

e-infrastructures at the core of the most ambitious challenges of modern science

Wednesday, 10 April 2013 09:00 (45 minutes)

Impact

Summary

Modelling brain function is one of the most daring challenges of modern science. The amount of basic neuroscientific knowledge and brute computational power required are just now crossing the threshold of feasibility. Europe has recently launched an extra-large 1 billion Human Brain Project, and the US triples this investment with the Brain Activity Map, on the basis that similar big science projects (such as the Human Genome) have given great returns (about 140 dollars per dollar invested). By modelling brain function in health and disease, the hope is to boost the drug discovery process in a way similar to that where virtual car crash tests have allowed build safer cars. The example of neuGRID, a distributed e-infrastructure based on grid and cloud computing for diagnosis and disease modelling of Alzheimer's and other neurodegenerative diseases, will be illustrated.

Description

Giovanni Frisoni is a clinical neurologist and deputy scientific director of the National Alzheimer's Centre in Brescia, Italy. He leads the local Laboratory of Neuroimaging and Translational Care Unit and has authored over 350 scientific papers. Frisoni is the Principal Investigator of several past and present EC-funded projects, including outGRID and the ongoing FP7 neuGRID for users, aiming to develop innovative working environments for imaging neuroscientists. He is involved in multinational infrastructure and research initiatives in the field of neuroscience and is leading the international Alzheimer's Association grant Harmonized Protocol for Hippocampal Volumetry (2010-ongoing) aiming to standardise the manual segmentation of the hippocampus globally.

Primary author: Dr FRISONI, Giovanni

Presenter: Dr FRISONI, Giovanni

Session Classification: Plenary Keynotes