

Big Data to Knowledge Training Program

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The Departments of Biology, Biostatistics, Computer Science, Epidemiology, Genetics, Mathematics, Nutrition, Physics and Astronomy, and Statistics and Operations Research; the School of Information and Library Science and the School of Pharmacy; and the Curriculums in Bioinformatics and Computational Biology, Genetics and Molecular Biology, and Toxicology, at the University of North Carolina at Chapel Hill (henceforth UNC-CH or Carolina) request five years of support for six trainees in an interdisciplinary "big data to knowledge" training program. This program unites faculty members and students from four schools and the College of Arts and Sciences in an outstanding research university nestled in the Research Triangle, home to many Big Data industries. The 6 trainees will constitute a multidisciplinary cohort drawn evenly from the biomedical science domain, computer science and informatics domain, and the mathematics and statistics domain. The proposal seeks to combine rigor and depth of a trainee's home Departmental PhD program interwoven with a blend of didactic, experiential, team-science approaches necessary for, and specific to, present and future careers in Big Data biomedical science. The BD2K trainees will pursue the PhD in their respective disciplinary domain, while simultaneously engaging in the enhanced and supplemental training in Big Data Science provided by this application. The common trait aimed for in our BD2K Big Data training program is that all supported trainees, and to variable extent all graduate students who take advantage of our curriculum, will be poised and equipped for the remainder of their careers to develop new methods of Big Data in the context of biomedical science, and to participate in the evolution of Big Data tools development and application to biomedical science. PUBLIC HEALTH RELEVANCE: This proposal seeks to train six predoctoral students in an interdisciplinary "big data to knowledge" training program in biomedical science. The program unites faculty members and students from four schools and the College of Arts and Sciences in an outstanding research university nestled in the Research Triangle, home to many Big Data industries. The goal is to prepare a new generation of scientists who are poised and equipped for the remainder of their careers to participate in the evolution of Big Data tools development and application to biomedical science.