Interdisciplinary Ph.D. Program

Brain, Computation and Data Science

(previously called Brain and Artificial Intelligence)

Over the past two decades, neurobiologists have made significant conceptual advances in our understanding of the brain through technological breakthroughs that have yielded unprecedented opportunities to gather large-scale structural and functional data. On the other hand, over the same period, computer scientists and electrical engineers have developed mathematical techniques and algorithms to address many questions in signal processing, machine learning and data analytics. These tools are not only helpful in advancing our understanding and emulating of brain function, but also are radically transforming many applications in information and communication technologies, with significant implications for biological research methodologies as well.

The rapidly expanding nature of these technical as well as conceptual advances, on both the neurobiological as well as the machine intelligence aspects, has necessitated specialized curricula that seamlessly integrate both disciplines. There is an acute need for students and scientists who understand the biological and engineering sides of this interdisciplinary area, to enable integrated innovation that ensures maximal cross-benefits.

The goal of this Ph.D. program in **Brain, Computation and Data Science** (BCD; previously called Brain and Artificial Intelligence) is to train students such that they are able to address significant research questions in brain, computation and machine intelligence. The theme governing the research training programme as well as the projects driving Ph.D. theses would be to blur the boundaries of disciplines, and to provide wholesome training that spans all aspects of this interdisciplinary research area. The broader goal is also to foster synergistic interactions among neurobiologists and computer scientists and electrical engineers that would yield outstanding discoveries and inventions on this important research discipline.

How to Apply

All admissions to IISc are through the IISc admissions portal (see https://www.iisc.ac.in). If you are interested in this program, please select Brain, Computation and Data Science (BCD) as one of your preferred departments or programmes in the online application form. Selection is based on an interview process, and the list of projects and the faculty offering them will be available on this website close to the interview. Please browse through the website on the brain computation thematic group (https://brain-computation.iisc.ac.in/) for all the activities by this interdisciplinary group of faculty within IISc.

The BCD program is geared towards an interdisciplinary Ph.D. degree. There are NO M.Tech/Masters degrees associated with the BCD program.