My overriding philosophy for being a successful mentor, one who fosters a culture of student scholarship at Mason, is to motivate undergraduate students to develop an interest in science that is as strong as the one that drives my own research. In my experience, most students have an inherent curiosity about the world that can be explored via research, and so my goal as a research mentor is to find ways to tap and use that curiosity to motivate student learning. To do so, I have developed a three-faceted method that is succeeding in getting more and more students involved in research. First, I have worked hard to recruit undergraduate students into my own research laboratory group in order to facilitate hands-on student learning. Five undergraduate students, two of whom are freshmen, currently work in my research laboratory alongside two MA students and three doctoral candidates. Undergraduate students who participate in the laboratory receive CITI training that allows them to conduct human-subjects research, learn to design experimental studies and analyze their results using statistics, and perhaps most importantly, they learn to communicate the results of their work via presentations and publications (see enclosed).

The second approach I use to attract undergraduate students to research is to investigate topics that are relevant to students. Some examples of past student-related research topics that we have published include: whether the use of plagiarism-detection software prevents student plagiarism, how transfer students transition from community colleges to four-year universities, what external factors influence students’ evaluations of instructors, whether meditation before a lecture can improve students’ knowledge retention, and whether taking notes on computers hurts students’ performance on paper-based tests. This semester, my laboratory group is collaborating with undergraduate students at Wake Forest University to investigate whether some of my prior decision-making research might be used to foster sustainable student behavior on campus, and has entered the Federal Aviation Administration’s Design Competition for Universities to develop a mobile application for reducing the anxiety associated with air travel. Many of these areas of research lead to interesting internship opportunities at local companies where I have contacts. While topics like educational psychology, sustainability, and app design do not represent my primary research focus, the research often leads in interesting directions, and often has direct applications for instructional improvements that naturally interest students.

The third approach that I have taken to involve more undergraduate students in research has been to develop and teach an undergraduate course in Human Factors psychology. GMU has one of the best-ranked Human Factors graduate programs in the United States, but oddly, did not teach a single undergraduate course on this topic. In the spring of 2012, I developed and taught Human Factors as a PSYC 461 special topic in psychology, and the student response to the course was so positive that I have continued to teach the class in every subsequent semester. The course actually requires that students complete three independent research projects that are designed to get them interested in joining psychology research laboratories, and while I have no official way of knowing how effective the class has been at encouraging undergraduate research participation, an informal show of hands in my class this semester showed that 3/4 of the class (~30 students) had sought out research opportunities as a result of the course. Two strong indicators of the course’s success include a recent department vote in the to make the course a permanent part of our curriculum (PSYC 340), and an invitation to speak about engaging undergraduates in research at the 2013 Human Factors and Ergonomics Society.