

January 28, 2016

Dear CETL Award Committee,

On behalf of the Salary and Awards Committee of School of Mathematics, we are pleased to submit this nomination package for the 2016 CETL Geoffrey G. Eichholz Faculty Teaching Award for Professor Ronghua Pan. Enclosed please find the following documents:

- 1, A nomination letter from Professor Doron Lubinsky, the winner of CETL Geoffrey G. Eichholz Faculty Teaching Award in 2011.
- 2, A Support letter from Professor Prasad Tetali, the chair of the school.
- 3, A Support letter from Professor Xingxing Yu, the DOTE in School of Mathematics, providing a summary of Professor Pan's teaching assessment.
- 4, Six letters from students who took Professor Pan's classes in the past. All of them offer strong support to this nomination. We would like to add that some of the letters are from students who didn't earn high grades in Professor Pan's courses.
- 5, A reflective statement from Professor Pan on his teaching at Georgia Tech.

The Salary and Awards Committee of School of Mathematics enthusiastically supports this nomination.

Thank you for your consideration!

Sincerely



Andrzej Swiech and Haomin Zhou
Professors, School of Mathematics
Georgia Institute of Technology

January 21, 2016

To whom it may concern:

I am writing to recommend Dr. Pan for the Georgia Tech Geoffrey G. Eichholz Faculty Teaching Award. A student in Dr. Pan's MATH 2403 class during the spring semester of 2012, I was honored at the request to write this recommendation for him. Please allow me to expound upon why I am delighted to advocate for Dr. Pan.

Even after I had surmounted three calculus classes, the words "differential equations" intimidated me as I looked over my new class schedule. Most professors are exceedingly familiar with the material they are to lecture, but very few know how to effectively teach it to students who have never encountered the curriculum. Dr. Pan had an excellent teaching style, presenting the information in a well-organized and logical manner. It was clear that he thoroughly prepared for each class. His writing was neat and his notes were easy to follow. He welcomed questions during his lectures, providing complete answers no matter the inquiry. Any question that was not asked during a lecture was also welcomed after class and in his office. I was always impressed with his willingness to help, whether during office hours or an impromptu meeting. I did not know what to anticipate for this course when I began, but I certainly did not expect to have such a rewarding experience.

Dr. Pan is an excellent professor not only because of his proficiency as a lecturer, but because he seeks to impart his knowledge and passion to his students. He emanated an enthusiasm that is rare in today's college environment. The incorporation of his sense of humor into his lectures provided the occasional and necessary levity to make his students feel comfortable. For students like me -- while I was interested in the material -- differential equations was not my favorite subject; however, the positivity that Dr. Pan exuded on a daily basis made the subject much more compelling. He imparted an enthusiasm for learning to all his students: I did not just want to get through the course, but I desired to understand the material. It was clear that he strived to give his students the best experience possible in this course and genuinely sought for them to grasp the concepts.

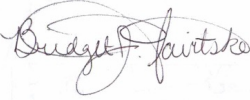
Hard work does not simply give a student a good grade: the professor plays a crucial role in the learning experience. Math has never been my strongest suit, requiring significant effort on my part to understand the concepts. I earned an A in his class, not just because I worked hard, but because his teaching style, availability, and pro-student attitude made it attainable for me. While the differential equations curriculum itself is challenging, beyond the classroom, Dr. Pan challenged my very understanding of math's role in society. For this reason, I finished the course with a refreshed perspective of the applicability, importance, and fascination of this field of mathematics.

I will conclude with the most memorable anecdote from my experience with Dr. Pan. In a response to an email I sent expressing my gratitude for a wonderful semester, he mentioned that he is working his "dream job." It was not uncommon during my undergraduate career to weather a course with a professor that treated teaching as merely a task, doing only what his or her job

description required, perhaps because research was the primary focus. Dr. Pan, even amidst his research endeavors, treated this course and his students as if they were his only task at Georgia Tech. His words, “working my dream,” resonated with me. The concept of having a career to not just make money but to make a difference in the world and in individuals’ lives is a foreign concept to a great number of people. His words are powerful because I myself chose to change career paths to pursue my passion in life. I understand the pursuit of the dream, and I hope to share this sense of fulfillment with Dr. Pan one day.

In the four and a half years I spent earning my undergraduate degree, I have experienced many different teaching styles and unique personalities. Even after two and half years, changing my major, and transferring to a different school, it was not difficult to recall the great experience I had as one of Dr. Pan's students. I believe that Dr. Pan is deserving of this award not only as a professor or a mathematician, but most importantly, as a person. The description for this award, to “engage, challenge, and support,” is a perfect fit for Dr. Pan. It is my delight to recommend him for this honor.

Sincerely,

A handwritten signature in cursive script that reads "Bridget Savitske". The signature is written in dark ink on a light-colored background.

Bridget Savitske

January 29, 2016

To :
The CETL Teaching Awards Committee:
Georgia Tech

Dear Colleagues,

I am very pleased to write this letter, as the (Interim) Chair of the School of Mathematics, in support of the nomination of Prof. Ronghua Pan for the CETL Geoffrey G. Eichholz Faculty Teaching Award. Professor Pan joined Georgia Tech in 2003 as an assistant professor, and was promoted to associate professor with tenure in 2007 and then full professor in 2011. While achieving high marks in research and service, Professor Pan has demonstrated his dedication and commitment to excellence in teaching through his consistent high performance over the years, especially on our large size introductory level courses. Let me start with a few numbers from his teaching record. Since coming to Georgia Tech, the total number of students enrolled in Dr. Pans classes is over 4000. In the past 10 years, he taught more than 20 courses with enrollments larger than 100. His average CIOS scores for overall instructor effectiveness from those large introductory level courses is 4.08. And his performance in advance undergraduate courses and graduate courses is even more impressive.

One of the core missions of SoM is to provide high quality instruction in many introductory math courses for a massive number of freshmen and sophomore students. Professor Pan has served this mission exceptionally well. A constant challenge faced by the scheduling team in SoM is to find enough qualified instructors to staff those courses. Professor Pan is always willing to step up, and he has played a leading role in many respects, and I'd like to mention some in this letter.

Professor Pans teaching portfolio contains many large size introductory courses. He taught Math1502 (Calculus II), Math2401 (Calculus III), Math2403 (Differential Equations), Math1522 (Linear Algebra) and Math2551 (Multivariable Calculus) multiple times. Over the years, he initiated many actions to improve the quality of instructions in those courses. Based on observations from student experience, he suggested to change text books for Math2403, Math1502, and Math4305, and worked with others to select books to try out. The recommended books have been widely adopted by other instructors teaching those courses in recent years.

Professor Pan constantly seeks new instructional techniques to improve the students learning experience. He uses computer graphics to help students visualize 3D objects in multi-variable calculus, computer simulations for flow motions in differential equations. Perhaps the most noticeable initiative he did in recent years is the introduction of MyMathLab (MML) in our calculus courses. MML is an online homework system offered by Pearson.

Working with a few colleagues in SoM, Professor Pan started to pilot MML in 2011, and now it is adopted as a standard component in all calculus courses at Georgia Tech.

In the last couple of years, SoM started a revamp of our calculus sequence. Professor Pan acted as the course coordinator for the newly reformed Math2551. The most important role of course coordinator is to make sure the standard of teaching lined up properly among different instructors. In his case, there are 5 other instructors including 3 postdocs, who often need to be mentored in teaching the large-size courses.

Professor Pan is an engaging teacher who really cares the success of our students. This can be repeatedly seen from student feedbacks he received. One of his Differential Equations students commented Professor Pan is very good at reexplaining concepts in a different manner if need be. He will do so with no problem or attitude and clearly cares about helping students succeed. I think the best aspect was the professor's lectures which helped a lot in understanding the material since it was not layed out clearly in the book. Another student from his Multivariable Calculus class said When I wasn't doing well he told what I needed to change not just to be successful in his class, but to be successful at GaTech. His office hours were extremely useful, and he was willing to show you how to approach problems or concepts that were hard to understand.

Because of his long time dedication and enthusiasm in excellence of teaching, his care for the success of our students, and his constant desire to improve our instructional quality at Georgia Tech, I am delighted to support his nomination for the Geoffrey G. Eichholz Faculty Teaching Award.

Sincerely,



Prasad Tetali

Interim Chair, School of
Mathematics
Georgia Institute of Technology

Nicholas Martinez
Edison Engineer
General Electric
Longmont, CO 80501

January 25, 2016

CETL, Georgia Tech: Awards Committee

I am honored to recommend Dr. Ronghua Pan for the CETL Geoffrey G. Eichholz Faculty Teaching Award.

In my first semester as a Georgia Tech Distance Learning student I had the great fortune of having Dr. Pan as my Linear Algebra professor. Having never taken an online course before, I was nervous going into the semester especially given my past struggles in mathematics courses as an undergraduate; however, I realized very early on that Dr. Pan was a perfect fit for both the Distance Learning and On-Campus students.

Linear Algebra is a fundamental course which applies to almost all engineering and computer science disciplines yet has the ability to become very abstract. This is where I feel Dr. Pan shines. He teaches based on his own personal experience and does a great job of relating in-class material to real-world applications. As a result of this teaching style, Dr. Pan comes off as passionate in his lectures, constantly engaging with students in the classroom. By constantly asking questions, Dr. Pan is able to gauge student's understanding and tailor the class to better fit the needs of his students. His ability to interact with students throughout the lecture allowed me to connect with the material and learn in a more natural environment.

While Dr. Pan's in-class teaching style focused on student understanding, his out-of-the-classroom guidance was even more impressive. For several difficult topics during the course I reached out to Dr. Pan for additional help and was struck by his responsiveness and desire to walk me through the material. This told me a lot about Dr. Pan and his deep-rooted passion for teaching. From talking with other Distance Learning students, it was clear to me that other students had a similar experience.

Dr. Pan exemplifies the qualities of a great teacher and mentor here at Georgia Tech. His ability to connect with students and his passion for guiding them is a gift and I feel lucky to have been able to learn from him. I hope that you consider my recommendation of Dr. Ronghua Pan for the CETL Geoffrey G. Eichholz Faculty Teaching Award.

Sincerely,

A handwritten signature in black ink that reads "Nicholas Martinez". The signature is written in a cursive, flowing style.

Nicholas Martinez
Distance Learning, Master of Science in Mechanical Engineering 2016
Georgia Institute of Technology

My name is Kahee Kelly ('11), I was a former student of Dr. Ronghua Pan when I was an undergraduate at Georgia Tech. I am delighted to have this opportunity to write a letter in support of Dr. Pan for consideration of the Eichholz Award.

I started my undergraduate career at GT already in somewhat of a non-traditional role, having partially completed a degree Georgia Southern prior to transferring. I knew I had an a priori interest in mathematics, but frankly that was about all I knew. It was not until I took complex analysis with Dr. Pan that I actually found a mentor figure to whom I could turn to for advice. At first, he helped me during his office hours with the course content, which was really pushing my limits at the time. Through the course of the semester, Dr. Pan began inquiring about my interest and persistence. A very memorable conversation with him started with a simple question: "What about this excites you?" In hindsight, this was the impetus to begin pursuing my current career, as a high school math teacher. Dr. Pan helped me realize that the most exciting thing, and what I want to make my career out of doing, is helping students realize the beauty of mathematics.

On his advice as well, I ended up applying to (and ultimately graduating from) a M.Ed. program in mathematics education at Georgia State University in the following year. I honestly do credit the openness, accessibility, and overall warmth of Dr. Pan with helping me on my path. I now have the opportunity to teach high school students calculus, geometry, and trigonometry and frankly, I couldn't be happier. I find myself increasingly in a mentorship role for my students, and I try to emulate the qualities that I saw in Dr. Pan.

When I was asked to write a letter for him in support of this award, I read all of the qualities in the selection criteria and had no doubt that Dr. Pan embodies all of them. He has been very influential for me and enhanced not only my undergraduate experience but also my career. I can't think of a more worthy nominee.

Sincerely,

Kahee Kelly
Upper School Mathematics
Severn School
Severna Park, MD

January 26, 2016

Dear Members of the Selection Committee:

I am writing to you as Director of Teaching Effectiveness in the School of Mathematics, to support the nomination of Professor Ronghua Pan for the Geoffrey G. Eichholz Faculty Teaching Award.

Prof. Pan joined the faculty of Georgia Tech in August 2003. Since then, he has taught a variety of courses, including the large lecture courses (multiple times): MATH 1502 MATH 2401 (Calculus III), MATH 2403 (Differential Equations), and MATH 2551 (Multivariable Calculus). These courses were designed to lay the mathematical foundation for Georgia Tech students.

During regular semesters (i.e., not including summer terms), Prof. Pan has taught 2750 undergraduate students most of these are in his MATH 2401, MATH 2403 and MATH 2551 classes. Students appreciate his teaching as can be ascertained by his scores from CIOS evaluations. On the overall effectiveness as an instructor, Prof. Pan received the rate 4.04/5 at the freshmen/sophomore level, and 4.48/5 at the higher level. These scores are based on 1498 responses from 2750 students.

Peer reviews conducted prior to Prof. Pan's tenure/promotion indicate that at all levels, Prof. Pan's classes were well designed. His exams represented very well the standard material students were expected to know and were well designed and challenging. Prof. Pan maintains a very good web page for his courses, informative and easy to use.

To summarize, Prof. Pan has taught a huge number of undergraduate students, and has done an excellent job as an educator. A Geoffrey G. Eichholz Faculty Teaching Award is well deserved.

Sincerely,



Xingxing Yu
Professor of Mathematics
Director of Teaching Effectiveness

To whom it may concern,

Dr. Pan is easily one of the most passionate professors I've had during my time at Georgia Tech so far. I took him for both Calculus III (MATH 2401) and Differential Equations (MATH 2403) and both times thoroughly enjoyed the courses at hand despite their high level of difficulty. Dr. Pan did an incredible job of teaching the course material and designed his courses so that studying efforts strongly associated with doing well in the class. He very clearly laid out to us what it would take to succeed and was true to his word when it came to taking tests. Essentially, one of the main reasons as to why I enjoyed Dr. Pan's classes was because the amount of effort put in directly correlated to higher grades (a course aspect which unfortunately a lot of courses don't have.)

Something that I struggled with greatly my freshmen year was how to enjoy learning, and how to study effectively, as several of the courses that I was taking frustrated me because my studying seemed to not be paying off and I often felt lost. However, Dr. Pan's classes greatly altered my perspective of these matters; his courses were taught in a manner that made me discover that learning can be truly enjoyable when I am taught and advised correctly. One of the main reasons that this was the case was because he was so incredibly approachable and supportive; if I ever struggled he wouldn't hesitate to make sure that I found my way back on track. His courses were thus different from the rest in the sense that I never felt lost; if I ever fell behind, he was right there, ready to help in whatever way he could. I assessed that his courses were so enjoyable because they reached the perfect equilibrium of rigor and satisfaction, a rare balance that many of my other courses don't hold. I am extremely grateful for Dr. Pan's courses because they made me realize that learning is one of the most rewarding and enjoyable activities I can do, which in turn propelled me to add a physics minor solely for the enjoyment of learning for the sake of learning.

Furthermore, Dr. Pan himself is extremely entertaining and enthusiastic as an instructor. You can very easily tell by his lectures that he genuinely enjoys teaching the material to us, which makes learning all the more pleasurable. He knows the information that he is teaching inside and out, and is thus able to lecture us while barely referencing his notes. Between the two classes that I took with him, I attended several of his office hours and each and every time he was willing to explain a concept or solve a problem in different ways until he made sure that I understood the material, no matter how long it took. Overall, I think that Dr. Pan is extremely deserving of the CETL Geoffrey G. Eichholz Faculty Teaching Award, as his level of dedication and teaching educate are unmatched by others in his field. He is a very exciting, passionate, and lively professor who is able to teach incredibly well despite the material's difficulty. Any student who has him should consider themselves lucky.

Brydan Rogers

Electrical Engineering/Student Assistant

Georgia Tech Research Institute

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678-296-4347

January 22, 2016

To whom it may concern,

It is to my immense pleasure to endorse the nomination of Professor Ronghua for the position of Geoffrey G. Eichholz Faculty Teaching Award. I can honestly say that he had an impact in my academic life. One that can be carried on into my career outside of the Georgia Institute of Technology.

I am a second year computer engineering student. In Fall 2015, I took calculus III. I hadn't had pleasant experiences with math classes at Tech yet. Immediately I had trouble following along in class and understanding the material. This lack of understanding was represented in my first test where I received a low grade when the average was quite high. I decided to reach out to Professor Ronghua for help. I had contacted him previously about a quiz, and he was quick to respond and helpful. His approachableness gave me the reassurance I needed to seek him out. When I contacted him he looked over my test with me. He was able to give me back a few points, but he said overall my test showed a lack of understanding the material. He mentioned how he too had trouble as a student, and how he started following a schedule in order to be successful. He recommended reviewing the material before coming to class and making note of what I still didn't understand after class. He told me to visit his class hours more frequently with material I didn't understand, and that for the next test to make sure that I understand the study guide entirely before sitting down to take it. Then he told me that I would have to make sure to make changes to be successful at Tech. That just going to classes and doing the work would not make me learn the material. I would need to evaluate what I'm doing as a student so that I can do better.

I took Professor Ronghua's advice to heart. I came to him with questions on homework and quizzes and tried to be more attentive in class. Approaching the next test I used office hours, tutoring, and attending PLUS (Peer Lead Graduate Sessions) to help prepare me. I had tried them in the past with unsatisfactory experiences. His advice to make changes encouraged me to give them another try, and they were immeasurably helpful to my learning process. He also made changes himself. These changes came from suggestions he'd get directly from students. In class he started focusing less on proofs and including more fully worked out examples. He gave more examples online if he felt the class needed more assistance on harder concepts. During his office hours, Professor Ronghua would carefully read over my work and point out errors I missed or would slowly work out example problems so I could follow along and later work them out for myself. He constantly told me I could do well in the class by continuing the amount of effort I was starting to put in.

Come my next test I felt fully prepared instead of panicky like previously. I went in to see Professor Ronghua twice in the week beforehand. He told me to focus on looking over the harder questions that I struggled on in the study guide, and gave me methods of approaching certain problems that were easier to understand than how I had originally been approaching them. On the test I managed to do above the once again high average. Professor Ronghua was excited for me. He could tell that the points missed were just minor calculation errors. He wanted me to continue doing well, and warned me once again before I left that day not to become lax in my studies.

I continued working hard until the very end. During the break when he released our class grades I was so very happy. On my report was a B. My very first B in a math class at Georgia Tech. I knew that it

wouldn't be possible without his help, and I made sure to thank him for it. I carried on the mindset he set for me into my new semester. I was able to use his advice about preparing beforehand and making follow ups with class material in my current classes. I know without his attentive help and invaluable advice I would still be floundering in my current school life. He was able to point out my failings without sounding condescending and able to encourage my growth as a student without being too pressing. What probably pushed me the most to do well in that class though was not getting a good grade or maintaining my scholarship. It was that he took time to believe in me. Doing badly would have put all his effort to waist, and worse it would have disappointed him. This is something that would make me feel wretched because I would be throwing away all the conviction he had in my ability to succeed.

So once again I want to be able to thank him as I am extremely grateful to Professor Ronghua for being able to see and unearth my hidden potential. I see him as the perfect candidate for this award as he went beyond the norm I've seen in professors in terms of consideration for a single student and the class as a whole.

Sincerely,

Moraa Onwonga