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N4U: A WEB-BASED GATEWAY TO NEUROIMAGING RESEARCH

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The unprecedented growth, availability and accessibility of sophisticated image analysis algorithms and powerful computational resources led to the idea of developing web-based computational infrastructures that could meet users' new requirements. On the other hand the gap between the pace of data generation and the capability to extract clinically or scientifically relevant information is rapidly widening.

Integration of the power of sophisticated mathematical models, efficient computational algorithms and advanced hardware infrastructure provides the necessary sensitivity to detect, extract and analyze subtle, dynamic and distributed patterns distinguishing one brain from another, and a diseased brain from a normal brain.

neuGRID is the leading e-Infrastructure where neuroscientists can find core services and resources for brain image analysis. The neuGRID platform makes use of grid services and computing, and was developed with the final aim of overcoming the hurdles that the average scientist meets when trying to set up advanced experiments in computational neuroimaging, thereby empowering a larger base of scientists. Although originally built for neuroscientists working in the field of AD, the infrastructure is designed to be expandable to services from other medical fields (*e.g.* multiple sclerosis, psychiatric conditions).

“neuGRID for Users” will provide an e-Science environment by further developing and deploying the neuGRID infrastructure to deliver a Virtual Laboratory offering neuroscientists access to a wide range of datasets and algorithm pipelines, access to computational resources, services, and support. Information from this abstract is intended to make aware researchers working with neuroimaging of all possibilities when it comes to resources.

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