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Dear Dr. Noyes,

It is with great pleasure that we nominate Dr. David Garton for the Geoffrey G. Eichholz Faculty Teaching Award. Dr. Garton is a Senior Lecturer in the School of Biology and an ideal candidate for this recognition. Dr. Garton has adopted student-centered teaching practices in his courses and continues to use reflection and feedback to identify new areas of improvement. He inspires students to achieve high expectations in his classroom and has a lasting impact on their academic endeavors. In particular, as the Director of Georgia Tech's Pacific Study Abroad program, he guides students to push through the traditional view of classroom boundaries and extend their learning environment to the international vista.

**David's insight and experience has improved the introductory biology curriculum for both faculty and students.** David teaches either of our introductory biology courses in almost every semester, both on campus and on the Pacific study abroad program. In 2013-2014, he collaborated with faculty to write the learning objectives for each 'lecture' in both courses. His acumen was instrumental in highlighting important details in the order and perspective given to the topics in the introductory biology curriculum. David has embraced the numerous teaching and learning strategies that the introductory biology faculty are implementing, and he is now extending these techniques to his upper-level courses. His BIOL 4401 Biostatistics course is taught using the "flipped" model, where students are given structured pre-class assignments and use class time to work problems and discuss material with peers and the instructor. David's success in designing the course has led to it becoming a core curricular choice for Georgia Tech's pre-health students.

As director of the Pacific program, **David has had a lasting impact on the academic experiences of the participants and the long-term success of the program.** From very weak beginnings in 2003, David has redesigned and energized the program to highly acclaimed success today. He blends a unique team of faculty from multiple departments to offer a rigorous, diverse curriculum. Student applications now surpass capacity in just a few hours after opening the online portal, and David has ambitious plans underway to double the program in Spring 2017 (from 70 to 140 students) to accommodate the tremendous interest in the program. A quick purview of comments from participants and faculty (enclosed herein) demonstrate the smooth and intrepid leadership that Dave brings to the program. He uses opportunities in and outside the classroom to engage student interest and encourage an inquisitive, scientific view of their surroundings. He maintains active research projects in the region that provide unique insights to enliven the environment for students.

**David has embraced recent national efforts in biology education to deviate from traditional lecture methods and instead, identify classroom techniques that instill an authenticity to learning and practicing science.** In recent years, David had reflected that his student evaluations displayed varying levels in success between upper and lower-level courses. He set out to revitalize and improve classroom environment to effect change in student experiences. In 2014, David attended the week-long National Academies Gulf Coast Summer Institute on scientific teaching (<http://www.academiessummerinstitute.org/>), and he returned the following year by invitation as a mentor to the 2015 participants. The impacts of these workshops have been easy to observe in his new course format for BIOL 4401, the design of a new biology elective course for Fall 2016, and deeper engagement of introductory biology students with more discussion and formative assessment in the classroom.

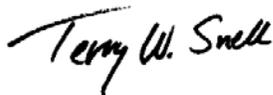
On account of his dedication to student-centered learning and professional growth, and his dedication to extending the academic environment beyond campus, we are pleased to nominate Dr. David Garton for the Geoffrey G. Eichholz Faculty Teaching Award.

Sincerely,



Linda E. Green, Ph.D.  
Senior Academic Professional, School of Biology

Endorsed by



Terry W. Snell, Professor and Chair  
School of Biology

To Whom It May Concern,

While at Georgia Tech I had the privilege of taking two courses with Dr. Garton. In both courses he pushed me to work towards the answers to my questions on my own in order to gain a deeper understanding of the problem. I did not fully appreciate the challenge at the time, but after the classes were over I realized how much deeper my understanding was because of how he asked me to learn. I am still reminded of his excellence as a professor while at medical school where there have been multiple situations where I have continued to benefit from his teaching.

The first class that I took with Dr. Garton was for my senior research project. While the senior research project for many is usually an extension of the professor's work, Dr. Garton had us choose our own experiments and build it from the ground up. As a result of all of the work that he asked of me I now know how to set up an experiment from the budgeting and procedural development stage all the way to the creation of a possible publication. He never just handed out answers when I had a problem with my project, but if I really and truly was stuck he was always there to help me. While at medical school I have had the opportunity to work on an HIV research project. From the very beginning my PI was impressed with how I was able to work independently and troubleshoot on my own. As a result of the skills that Dr. Garton taught me, I have been able to be a contributing member of the team and I am now in the process of helping to write the final publication. While this was perhaps the most frustrating class that I took during my entire time at Tech, it was also one of the most helpful because it gave me real world skills that I could take with me. Dr. Garton made sure that I walked out of that class able to work independently and be accepted in a professional setting. Dr. Garton is a big part of the reason why research has become one of my goals as a physician because he showed me that I could do it on my own.

During my final semester at Tech I was able to take biostatistics with Dr. Garton. Every lecture was amazing because he took complicated material and transformed it into something that was easy to understand and apply. After the first week I gave up on the textbook and used my class notes for review because his explanations were far superior to the explanations available in the book. I was especially grateful for the fact that he would make frequent pauses throughout the lecture so that we could do individual and group exercises on the material we had just learned. There were times during this class when the material was especially difficult that required extra help. Anytime I had a question about something he would help me work through the problem instead of giving an instantaneous answer, which was extremely helpful in determining where my thought process was incorrect. I also appreciated the fact that he had us do a lot of calculations by hand instead of using calculators because it made it much easier to remember the equations when it was time for the test. He used a combination of passive and active learning that was so effective that even after two years of not using biostatistics I was able to remember most of what he taught me during my population health unit at medical school.

The common theme between the two courses I took with Dr. Garton was that I could tell he genuinely cared about my success. He always made it clear that he was there to help us and he took a genuine interest in my future plans and goals. Given how much he has contributed to my learning and success I sincerely believe he deserves to be awarded the Geoffrey G. Eichholz Faculty Teaching Award.

Best,

Dielle Meyer

To whom it may concern,

I graduated from the school of Biology in the Fall of 2012 with a B.S. and went on to medical school where I am currently in my third year. While I attended GA Tech I was able to take two courses with Dr. Garton. Specifically, I completed my senior research experience with him in the summer of 2012, and then I took biostatistics with him in the fall of 2012.

Every professor takes a different approach when it comes to the senior research experience in the Biology department. I had friends that were given the outline of a project by their faculty member, and then they just worked on that for the semester. Unlike my friend's professor, Dr. Garton had us come up with our own plan, complete a literature review, budget our project, order our own supplies, and troubleshoot along the way. Compared to my friend I put in significantly more time and energy into my research project, and at times it was a very frustrating process. However, Dr. Garton was always there to bounce ideas off, point out the potential pitfalls of your plan, and to help you analyze the mistakes you already made. I could appreciate at the time that I was getting a lot more from that semester than others would, but I didn't fully appreciate it until I got to medical school where I participated in molecular genetics research on Alzheimer's disease. During my first two years of medical school I was able to function independently in the lab, troubleshoot protocols on my own, dig deeper into the existing project and contribute my own ideas that my PI found interesting, and accomplish a great deal of work in a limited amount of time. The PI of my lab would often tell me that he wished I was his graduate student, because he would let me run his lab if I wasn't already a medical student. I attribute my effectiveness in the genetics lab to the skills I learned from Dr. Garton. His willingness to push us and let us make mistakes was enormously beneficial, and his method worked because he was always there to provide support.

I had a similarly great experience that fall in the biostatistics course. I have never been in such a well taught math class! Everything seemed so clear when he went over it in lecture, and the group activities he had us do in class were always on point. I never left that classroom feeling confused, but if I had, I know that he would have been willing to spend the time to go over a concept further. Several of my classmates did reach out for help, and that definitely contributed to their success in the course. Biostatistics is predominantly a senior class, and for some people such as myself, it was our very last semester and there was occasionally a bit of senioritis going around. People would try to hide in the back to have conversations, not committing fully to paying attention, but Dr. Garton had a trick for that. Every day when all of us would come in, he would make everybody move up and to the center of the seats so that we were all as close to the board as we could be. It would make me laugh every time, but it was so effective at making everybody focus. His dedication to teaching us definitely rubbed off on you throughout the semester, and eventually almost everybody was coming into class with a positive attitude, focused on trying to learn something. I still remember the things he taught me in that class, and just like the lab experience it has helped me out in medical school in the realm of population health.

Across both courses Dr. Garton was dedicated to his students, talented at explaining difficult concepts, and consistent about providing some of the most thorough feedback I received during my time in college. I believe he thoroughly deserves to be awarded the Geoffrey G. Eichholz Faculty Teaching Award for the excellence he demonstrates in the classroom, and the support he provides to his students along the way.

Best,

Chloe Meyer

To Whom It May Concern:

It is with great pleasure that I recommend Dr. Dave Garton for the Eicholz Teaching Award. Although I have only taken two undergraduate courses with Dr. Garton, these courses and his ability to engage students in the course material were impressionable to say the least. As I complete my final semester at Tech, I truly have come to appreciate just how well designed Dr. Garton's courses were and how much I learned from him.

The first course I took with Dr. Garton was experimental design and statistics. Many biology students, myself included, were not excited to take this course. To my great surprise, not only did I get through this course, but I actually enjoyed statistics, thanks to Dr. Garton. Most biology classes I have taken consist of staring at a screen while the professor lectures for an hour straight. However, this was not the case with Dr. Garton. He always used PowerPoint, wrote notes on the board, and made sure to include activities that supported learning the material as well as sparking interest in our biology minds. Not only did this guarantee that we all came to class, but also it allowed us to engage with each other and maintain our interest in the subject the entire semester. I am very grateful to Dr. Garton for my knowledge on such an important subject that is often undervalued. That semester was also very difficult for me as I had some serious health problems arise. However, Dr. Garton was always respectful of my need to miss class and willing to help me with any material that I might have missed, allowing me to still succeed in this course.

Two of Dr. Garton's best and most noteworthy characteristics are his sense of humor and knowledge on every subject we inquired about in class. I became even more aware of this when I took Dr. Garton's class on animal physiology last semester. As the class only had about ten students, I was able to get to know Dr. Garton much better than in biostatistics. As a pre-veterinary student, I had been interested in taking this course since the beginning of my freshmen year. With Dr. Garton teaching, my high expectations for the course were not only met, but exceeded. It was easily my favorite class last semester and one of my few favorites throughout my undergraduate career. With the amount of material that had to be covered, it was difficult not to lecture the entire time, but Dr. Garton always made a point to prevent what he called "death by PowerPoint". We even did a lab at the beginning of the semester using gummy bears to demonstrate osmosis (perhaps one of my favorite lab projects as an undergraduate!). Since the past semester was so busy for me with working, doing research, and being a full time student, looking forward to attending a class was remarkable. Dr. Garton not only presented the material and made sure we all understood, but he always made sure to include interesting case studies and shared educational videos that were actually entertaining (for biology majors at least). I always looked forward to getting an email from Dr. Garton each week sharing an article or video that was relevant to our course, or to biology topics in general, that he believed we should know about as biology majors.

I need not say much else, as it should by now be extremely obvious how much Dr. Garton wants his students to learn the material, to become proud Georgia Tech biology graduates, and to succeed in whatever field we may choose. My only regret this last semester before I graduate is that I will not be able to have Dr. Garton as a professor; he truly was my favorite professor at Georgia Tech. His commitment to his students, biology, and Georgia Tech cannot be found in many others. I cannot think of any other professor more deserving of the Eicholz Teaching Award.

Thank you,  
Charlotte Myers

## **Reflective Statement on Teaching**

Members of the Eichholz Faculty Teaching Award Selection Committee:

It is an honor to be nominated for this prestigious award and appreciate the opportunity to offer a reflection on my teaching experiences. I have taught a wide range of Biology undergraduate courses, both on campus and abroad, since joining Georgia Tech in the fall of 1998. During this span I have witnessed significant changes in Tech's undergraduate teaching landscape: switching from quarters to semesters, modernizing classrooms and laboratories, incorporation of new technology in the classroom, revision of curricula, and the widespread adoption of active learning methods in our courses. I will admit that for me this dynamic period of rapid change has not always been easy nor stress free, but have always enjoyed the enthusiastic and unstinting support of my colleagues in learning how to adapt and incorporate new classroom technologies and methods, thus improving my teaching effectiveness.

My own background exposure to classroom education methods as an undergraduate and graduate student followed strictly the traditional lecture-based model: the professor lectured and the student tried to keep up by taking accurate notes. My initial years of teaching also followed this model, with the only nod towards "modern" classroom teaching the addition of powerpoint files as supplemental material for students thus easing their frantic attempts to keep accurate notes. There was sufficient evidence from student performance on exams and papers (as well as course surveys) that this approach was not necessarily ideal, but it did ultimately produce students trained sufficiently well to succeed in post-graduate careers. As these graduates were successful, why change the method of teaching?

I give the most credit for improving my teaching effectiveness to fellow colleagues in Biology who were first-adopters, particularly Jung Choi, Jennifer Leavey, Linda Green, Chrissy Spencer, Shana Kerr, among others, by introducing me to methods in scientific teaching and active learning, and providing the encouragement (as well as training and thoughtful guidance) to adopt these methods in my own classes. As a result my approach to teaching has undergone a profound change. The School of Biology assisted by supporting my attending two National Academies Summer Institutes on Undergraduate Teaching. The Institutes were extremely helpful, not only from a formal introduction to the methods of scientific teaching but also the practical experiences from peers incorporating these methods into their own classrooms. Also helpful has been the continuous improvement in classroom technology, progressing from the first primitive "clickers" to interactive and powerful platforms such as Learning Catalytics.

These new classroom methods and technology have made this an exciting time to be teaching undergraduate Biology courses at Georgia Tech, even for an "old dog" like myself who has been involved either as a GTA or faculty in teaching undergraduates since the fall of 1976. I am most grateful to my friends and colleagues in Biology for strongly supporting the adoption of effective teaching methods. It has been quite refreshing to have classes filled with students fully interested and engaged in exploring what they are capable of teaching themselves, rather than struggling to take notes from the same sets of slides used year after year. Over the past few years I feel my teaching has become far more rewarding, both for myself and our undergraduates, and it has been most gratifying to witness, as well as contribute in my own minor way, to the continually improving learning environment on Tech's campus.

## Examples of Teaching Excellence

### Biology 4401, Experimental Design and Applied Statistics

This course satisfies the quantitative requirement in the Biology major, as well as provides a foundation in statistics for students wishing to pursue graduate degrees and medical schools are also now encouraging a course in statistics. My original “traditional” lecture approach to teaching statistics led to far too many students struggling mightily to master the material throughout the semester, a very frustrating experience for all concerned. During the Fall of 2014 I developed 21 in-class problem sets delivered via Learning Catalytics. Each module was designed as self-paced problem sets which students, working in small groups, were required to apply statistical methods to support their conclusions. The benefit of Learning Catalytics is being able to write multi-part problems, it accepts multiple answer formats, and allows monitoring individual progress at each step of the problem solving process. This helped me identify specific concepts students needed extra help in mastering while still in the classroom. These in-class modules accompanied 12 homework problem sets; the combination of in-class and homework problem exercises was designed to enhance the ability of students to understand and apply statistical methods in biological sciences. Modules were revised and improved during Fall 2015, as well as new modules developed in response to students asking for *more* problems. While this course was not totally flipped, I typically spent no more than one-quarter to one-third of each class lecturing (in past it was all lecture, all the time). With such a significant reduction in formal lectures I anticipated covering fewer statistical concepts. To my pleasant surprise, my new syllabus covers the exact same content as before. Formal assessment via in-class exams and a take home final exam (as rigorous as in former years) has yielded significant increased student performance over previous years.

### Pacific Study Abroad Program

In the summer of 2003 I assumed the position of Director of this spring semester, full-time faculty-led study abroad program, which visits New Zealand, Australia and Fiji. Students are required to take 12 semester credits selecting from a list of courses covering various core requirements. I developed two new courses for the program, BIOL 2100 (Island Biogeography of New Zealand) and BIOL 3100 (Ecology & Evolution: An Australian Perspective). Both courses capitalize on the unique features of these countries and involve active learning. Trips to unique habitats (volcanic alpine regions of New Zealand, wildlife sanctuaries, intertidal zones, temperate eucalyptus forest, tropical forest and protected coral reefs) include student activities requiring recording of observations, collecting data, interpreting and drawing conclusions in field reports. For BIOL 3100 students are required to design and conduct a field experiment during a week-long stay at Heron Island Research Station, Great Barrier Reef. The Pacific Program is open to all majors, and for the past three years has filled to maximum capacity (70 students).

### Biology 2336, Introductory Ecology Laboratory

My first experience coordinating BIOL 2336 labs occurred during the fall of 2015, which provided an opportunity to participate in the ongoing development of our Ecology Lab Manual. This manual has benefitted from colleague’s prior efforts adopting active learning exercises, thus my contribution involved mostly minor revisions. However, I did add a new, never-tried before lab exercise developed while attending a Summer Institute on Undergraduate Learning, as well as adding one I had developed previously from a summer high school program in the School of Biology (Bio@Tech). Scientific laboratory reports are integrated into these exercises, gradually developing effective writing and analytical skills over the course of the semester.

January 26, 2016

Dear Members of the Selection Committee,

It is my great pleasure to endorse David Garton for the Eicholz Teaching Award. In fact, I cannot think of anyone more deserving of this prestigious award, which recognizes the efforts of faculty teaching in core and general education courses.

I came to know Dave – and was able to observe his teaching style – two years ago in New Zealand, when it was my good fortune to offer a course on the Pacific Program. It was my first experience teaching on a Georgia Tech-sponsored study abroad program of this type, and I was amazed at how thoughtfully and thoroughly the program was organized. Despite several unavoidable health crises involving students (e.g., an emergency appendicitis), Dave unflinchingly kept the program on course. I marveled at how he used the program as a portable seminar, pointing out lessons and making observations wherever we travelled. Dave really made it seem like New Zealand was our laboratory, and the students eagerly absorbed his instruction (as did I!). Thanks to Dave's hard work and commitment to delivering rigorous, high-quality instruction, the Pacific Program has become a model for all of Georgia Tech's study abroad programs. On this score, it should be noted that the Pacific Program that Dave inherited was famously deficient in both structure and academic rigor. So the Program's present vitality is owed first and foremost to Dave's dedication and commitment to excellence.

I could go on and on, but I will conclude this endorsement by pointing out what I think is one of Dave's greatest strengths as a teacher – that is, his ability to combine firmness and flexibility. Running a study abroad program brings challenges that are not encountered by instructors on the Atlanta campus. When it comes to a study abroad, undergraduate students are unleashed on a foreign land, with different laws (e.g., legal age of drinking), customs, and acceptable modes of social interaction. Dave has the rare ability to allow students to enjoy themselves and grow into adults within a carefully crafted structure that ensures that they remain focused on learning and behaving responsibly. Most teachers in Dave's position are either too strict or too lenient, which leads to problems. In sum, David Garton is an exemplary educator and a role model for all Georgia Tech instructors. I am delighted to recommend him – without qualification – for the Eicholz Teaching Award. He has my most enthusiastic endorsement. Please do not hesitate to contact me if you require additional input.

Sincerely,



Brian Woodall  
Professor

Dear Selection Committee,

It is with great pleasure that I write to recommend Dr. Dave Garton for the Geoffrey G. Eicholz Teaching Award. I only had the pleasure of taking one course with Dr. Garton during my time at Georgia Institute of Technology, but it was one of the most memorable experiences of my undergraduate education.

It is my understanding that this award recognizes faculty members who are outstanding professors and who have also made a substantial contribution to students' educational experience. As I look back on my experience taking Senior Research Lab with Dr. Garton, I know that he truly embodies the full spirit of the Eicholz Teaching Award. At an institution as large as Georgia Tech, it is easy to feel like just another student out of the hundred within a course – but not with Dr. Garton. He began the first class by asking each of us what interested us, and if we could do any experiment, what would we choose to do. To a classroom of students used to only a syllabus outlining the instructions for course success, those questions offered a degree of freedom we had yet to experience in our Tech careers. The only stipulations he placed on the project were that it needed to be finished during the semester, be meaningfully measurable, and could not repeat someone else's work. So we were sent deep into the literature to determine what had already been done and to find supporting sources to develop our own experiments. In the subsequent meetings we each had with Dr. Garton, we chose our hypothesis and developed the plan necessary to perform the experiment. It was during my discussions with Dr. Garton that I could tell just how interested he was in what each of us could come up with. For the students who were struggling to maintain focus, he knew how to offer the right guidance to get them back on track. For the students who had their experiment already established, he knew how to challenge them to take it another step. After the data was collected and the experiments complete, Dr. Garton met with each of us to help determine the significance of what we had done, but not before a fantastic lecture on experimental statistics that I still reference to this day.

For me, having Dr. Garton as a professor was a terrific experience. I thoroughly enjoyed not only working with him on my research project, but also learning about his work with mollusks, of which he was incredibly passionate. As I was in the process of applying to Dental School during this time, Dr. Garton was happy to help me develop an experiment that featured my interests in microbiology and dentistry. He also showed a sincere interest in my application process and was willing to discuss and offer support when necessary. Throughout all of my interactions with Dr. Garton, I could tell that he not only deeply cared that I succeeded in his class, but that I succeeded in my career goals as well. Dr. Garton is passionate about all of his students and took the needed time to get to know each of them. He ensured all students understood the foundational knowledge necessary for their success in his courses and that they can apply that knowledge outside of the classroom. Personally, he challenged me to develop a project I was passionate about, and his course progressed from being just another requirement to being my fondest academic memory from Georgia Tech. He inspired me to be creative, to challenge myself, and to do something meaningful.

I profoundly believe Dr. Dave Garton would be an excellent candidate for the 2016 Eicholz Faculty Teaching Award, and I know he deserves to be recognized for his innovative approaches to teaching and his passion for undergraduate education in science.

Sincerely,

Lincoln Fantaski

Georgia Institute of Technology School of Biology - Class of 2014

The Dental College of Georgia - Class of 2019

Dear Selection Committee

Students at Institutions of higher learning and in particular students at Georgia Tech are astute judges of teachers, we've been practicing since kindergarten. As such its not usually possible for a teacher to fool his or her students with feigned passion about subject material or fabricated interest in student success. I knew after the first lecture that Dr. Garton genuinely cared about the material he was teaching and more importantly about his students. During his lectures Dr. Garton strove to create an environment for his students that, while rigorous, was engaging and not overwhelming. His biostatistics course remains the most well taught math course I have ever taken. I even kept all the notes from those lectures, something I can not say for a lot of my courses, because they were so useful in understanding and applying statistics.

Dr. Garton demonstrated all of these qualities in every class through out both courses I have taken with him. He was relentless in his efforts to impart his considerable knowledge. Everyday he would remind us to fill the classroom from the front so that no one could sit to far back and become disengaged. During group work he forced us to move our desks together even though they weren't very mobile because it improved group productivity. He frowned on any and all distractions in the classroom. This makes Dr. Garton sound strict, and he was, but it gave the class a feeling of focus. We knew that when the clock reached the five-minute mark and class began it was a time to learn. Knowing what he expected and knowing that he believed we could accomplish it made his class engaging and effective.

The rigor or Dr. Garton's teaching style was always well balanced by the patients he showed. When teaching particular difficult material, or when some of the students didn't seem to understand he always took the time to explain again. He was persistent in making sure that everyone in the class understood. When choosing people to answer his questions Dr. Garton choose those who were the quietest or hadn't raised their hands. If people weren't confident enough to answer he wanted them to try and so that they could learn from their mistakes or become more comfortable with actively participating in the classroom. No one was allowed to drift through a lecture without picking up the material.

Dr. Garton's classes are some of the best that I have taken at Georgia Tech. He was endlessly dedicated to teaching well. His teaching was engaging, demanding, and patient. He was always available for extra review and advice. Dr. Garton's teaching has all of these qualities because, as I realized on the first day of class, he is completely committed to his student's success. I write this in support of Dr. Garton because he is deserving of recognition for his dedication to teaching.

Sincerely  
Jonathan Striepen  
School of Biology Undergraduate  
Georgia Institute of Technology