

# FEBRUARY 24 2018

"She is genuinely enthusiastic for mathematics and she shows it. She explains things really well, and her enthusiasm makes us enthusiastic. Its quite magical." So wrote one student on an evaluation. (Most of this citation, including that sentence, are quoted directly from students' and colleagues' testimonials.)



Elizabeth Gross earned a B.S. in Mathematics from California State University, Chico, in 2003; an M.A. from San Francisco State University in 2010; and a Ph.D. from the University of Illinois at Chicago in 2013. After a brief postdoctoral position at North Carolina State University, Elizabeth arrived at San Jose State University in 2014, where she continues to teach and do research. Elizabeth was a visiting scientist at the Simons Institute of Computing, UC Berkeley, in Fall 2014.

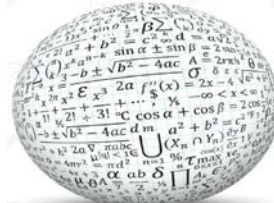


*Teacher <sup>to</sup> the Core*

At SJSU, Elizabeth has demonstrated herself to be a bundle of energy. She teaches courses; advises and mentors students; directs student research for undergraduates and master's students; brings students to our Golden Section Meeting and to the Northern California Undergraduate Mathematics Conference, where they have presented; organizes the Department research seminar and colloquium; and participates in the annual Math/Stats career panel and graduate student Welcome Day. Elizabeth also helped to develop SJSU's new Applied Discrete Mathematics track for undergraduate majors. Beyond SJSU, Elizabeth has given over 40 talks; mentored several Ph.D. and postdoctoral students; and co-organized workshops such as the Bay Area Discrete Math Day (BAD Math Day), the AMS's Summer 2016 Mathematical Research Community on Algebraic Statistics, and the Fall 2015 Mini-symposium on Software and Applications in Numerical Algebraic Geometry at the SIAM Conference on Applied Algebraic Geometry in South Korea. Elizabeth also has a list of peer-reviewed publications and has received several research and travel grants. But we are most interested in Elizabeth's teaching.



Elizabeth Gross' teaching career has been focused on two themes: active learning in the classroom and integrating research with learning. Elizabeth constantly explores and experiments with strategies to promote meaningful student engagement with her course material. To give one example of what Elizabeth's classroom is like, in Abstract Algebra II recently, Elizabeth alternated between lecturing and having students practice proof writing on the board in groups. One peer evaluation notes how she turns the class into a "true conversation, getting everyone involved with a well-tuned mixture of lecture and working on problems in groups." Elizabeth has also experimented with assessment; for example, her final exam in Abstract Algebra II included an oral component, where the students had to present a proof and its component definitions; moreover, students could obtain additional points on the midterm by posting a video of themselves explaining one of the problems.



Elizabeth's student evaluations consistently use terms such as "engaging," "passionate," and "enthusiastic," and one student even noted, "Shes the best professor Ive seen at getting voluntary participation from a class." Evidence of one's good teaching, however, often is not completely manifested in the present classroom, but rather in how one's students perform later on. For Elizabeth, not only do her students repeatedly cite her as their "favorite" and "best ever" teacher, but they have progressed from her classes to achieve successful academic careers. For example, Elizabeth currently has several undergraduates doing substantial work in computational algebraic geometry; and two whose research she directed are now in Ph.D. programs at Ohio State University and Texas A&M. This is rather amazing for someone who is only in her third year of teaching.



We are proud to present this year's Section Award for Distinguished College or University New Teacher of Mathematics Award to Elizabeth Gross, an extraordinarily effective and inspiring teacher.