

TEACHING AND SERVICE

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I have taught a variety of undergraduate and graduate courses, as well as organized a number of activities, most of which are listed on my CV. In what follows I highlight and elaborate on a few of these.

The Graduate Student Mock AMS Conference

The Graduate Student Mock AMS Conference is a program for grad students which I have designed and run, to train them in the tricky art of giving a successful twenty minute general audience research talk. The conference runs as a class over the summer (it lasts for between 2-3 grueling days like any AMS Conference). Attendance is part of the class. There are always some students who can't make it to the conference for one reason or another, and those students take part in the Mock AMS Prep at the beginning of the summer to demonstrate to the rookie students what to expect, and how to prepare.

Graduate Student Research Training Groups

To help graduate students learn how to approach research, we hold regular graduate student research training groups. These can involve learning about a particular area or problem, and sometimes result in a publication. I have run three of these, which I briefly describe below.

1. During Spring of 2009, I ran a VRG in which we studied a family of level one conformal blocks divisors on the moduli space of stable n pointed curves of genus zero. Our observations have appeared in a paper that has been published in the International Mathematical Research Notices. We used numerical data obtained via Maucaley2 to formulate ideas about the family, and the proofs mainly involved linear algebra, accessible to the students.
2. My second VRG, held in Spring 2013, was a seminar in which the students learned about moduli spaces. After a few lectures given by me, they selected a moduli space and give a talk or two about. I met with each student individually (usually two or three times), to plan and practice their talks.
3. During the AY 2014 -15 I held a VRG focused on an open problem in the theory of conformal blocks which could be investigated by way of Schubert calculus. The problem was to determine whether or not bundles for sl_3 of positive rank with level below the theta and critical levels, have nontrivial first Chern class. This result holds for sl_2 , and is known not to be true for sl_4 . So the sl_3 case is interesting as it would complete the picture.

Students took the first semester to learn Schubert calculus and necessary background. In second semester, the students designed experiments using Maucaley2 which led them to postulate that the sl_3 picture is analogous to sl_2 . A subset of students is currently trying to prove their conjecture.

Professional development training for postdocs and graduate students

As part of our VIGRE and RTG grants, we provide training for graduate students and postdocs in various aspects of the career. This is organized during the academic year as monthly seminars and during the

summer as mini-bootcamps lasting two days each. I have served as both academic year and summer coordinator at various points, organizing these activities.

For example, I have prepared and delivered slide presentations about (1) interviewing on campus for academic jobs, and (2) getting jobs outside of academia, (3) planning and improving your CV, (4) writing up your work for submission to a journal; (5) applying for funding; and (6) planning a website for academia. The slides are available on my website. I also planned a lunch seminar in which Azell Francis, Career Consultant from the UGA Terry College of Business, who came to talk to the graduate students about the considerable resources provided by the Career Center during the time they are graduate students, and afterwards.

For the summer mini-bootcamps I have given talks as listed above, as well as organizing talks given by other faculty in the math department and at the University. For example, Brian Boe gave a talk about how to get involved with the broader math community (slides are available on my website), Luca Schaffler and Ken Jacobs delivered a presentation about programming in math research. With the help of Ken Jacobs, I planned talks by Sandrine Bosshardt, UHS (on Stress, Wellness and CAPS Services), Leigh Anne Aaron, FACS County Extension (on Time Management Skills), Robby Nadler, UGA Writing Center (on Strategies for Technical Writing), Mike Friedline, UHS (on Stress management), Kelly Truesdell, UHS (on Financial Wellness for Graduate Students), Eddie Watson, CTL (on Techniques for Good Teaching and Good Learning), and Ben Gray, UHS Nutrition Kitchen (on Nutrition for Health and Wellness).

The VIGRE Graduate Student Teaching Training Seminar

In response to feedback from the graduate students who felt their current summer teaching training was too long winded and ineffectual, I redesigned some aspects of the summer teaching training program.

During the modified teaching training program, which ran in summers during the last two years of our VIGRE program, each student designs his or her own class, as well as gives a mini-lecture to be videotaped by a partner and then watched together. Each student is to write: (1) a syllabus on an undergraduate or graduate class of their choosing; (2) a collection of tests to go along with their syllabus; and (3) a job application teaching statement. Students are also required to read somebody else's syllabus, tests, and job application teaching statement, and then to give that person feedback.

Conference and workshop organization:

Since at UGA, I have been a co-organizer of ten conferences: training programs for grad students and young PhDs here at UGA and around the country, mentoring programs for women, and research conferences here, throughout the country and abroad. These are listed on my CV.