

Interdisciplinary Training

Advances in the treatment of neurological disorders will require researchers who can venture outside their disciplines to master new tools and techniques that will help them better understand how diseases begin and progress. The Blueprint Interdisciplinary Training grants have been awarded to institutions across the country to develop programs that encourage this kind of exploration by young neuroscientists and also attract other students who are currently training in the physical and quantitative sciences. These programs were created and implemented to enrich the knowledge base of neuroscience research.

Computational Neuroscience

This initiative establishes new research education and research training programs in computational neuroscience for undergraduate and predoctoral level students. Programs supported by these grants provide teaching and training in both experimental neuroscience and in the theories and principles of the physical, computer, mathematical, or engineering sciences. Students learn how to develop models of normal or disordered neural systems or processes, test them experimentally, and then use experimental data to refine them. Programs are designed to stimulate interactions among training faculty from multiple disciplines and departments and to foster development of an integrated curriculum in computational neuroscience at the home institution. Four programs have been funded through this initiative.

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Neuroimaging

This training initiative was designed to foster the development of novel interdisciplinary training programs that integrate comprehensive training in basic neuroscience, the physical and biological bases of neuroimaging, the technologies of *in vivo* neuroimaging, and the application of these technologies to understanding questions in neuroscience across the life span. The goal of these programs is to train the next generation of neuroimaging researchers so that they have a solid understanding of the underlying principles and the technologies of neuroimaging, as well as their application to experimental questions in neuroscience. Three programs have been funded through this initiative.

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Interdisciplinary Training *(continued)*

Translational Research in Neurobiology of Disease

This initiative supports programs that cross-train students in both basic and clinical neuroscience and focus not on specific diseases, but on the biological mechanisms that are shared across diseases. Participants are trained to identify and conduct research on clinically relevant neurobiological questions and are taught how to move the knowledge gained from basic research into clinical and disease-oriented research. Conversely, students learn how findings in clinical research can serve to inform and refine basic research. The program is designed to support trainees at multiple stages in their careers, including doctoral and M.D./Ph.D. students, postdoctoral fellows, and short-term health professional research trainees. Three programs have been funded through this initiative.

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