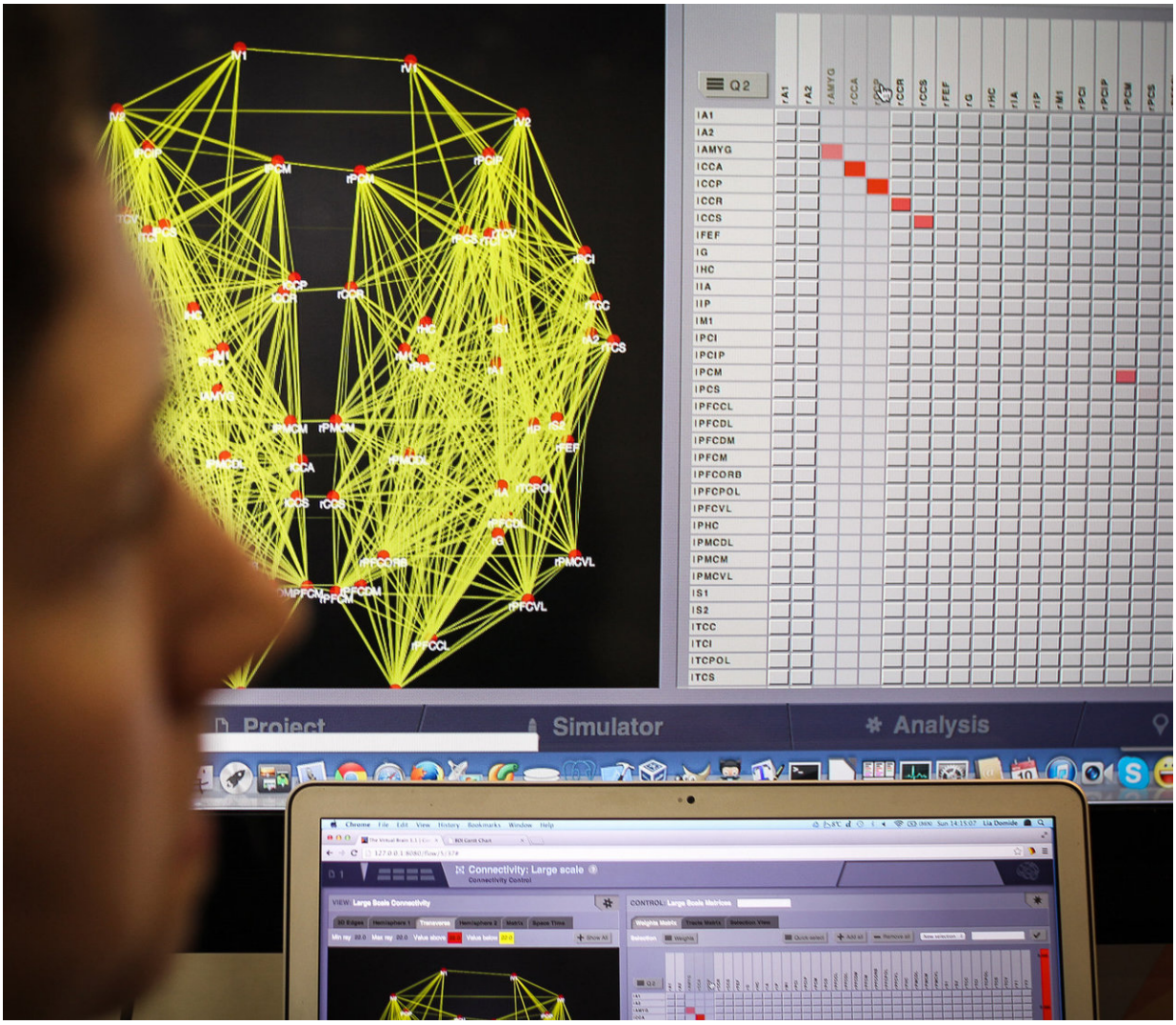
Virtual Brain joins flagship neuroscience initiative in Europe

August 15 2018



The Virtual Brain platform. Credit: Michael Burgstahler, Two Tribes

The Virtual Brain (TVB), an international brain-mapping platform co-developed by Baycrest researchers, has become part of one of the largest European research enterprises to advance neuroscience, medicine and computing.

Through TVB's international partners at the Charité Universitätsmedizin Berlin and the Berlin Institute of Health, the platform will be integrated as the core simulation tool within the Human Brain Project, a multi-billion dollar enterprise involving more than 750 scientists in more than 20 countries.

"The Virtual Brain's involvement in this project will lead to widespread adoption of our platform among numerous researchers across Europe," says Dr. Randy McIntosh, one of TVB's co-founders and a senior scientist at Baycrest's Rotman Research Institute. "This integration will help researchers around the world better understand the brain and incurable disorders and explore the effectiveness of different diagnostic and treatment options to offer personalized care to each and every patient. It also demonstrates the scientific excellence and potential of TVB as a tool."

TVB's team in Berlin, led by co-leader Dr. Petra Ritter, has been provided funding to build a digital infrastructure that will seamlessly integrate the two projects and give the Human Brain Project researchers the ability to incorporate all their brain data into the platform and run simulations.

"For The Virtual Brain, this move will add a wealth of clinical datasets to the growing platform," adds Dr. McIntosh, who is also a psychology professor at the University of Toronto. "The expanded use of TVB will also speed up its validation for diagnostics and prognostics among patients."

The Virtual Brain is a unique, open-source modelling platform that captures intricate details of the brain's structure and function through the collection of imaging data. The platform was built by an international team and will help clinicians detect different types of dementia and brain diseases earlier, and give doctors the ability to test potential treatments before prescribing them to patients.

Currently, the platform is being trialed by its European partners to assist in the healthcare for patients with epilepsy and brain tumours.

"The Virtual Brain is just one example of how Baycrest researchers are continuing to lead the charge in tackling dementia and transforming the aging experience," says Dr. Allison Sekuler, Vice-President, Research, and the Sandra A. Rotman Chair at Baycrest. "Research is a team sport and we are thrilled to be part of this global team. By collaborating with others around the world to merge neuroscience with big data and AI, we are advancing ways to understand, protect, and enhance brain health throughout our lifetimes."

Provided by Baycrest Centre for Geriatric Care

Citation: Virtual Brain joins flagship neuroscience initiative in Europe (2018, August 15) retrieved 24 April 2024 from https://medicalxpress.com/news/2018-08-virtual-brain-flagship-neuroscience-europe.html