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# Application Summary

## Competition Details

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**Competition Title:** 2023 Eichholz Faculty Teaching Award

**Category:**

**Cycle:**

**Submission Deadline:** 02/12/2023 11:59 PM

## Application Information

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**Submitted By:** Michele Yager

**Application ID:** 9779

**Application Title:** Mary Peek

**Date Submitted:** 02/9/2023 9:27 AM

## Personal Details

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**Applicant First Name:** M.G.

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### Primary School or Department

School of Chemistry and Biochemistry

**Primary Appointment Title:** Professor and Chair

## Application Details

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### Proposal Title

Mary Peek

**Geoffrey G. Eichholz**  
**Faculty Teaching Award**  
**Nomination Package**  
for

**Mary E. Peek, Ph.D.**  
Principal Academic Professional  
School of Chemistry and Biochemistry  
Spring 2023

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February 2, 2023

Dear CTL Award Committee,

It is my great pleasure to nominate **Dr. Mary E. Peek** for the Geoffrey G. Eichholz Faculty Teaching Award. Dr. Peek is an exemplary candidate by virtue of her excellence in teaching, educational innovation, and passion for undergraduate success. She joined our School more than 20 years ago to teach the undergraduate biochemistry laboratory courses and to manage the biochemistry teaching laboratories. In response to her outstanding talents, dedication, and results, her instructional role subsequently expanded to the teaching of chemistry lecture and laboratory courses at all levels in our curriculum. In addition, Dr. Peek had been a leader on our campus for many years in the training of teaching assistants, and has always been a prized and highly effective academic advisor for large numbers of undergraduate biochemistry and chemistry majors (more than 60 each year) and Health and Medical Sciences minors (more than 300) Institute-wide. As a widely respected member of our educational staff, she also serves on committees at the School, College, and Institute levels. Below, I will elaborate briefly on her training of professional chemists through contributions to courses that she has taught, professional activities that have impacted undergraduate education beyond the Georgia Tech community, and how she has integrated chemistry into our educational system.

**Teaching.** Over many years, Dr. Peek has crafted our Biochemistry Laboratory I and II classes to be the core of an excellent biochemistry curriculum, making the subject come alive in relevant ways. She actively engages students by framing experiments to highlight their relevance in society. For example, in her Disease Outbreak Lab, students assume the role of a researcher at the Centers for Disease Control and Prevention by testing mock samples from "patients" in cities throughout the US. Although innocuous biochemicals are used for the purpose of teaching, students use the same techniques such as enzyme-linked immunosorbent assay (ELISA) that are widely employed in the field for detecting infectious agents such as the SARS-CoV-2 virus. Dr. Peek's Genetically Modified Organisms (GMO) Lab teaches students how to extract DNA from natural sources, amplify the genetic material using the polymerase chain reaction, and separate DNA using gel electrophoresis – again, all widely used experimental techniques for biochemistry and molecular biology at every level. Students choose the natural material to study, enhancing their interest, and broader issues such as human health, agriculture, biotechnology, the environment, scientific ethics, and world hunger are discussed. As a culminating experience in Biochemistry Laboratory II, students conduct a problem-based team project that requires them to learn how to communicate expectations, design and execute problem solving strategies in a team, formulate hypotheses, minimize and/or resolve conflict, and give a professional scientific presentation.

Dr. Peek's success in the large Survey of Biochemistry lecture course has been equally impressive. During the pivot to online instruction during the pandemic, she produced a large suite of her own teaching videos to engage students and make them see biochemistry in real-world applications. She also implemented a "*Interesting Find*" assignment in which students shared how they identified nucleic acids, proteins, carbohydrates, and lipids in their lives – through television, movies, medications, food labels, etc. To assess student learning in the classroom, Dr. Peek had to generate all new open-ended examination questions to prevent students from simply looking up answers to questions online. Judging by CIOS scores and survey comments, these creative activities in the classroom effectively engaged students and fostered significant interest in biochemistry and human health.

**Broad Impact.** Dr. Peek served as the Principal Investigator for the NSF-funded *Threading Flavones* project which fostered collaborative learning among students in the sophomore-level Synthesis Laboratory I course (CHEM 2380) to the senior level in Biochemistry Laboratory II (CHEM 4582). As a part of that project, she organized and led two all-expense paid two-day summer workshops for 40 faculty members

from 21 small liberal arts colleges, community colleges and universities across seven states. The grant also funded the employment of 11 undergraduates over five years, giving them research experience outside of a normal classroom setting. She also hosted the southeast regional NSF Workshop on BioMolViz – a faculty development workshop on teaching molecular visualization (PI: Dr. Daniel Dries, Juniata College). Dr. Peek also serves as the Faculty Advisor for Georgia Tech’s American Society for Biochemistry and Molecular Biology (ASBMB) Student Chapter, which offers career development opportunities for undergraduates and funding for student presentations at national conferences. Lastly, Dr. Peek has also worked closely with numerous publishers over the years on textbook editing and book reviews in biochemistry. She was recognized in the preface of three texts for her comprehensive technical editing. Her interactions have also led to her development of educational materials for Instructor use for Wiley*Plus* and evaluation of active learning modules to accompany *Lehninger Principles of Biochemistry 8<sup>th</sup> edition (2021)*. Her creative endeavors thereby impact broad populations in undergraduate chemical and biochemical education.

**Funding.** Dr. Peek’s success in establishing a stellar Biochemistry laboratory program has been greatly enhanced by her ability to secure internal and external funding to support instrumentation and materials acquisition. In total, she has written proposals that have brought more than \$770,000 in internal and external funding for educational improvements for courses throughout the curriculum, including two grants from NSF and Technology Fee requests from Georgia Tech.

In these and many other ways, Mary has been a force at Georgia Tech and nationally in chemistry and biochemistry education throughout her 23-year career with us. Her contributions have been numerous, and she has been recognized for her excellence in teaching, leadership, and service through Georgia Tech’s Undergraduate Educator, ANAK Awards, and numerous *Thank-A-Teacher* recognitions by students. For these reasons, I am honored to nominate her with great enthusiasm for the Geoffrey G. Eichholz Faculty Teaching Award.

Sincerely,



M.G. Finn, Ph.D.  
Professor and Chair, School of Chemistry and Biochemistry  
James A. Carlos Family Chair for Pediatric Technology

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## **A Reflective Statement on Teaching**

By: Mary E. Peek, Ph.D.

Teaching is my life calling. I can remember correcting the grammatical errors of my classmates even in elementary school. I was the student from whom others would seek help throughout grade school. Even when homework was not assigned, I would make up my own assignments as a study tool for myself and friends. At a high school class reunion a few years ago, I shared how I have always loved school. To my amusement, my peers exclaimed in unison, “Oh yes, we know!” I love that teaching and learning have no age limit and are never outdated. For this reason, I think that I will always be a life-long teacher and learner.

### **The Aha Moment**

One of the most beautiful, exciting, and rewarding aspects of teaching for me is observing students having an “aha” moment – the point when something clicks in their brains, and they finally understand what you have been teaching. Some of my fondest memories of teaching have come from Group Projects in my Biochemistry Laboratory II (CHEM 4582) course. Students work as a team to propose a biochemical problem, design and conduct experiments to address the problem, and present their findings in an end-of-term class presentation. The Group Project is one of the only times that students have full control over their experimentation. Even in undergraduate research, students are following instructions given by their mentor. In CHEM 4582, students make their own decisions for their experiments with consultation from me or my TA’s. I know that students have had an “aha” moment when they overcome challenges in their projects and suddenly cheer in the laboratory or when they enthusiastically explain something during a consultation that they’ve figured out from analyzing their data, for example. Sometimes, the “aha” comes during a lecture when a particular explanation, analogy, or description helps students to comprehend a concept that they had not fully understood. Often students’ eyes get wider. Sometimes, note-taking becomes more vigorous. One time, a whole group of students in my Survey of Biochemistry (CHEM 3511) course sat frozen in their seats when the lecture period had ended because they were “riveted” (their words). Connections got made to content that students already had in their minds. Moments like these bring me so much joy!

### **A Model for Teaching and Learning**

Imagine a house with clutter everywhere. Pots, pans, and food ingredients are all over the kitchen counter. The dining room table is covered in papers and plates. The bedroom has clothes on the floor and disheveled bedding. If the homeowner is going to function in that house effectively, then decluttering, organizing, and cleaning would be required first. I think of teaching and learning in analogy to getting one’s house in order. Information must be stored properly so that it may be accessed appropriately for its use. Good teaching will help students

to organize and utilize information well and find more effective frameworks for organizing information as learning expands.

Using my “housecleaning” model for learning as a baseline, I like to teach by asking students to reflect a lot on what they already know since everyone knows something. I use short, low-stakes “question-and-answer” discussions routinely in my lectures to engage students and hopefully motivate them. Plus, I allow students to work together to solve problems in my lectures so that I may observe their thought processes and offer feedback. When struggling students witness how stronger students work, they learn strategies for improving right away. Reminding students of what they know and challenging them to practice using information as I introduce new concepts seems to empower them to mentally organize information and see connections even in real time in the classroom.

**Tailoring My Teaching to the Level.** I have had the privilege of teaching undergraduate students at all levels over the course of my nearly 23-year career at Georgia Tech. I have taught General Chemistry (CHEM 1310) in classes of ~230 students and much smaller classes of Quantitative Analysis Laboratory (now called CHEM 2216L), Survey of Biochemistry (CHEM 3511), Biochemistry Laboratory I and II (CHEM 4581 and 4582), and the Chemistry Seminar (CHEM 4601), among other courses. The overwhelming majority of my students are seniors in my 4000-level courses who are preparing to graduate and start a new chapter in their careers and lives. Much of my energy has focused on preparing them for the real world – a place where scientific competence, personal responsibility, a strong work ethic, high integrity, and productivity are common expectations.

I have found that first- and second-year students thrive when support and role-modeling are accessible. In addition to covering content, teaching at the 1000 and 2000 levels typically includes teaching students how to be good students – how to study, take notes, and manage their time. Since I only teach the Survey of Biochemistry (CHEM 3511) in the summer semesters, my contact time is limited to 11 weeks than the 15-week Fall/Spring semesters. I am continually revising my teaching in CHEM 3511 to engage students more, especially as more students are balancing demanding jobs or internships with school. In recent years, I have incorporated an “Interesting Find” assignment in which students must identify biochemistry in a real-world application like a food ingredient label, information inserts for medications, a movie, a news article, or television report, etc. Students in CHEM 3511 are nonmajors from a wide variety of fields, so their interests are varied. I like the fact that they can easily see how relevant biochemistry is to life and human health through the curriculum.

In CHEM 4582 and 4601, students develop and refine professional skills that they will need to be successful in the real world. Most of my students want to attend medical school or graduate school after graduating. Their assignments require them to do more team-based work, communication in writing and orally, introspection, and meta-cognition. Students are usually

challenged in my courses, but they can succeed because of transparency in teaching and assessment from a wide variety of categories rather than mainly examinations.

### **The Power of Why**

Asking students to understand why something is true or why an experimental strategy is prudent has become one of the hallmarks of my teaching in recent years – particularly in CHEM 4582. From asking why, I can discern more about a student’s thought process, deductive reasoning, critical thinking, and development of chemical intuition. When students increasingly understand the “why” behind biochemistry, they transform from students to scientists in their work ethic, posture, and mindset.

### **What Teaching During the Pandemic Taught Me**

When I first began teaching at Georgia Tech nearly 23 years ago, I recognized my career mission statement: “**I have not taught until students have learned.**” I view teaching and learning as a unified enterprise; one cannot happen without the other. I take pride in fostering a learning environment in which students can feel vulnerable enough to admit what they don’t know so that we can get busy filling in the gaps. Then, the pandemic hit...

Teaching during the pandemic taught me that students need to physically leave home and go to a campus to effectively learn. Having autonomy, minimizing distractions, and being in community with other like-minded individuals are essential for deep thinking and concentration on academics. Students need to see themselves living independently to believe that they are independent. By throwing students back into their family homes during the pandemic, they seemed to revert in maturity and/or mindset, which made teaching and learning very difficult. Merely being in proximity to family members (parents, siblings, pets, etc.) seemed to be overwhelmingly distracting to students.

I also learned that online teaching is incredibly time-intensive and challenging, especially for novices. Most students attended online classes with their audio and video muted (even when asked not to do so). The only feasible engagement mechanism was via chat messaging. Teaching was much less satisfying when we spent hours talking to the “green dot” on our laptops rather than to human beings. It was nearly impossible to get to know students. Conventional active learning activities needed significant modification or change altogether for the online environment. Testing posed unique challenges that required development of much more open-ended examination questions that many students found to be extremely difficult.

You don’t know what you are capable of until you are faced with an unprecedented challenge. For me, teaching during the pandemic felt like trying to climb Mount Everest. Faculty had to learn and master a lot of new technology quickly to do our jobs satisfactorily (much less with excellence). However, I learned how to make high quality teaching videos and pushed myself

to prepare as much online educational content as possible. (In Summer 2020, I produced 51 original teaching videos!) After teaching exclusively online for a short time, the next challenge has been learning to teach in a hybrid manner. Even now, my courses are classified as in-person, but students with work-life balance challenges consistently ask to attend class online rather than in person to reduce their stress. In general, I find that students do not like online teaching, unless it is more convenient. Students also have new expectations such as maximum flexibility in deadlines and little-to-no penalties for missing class due to a variety of personal situations like interviews, work-related activities, and family events. In spite of the challenges to teaching and learning that the pandemic has posed indefinitely, I am optimistic that my teaching will continue to evolve and impact students positively. My hopes are affirmed every time I get an email or letter from a former student who thanks me for setting high standards in my courses and pushing them to do their best because the benefits of rigorous training are evident to them then. When my students go on to do great things, then I know that I've done my job well.

# Illustrations of the Candidate's Teaching Excellence and Impact on Student Learning

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Dr. Mary E. Peek  
Principal Academic Professional | School of Chemistry and Biochemistry

## Production of Teaching Videos

The Survey of Biochemistry (CHEM 3511) is widely taken by students interested in pre-health careers as preparation for the MCAT. CHEM 3511 is generally taken by majors in Chemical Engineering, Biomedical Engineering, Biology, Neuroscience, Chemistry, and a variety of other fields. I have taught CHEM 3511 during the summer terms of 2008-2013, 2015, and 2018-present. Due to the pandemic, I adapted my teaching for online delivery in Summer 2020. To enhance the educational experience, I prepared a series of 27 pre-lecture videos to accompany each chapter and section covered in *Essential Biochemistry 4<sup>th</sup> edition* to whet students' appetite for the upcoming lecture topic, present the big-picture, and provide students with low-stakes assessment on their overall understanding of concepts.

Below are some representative examples of topics with links to the videos produced.

- What is Biochemistry?  
[https://mediaspace.gatech.edu/media/1.1-What+is+BiochemistryF/1\\_ub1wzpgl](https://mediaspace.gatech.edu/media/1.1-What+is+BiochemistryF/1_ub1wzpgl)
- Clinical Connection: Acid-Base Balance in Humans  
[https://mediaspace.gatech.edu/media/2.5-clincial\\_connection/1\\_zpvxfgom](https://mediaspace.gatech.edu/media/2.5-clincial_connection/1_zpvxfgom)
- Nucleic Acid Structure  
[https://mediaspace.gatech.edu/media/3.2-Nucleic+Acid+Structure/1\\_bikzjglw](https://mediaspace.gatech.edu/media/3.2-Nucleic+Acid+Structure/1_bikzjglw)
- Protein Function  
[https://mediaspace.gatech.edu/media/5-video-protein\\_function/1\\_sjkvooyg](https://mediaspace.gatech.edu/media/5-video-protein_function/1_sjkvooyg)
- Enzyme Inhibition  
[https://mediaspace.gatech.edu/media/7a-video-kinetics\\_inhibition/1\\_icz7wv6w](https://mediaspace.gatech.edu/media/7a-video-kinetics_inhibition/1_icz7wv6w)
- Lipids and Membranes  
[https://mediaspace.gatech.edu/media/8-video-lipids\\_membranes/0\\_dmnxvg3x](https://mediaspace.gatech.edu/media/8-video-lipids_membranes/0_dmnxvg3x)
- Metabolism and Bioenergetics  
[https://mediaspace.gatech.edu/media/12-video-metabolism\\_bioenergetics-new/1\\_pbf6gn5r](https://mediaspace.gatech.edu/media/12-video-metabolism_bioenergetics-new/1_pbf6gn5r)

Here are some student comments about the impact of the teaching videos on learning:

- Comments about student effort:

- *I like the pre-class videos. It really helps to stay engaged in the 2+ hr classes when I can come in with this background.*
- *More effort than I expected with the pre-lecture videos and quizzes, during lecture activities, and after lecture TB reading, but I think they were all helpful for learning.*
- *The pre-lecture videos and comprehension checks took a lot of time with the pausing and note-taking, but they were helpful for my learning.*
- **Course Best Aspect:**
  - *All the homeworks and pre-lecture videos and quizzes*
  - *Course Best Aspect: The video lectures were extremely helpful and well done.*
  - *I liked the pre-lecture videos and the lectures being recorded.*
  - *The prelecture quizzes were also EXTREMELY helpful in reviewing the material.*
  - *Pre-lecture videos were a nice and concise way to preview information. It really helps with laying a framework for the lecture the next day.*
  - *I think the chapter videos were very helpful.*

## Technical Editing and Educational Materials Development

One of my favorite creative endeavors to promote undergraduate education throughout my career has been reviewing and editing Chemistry and Biochemistry texts for prominent publishers. Below is a summary of key technical editing and educational materials development projects over the years. The texts are used by students of Chemistry and Biochemistry nationwide.

1. Consultation on active learning prototypes to accompany *Lehninger Principles of Biochemistry 8<sup>th</sup> edition* by David L. Nelson and Michael M. Cox (*cited in the textbook preface*). Macmillan Learning, publishers. Jan-July 2020
2. Updates of WileyPLUS educational materials for instructors (including exercise questions with immediate descriptive feedback, practice and pre-lecture questions, PowerPoint lecture slides, and personal response system “clicker” questions and answers) for *Essential Biochemistry, 4<sup>th</sup> and 5<sup>th</sup> editions* by Charlotte Pratt and Kathleen Cornely (*cited in the textbook preface of both editions*). John Wiley & Sons, publishers. 2016-2017
3. Technical review of *Biochemistry* by John T. Tansey (published in 2019; *cited in the textbook preface*). John Wiley & Sons, publishers. 2015
4. Technical editing (entire text), *U Can: Chemistry I for Dummies* by John T. Moore, Christopher R. Hren, and Peter J. Mikulecky (*cited in publisher’s acknowledgements*). John Wiley & Sons, publishers. 2015

5. Development of WileyPLUS PowerPoint lecture slides for instructors for each chapter of *Essential Biochemistry*, 3<sup>rd</sup> edition by Charlotte Pratt and Kathleen Cornely (cited in the textbook preface). John Wiley & Sons, publishers. 2012
6. Technical editing (entire text), *Biochemistry for Dummies*, 2<sup>nd</sup> edition by John T. Moore and Richard H. Langley (cited in the textbook preface). John Wiley & Sons, publishers. 2010-2011
7. Chapter review, *Biochemistry: The Molecular Basis of Life*, 5<sup>th</sup> edition by Trudy McKee and James R. McKee. Oxford University Press, publishers. 2011
8. Book Review, *Cooperative Chemistry Laboratory Manual*, 4<sup>th</sup> edition by Melanie Cooper. McGraw-Hill, publishers. 2007

Although the Eichholz Teaching Award recognizes excellence in teaching at the core and introductory levels, I have used additional strategies in my upper division courses to positively impact student learning including: (1) engaging students through the use of scenarios in the experimental protocols that I have written for Biochemistry Laboratory I (CHEM 4581), (2) implemented group projects in Biochemistry Laboratory II (CHEM 4582), (3) implemented more than \$750K in instrumentation and small equipment for the Biochemistry Teaching Laboratory throughout my career, and (4) conducted an NSF-funded project for which I was the Principal Investigator on *Threading Flavones* – a project to interconnect experimentation with flavonoids (natural products with biological activity) across courses in the curriculum to foster student engagement and dispel compartmentalization of knowledge from course-to-course. The *Threading Flavones* project was conducted from 2011-2015 and was a collaboration between students in CHEM 2380 (Synthesis Laboratory I), CHEM 3371 (Organic Chemistry Laboratory), and Biochemistry Laboratory II (CHEM 4582).

February 3, 2023

Committee

Geoffrey G. Eichholz Faculty Teaching Award

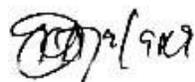
Dear Committee Members,

I am profoundly honored to recommend Dr. Mary Peek for the Geoffrey G. Eichholz Faculty Teaching Award. I am a Professor in the School of Chemistry and Biochemistry, Georgia Institute of Technology. I've been privileged to observe and perform in-class peer reviews of Dr. Peek's teaching in my capacity as a member of the School's Teaching Effectiveness (DOTE) Committee. Based on my observations in these classes, I found Dr. Peek to be an outstanding instructor who effectively connects and engages with her students.

I've sat in Dr. Peek's lectures three times – CHEM 4581 (Fall 2015), CHEM 4582 (Fall 2015) and CHEM 4582 (Spring 2016). During each of these lectures, Dr. Peek effectively presented the materials and did an excellent job at engaging the students. One specific strategy used by Dr. Peek in one of the lectures was to ask questions that challenged the students to identify problems in a sample dataset and how those problems could be fixed. I found this approach to be an interesting strategy to get the students thinking beyond the facts presented to them. It seemed to work very well in facilitating the grasping of the materials as the students were attentive and gave good suggestions/answers to Dr. Peek's questions.

My conclusions that Dr. Peek is an outstanding Instructor mirrored the peer reviews of her classroom instruction by my colleagues in the DOTE Committee and her students' feedback. Nearly all noted her depth of knowledge, enthusiasm and passion for teaching. Based on these outstanding qualities, I enthusiastically recommend Dr. Peek, without any reservation, for the Geoffrey G. Eichholz Faculty Teaching Award. If you would like further information, please feel free to contact me.

Sincerely,



Adegboyega Oyelere  
Professor, Chemistry and Biochemistry  
E-mail: [aoyelere@gatech.edu](mailto:aoyelere@gatech.edu)

### **Dr. Mary Peek Supporting Letter**

Dr. Peek has been a major influence on me during my time as a student in biochemistry at Georgia Tech. She has taught me in a multitude of courses, including Quantitative Analysis Lab, Biochemistry I Lab, and Chemistry Seminar. Across all these courses, one thing is readily apparent; Dr. Peek is a passionate instructor who strives to better her students at every opportunity she gets. Typically, lab instructors are relatively hands-off, but Dr. Peek is heavily involved in every course she teaches. She is constantly in the lab space working with students, asking them about their experiment, and constantly giving advice towards how to better improve their technique.

One major aspect of her teaching style is that she never fails to miss an opportunity for improvement. At a glance, it could appear that she is strict on students over minor mistakes, however, I see it as quite the opposite. Dr. Peek values her students greatly and is extremely supportive of their potential. She is always striving to pull the best out of her students, as she views everyone as a top-performing student. Many of her critiques are paired with the statement “I know you know this,” never discrediting her student’s knowledge, but rather reinforcing them to have confidence in themselves. Without the influence of Dr. Peek, I would likely be a much more timid, worrisome student. She’s instilled in me the value of confidence in myself, and how to carry that into every aspect of learning.

Aside from classwork, Dr. Peek has also been involved in my development as a teaching assistant. She is responsible for CETL 2000, a course designed to raise up future educators in chemistry. Even though this course only lasts a half semester, she packs in a plethora of teaching techniques to employ in the teaching laboratory. Her experience as a teaching faculty shows brightly through this course, with lots of background knowledge as to why certain learning techniques are effective. She doesn’t just tell students how to give a lecture, she gives them the perspective of a lecturer. From this experience, I can better understand how to communicate effectively with students, how to resolve challenges in the lab, and above all else, how to emulate the kindhearted, attentive spirit that Dr. Peek carries with her in each course she teaches.

Sincerely,

Benjamin (Hogan) Peer

To whom it may concern,

My name is Shiloh Thomas-Wilkinson, and I am writing this letter in support of Dr. Mary Peek for the 2023 Geoffrey G. Eichholz Faculty Teaching Award. I am a third-year Biochemistry undergraduate who is a TA in the School of Chemistry and Biochemistry, and last semester, I had the privilege of being in Dr. Peek's section of CETL 2000. One thing that immediately stood out to me upon enrolling in the class was the way that Dr. Peek had structured the schedule. Most sections of CETL 2000 are one credit hour and meet once a week for fifty minutes over the course of the semester. In contrast, Dr. Peek's section of CETL 2000 met three times a week for fifty minutes for only the first five weeks of the semester. She explained that this was to enable TAs-in-training to hit the ground running with the material they would learn in the class. Instead of leaving us to muddle through the whole semester learning bit by bit how to effectively manage a classroom, she front-loaded the material so that we could spend the latter two-thirds of the semester using the skills we had already acquired. This teaching ethos- jump right in and get going- was also reflected in the assignments she gave us. She had us practice presenting lectures to one another, discuss effective time management for teaching on top of taking classes, and brainstorm strategies for responding to student complaints- all tangible work with real-world applications instead of educational theory. This is something I appreciated about the class, and I do believe it helped my performance in my first semester as a TA.

In addition to her work as an instructor for CETL 2000, Dr. Peek also coordinates some of the upper-level undergraduate chemistry lab courses. I spend a fair amount of time in Boggs, as I imagine most Biochemistry and Chemistry students do, and I can say with complete honesty that every time I am in that building, I see that Dr. Peek is also there, working hard. During my breaks in lab, I see her out in the hallway, talking to other professors about the courses she manages or conversing with the TAs. In fact, on the day that I am writing this letter- Wednesday, February 8th- I went to the restroom during a lull in my lab class and heard her on speakerphone with a prep TA who was panicking about some stock solutions that he was unable to locate, advising him about what to do next. If that doesn't perfectly illustrate who Dr. Peek is both as an educator and as a person, I don't know what does. Even when she is not physically in the building, her calm, reassuring presence can be felt by the students who work with her and under her.

In conclusion, I wholeheartedly believe that Dr. Peek deserves to be honored with this award. She is grounded, hardworking, and an excellent teacher who cares a lot about her students, whether she trains them directly or not. She is also a departmental institution, having been with the School of Chemistry and Biochemistry in some form or another for nearly three decades, and I am overjoyed that her years of dedicated, compassionate service as an academic professional at Georgia Tech are receiving recognition.

Dear Awards Selection Committee:

Dr. Mary Peek is a talented and involved member of the Georgia Tech College of Sciences staff. I've taken several classes with her, including CETL 2000, Biochemistry II Lab, and the senior chemistry seminar. In addition, I believe she's also an advisor for a number of chemistry students and has participated in events hosted by the chemistry department for their undergraduates such as personal statement reviews. I attended the personal statement review, and she gave me advice on my writing that was incredibly important because I realized my introductory statement was giving off a different impression than I had intended. Once I explained with words, she encouraged me to reword what I had written into what I had just said to bolster the first few sentences, which are arguably the most important ones. However, most of her roles here involve teaching students, which she is also very good at. Every role that she tackles here is done with organization and efficiency, and I can tell that she genuinely cares about all her students.

CETL 2000 is a class that all teaching assistants (TAs) at Georgia Tech are required to take to learn how to teach more effectively. It's not an extremely involved class, but the advice during lectures on how to organize yourself and treat students was very valuable. Dr. Peek led many of the lectures and reviewed our performance while we taught during lab. One thing that struck me most during this class was her advice to encourage our students to communicate with us and ask for help throughout the semester. I took this class Fall 2020, so the pandemic was in full swing and many people had difficulties dealing with it, so her advice was especially pertinent. She said that many of the students that have problems are too nervous to ask for help in the middle of the semester, but at the end when they see their grade, they realize they needed it. As instructors, she advised us to encourage our students to ask for help early on because it's much easier to extend deadlines as needed for a struggling student rather than try to support them once the semester is finished. I took that to heart, and now I always make it clear at the very beginning of each class that if anyone is having trouble, they need to tell the instructors as soon as possible so the professor can find the best solution. Several of my own students have emailed me since then, allowing me to direct them to the professor who can help them.

Dr. Peek is the supervisor of the Biochemistry II Lab space and the lecturer for the corresponding lectures, though we have TAs for supervision during the actual lab section. I was curious to see how she would teach after she taught me how to teach, and overall, she was very methodical and helpful. I did need an extension on a lab report one time due to a large presentation in my seminar class (also taken with her), and she granted that easily. Upon actually entering the lab space, one thing that was immediately impressive to me is how organized it is. Every chemical has its own labeled box in very specific storage locations, and whenever new chemicals are bought, she makes sure to methodically store them, so everything is easy to find. This lab space is easily the most organized I have ever seen. This is especially important for the final project for this lab, which allows everyone to form groups and design their own experiments. Dr. Peek guides each group independently to help them achieve their vision in a reasonable timeframe and budget, which requires extensive organization. She also needs to order new reagents for these projects every year on top of the normal ones for the rest of the class. This is a lot of work, but it gives the students freedom to research something

they're interested in as well as experience the difficulties of trouble-shooting a project when there are issues. This is an invaluable experience for senior biochemists, many of whom want to go into research, so they have an idea of what designing their own experiment is like. It requires a lot more work for both her and the students than just doing normal experiments, but it's definitely worth it for the students, and I appreciate her dedication in making it happen for everyone every year.

The last course I took with her was the chemistry seminar course. From what she described, this course did not have a set curriculum when she came to Georgia Tech, so she needed to design something that would be helpful for graduating biochemistry students. Therefore, it ended up being a course on how to give effective presentations, which are ubiquitous in almost every career. We had three assignments total: one 10-minute presentation, one 45-minute presentation, and one poster presentation. Each of these were based off a scientific paper related to biochemistry that we were able to select. Her advice was consistent for every student, so when I watched other people present, I still felt like I could learn from them. Our first presentation was basically a trial-run for her to give us initial advice and guidelines for the longer one. This worked very well because I ended up under-preparing for my 10-minute talk and sped through it so that I finished in about 7 minutes. She advised practicing talking slowly and adding extra back-up slides where you can provide additional content if needed. I had never considered adding extra slides that I didn't intend to present in the overall presentation, but it's very helpful to have, especially if there's a question-and-answer session afterwards and you anticipate some questions would be easier to answer with figures. Throughout the course, she gave us many little tips for presenting that were very valuable, and I felt confident when it came time to give the 45-minute presentation. The last assignment was the poster, and she organized a mock poster session with snacks. The chemistry department was invited, so we could practice giving a short explanation to many different people. This was pretty fun, so it was a nice way to end the semester. It made me a lot less nervous when I needed to first present a poster at a conference, because I had already experienced something very similar before.

Overall, Dr. Peek is an extremely busy person, but everything she does is done well. I have always known that she cares about her students and does her best to help them succeed, and as I took more classes with her, I realized that she performs all her roles efficiently and effectively as well. It's extremely difficult to do the number of jobs that she does at Georgia Tech, and I am glad to have taken these classes and learned valuable skills directly from her.

Sincerely,

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