Georgia Tech, MIT and Allen Institute for Brain Science Receive 4.3 Million NIH Grant

Georgia Institute of Technology

Research Aims to Enhance Personalized Medicine Capabilities

An interdisciplinary team from the Georgia Institute of Technology, Massachusetts Institute of Technology and the Allen Institute for Brain Science was awarded a $4.3 million National Institutes of Health grant. Led by Edward Boyden (associate professor, Media Lab and McGovern Institute, MIT), Hongkui Zeng (senior director, research science, Allen Institute for Brain Science), and Craig Forest (assistant professor, Woodruff School of Mechanical Engineering, Georgia Tech), the team will undertake a five-year effort (2012-2017) to develop new precision robotics, as well as relevant methods of use, that will enable biologists and clinicians to automatically assess the gene expression profile, shape and electrical properties of individual cells embedded in intact tissues such as the brain.

By enabling the automated characterization of cells in complex organ systems, the technology will empower scientists across biology to map the cell types present in organ systems (e.g., brain circuits) in disease states, enabling new mechanistic understandings of disease and enabling new molecular drug targets to be identified. These robotic tools will also enable new kinds of biopsy analysis and diagnostic, helping empower personalized medicine in arenas ranging from epilepsy to cancer, to utilize information about cellular diversity in disease states to improve patient care.

The grant was awarded through the National Eye Institute (NEI) of the National Institutes of Health (NIH) under Award Number R01EY023173.

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