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Personal Narrative

I transitioned from an early academic career focused on research to a role primarily focused on education when I joined the New York University faculty in 2012 as a Clinical Assistant Professor. While in that position, I gained valuable experience in course coordination, curriculum development, and academic advising. I brought this experience to Georgia Tech when I joined the faculty in 2016 as an Academic Professional, and I have taken several major leadership roles as my position has expanded significantly since my arrival.

Through my work in course coordination and my exceptional teaching record, I have had a significant educational impact on thousands of Georgia Tech students. I have effectively carried out my administrative duties as Director of Graduate Advising and Assessment and as Director of Postdoctoral Teaching effectiveness, and I have taken the initiative to grow the role of both positions. As lead organizer and later as co-lead organizer of the Georgia Tech High School Math Competition, I have done outstanding service to the Institute and the community, and I have performed additional service to the Institute through other duties inside and outside of my job description. On top of these, I have demonstrated achievement in the criterion of research by co-authoring a paper published in 2019 in the *Journal of Functional Analysis*, which is highly ranked among specialist journals in Analysis.

Course Coordination

In the Spring of 2017, I was among the faculty members who contributed to the School of Math's proposal to formally coordinate some of the large undergraduate mathematics courses. I strongly believe in the value of course coordination. Not only does it give the students a fairer and more uniform experience than they would otherwise receive, it also saves the instructors time and effort and reduces stress because the coordinator can handle course fundamentals (creating homework assignments, worksheets, practice exams, etc.) and offer guidance. Furthermore, course coordination establishes continuity from one semester to the next. The faculty voted in favor of the course coordination proposal, and in the following semester, I began the coordination of Math 1553, Introduction to Linear Algebra.

Several characteristics make Math 1553 an especially difficult course to coordinate. First, whereas most core courses in mathematics are well-established and change very little over time, Math 1553 is a relatively new course that has undergone revisions since I became the coordinator, including a change in textbook. Second, the scale of Math 1553 is significantly larger than that of any other coordinated math course at Georgia Tech, and this requires its coordinator to be completely organized and in constant communication with the other instructors. Nearly 6,000 students have taken the course under my coordination, a number that is between 35% and 40% of the current Georgia Tech undergraduate student body. Third, the fact that Math 1553 is a 2-credit course in Linear Algebra instead of a standard 4-credit course requires that it cannot cover all of the standard topics in the subject, and this leads to dissatisfaction for some instructors with regard to course content.

Despite the challenges, the course is now in smooth sailing as I have finished my 3-year term as its coordinator. I have continually refined its materials and structure to the point that its worksheets, supplemental exercises, sample exams, and homework have been effectively standardized. At the end of one semester, the School of Math gave a course coordination survey, and six out of nine possible Math 1553 instructors responded. The responses were quite positive. One faculty member wrote: “If there were bubbles to fill for a survey and 10 were the most satisfied . . . I would put down a 10 for every single item that I could think of. He is absolutely an outstanding coordinator.”

Of the six respondents, four rated my exam feedback as “very helpful”, four rated the worksheets as “very helpful”, five rated the common final exam as “helpful” or “very helpful”, and five claimed that the coordination reduced their teaching load for the course (three responded that coordination significantly reduced the load). In a recent semester, the School of Math’s Director of Undergraduate Studies taught Math 1553. He praised my coordination, stating that I went “way beyond [my] call of duty” as coordinator. With Math 1553 in great shape, I will switch in Fall 2020 to coordinate Math 1551, Differential Calculus.

Teaching

Since the Fall of 2017, I have had a teaching load of four courses per year, split between the Fall and Spring semesters. At Georgia Tech, I have taught Math 1113 (Precalculus), Math 1553 (Introduction to Linear Algebra), Math 2550 (Intro to Multivariable Calculus), Math 2603 (Introduction to Discrete Mathematics), and Math 6001 (Introduction to Graduate Mathematics). While teaching and coordinating Math 1553, I created many new materials for the course including worksheets, additional practice problems, and sample exams. Since becoming the instructor for Math 6001, I have updated the course to include issues that are important to our graduate students but had been previously overlooked historically. In recent years, I have devoted a session of the course to mental health, hosting visitors from Health Initiatives and the Counseling Center. Moreover, I have made conflict resolution a component of the course, inviting a GT Diversity and Inclusion Fellow to hold interactive sessions on the subject.

Students at Georgia Tech have awarded me eight *Thank a Teacher* notes, and I have consistently received outstanding teaching evaluations. In the Overall Effectiveness category of Course Instructor Opinion Survey (CIOS) evaluations at Georgia Tech, I have received an interpolated median score of at least 4.7 out of 5 (rounded to 1 decimal place) in 12 out of my 13 CIOS-eligible lectures across the five different courses I have taught. Among over 40 different instructors who have taught Math 1553 since its inception in Fall 2015, I am one of only six instructors to receive a 4.7 or above in Overall Effectiveness for their combined students in a single semester, and in fact that is the worst overall score I have received in the course. My teaching evaluations in Math 1553 have consistently been as high as (or higher than) the evaluations of some teaching-award winning faculty in the School of Math, including two CTL / BP Junior Faculty Teaching Excellence Award winners and one Class of 1940 Course Survey Effectiveness Award winner.

My teaching and coordination reach such a large portion of the student body that I am one of the most visible faculty members of the School of Math to undergraduates. I have taught over 1,400 students at Georgia Tech and have hosted the common course materials for Math 1553 at my own website. Occasionally, Math 1553 students in other instructors’

lectures will recognize me on campus due to my role in the course. My reputation as an instructor and my visibility to undergraduates led to an interview this past spring that will be featured in the Georgia Tech T-Book, which is annually distributed to incoming freshmen.

Director of Graduate Advising and Assessment

In the early Summer of 2017, I became the Director of Graduate Advising and Assessment for the School of Math. In this position, I advise MS and PhD students for coursework and graduation, and I am the primary contact for students who wish to obtain a secondary MS in the School of Math. I serve on the Graduate Committee, and I assist the graduate chair and graduate committee in communicating with the graduate students and in handling a wide range of logistical issues for the graduate program that are too long to list here. These include writing letters for the PhD comprehensive exams and for annual reviews, taking part in the annual Online Assessment Tracking System (OATS) reports, and tracking various forms of data for the graduate program.

I oversee compliance for the School of Math's doctoral students regarding the online requirement for Responsible Conduct in Research (RCR), and I teach Math 6001, which is the course offered by the School of Math to satisfy the in-person RCR requirement. Recently, I have been working with the graduate coordinator and the graduate chair in the School of Math to address issues that involve the climate surrounding the graduate program. For example, in the past year, issues with professionalism and possible harassment in the workplace have come to light. Once it was decided that the School of Math should hold a Title IX session, I contacted Georgia Tech's Title IX coordinator and handled all steps to organize a mandatory session for doctoral students. This was postponed due to the covid-19 pandemic, but it will become part of our graduate program going forward.

During my tenure as Director of Graduate Advising and Assessment, I have expanded the role by performing duties that are usually done by the graduate director. Each year in this position, I have represented the School of Math at the Joint Mathematics Meetings, one of the largest mathematics conferences in the world. There, I participate in the AMS Focus Group for Graduate Directors, and I run the Graduate Fair table for the School of Math. In 2019, I participated in the Field of Dreams Conference as part of an effort to reach out to traditionally underrepresented groups, and the School of Math plans for me to attend this conference annually henceforth as a representative of the graduate program. Another example of my growth in the DGAA position is my work with the annual OATS reports. I began by working under the graduate director to complete them. At this point, however, I handle almost all of the communication with the Institute's Director of Assessment when discussing the MS Math and PhD Math reports, and I file the reports mostly on my own even as their format has changed over the past two academic years.

Director of Postdoctoral Teaching Effectiveness

Since the Spring of 2017, I have been one of the School of Math faculty members in charge of communicating with the postdoctoral faculty and overseeing their teaching and professional development. I also work with the Postdoc Committee to track and evaluate the teaching of the postdocs. Because of my work in this position, I have written several teaching letters of recommendation for postdocs applying for jobs in academia.

I serve as the teaching mentor for all School of Math postdocs during their first year at the Institute, mentoring over 25 postdocs so far. In order to proactively address any issues, I do a very short visit during the first two weeks of class. Later in the semester, I conduct an official teaching observation and arrange to meet with the postdoc afterwards. After the postdoc's first year, they choose a different teaching mentor, but I am still available as a resource for teaching-related questions. I have worked with the Faculty Liaison for Postdoctoral Scholars (FLPS) to plan Postdoc Professional Development Seminars and Postdoc Socials, which are themed for the corresponding time in the semester. For example, as the date for the first round of midterm exams approaches in the Fall semester, we hold a seminar to discuss exam-writing and its logistics in detail and then subsequently hold an informal social event where postdocs can seek advice for, or reflect upon, their first exam.

The position of DOPTE has grown under my tenure. I started with a secondary role in the New Faculty Orientation, but I now lead its organization. During my first year in the position, the New Faculty Orientation was handled mostly by the School of Math's FLPS. By the time of the 2019 New Faculty Orientation, I had taken a main role in planning and running the event. After working with the FLPS to decide on the framework, I scheduled the panels and speakers. I created new documents for working with technology and reinforcing important School of Math policies and dates. In addition, I gave three presentations during the orientation to address course structure, coordination, working with TAs, and scheduling. Starting in 2020, I will formally take charge of the New Faculty Orientation with help from the chair of the Postdoc Committee.

Lead Organizer of the Georgia Tech High School Math Competition

I have been deeply involved in the Georgia Tech High School Math Competition, starting from the top by leading the planning and logistics and going all the way down to the minute details such as writing ID numbers on wristbands and folding brochures for the event.

The High School Math Competition is a proud tradition of the School of Math that doubles as a service to the Atlanta community and a showcase of Georgia Tech for the participants. The volunteers at the event (mostly graduate students) are effectively the face of Georgia Tech for the 200 to 300 high school students who compete for pride and prizes. By the time I arrived at Georgia Tech, one of the two remaining staff members involved with the event was retiring, and the graduate student who had served as the competition's previous lead organizer had stepped down. Even though I had no experience participating in or organizing such an event, I took on the challenge of directing the competition.

Taking over the competition required several levels of planning. I laid the groundwork by setting the date, seeking out volunteers, and reserving event space. We discovered that the competition was nearly out of funds for awarding its top finishers. To get this back on track, I worked with School of Math Chair Dr. Rachel Kuske to secure funding for the winners, first from the Provost and then later from the College of Sciences in the form of Early Research Awards for those awardees who matriculate to Georgia Tech. I wrote the Buzzfunds proposal to fund shirts and pizza for the volunteers and then wrote the follow-up summary after the event. I handled all matters of compliance for Georgia Tech's new Youth Programs policies for the student participants and volunteers. Moreover, I served as the point of email contact between all high school coaches, parents, and participants.

Far from being limited to organizational duties at the top, my work with the competition extended to essential heavy lifting at the bottom. This included (in various years) ordering the trophies and doing inventory for supplies; doing the count for shirts, making the shirt order, and even helping to group the shirts and put them in team bags; writing blurbs about the event for the Institute; handling registration anomalies; compiling the spreadsheet for all competing individuals and teams; testing the scantron machine's accuracy and viability; assigning wristband numbers for the participants and marking many of the wristbands myself; updating, printing, and folding the brochures for the event; and, of course, leading the event on the day of the competition, from the early morning until its conclusion.

When the time came for me to pass the torch to a new organizer after the 2018 competition, I chose to remain on board for another year as co-lead organizer in order to ensure that the transition to new leadership would be as smooth and successful as possible.

Additional Service and Work

Prior to my time at Georgia Tech, I volunteered to mentor two high school students as part of NYU's GSTEM program for women. At Georgia Tech, I assisted with undergraduate advising for math majors for about two months in Fall 2017 when our Director of Undergraduate Advising was out of the country. That same semester, I accepted the invitation to participate in meetings with the Undergraduate Committee, even though I was not a member. I have volunteered as a poster session judge for two events at Georgia Tech. Though it is not part of my job description, I have served as a faculty mentor for graduate students teaching three different courses in various semesters. I have contributed materials to the School of Math's course repository for two courses, and I have also voluntarily compiled problem sets, still in progress, for possible incorporation in a future version of Margalit and Rabinoff's online textbook *Interactive Linear Algebra*. Moreover, my research record includes eight refereed publications in mathematics research mainly in the field of Operator Algebras, including one during my time at Georgia Tech.

Future Goals

Up to this point, a large portion of my job as an Academic Professional has involved a heavy load of individual administrative tasks, teaching, and service. Going forward, I hope to focus more on broader impacts. For example, being the Director of Graduate Advising and Assessment gives me the opportunity to bridge the gap between the doctoral students and the faculty in the School of Math and to address recent concerns regarding the atmosphere within the department. We have taken some steps, such as the upcoming mandatory Title IX training for doctoral students, the reconsideration of handling borderline cases for our written PhD comprehensive examinations, and the recent creation of a faculty contacts page for our graduate students that includes the professional training in which the faculty have participated (Implicit Bias, QPR, Safe Space, and Trans 101). However, this is just the beginning. We also still have plenty of work to do to recruit a more diverse group of graduate students into the PhD programs in the School of Math. The next natural step in this direction could be a bridge program, which would give gifted students the opportunity to get the coursework preparation necessary to enter the PhD program on equal footing. However, this is still in the discussion stage.