

Training Component Activities at the Center for Causal Discovery

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The goals of the training component of the Center for Causal Discovery (CCD) include the training of data scientists and biomedical investigators in the use of causal discovery tools and the dissemination of those tools. This year, the CCD held its second annual five-day summer short course in causal discovery from biomedical data. A total of 71 participants attended the course, including 33 graduate students, 5 postdoctoral fellows, 15 faculty, 10 undergraduate students, with the remaining 8 from industry, the healthcare sector, and government. A total of 21 different institutions were represented. The course included an introduction to graphical models, estimation and inference in causal models, model equivalence and search, and applications to a variety of biomedical big data problems including fMRI, lung disease pathways, and cancer genomics. Following the short course, we held our first CCD Causal Discovery Datathon. A total of 34 participants attended including many who also attended the short course. Participants learned to use the CCD TETRAD software and to apply it to their own data. This past summer, we also inaugurated our undergraduate Big Data research experience in collaboration with BD2K R25 investigators at University of Puerto Rico (UPR). A total of 6 students from UPR spent ten weeks in Pittsburgh, working directly with CCD faculty and others on Big Data research projects. UPR undergraduates also attended part or all of the Summer Short Course as part of their training. Additional CCD Training Component activities included the Causal Discovery Distinguished Lecture Series, online curriculum development, and outreach activities at scientific meetings.

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