7th BigBrain Workshop: Challenges of big data integration



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Are we FAIR yet? Perspectives on the state of global neuroscience data sharing

Neuroscience has made tremendous strides in moving towards open neuroscience over the past decade. Spurring by large investments into neuroscience infrastructure and open datasets, we are close to taking our place alongside fields such as genomics and astronomy, the poster children for open science, in providing large pools of public data. Given the rapid pace of technological development, the multimodal nature of our data and the plethora of model systems, establishing these pools was no small feat. But are we FAIR yet? We've made progress in making data findable and accessible, but interoperable and reusable remain a challenge. We know that large prospective data sharing projects like HBP, SPARC, ABCD, Human Connectome, US BRAIN Initiative Cell Census Network and Cell Atlasing project, succeeded in moving large amounts of data to the public domain, but is creating routine and effective data sharing according to the FAIR data principles within the reach of individual scientists across all disciplines? In this presentation, I will consider the state of global neuroscience infrastructure and challenges and benefits of routine data sharing for both big and small science. I will argue that as a whole, the global neuroscience community has taken significant steps towards FAIR, even as work remains to be done.

Dr Maryann Martone is a Professor Emerita at University of California, San Diego, and Chair of the Governing Board for the International Neuroinformatics Coordinating Facility (INCF). She is past Chair of INCF's Council on Training, Science and Infrastructure, and past President of FORCE11 where she promoted the advancement of scholarly communication and e-scholarship. Pr Martone is also the founder of SciCrunch, a tech startup based on a uniform resource description framework for neuroscience (first developed under her lead at the Neuroscience Information Framework - NIF) and featuring a portal for connecting researchers to resources (built under her leadership at the NIDDK Information Network - dkNET). She started her career as a neuroanatomist, specialising in light and electron microscopy, but her current research interests are focusing on neuroinformatics with her team at the FAIR Data Informatics Lab and consist in building ontologies for neuroscience data integration and supporting data sharing through several large consortia, including the Stimulating Peripheral Activity to Relieve Conditions (SPARC) project, the BRAIN Initiative Cell Atlas Network (BICAN) and Preclinical Interagency Research Resource for Traumatic Brain Injury (PRECISE).

Presenter: Prof. MARTONE, Maryann (University of California)