Research Experiences for Undergraduate Faculty (REUF) on the Mathematics of Data

The Information Initiative at Duke (iiD), the American Institute of Mathematics (AIM), and the Institute for Computational and Experimental Research in Mathematics (ICERM) announce the REUF on the Mathematics of Data workshop, to be held July 18-22, 2016, in Durham, NC.

This workshop, sponsored by the National Science Foundation and the Departments of Mathematics and Statistical Science at Duke, is part of the REUF program that brings together leading research mathematicians with faculty at undergraduate institutions who are interested in involving their students in areas of active research. The workshop is also a research renewal opportunity for faculty who want to re-engage in research or are considering a change of research area.

REUF on the Mathematics of Data will focus on the recently developing fields that lie at the interface of pure mathematics and big data analytics; for example, manifold learning, topological data analysis, and wavelet theory. Faculty trained in topology, geometry, algebra, or analysis will work on problems that are phrased in the language of their fields but are accessible to dedicated undergraduates through the use of computers.

The majority of the workshop will be spent working in small research groups, reporting on progress, and formulating plans for future work. Technical assistance with scientific programming will be readily available throughout the week. In addition, 60 undergraduates will be concurrently working on similar problems in iiD's successful Data+ program (http://bigdata.duke.edu/data), and the REUF faculty participants will have ample opportunity to interact with these students and imagine possibilities for future undergraduate projects.

In addition to the workshop itself, there will be opportunities for faculty, and their undergraduate students, to return to iiD the following year and report on results.

Preference will be given to faculty who teach and advise substantial numbers of minority students. Participants will receive full support for travel, accommodation, and per diem.

Applications will be available at http://reuf.aimath.org in January 2016. For more information, please contact Paul Bendich (bendich@math.duke.edu) or Brianna Donaldson (brianna@aimath.org).