

30 January 2015

Dear Dr. Jordan and the CETL Awards Committee,

I am so pleased to nominate my colleague and sometime co-instructor Dr. Shana Kerr for the CETL Undergraduate Educator Award. Dr. Kerr is an Academic Professional in the School of Biology where she teaches regularly in all four of our Biology Introductory courses (BIOL 1510/1511/1520/1521), Biology core courses (Cell and Molecular Biology Lab, Genetics, Senior Seminar), a Biology elective (Bioethics Advanced Readings Course or “BARC”), and is in integral part of the TA training program (CETL 2000 and BIOL 4697). I have had the opportunity and pleasure to teach with Dr. Kerr in BARC and in the TA training curriculum, as well as to collaborate extensively on a fun and fundamental project to our introductory biology curriculum—to create a detailed set of learning objectives for each lecture in our two-semester sequence of Biological Principles (BIOL 1510/1511) and Organismal Biology (BIOL 1520/1521). Dr. Kerr’s dedication to excellence in teaching and her development in student-centered learning approaches situates her well for the Undergraduate Educator Award, and she very deserving of this honor from CETL.

Dr. Kerr began her work in the Georgia Tech Biology program by teaching in the small honors introductory courses, where she rapidly rejected a lecture-only approach and embraced first clickers and then learning catalytics. She began to modify and improve on in-class activities. In her second semester she used Tree Thinking exercise from a workshop and had students in the small honors class take an entire class period to work through an analogy and solidify the biological connections to how species are related to each other. Then she taught a 70-seat section of BIOL 1510, so she scaled up the activity. This year, her teaching assignments have allowed her to move into the larger-format courses BIOL 1510 and BIOL 1520, where she’s been able to retain the intimacy of her small-scale classroom by adapting her delivery techniques. Dr. Kerr shows teaching excellence in core courses, required courses, and large classes.

Teaching the large-format introductory courses provides Dr. Kerr with access to diverse student populations as a course instructor. In Bioethics Advanced Readings Course, which she and I created a co-instructed two years ago, we had the opposite problem—to bring the concept of an African-American family in poverty to students whom we perceived had always lived with privilege. We read Rebecca Skloot’s *The Immortal Life of Henrietta Lacks*. Bringing this small group of middle class, mostly white students into the reality of the Lacks family in Baltimore and rural Virginia was a challenge. Dr. Kerr was so creative at coming up with discussion prompts and ideas to get them thinking about their privilege and decision-making processes. I recall this one: “What is the material possession that is most important to you? Now, write a few paragraphs about what your life would be like if you gave up that possession for a week.” Dr. Kerr had continued success in prompting students to think from perspectives other than their own over the course of that semester.

One of the first committee assignments Dr. Kerr took on at Tech was to become the new faculty liaison to the Society for BioDiversity (SBD). The SBD began as a networking group to promote undergraduate research opportunities for under-represented minorities in the Biology major. Over time, the membership has morphed SBD into a much more diverse group that represents all the diversity of the major. Under Dr. Kerr’s guidance, they have embarked upon a series of projects that include science outreach in Westside Atlanta schools. Dr. Kerr’s leadership in this group has had an impact on multiple diverse student populations.

When students aren't performing up to their potential, Dr. Kerr notices, and she takes action. She invites students to office hours, she checks in with their academic advisors, she makes referrals to the Dean of Students when necessary. Much of this sensitivity and connectedness with her students comes from her role as an academic advisor, providing her an additional vehicle for making a difference in students' lives outside the classroom. Dr. Kerr is fastidious and thorough as she advises students. She connects with her advisees in the classroom, leveraging this main advantage of being a faculty advisor to provide additional academic support to students who are working with personal issues.

Dr. Kerr has strong connections with students and their learning in the classroom and through academic advising. She is also intimately involved in curriculum innovations as a member of the Introductory Biology Committee, as a member of the CETL Teaching Scholar's program for 2013-14, and as the solo course instructor in Cell Biology. For the Introductory Biology curriculum, Dr. Kerr began a project last year in Teaching Scholars to vertically align the content and skills learned in the Introductory Biology curriculum with the expected foundational knowledge for Biology upper-level core courses in Ecology, Genetics, Evolution, and Cell and Molecular Biology. The most important outcome of this project to date has been the conversations that it has sparked for faculty teaching in the core and planning for new Biology electives.

The other innovative curricular project that I have personally worked on with Dr. Kerr is the development of Student Learning Objectives for every lecture in the Biological Principles curriculum. For several days a week two summers ago, we sequestered ourselves in a teaching lab with a huge whiteboard and a laptop and spent 1-2 hours on each lecture, developing learning objectives, arguing about the educational merits and long term retention of ideas from each lecture. These conversations were stimulating and awesome, and everything that makes teaching collaborations fun. We used the learning objectives that we built to backward design two modules from the Biological Principles course. We then brought the initiative to the full Introductory Biology Committee and got buy-in from colleagues to generate the full set for the two-semester sequence. Dr. Kerr then took the objectives and built related readings and materials on our course website. Here's an example of a page that she built:

bio1510.biology.gatech.edu/module-4-genes-and-genomes/4-2-4-mendelian-genetics/

These have proven to be an invaluable starting point for bringing new instructors into the courses, creating novel course materials, and kickstarting our newest project, with Dr. Jung Choi, to create supporting website materials for Biological Principles that would allow us not to require a textbook for the course.

Dr. Kerr's passion for teaching and learning is evident in so many of these initiatives, and in addition to her teaching role, she serves as an academic advisor in Biology, is a member of the Registrar's Registration Taskforce, is faculty advisor for the SBD, and participates in the Biology Alumni Committee—she was a Biology major at Tech! Dr. Kerr brings her enthusiasm, dedication, and attention to detail into all of her work at Tech. Her strong impact on student learning reinforces my enthusiasm to nominate her for the CETL Undergraduate Educator Award.



Chrissy Spencer, PhD
Academic Professional
Georgia Tech School of Biology

Nomination of Dr. Shana Kerr for the 2014 CETL Undergraduate Educator Award

Table of Contents

1. Letter of Nomination from Dr. Chrissy Spencer	1
2. Table of Contents	3
3. Reflective Teaching Statement	4
4. Illustrations of Teaching Excellence	6
5. Letter of Support from Dr. Terry Snell, School Chair	9
6. Letters of Support from Colleagues	
a. Dr. Alfred Merrill	10
b. Dr. Joseph Montoya	11
7. Letters of Support from Students	
a. Woong Jun Park, former student and current GT undergraduate	13
b. Alicia Lane, former student and current GT undergraduate	14
c. Shelby Sweat, former student, BS BIO 2013	15
d. Charles Marcus, former student and current GT undergraduate	15

After choosing a graduate program with the minimum teaching assistant requirements so that I could focus more fully on my research, I had no absolutely idea that I wanted a career in teaching. I had elected to TA an undergraduate intro lab just for a change of pace, and here I quickly realized two things. First, the feeling of helping someone learn was much more satisfying to me than performing the most successful experiment. And second, while my thoughtful, time-intensive PowerPoint lectures helped *me* learn the material, they seemed to be almost completely ineffective for accomplishing that goal for my students. And so, having realized what I wanted to do with my career, suddenly my next goal was to figure out how to actually do it.

I have been fortunate to find many opportunities throughout graduate school and my postdoctoral training for professional development in evidence-based, student-centered pedagogies. However, it wasn't until I came to Tech in 2012 that I finally got to enjoy the rewarding, iterative process of refining, repeating, and improving a classroom activity, while also scaling it up or down depending on the class size and adapting it for different groups students. I am even more fortunate to work in this environment where research-based teaching is not simply valued but encouraged, and where I continue to find opportunities to develop skills in evidence-based pedagogies.

This isn't to say I never fall back into the habit of "the standard lecture," especially when preparing to teach new content. I recall vividly how far I fell into this trap my first semester teaching Biology 1521, Honors Introductory Organismal Biology. It was near the end of the semester, and, as a brand new faculty member at Tech, I was exhausted from two semesters in a row of entirely new preps that veered farther and farther from my areas of expertise. I was struggling to prepare for a lecture on sensory systems (I am a molecular geneticist, after all - what did I know about the differences between how the eye and the ear convert sensory input into electrical signals?). During a rare break in my intensive preparation, I was describing my distress to my colleague, Chrissy Spencer, who rightly suggested that rather than teach myself the details the night before the lecture so I could simply regurgitate it to the class, I should be setting up an activity for the students to teach the essential information to themselves. In the clarity of this realization, I redesigned the entire class session for a 'jigsaw' activity where students groups would research one sensory system then assemble new groups to teach each other what they had learned. The students seemed taken by surprise at the change of pace, but this single conversation with a colleague reinvigorated my approach for rest of semester as I started designing daily group-based activities which resulted in improved student engagement in the course.

No matter how much training I have in evidence-based teaching, I always learn something new from any professional development opportunity. I was particularly fortunate to be selected to attend the National Academies Southeast Summer Institute on Undergraduate Education in the summer of 2013 as a member of the Georgia Tech team. The conference was a week-long, group work-based intensive workshop on using "backward design" to first articulate learning objectives for a particular class session, then develop summative and formative assessment questions, and finally design in-class activities to help students achieve those goals. This experience motivated me to not only redesign my class sessions to follow these principles, but to spend several weeks during the remainder of the summer working with Chrissy to develop learning objectives for every lecture in the Genetics module of Biology 1510, Biological Principles. We subsequently brought the rest of the Biology 1510 instructors on board, and we now have committee-approved learning objectives for every lecture in the two-semester introductory biology course sequence. I have since designed new course materials including content for the course website, in-class activities, and interactive Learning Catalytics questions to help students meet these learning objectives. Based on how well it worked for both me and my students in Biology 1510, I have

also used this backwards design approach to design all class sessions in Biology 2344 (Genetics) and Biology 3451 (Cell and Molecular Biology lab).

During the 2013-2014 academic year, I was selected to participate in the CETL Class of 1969 Teaching Scholars program where we delved into the literature on “flipping” the classroom. As I considered how best to “flip” my Biology 1510 class sessions, I began to wonder what parts of the course were the most critical preparation for upper level classes - and thus the areas I should most focus my efforts. This question prompted me to assess the vertical alignment between the introductory biology class and the four upper level biology core courses. My conversations with the upper level core course instructors fed back into the learning objective design process in the two introductory biology courses, and helped me understand what parts of the 1510 curriculum I should flip. I have so enjoyed this model of teaching that I am now teaching a flipped model of the second semester introductory biology course based on materials designed by my colleague, Linda Green. In addition, I have flipped elements of 3451 (Cell and Molecular Biology lab) while also incorporating authentic research projects by partnering with Georgia Tech’s Urban Honey Bee Project.

One of my most inspiring experiences as an educator at Tech has been as an instructor in the Biology section of the CETL 2000/8000 TA training courses. Here I have the opportunity to help new TAs begin their first teaching experiences understanding how to use evidence-based, student-centered teaching approaches – training which I had to actively seek out after my own first experience as a TA. Since we *use* these teaching approaches in the course in order to *teach* them, this course also provides an excellent mirror to for personal reflection in my own teaching, as I regularly ask myself whether I am practicing these approaches my own classrooms while I help these new educators learn to use them. This course also provides good practice in scaling activities up and down based on class size: the class tends to be large in Fall, providing an excellent opportunity to practice group exercises, but quite small in the Spring, allowing more intimate discussions on best teaching practices.

These close interactions with students are among the most rewarding for me as an educator and can have the most impact on students, both academically and personally. After the first exam in the introductory courses, my co-instructors and I make a habit of reaching out to students who did not perform well to discuss their situation one-on-one. I have had the great satisfaction of seeing dramatic turnarounds in performance after these discussions. I recall one student in particular last Fall, who did not respond to the initial invitation, but, after performing poorly on the next exam, did finally accept the invitation to meet. As we talked through his study habits and I offered suggestions for alternative approaches, he seemed to appreciate not just the guidance but also the fact that his professors had not ‘given up’ on him. He dramatically improved his performance on the next exam, and he continued this positive trajectory for the remainder of the course to end with a far better grade than his initial exam performance would have suggested.

Just as my students can revise their learning strategies to be more successful in their coursework, so too can I as an educator continue revising my teaching approaches to help those students maximize their learning. In writing this reflection for my nomination for the CETL Undergraduate Educator Award, I am reminded both of how far I have come and how much more I can do in moving from the standard lecture toward engaging activities in the classroom. I am honored by my colleagues’ decision to nominate me for this award, and look forward to continuing the rewarding, iterative process of refining, repeating, and – I hope – improving my teaching for the sake of my students.

1. Selected Conferences and Professional Development (2013-2014)

- CETL Class of 1969 Teaching Scholar; learned techniques for “flipping” the classroom and developed research project to assess vertical alignment of Biology undergraduate core curriculum
- PKAL Atlanta Regional Network Fall Meeting, Georgia Tech, Atlanta, GA; invited workshop leader on “Using Technology for Assessment”
- AAAS Vision and Change in Undergraduate Biology Education: Chronicling Change, Inspiring the Future, Washington, DC
- HHMI Quantitative Biology Conference, Emory University, Atlanta, GA
- National IRACDA Conference, Emory University, Atlanta, GA; invited speaker on professional development for teaching-focused faculty
- National Academies Southeast Summer Institute on Undergraduate Education, UGA, Athens, GA; team development of student-centered instructional materials for Biology 1510/1511

2. Course Development and Enhancements (2012-2014)

BIOL 1510 Learning Objectives Development

Collaborated with Jung Choi, Joe Montoya, and Chrissy Spencer to develop new and revised existing learning objectives for each lecture in the Evolution, Genetics, and Integrative Biology modules of 1510/1511. Subsequently used learning objectives to backwards-design course materials including in-class formative assessments, activities, lecture materials, and background reading/video material on the course website.

Sample Learning Objectives from 1510 Genetics Module:

1. Know and use the terminology for different patterns of inheritance including, incomplete dominance, co-dominance (quantitative traits, and gene by environment interactions)
2. Predict genotypes, phenotypes, and phenotypic ratios for non-dominant/recessive modes of inheritance, including incomplete dominance and co-dominance
3. Recognize that dominant/recessive and simple Mendelian patterns of inheritance are rare, and that genes act in concert with other genes and the environment to determine traits

Sample website entry:

<http://bio1510.biology.gatech.edu/module-4-genes-and-genomes/4-3-patterns-of-inheritance/>

The following excerpt is from a CIOS comment regarding the 1510 website:

“I think the way that worked best for me was having webpages online as the textbook can go into too much detail sometimes and makes it confusing.”

BIOL 3451 Equipment Upgrades and Replacement

Wrote two successful Technology Fee Funds proposals and one Instructional Lab Refreshment proposal to both replace outdated equipment and purchase new equipment to bring new techniques to the lab so students could perform more sophisticated, modern-day cell and molecular assays in this core laboratory course.

The following excerpt is from an unsolicited student comment regarding the modern techniques used in BIOL 3451:

“...everything you taught me in that Cell Bio Lab is directly applicable to my new job. I have to re-learn and re-read everything anyway as part of training, but the prior knowledge has proven invaluable.”

BIOL 4801 Bioethics Advanced Reading Course Development

Developed in collaboration and piloted with Chrissy Spencer in Fall 2013; in this course students read a nonfiction text with bioethical implications and used the fundamentals of ethics to discuss bioethical decision-making in student-led discussions. Students also wrote a research paper to critically review the science and ethics behind one or more aspects of the reading. This course was offered again in Fall 2014, with plans to offer it regularly in fall semesters.

The following is a CIOS comment from the Fall 2013 (pilot) semester of BARC:

"I really liked this course for a number of reasons. First off, I actually did learn a lot about bioethical concepts I never learned before. I also liked talking about the concepts every week with other students, I feel like we worked off of each other's ideas well. This course was awesome and especially with it being the inaugural semester, I was so impressed!"

3. Sample Student Video Projects

Biology 1510 student video projects were developed and piloted by Chrissy Spencer in Spring 2012 to replace traditional in-class presentations. Based on their success in helping students make connections across biological concepts in an innovative and creative way, I also implement them when I teach 1510/1511. Below are two especially creative video samples:

- Summer 2013, Evolution of mate choice and magic traits: <https://www.youtube.com/watch?v=H5BkZDQuvFo>
- Fall 2014, Herpes virus blasts DNA into cells: <https://www.youtube.com/watch?v=24Jxa0fnQgg>

The following is an unsolicited student comment regarding the 1510 group video projects:

"The Biology 1510 projects are a great way to connect many topics that we've learned over the course of the semester. My group and I really enjoyed comprising our project and definitely think this assignment should be continued in the future."

4. Selected Thank-a-Teacher Notes

Biology 1521, Spring 2013 (excerpt)

"You were easily the best professor I had at Georgia Tech. You showed genuine interest in my studies and making my experience the best possible. I really appreciate you taking the time to talk with me and come up with solutions to alleviate the distress in our group. You also taught me to be assertive in group situations and I now carry this trait with me wherever I go. You also took so much time giving us feedback on our assignments. Your dedication to your students is out of this world! To me you are more than a biology professor; you are a great mentor and a role model!"

Biology 1521, Spring 2013

"Thank you so much for pushing me and helping me grow this semester. I have learned so much and had such a wonderful experience with biology that I couldn't have gotten anywhere else. Thank you so much!"

Biology 1511, Fall 2013 (excerpt)

"I really enjoyed the biology class this semester. The embryonic development and growth unit is by far the most interesting set of lectures I have ever attended [...]. I love your lecture style as well as the elaborations they place on top of the textbook material. Basically biology is my MOST FAVORITE CLASS OF ALL TIME right now!"

Biology 3451, Spring 2013

"I would like to say that I have very much enjoyed taking your cell biology lab this semester! I have really learned a lot about biological techniques. As a physics major, I had a very limited background in biology including protocols and methods, yet I never felt like the class was waiting on me, or that I was a burden because of my lack of experience. That being said, I feel I have gained a vast amount of knowledge throughout this course that will hopefully help me some day in medical school. It was a good semester!"

5. Selected CIOS scores for all undergraduate BIOL courses (2012-2014)

	Question Text	N	RR	Interpol. Median	5 Exceptional	4	3	2	1 Very Poor	N/A
3	Instructor: Respect for students (Kerr)	550	87%	4.6	291	184	60	14	1	0
					5 Extremely Enthus	4	3	2	1 Detached	N/A
4	Instructor: Enthusiasm (Kerr)	547	87%	4.6	302	190	51	4	0	0
					5 Made Me Eager	4	3	2	1 Ruined Interest	N/A
5	Instructor: Stimulates interest (Kerr)	549	87%	4.2	198	221	95	27	8	0
					5 Highly Accessible	4	3	2	1 Hard To Find	N/A
6	Instructor: Availability (Kerr)	549	87%	4.2	185	189	106	9	10	50
					5 Strongly Agree	4	3	2	1 Strongly Disagree	N/A
8	Instructor: Overall effectiveness (Kerr)	546	87%	4.3	240	212	80	11	3	0

6. Selected CIOS comments (2012-2014)

Biology 1510/1511: Biological Principles

- I really liked how every idea was explicitly applied towards examples through case studies. Dr. Kerr's bright and optimistic attitude really facilitates learning in the course.
- She uses real-life cases a lot. Applications are something I need to understand the material further, so this rocks.
- Very helpful lecturer and knowledgeable about the material. Presented concepts in lecture in a way that encourages students to apply what they have learned to different situations. This kept the course fresh and interesting.
- When we arrived at our genetics unit, it was very clear how enthusiastic Dr. Kerr was about the subject. She always had a positive attitude and was willing to help students in any way. Her attitude towards genetics made me more excited about the subject, especially with the examples she presented in class. She was very accessible for questions. Her lectures explained concepts very well and started at basic concepts and advanced to more difficult ones.
- Dr. Kerr made it her top priority that our understanding of the material was solid. She helped test our knowledge with great questions and provided great real world examples of each topic.
- She is very accessible to students. I absolutely love how you can tell that she is rooting for us to succeed.

Biology 1521: Organismal Biology

- Kerr is incredibly involved and very easy to speak with. I appreciated the materials that she'd pass out to increase class involvement and how she'd return them with notes in the next lesson. Her greatest strength is her incredibly care in her lessons.

Biology 2344: Genetics

- The best aspect was the class discussion and worksheets. It allowed for us to solve similar exam problems and questions together and get deeper into the material.
- Dr. Kerr had daily quizzes which made me stay on top of my reading and the quizzes helped study for tests. The daily group activities were also helpful because it allowed us to apply the information we learned in class, then receive feedback.

Biology 3451: Cell and Molecular Biology Lab

- Dr. Kerr was my favorite professor this semester. She's really nice and really helpful and knowledgeable, and she's the kind of professor you can really approach if you have any questions and she will help you understand it instead of making you feel dumb.
- Although Dr. Kerr is very well-versed in the subject, she chooses not to hold her head high and look down upon those of us who know less. Instead, she walks among us, encouraging us to ask questions and provide feedback at every turn. She possesses such humility that I sometimes forget just how much knowledge that she has to share, and it makes me respect her even more.

January 29, 2015

To the Selection Committee,

I am pleased to support the nomination of Dr. Shana Kerr, Academic Professional in the School of Biology, for the CETL Undergraduate Educator Award. Since joining the Biology faculty in 2012, she has strived to uphold and improve the standard of teaching excellence in Biology undergraduate courses.

Dr. Kerr has regularly sought out opportunities to further develop her teaching approach using research-based pedagogies for the enhancement of student learning. Of note, she was selected to attend the week-long 2013 National Academies Southeast Summer Institute on Undergraduate Education on backward design and student-centered classroom activities, and she subsequently revised her class sessions in the two core introductory biology courses, Biology 1510/1511 and Biology 1520/1521, to emphasize learning objectives, formative assessments, and active learning activities. She was also selected to participate in the 2013-2014 Georgia Tech CETL Class of 1969 Teaching Scholars program focused on “flipping” the classroom, and is implementing a flipped approach in Biology 1520/1521 this semester.

Dr. Kerr’s efforts to improve undergraduate education are not limited to the core introductory courses. As the regular instructor of Biology 3451, an upper level core laboratory course, she has helped to write multiple successful Technology Fee proposals to for new equipment both to replace dated technology and implement new techniques to the course. She has also revised the laboratory course curriculum to emphasize authentic research in partnership with the Georgia Tech Urban Honeybee Project. In addition, she recently co-developed and volunteered time to co-teach an upper level discussion-based bio-ethics elective to enhance the science ethics training for Biology students.

Her enthusiasm for education at Georgia Tech extends beyond the classroom. As a faculty advisor, Dr. Kerr helped to initiate and guide the development of the Society for BioDiversity, a Georgia Tech Biology student-led organization focused on increasing involvement of students of all background in areas of Science, Technology, Engineering, and Math (STEM) through outreach to K-12 students in local minority-serving school. As a Georgia Tech Biology alumna herself, she was enthusiastic to help create a School of Biology homecoming picnic in the fall of 2012 to connect with Biology alumni, which ultimately inspired the development of a College of Science-wide annual alumni party.

These qualities above and those highlighted in her letters of nomination make Dr. Kerr an excellent candidate for the CETL Undergraduate Educator Award, and I am pleased to provide my support for her nomination.

Sincerely,



Terry W. Snell, Professor and Chair
School of Biology



Alfred H. Merrill, Jr., Ph.D.
Professor & Smithgall Institute Chair
in Molecular Cell Biology
School of Biology, Atlanta, GA 30332-0230
al.merrill@biology.gatech.edu
January 27, 2015

Re: Letter of support for Dr. Shana Kerr for the Georgia Tech Undergraduate Educator Award

Dear selection committee:

I am pleased to provide this letter supporting the selection of Shana Kerr for the Georgia Tech Undergraduate Educator Award. I am very familiar with her qualifications because I teach the lecture course (BIOL3450, Cell and Molecular Biology) that is the companion to a lab that she teaches (BIOL3451: Cell and Molecular Biology Laboratory), and I visit the lab almost weekly to keep touch with the students and see what they are learning. Furthermore, I have a (one might say) personal attachment to this course because Dr. Harish Radhakrishna and I set up the core concept (to have the students engaged in a research project rather than just learning a list of techniques) over a decade ago, so I enjoy following changes in it as more sophisticated facilities (and newer/better ideas) are added.

These last words encapsulate why I think she should be selected for this award! Although this course has benefitted from improvements by others who have taught it (most notably, Jennifer Leavey), Shana has made major improvements that amaze me with their timeliness, sophistication and creativity.

As you might already know, while Shana was in graduate school at Emory she was in a special program to teach scientists how to teach. From this, or perhaps an innate ability of hers, she knows how today's students think and has used that understanding to make the course more interesting and educational for them. For example, the students use a technique called FACS analysis that generates data that can be analyzed multiple ways by computer programs. In my day, we just gave the students a set of instructions about how to analyze the data and assumed they would figure it out. Shana realized that this was an opportunity to build (in her words) "teamwork reflections to facilitate development of group work skills" and that the students would *enjoy* doing the data analysis more if they did it together in the School of Biology computer lab. The first day that I walked by the computer lab and saw the students working of their data together I realized that this was, indeed, tapping into something about their personalities that I had not appreciated. They were learning, and having fun.

Other examples of programs that she has implemented are: to allocate in-lab time for students to develop protocols; to inform the students about short videos they can use to understand lab techniques before performing them; to give the students literature assignments to help them build their own research proposals, and to teach them how to prepare an annotated bibliography; to stop having each student have a physical lab notebook, but rather, to log on to an online lab notebook system for more timely feedback and student accountability for notebook maintenance (this will also better prepare them for a job where their employer uses a LIMS, laboratory information management system); to schedule time for in-class peer evaluation of writing assignments to enhance their writing quality; and to help spark student interest in team projects by incorporating some novel experiments in conjunction with Jennifer Leavey's Urban Honey Bee Project.

In addition to all this, she has also written successful proposals that have added much new equipment to the lab (fluorescence microscopes, cell culture hoods, etc.) so the students feel like what they are learning is state-of-the-art (and it is).

So, I am sure you can see why I am enthusiastic about how much she has done to improve education in this class, and I hope you will agree and select her for the Georgia Tech Undergraduate Educator Award.

Sincerely,



Biological Oceanography
School of Biology
Atlanta, GA 30332

29 January 2015

Selection Committee
CETL Undergraduate Educator Award
Clough Commons, Suite 457
Georgia Institute of Technology
Atlanta GA 30332

Dear Members of the Selection Committee:

I am pleased to write in support of Dr. Shana Kerr, who has been nominated for a CETL Undergraduate Educator Award. I have taught with Shana in three of our Introductory Biology courses (Biology 1510, 1511 and 1521) and have worked closely with her as a member of a committee that coordinates our introductory biology curriculum. In all, Shana has been a very effective instructor and innovator in our introductory courses, and an outstanding contributor to ongoing efforts to update and improve our curriculum and instructional approaches. Shana is a gifted lecturer and has consistently received strong evaluations from students in the classes we've taught together. Our areas of interest and expertise are quite different, so I always learn new things when I sit in on her lectures, which I do at every opportunity.

Shana has taken a very active role in ongoing efforts to improve our courses since joining our faculty in 2012. For example, she was part of a small group that developed specific learning objectives for each of the class sessions in all of our introductory biology courses. She has also been very active in introducing new teaching approaches to our classrooms, including a wide variety of class exercises to promote active learning as well as a number of innovative, multi-session case studies to introduce students to complex materials in modern biology and bioethics. Shana has also developed a variety of web-based instructional materials to complement our lectures, an effort that may ultimately reduce or eliminate our reliance upon a textbook in our introductory biology classes. Shana is currently working to implement a flipped classroom approach

for our courses in Organismal Biology (Biol. 1520 and 1521), building on previous efforts to flip our Introductory Biology (Biol 1510 and 1511) classes.

Finally, I should mention that Shana's contributions to Georgia Tech extend well beyond introductory biology. For example, she regularly teaches our TA training courses (CETL 2000/8000) and has been very active in mentoring both undergraduate and graduate students interested in teaching. Shana is also one of our departmental advisors and plays a very active role in mentoring students both within Biology and in the larger university community.

In summary, I believe that Shana's teaching, mentoring, and curricular efforts have made a real difference to our students and I strongly support her nomination for the Undergraduate Educator Award. Please feel free to contact me if you need any additional information regarding Shana's contributions – I would be happy to elaborate on these comments and/or provide any additional information you may require.

Sincerely yours,

A handwritten signature in blue ink that reads "Joseph P. Montoya" followed by a horizontal flourish.

Joseph P. Montoya
Professor of Biology

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email: montoya@gatech.edu

To Dr. Jordan and the Selection Committee,

My name is Woong Jun Park and I am a third year Business Administration student on a Pre-Dental Track at Georgia Institute of Technology. I am fully confident that Dr. Shana Kerr is deserving of your esteemed honor as a recipient of the Georgia Tech CETL Undergraduate Educator Award.

I first met Dr. Kerr in Biology 1510 during the summer of 2013. At that time, I was in two other rigorous courses, working, and volunteering as a FASET Orientation Leader. With all that in mind, my academics were a very heavy load to take on during one summer. Towards the end of the semester, I received back an exam and realized that I had completely and utterly failed this test. I was just about ready to transfer out of this school due to the hard rigorous workload from the previous year and more personal reasons of just not feeling like I was at home here at Tech. However, I decided that I should try and talk to Dr. Kerr and see if there was anything that I could do to try and salvage my grade. Instead of dismissing me and giving me generic answers, Dr. Kerr sat down with me individually and talked me through what went wrong and the steps that I could take to succeed in the final exam. Her calm demeanor and unwavering support gave me the courage and strength to really start studying more efficiently and more effectively. The way that she handled my situation with respect and compassion allowed me to not give up on my dreams. Not once did I feel uncomfortable bringing my problems to her because she was so open and honest with me that I gained trust and respect instantly. Without Dr. Kerr's encouragement, I would not have passed that class and I would not be on track to becoming a dentist, today. I still keep her words of guidance in mind whenever I run into a hard class or assignment. I am a better student and a more tenacious learner because of Dr. Kerr and her passion for her students.

Not only has Dr. Kerr helped me inside the lecture hall, but she has also been available to advise me on other matters in my life - such as my career after Georgia Tech. I had the privilege in going to the GT Student Center's "Take A Prof to Lunch" event with her and was able to hear about her journey and also share my hopes and aspirations as well. She helped me to focus on things that were important to me and to really thrive towards the best without being scared of failure. It was amazing to see how she connected advise that she had previously given me as a biology student directly to advise that she gave me as a friend.

I may have not done as well as I would have hoped to in Dr. Kerr's class; however, the lessons that I have learned from her and the mentorship that I have gained completely overshadow any shortcomings that I may have had. Dr. Kerr's intellectual teaching methods, faith in her students to succeed, and genuine love for her work make her the absolute best candidate for the Georgia Tech CETL Undergraduate Educator Award.

Thank you for your time and consideration to acknowledge such prestigious and deserving professors on our campus.

Best Regards,

A handwritten signature in black ink that reads "Woong Jun Park". The signature is fluid and cursive, with the first name "Woong" and last name "Park" being the most prominent parts.

Woong Jun Park

Business Administration, Marketing & Pre-Dental
Georgia Institute of Technology | Scheller College of Business
Department of Residence Life | Resident Advisor North Avenue South
New Student & Sophomore Programs | Student Assistant
GT Pre-Dental Society | Vice-President of Finance

It is my pleasure to express my support for Dr. Shana Kerr for this year's Undergraduate Educator Award. Dr. Kerr was my professor for several courses over the past few years, including Cell Biology Lab and UTA Preparation. The style of these courses was such that I was able to speak with her one-on-one at great lengths, and I have found that she is capable as a scientist, professor, and mentor. Considerate and respectful to her students, Dr. Kerr emotes her concern and respect for her students every day through her excellent teaching, openness and response to feedback, and willingness to meet to discuss anything from school-related topics to her own experiences as a female scientist who graduated from Georgia Tech. Dr. Kerr excels as a professor and mentor and without a doubt deserves this award.

As my Cell Biology Lab professor, Dr. Kerr helped our class develop the skills to interrogate biological questions, beginning in the literature and continuing into experimental design and execution, data analysis, and presentation of our conclusions. The class was similar to Research Project Lab and truly incorporated the entire scientific process, preparing us for future lab work and teaching us how to think critically about science far more effectively than any other course I've taken at Tech. Dr. Kerr has high expectations for her students—all of our assignments and in-class work in Cell Biology Lab corresponded to what is currently being done in the field—but provides every resource to help us succeed, with the expectation that we would grow to understand what science and being a scientists truly means. Dr. Kerr's implementation of this course is one of the reasons why I am pursuing a PhD.

Outside the classroom, Dr. Kerr has given me practical and useful advice. Even when I visit her office unexpectedly, she always makes herself available to answer any questions I have. Specifically, her advice as an alumna from both Georgia Tech and Emory has been invaluable as I am investigating graduate programs and career options. She has also reached out to me to participate in several School of Biology events (such as the Biology Homecoming Party and various recruitment events), which makes me feel like an appreciated and important part of the School of Biology and Georgia Tech. Dr. Kerr is one of my greatest resources at Georgia Tech, and I cannot recommend her enough for this award.

Alicia Lane

Biology major

Dr. Kerr excels in encouraging students to achieve and making lectures compelling, even in required courses. Cell Biology Lab is one of three required labs, often touted as the most difficult, and students are known to actively forgo taking the course. I ended up taking it simply because it fit best in my schedule, and was pleasantly surprised when I met Dr. Kerr. She was kind and took her time to explain the difficult concepts that we were being introduced to with an obvious mastery of the content while making it accessible to us as newcomers to the field. She was present during every lab period, which was an anomaly over the course of my studies at Tech. Her easy rapport with students and mentorship both in and out of the classroom impressed me; it was rare that I saw a teacher who genuinely cared about her students success at this difficult, research driven school.

In addition to excellent teaching, Dr. Kerr mentored me personally over my final year at Tech, and I would credit her encouragement as the sole reason my grades began to improve over my final year. She talked to me about career goals and empathized with the rigor of my courses at Tech while keeping my spirits high during test weeks and difficult times. She encouraged me to use the tutoring center and personally lauded me when I scored high on a lab report. Likewise, when I did not perform as well as I had hoped, she was more than willing to sit down and explain my faults while offering constructive feedback as to where I could improve.

When I started my first job after undergrad, Dr. Kerr was the first to know. The skills she taught me in Cell Biology Lab proved to be invaluable, as I regularly utilized the techniques that I was shown in class. She embodies the mission of Georgia Tech CETL by leading an engaging classroom and upholds the standard of excellence expected of faculty at this prestigious institution. It would be my honor to recommend her for this award.

Shelby Sweat
Research Associate || Lab of Guido Silvestri
B.S. Biology || Georgia Institute of Technology

Dr. Kerr stands as an example to all professors who seek to successfully impact their students both inside and outside of the classroom. While I'm not a student in the School of Biology anymore, I still maintain a stout passion for the field, largely because of Dr. Kerr. Dr. Kerr is a powerful force in the classroom, a professor who has a specific goal for each class, yet can adapt to the needs of her students. Despite her prowess as an educator and a researcher, I believe Dr. Kerr's strongest trait in the classroom is her kindness. Many professors at Georgia Tech can exude an imperious attitude, making them unapproachable and creating an environment where students feel uneasy to ask questions. This is the complete opposite with Dr. Kerr. She jokes with students, allows discussion surrounding a confusing topic, and lets us peek into her personal life. By doing these small things, Dr. Kerr establishes strong relationships with her students, and as a result they feel extremely comfortable to seek her out and discuss misunderstandings. If you're lucky enough to have two classes with Dr. Kerr like I did, you become spoiled by her attentiveness and hope she can teach all of your courses.

I firmly believe that all professors at Tech have something to learn from Dr. Kerr, because her priority in the classroom is always the students.

Charles Marcus

Undergraduate Student