

February 26, 2019

Dr. Laura Corey
Chair, Molecular Biology
Associate Professor of Biology
Illinois College
Jacksonville, IL, 62650

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Dear Dr. Corey,

I am delighted to apply for the position of Assistant Professor in Molecular Biology at Illinois College. I will graduate December 2019 with my PhD in Biological Sciences from the University of Missouri (MU). I believe that my education, research background, and my work with undergraduate students make me an ideal candidate for this position. Below I summarize my credentials in teaching, research, and mentoring.

Teaching I'm looking forward to bringing the strategies I've learned from my experience as a teaching assistant into my own classroom. I've assisted teaching courses for biology majors and non-majors and from the freshman level to the upper classes. From leading the lab section of Dr. Bethany Stone's General Botany course, I learned how to design labs that are more inquiry-based and student-led to engage students' curiosity and give them more agency over their learning. In their biotechnology unit, students chose snack foods to check for GMO-containing ingredients. Students then analyzed DNA extracted from these foods by performing gel electrophoresis. Students participated in every step of this process and it was the first time many students held a pipette which made for an exciting lab! Though these labs dealt primarily with plants, the majority can be modified to suit a general biology or cellular and molecular biology course. I will bring this student-centered focus into my future classroom.

My training extends beyond my experience as a teaching assistant. To supplement my understanding of pedagogy, I took a College Science Teaching course from Dr. Marcelle Siegel. From this class I gained a better understanding of how people learn and a repertoire of effective teaching strategies that allow students to interact and engage with each other about the content such as startling statements or speed-dating. One of the most rewarding experiences was the chance to shadow and interview an accomplished teacher on campus. I chose to shadow a microbiology professor as I knew this was a subject I wanted to teach. I picked up a lot of engaging strategies such as her "Microbe of the day" that contextualized the concepts from class with a charismatic microbe as an example. I even used her taxonomy lessons as inspiration when I developed a unit of instruction for a general biology class. Most importantly, I learned how to better address equity in the classroom and on campus. We read primary literature concerning student identity and discussed how professors can help students see themselves as scientists. I hope to work with an office like Illinois College's Office of Diversity, Equity, and Inclusion so I can best serve my students. I am confident I can help my students excel at Illinois College.

Research Illinois College is the perfect place to take my research program. My serendipitous collaboration with Dr. Lawrence Zettler on orchid mycorrhizal fungi has led to a fruitful area of research that I would love to continue as an Assistant Professor. My knowledge of IC's lab facilities and the fungi in Dr. Zettler's collection allow me to start my research projects right away. Along with knowledge of the organisms, I will be bringing expertise in genomics and analysis of next-generation sequencing data. I look forward to teaching the students in my lab general bioinformatics skills which are transferable to many disciplines. I also look forward to collaborating with faculty in the biology department and across campus. I will bring new expertise and questions to a system that has a substantial opportunity for new scholarship and involvement with undergraduate researchers.

Mentoring Undergraduates I have mentored several undergraduates, and summarize my experience with two excellent students, Luigi Erba and Shelby Sample. Luigi came from Illinois College and worked with me for a summer. He ran countless PCRs and worked diligently to identify the fungal isolates I have sent for sequencing. He is working toward medical school or graduate school and I know he will succeed on either path. Shelby worked in the lab from May to December 2016 to learn as much as she could about fungi to fulfill her goal of using mycology and engineering to help solve environmental problems. She is currently a civil engineer with the St. Louis Sewer District focusing on storm water and green infrastructure projects. Their success in the lab and what they have accomplished since then are the things I am most proud of in my graduate school experience.

My commitment to mentoring undergraduates extends beyond my own lab. For two years, I have been the graduate student coordinator for the Freshman Research in Plant Science (FRIPS) program at MU. I helped select promising freshman interested in researching plants, paired them with a lab on campus and held a weekly seminar over the course of the academic year to help guide them to become future plant scientists. I most enjoyed being a person on campus they can come to for advice and to ask questions about their work and their next steps after the program. It is always so rewarding to see students transform from brand new researchers to confident scientists and professionals. The lessons I've learned from this program will continue to inform how I introduce students into the lab. I want to continue my role as a mentor and working with undergraduates in the student-focused environment at Illinois College is thrilling.

I believe that my teaching interests, my research program, and my commitment to mentoring undergraduates make me a compelling candidate for the Assistant Professor position. I look forward to engaging in the scholarly community of Illinois College and to preparing students for their future endeavors. Thank you for your consideration and I look forward to hearing from you.

Sincerely,

Sarah Unruh
PhD Candidate
University of Missouri, Division of Biological Sciences