His thesis, "The Case For Nearliers," presents new methods for generating samples in surveys reducing sample sizes over 15% and has an estimated savings to U.S. survey researchers in the U.S. of \$1.7 annually. Using the MOSAIC and ACORN segmentation systems, these methods may likely be applied in 16 other countries and growing. Jeff is working on another half dozen papers in this regard.

MATH DEPARTMENT HOSTS "MEET AND GREET" FOR NEW STUDENTS

The Rowan Math Department sponsored its first-ever "Meet and Greet" on Robinson Circle in September 2017 to welcome new freshman and transfer-student math majors. In addition to being treated to free pizza and other refreshments, attendees had the opportunity to meet faculty and student leaders from the math club/team. With 35 faculty and 27 new students in attendance, the event was a grand success.



Alumni Spotlight: Domenick Renzi '95

Domenick Renzi '95 was named the 2017 Gloucester County Teacher of the Year. He graduated from Rowan College of New Jersey in 1995 with bachelor's degrees in mathematics and elementary education, and he earned a master's degree in school administration from Rowan University in 2005. He has spent his entire 22-year career in the Washington Township school district. He taught fifth grade at Bells Elementary School for 11 years before moving into administration, first serving as a district elementary supervisor and then as principal of Bells Elementary School. After discovering that he missed teaching, Domenick returned to the classroom and currently teaches basic skills math for grades 1-5 at Wedgwood Elementary School.

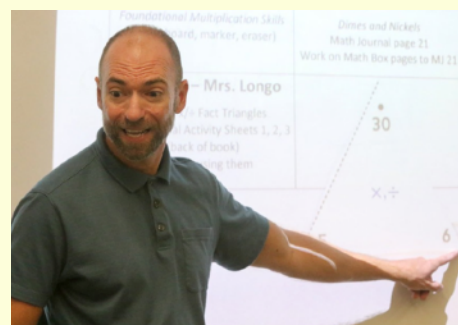


Photo by Al Amrhein, for NJ.com

THE FALL ROWAN MATH DEPARTMENT PICNIC RETURNS!

Dr. **Uma Thayasivam**, the rest of the departmental steering committee, **Paula Pilitowski**, and **Colleen Migeot** successfully organized a Math Department picnic in October 2017 at Renlund Park in Glassboro. More than 60 math students, faculty, staff, and their family members attended the picnic. The department supplied meat and veggie burgers for the grill, and faculty brought in other dishes to pass.



ALUMNI NEWS

Rowan math instructor **Ira Fine '75*95*01** was featured as the [PROFile of the Week](#) in the November 8, 2017, issue of the Rowan Whit. You can watch a video interview in which Ira describes how the internet changed origami at <https://vimeo.com/241524080>.



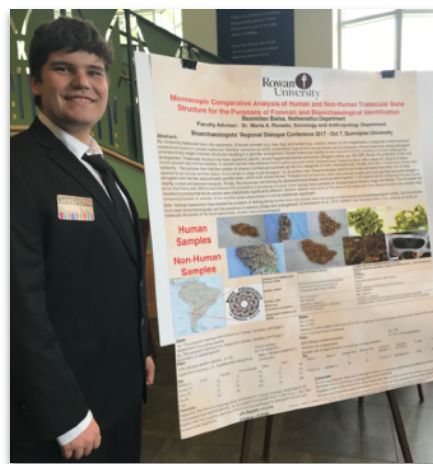
T. Decker / Rowan Whit

Stephanie Vesci '05 started her own tutoring company, Your Education Solution, LLC (www.YESTutoring.com). She is looking for enthusiastic, responsible, and respectful future or current math teachers to come work for her.

Winston Cheong '16 is a first-year mathematics Ph.D. student at Kansas State University. During the fall semester, he took courses in algebra, analysis, and topology to prepare for his first qualifying exam. He also taught a Calculus I recitation section at 7:30 am (and hopes that never happens again).

Sarah Trumbull '17 is a grants coordinator for the Center of Cellular Immunotherapies at the University of Pennsylvania.

Rowan math major **Max Bielsa** presented his research, "Microscopic Comparative Analysis of Human and Non-Human Trabecular Bone Structure for the Purposes of Forensic and Bioarchaeological Identification," with Dr. **Maria Rosado** (Rowan Sociology and Anthropology Department) at the 7th Annual Meeting of the Bioarcheologists' Northeast Regional Dialogue at Quinnipiac University in October 2017.



STUDENT NEWS



Photo by H. Nguyen

Patrick Bray, Savanna Dautle, Kevin Lam, and Dane Charlton (shown from left to right in the photo above) participated in the prestigious [William Lowell Putnam Mathematical Competition](#) in December 2017. Prior to taking the exam, these students attended regular study sessions led by the Rowan Putnam supervisor, Dr. **Hieu Nguyen**.

Upcoming Events

April 7, 2018

Spring 2018 MAA-NJ Meeting at Rowan College at Burlington County (Mt. Laurel Campus)

April 7, 2018

15th Annual Garden State Undergraduate Mathematics Conference and Competition at Rowan College at Burlington County (Mt. Laurel Campus)

April 20, 2018

Rowan University STEM Student Research Symposium in the Eynon Ballroom of the Chamberlain Student Center

May 6, 2018

Rowan University Commencement, 4 pm at Wackar Stadium [all graduates]

May 7, 2018

Rowan University Commencement, College of Science and Mathematics, 2 pm on University Green [degrees conferred to all CSM graduates except psychology]

August 1-4, 2018

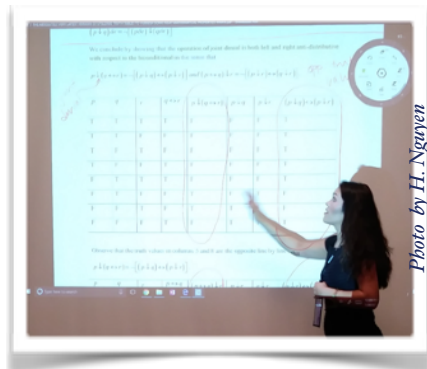
MAA MathFest in Denver

STUDENT AND FACULTY NEWS

Congratulations to Dr. **Ik-Jae Lee** and **Bethany Gummo** for being named tenured instructors effective Fall 2018. Also, Dr. **Nasrine Bendjilali** will be a tenured assistant professor effective Fall 2018, and Dr. **Babis Papachristou** was granted tenure and promotion to associate professor effective Fall 2017.

Two students co-advised by Dr. **Abdul Hassen** successfully defended their Ph.D. dissertations at Addis Ababa University in May 2017. **Nasir Asfarw Kelifa's** dissertation is titled "Asymptotic Zeros of Hypergeometric Bernoulli Polynomials," and **Haider Ebrahim Yusuf's** dissertation is titled, "A Hecke Correspondence for Automorphic Integrals with Infinitely Many Poles."

Kryssa Goodhart (pictured at right), an undergraduate research student of **Jay Schiffman**, gave a talk, "Utilizing Truth Tables to Furnish Some Neat Mathematical Properties," at the July 2017 MAA MathFest in Chicago.



second poster, with Drs. **John Graef** (University of Tennessee at Chattanooga), **S. Heidarkhani** (Razi University) and **Lingju Kong** (University of Tennessee at Chattanooga), was titled "Existence of Solutions to a Discrete Fourth Order Boundary Value Problem."

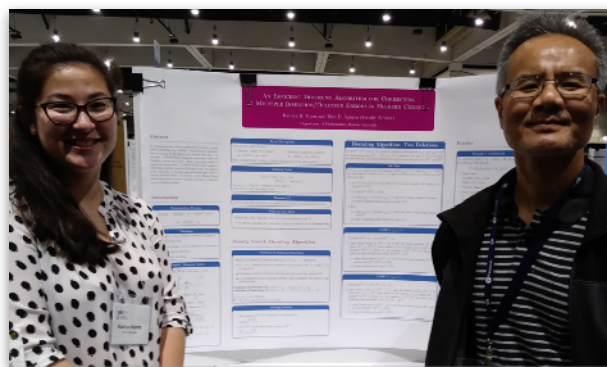
Senior math major **Ronak Desai** presented research, "Deterministic Constructions of Edit-Distance Tree Codes for Interactive Communication," with Dr. **Hieu Nguyen** at the 2018 Joint Mathematics Meetings in San Diego. Ronak is shown here explaining his research to Rowan math alumnus **Robert Booth '09**,



who expects to earn his Ph.D. in applied mathematics from the University of North Carolina in May 2018.

Drs. **Ik-Jae Lee** and **David Yetter** (Kansas State University) presented their research, "Dijkgraaf-Witten type invariants of Seifert surfaces in 3-manifolds," at the 2018 Joint Mathematics Meetings in San Diego.

Kaitlyn Myers presented her research with Dr. **Hieu Nguyen** (pictured below) at the 2018 Joint Mathematics Meetings in San Diego. Their poster was titled, "An Efficient Decoding Algorithm for Correcting Multiple Insertion/Deletion Errors in Helberg codes."



Dr. **Hieu Nguyen** and undergraduate **Patrick Bray** presented a poster, "On a Series Formula for the Area of the Mandelbrot Set and Zagier's Conjecture," at the July 2017 MAA MathFest in Chicago.

Jay Schiffman presented a poster, "Systematic Counting, Binomial Coefficients, World Series Scenarios and the 2016 World Champion Chicago Cubs," at the July 2017 MAA MathFest in Chicago.

Kaitlyn Myers and **Ronak Desai** both presented their summer research conducted with Dr. **Hieu Nguyen** at the Rowan SURP Poster Symposium in July 2017.

Dr. **Min Wang** presented two posters at the 2018 Joint Mathematics Meetings in San Diego. The first poster, with Drs. **Yaqin Feng** (Ohio University), **John Graef** (University of Tennessee at Chattanooga), and **Lingju Kong** (University of Tennessee at Chattanooga), was titled "The Forward and Inverse Problems for a Fractional Boundary Problem." His

“Head’s Up” from Dex



Hello, friends of Rowan Mathematics! It has been yet another year since I have given you my spin on what has happened in the Department. Last June I finished my second full year as the Head of the department, and was “asked back” by my superiors, and not “run out of town on a rail” by the Department! Of course, details of major events you will find in the last Vectors or this one. Laura: kudos to you for two more great newsletters!

The big news for the spring is that those new spaces officially “went online,” and students and faculty started to use them. The “Loud Research and Seminar Room” has a computer and a large wall-mounted monitor; whiteboards on three walls, and tables and chairs for 12. The tables can also be folded up and we can seat about 20 for a small seminar. The room is now being used for meetings of all kinds, including Math Team/ Club functions, and students working with faculty on research. The space that was McSiip’s “foyer” now has two soft chairs, a couch, a coffee table, two tables with chairs around them, recharging stations, a printer for the “local” faculty, and three whiteboards. It took most of the spring for students to start using the space, but by the end of the fall it was being used heavily, by students working alone or in groups, and by faculty holding office hours with large groups of students. We also have the “Quiet Research and Computing Room” in the corner, with a table and chairs for discussions, five height-adjustable desks (with chairs), and two white boards. For the moment, it houses two computers and a “department server;” it was used by Uma’s “doctoral student” in the spring, and has been used for various meetings.

The other spring news of note is that we had a very successful search for a new full-time tenure-track professor; “landing” Thanh Nguyen. We are very excited about having him in the Department!

It was a strange yet wonderful summer with the Department “back home” in the 228-230 suite. Mathematics taught an array of courses, so we had those students and students doing research around for most of the summer. We also had four more $\frac{3}{4}$ -time searches to replace people who found full-time jobs! This gave us 23 full-time, 20 $\frac{3}{4}$ -time, and 52 adjunct faculty going in to the Fall! We also had another record number of students in classes, about 5800 at one point (but “only” 300-400 more than the previous fall!)

This fall there were two big events on the “personnel horizon.” First, we pulled-off our first fall, tenure-track search (searching with “the big boys!”). It was also very successful, but I will leave the details for the Fall Vectors. Second, it “came down from above” that in the next three years all $\frac{3}{4}$ -time positions (save those for a search-year after a retirement) would be eliminated and replaced with full-time, renewable, with-benefits, Lecturer positions. While these positions are certainly an upgrade, they will have open (“regional”) searches, and there will be significantly fewer of them. For math that means 20 will be replaced by 13. Math had the second biggest number on campus (to Writing Arts), and so we have all three years to do it. A little thought will tell you that this could be a difficult transition for many of us here. You will be able to follow it in the next few Vectors.

I wish you all a great New Year! Consider coming by and checking us out! And e-mail Dr. Schultz or myself and fill us in on what you are up to!

- Dex Whittinghill
(whittinghill@rowan.edu)

ANNOUNCING THE 2018 CAUSE A-MU-SING STUDENT COMPETITION

Any (high school, undergraduate, or graduate) student of statistics is eligible to enter unpublished original examples of statistics jokes/cartoons, songs, poems, or videos for a chance to win cash prizes, publication in the CAUSEWeb fun collection, and possible national recognition (e.g., at eCOTS 2018)! Entry deadline is April Fool’s Day (April 1), 2018. See www.causeweb.org/cause/a-mu-sing/2018/rules for complete rules and entry form. Beyond the inherent enjoyment, the task of putting content into the form of an engaging poem, song, video, etc., can encourage sustained engagement with and synthesis of major statistics concepts!