Investing in the Brain

This month’s cover story (p. 24) looks at optogenetics, a field of neuroscience helping to advance our understanding of the differences between the healthy and diseased brain. As the world population ages, knowledge of neurodegenerative diseases is becoming increasingly important. Countries around the world are investing large sums of money to develop new technologies toward a lifelong healthy brain—but much more is needed.

World Brain Initiatives

U.S. BRAIN Initiative
LAUNCH: 2013
BUDGET: >US$4 billion
FUNDING: NIH, HHMI and Kavli Foundation
AIM: Develop innovative tools for brain research to provide fresh insights into how the brain records, stores and retrieves huge quantities of information

E.U. Human Brain Project
LAUNCH: 2013
BUDGET: €1 billion
FUNDING: European Union member countries
AIM: Develop next-generation supercomputers to further our understanding of the brain

Japan Brain/MINDS
LAUNCH: 2014
BUDGET: US$310 million
FUNDING: AMED
AIM: Use the marmoset, a New World primate with a short life cycle and a brain that is similar to the human brain, for functional and structural brain mapping and genetic studies

China Brain Project
LAUNCH: 2016
BUDGET: not yet defined
FUNDING: not yet defined
AIM: Use the rhesus macaque, an Old World primate, to develop models of human diseases; study genetic information/records of Chinese population for information about risk factors for disease

South Korea Brain Initiative
LAUNCH: 2018
BUDGET: US$350 million
FUNDING: not yet defined
AIM: Construct two specialized brain maps by 2023—one for the healthy brain and another that diagrams the changes in the aging brain

Toward a global initiative: In December 2017, representatives of several of the major world brain projects announced the creation of an International Brain Initiative to coordinate global efforts.

Source: www.kavlifoundation.org; World Alzheimer report 2015; World Health Organization dementia fact sheet 2017 / Infographic by Alessia Kirkland