There is no doubt that Emory has an excellent atmosphere for undergraduate students interested in research. From renowned research faculty to one-of-a-kind academic institutes, the university provides many research opportunities for students to explore their passions. One such institute will serve to enhance undergraduate research at Emory by increasing the presence of quantitative methods across disciplines on campus. The new Institute for Quantitative Theory and Methods (QuanTM), in its first active year, has already made significant progress in its mission to “promote the teaching, learning and use of quantitative theory and methods” through its undergraduate fellowship program, workshops and speaker series.

QuanTM offers up to six undergraduate fellowships to qualified students who are interested in the use of quantitative methods in research. These fellows are paired with an Emory professor and are given the opportunity to assist in conducting research in an area of mutual interest. Undergraduate fellows are provided with office space on the fourth floor of the Modern Languages Building, as well as the chance to be part of the QuanTM community of scholars and to attend events hosted by the institution.

The varied applications of quantitative methods allow undergraduate fellows to be exposed to a broad range of academic fields and approaches to research. The 2012-2013 undergraduate fellows are performing research in a multitude of areas, from the analysis of mosquito swarming and mating behaviors to a research project examining the impact of early childhood education programs on student outcomes.

Along with the chance to participate in quantitative research at Emory, undergraduate fellows are also given the opportunity to attend QuanTM’s speaker series and workshops, where they are able to meet and learn from respected researchers from a wide range of academic backgrounds. Many of the invited speakers this year will discuss topics related to “Big Data,” the theme of the institute for 2012-2013.

The nature of statistical research allows for various interdisciplinary applications, which can be seen clearly in the variety of work being presented at these events. Whether it’s using computational analysis to determine the interaction between language and power or quantitative methodology to assess the effect of poor neonatal health on cognitive development, the use of quantitative methods is pervasive in academic research. For undergraduates, being exposed to this kind of research is an invaluable opportunity, so the presence of QuanTM on campus is sure to benefit the undergraduate research community at Emory.

“For undergraduates, being exposed to this kind of research is an invaluable opportunity…”

The role of QuanTM in undergraduate research does not stop at the undergraduate fellows program. The necessity of quantitative skills in scholarly research cannot be understated, and the earlier these skills are developed, the larger the role an undergraduate will be able to play in research. In many academic areas, especially in the social sciences, quantitative skills are not emphasized until later in a student’s undergraduate education, which limits these students’ research options. For this reason, the Institute has also planned the Quantitative Social Science major, which will attempt to expand the breadth of research performed by undergraduates in the future.

The major should hopefully be up and running in the next few years, according to the Director of QuanTM, Clifford Carrubba. The major’s curriculum requirements will include a sequence of quantitative classes as well as a set of classes in the student’s substantive area of interest. The major will be set up this way in the hopes that students will be able to get started early on the quantitative classes so that those skills can be employed in their substantive classes as they are taken.

“It’s really important to get these skills early in your academic career,” advises Carrubba. “If you get these quantitative classes under your belt early, you’re more likely to be able to get involved in the more advanced and rigorous work that faculty members are undertaking.”

For students interested in quantitative research at the undergraduate level, the Institute for Quantitative Theory and Methods offers a wealth of opportunities to expand their knowledge of quantitative methods and provides insight into the many branches of quantitative research.