Human Brain Project Specific Grant Agreement 1

Results

Project Information

HBP SGA1

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Project website

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ECOLE POLYTECHNIQUE FEDERALE DE LAUSANNE
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CORDIS provides links to public deliverables and publications of HORIZON projects.

Links to deliverables and publications from FP7 projects, as well as links to some specific result types such as dataset and software, are dynamically retrieved from OpenAIRE.

Deliverables

Documents, reports (35)

D11.5.1 Education Programme Report

WPs involved: WP 11.5 This report will provide a detailed description of the HBP Curriculum as well as evaluation, statistics, conclusions and outlook of the HBP Education Programme tasks.

D 2.7.5 CDP6 Components Report for SGA1 M13-M24

The report will include a detailed overview of the components and products delivered and related outcomes for M13-M24 of SGA1. The tasks contributing to the CDP will be mentioned and responsible for the results.

D 7.6.1 High-Performance Analytics and Computing Platform specification update

"WPs involved: WP7.1, WP7.2, WP7.3, WP7.4, WP7.5 & WP7.6 This document is an update of the Ramp-Up Phase Deliverable D7.7.2 ""High Performance Computing Platform v1 - specification document"". It will provide a detailed specification of the High-Performance Analytics and Computing Platform at the end of SGA1."

D 2.7.1 SP2 Human Brain Organisation - Results for SGA1 Period 1

WPs involved: WP2.1, WP2.2., WP2.3, WP2.4, WP2.5, WP2.6 & WP2.7 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. COULD INCLUDE: Research results, tools and methods and contribution to initiate the platforms (for Period 1): Description of the data, tools and methods produced and developed in SP2 during the SGA1 phase and their contribution to the platforms. This package will include genetic factors contributing to at least one morphological / cognitive factor, genetic variants and individual genomic profiles, new cytoarchitectonic probabilistic maps of 5 or more human brain regions, mean densities of 15 different receptors in human anterior, mid- and posterior cingulate cortex, early extrastriate and higher visual areas, receptor distributions for selected areas of an initial native Big Brain parcellation, mapped U-fibre bundles and their microstructure, electrophysiological profiles and matching morphologies, massive mapping data from the 12 subjects of the IBC cohort, image-based meta-analysis of multiple functional datasets handled by HBP, framework for multi-modal mapping for one initial region of interest, systematic multi-modal mapping and characterization for at least 3 ROIs, differential laminar-specific fMRI signals along feedforward -and feedback

pathways in monkey and humans, model of spatial and feature-based attention effects at the level of cortical columns and layers, excitatory and inhibitory synaptic connections in rodent neocortex and their neuromodulation, effect of ventral midbrain stimulation on cortical representations in monkey, sulcus-based alignment of cytoarchitectonic and diffusion-based parcellations, connectivity matrix of the cytoarchitectonic and diffusion-based parcellations, EEG recording of the first 30 patients localized relative to the HBP connectome nodes, initial prototype of shape model and inter-individual spatial alignment, automatic extraction and identification of sulci from MRI, matching between small and large FoV PLI, HBP workflow for computing cell counts in high-resolution microscopic data.

D 12.5.3 Report on Ethics and Society activities

WPs involved: WP12.1, WP12.2, WP12.3, WP12.4 & WP12.5 This is the second SP12 report on Ethics and Society activities during SGA-1, detailing the main outcomes and results achieved by SP12 work packages in M12-24.

D 8.6.1 SP8 Medical Informatics Platform –Architecture and Deployment Plan

WPs involved: WP8.1, WP8.2, WP8.3, WP8.4, WP8.5 & WP8.6 • Architecture: Description of overall architecture for Medical Informatics Platform, providing a detailed plan for how “the architecture split designs will now converge” specifying who is responsible for what and when it must be done. • Deployment: Detailed deployment plan, specifying how difficulties encountered in deploying MIP to first five hospitals will be overcome specifying who is responsible for what and when it must be done. • Identify dependencies between architecture and deployment.

D 3.5.2 SP3 Systems and Cognitive Neuroscience - Results for SGA1 Period 2

WPs involved: WP3.1, WP3.2, WP3.3, WP3.4 WP3.5 & WP3.6 Summary of SP Results for M13-24, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. INCLUDE: • WP3.1 input: Studies in human brain imaging, rodent electrophysiology, optogenetics, and computational modelling of feedforward and feedback processing in the context of object recognition, and reinforcement learning. This report will include data on improvements made in modelling, experiments, techniques, and reports links to data repositories, use of Platforms as well as collaboration in Co-design projects. • WP3.2 input Period 1: Slow Wave Activity experiments, models and simulations and interaction with HBP platforms. This report will include usage statistics, TRLs, collaboration in Co-

design projects and updates on data accessibility. • WP3.3 input Period 1: Studies in human brain imaging, rodent electrophysiology, optogenetics, computational modelling and robotics of concerning Episodic memory and multisensory integration, with Robot demos. This report will include data on improvements made in experiments & measurement techniques, use of the tools by colleagues in the field and/or in HBP, links to data repositories, collaboration in Co-design projects, and TRLs. • WP3.4 input Period 1: Studies in electrophysiology, imaging and behaviour in rodents and humans, and multilevel computational modelling. This report will include methods for assessing consciousness and testing of theories of consciousness; links to data repositories, collaboration in Co-design projects, use of platforms, usage statistics for tools delivered. • WP3.5 input Period 1: Data usage plan and impact of data on models. A detailed plan of data usage and the impact of data on models for the data will be generated • WP3.6 input Period 1: Scientific report on SP3 contributions to the development of the infrastructure and co-design projects. This report will include the development of network simulation models, data analysis methods and other tools, as well as constraints and requirements for further applications using HBP platforms, and usage statistics for tools delivered.

D 12.5.1 Report on Ethics and Society activities

WPs involved: WP12.1, WP12.2, WP12.3, WP12.4 & WP12.5 This is the first SP12 report on Ethics and Society activities during SGA-1, detailing the main outcomes and results achieved by SP12 work packages in M1-12.

D 11.3.3 HBP Software Engineering and Quality Assurance Approach

WPs involved: WP11.2, WP11.3, WP5.6, WP6.5, WP7.5, WP8.6, WP9.5 & WP10.7 • This will describe the overall software engineering and quality assurance approach (covering both agile and codesign processes) This will update related content in System Engineering Package sent by PCO (Jeff Muller) to the EC in March 2016 and address feedback points received from the EC. NOTE: PEER REVIEW REQUIRED

D 5.8.3 SP5 Neuroinformatics Platform - Results for SGA1 Period 2

Summary of SP Results for M13-24, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP Products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. INCLUDES: Research results, tools and methods and contribution to initiate the Platforms (for Period 2)

D 4.7.1 SP4 Theoretical Neuroscience - Results for SGA1 Period 1

WPs involved: WP4.1, WP4.2, WP4.3, WP4.4, WP4.5 & WP4.7 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. COULD INCLUDE: • WP4.1 Period 1: Report of publications on theoretical approaches that bridge scales for model types, for brain signals and for model scales. Report of publications on theoretical approaches that bridge scales for model types (detailed vs. simplified), for brain signals (cellular vs. large-scale) and for model scales (cellular vs populations). • WP4.2 Period 1: Implementation of multi-area model of macaque visual cortex relating macroscopic brain connectivity to the microscopic connectivity. Implementation of multi-area model of macaque visual cortex relating macroscopic brain connectivity to the microscopic connectivity available to consortium through collaboratory and documented. • WP4.3 Period 1: Report of publications on theoretical approaches that relate learning and memory to synaptic plasticity. Report of publications on theoretical approaches that relate learning and memory to synaptic plasticity. • WP4.4 Period 1: Models of neural and large-scale brain activity to understand the constraints imposed by structural connectivity on their behaviour with applications to resting-state brain activity, vision, motor-control and spatial navigation. WP 4.4 will create models of neural and large-scale brain activity to understand the constraints imposed by structural connectivity on their behaviour with applications to resting-state brain activity, vision, motor-control and spatial navigation. • WP4.5 Period 1: Report on first use case(s) for the comparison of brain activity data and model simulation(s). Report on first use case(s) for the comparison of brain activity data and model simulation

D 4.7.3 CDP5 Components Report for SGA1 M13-M24

The report will include a detailed overview of the components and products delivered and related outcomes for M13-M24 of SGA1. The tasks contributing to the CDP will be mentioned and responsible for the results.

D 12.5.4 Second Opinions Report

WPs involved: WP12.1, WP12.2, WP12.3, WP12.4 & WP12.5 This is the second “opinions” reports formulating SP12 observations and recommendations about ethical and social issues arising during the course of HBP

D 2.7.3 CDP3 Components Report for SGA1 M13-M24

The report will include a detailed overview of the components and products delivered and related outcomes for M13-M24 of SGA1. The tasks contributing to the CDP will be mentioned and responsible for the results.

D 4.7.2 SP4 Theoretical Neuroscience - Results for SGA1 Period 2

WPs involved: WP4.1, WP4.2, WP4.3, WP4.4, WP4.5 & WP4.7 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. INCLUDE: • WP4.1: Report of publications on theoretical approaches that bridge scales for model types, for brain signals and for model scales. Report of publications on theoretical approaches that bridge scales for model types (detailed vs. simplified), for brain signals (cellular vs. large-scale) and for model scales (cellular vs populations). • WP4.2: Implementation of multi-area model of macaque visual cortex relating macroscopic brain connectivity to the microscopic connectivity. Implementation of multi-area model of macaque visual cortex relating macroscopic brain connectivity to the microscopic connectivity available to consortium through collaboratory and documented. • WP4.3: Report of publications on theoretical approaches that relate learning and memory to synaptic plasticity. Report of publications on theoretical approaches that relate learning and memory to synaptic plasticity. • WP4.4: Models of neural and large-scale brain activity to understand the constraints imposed by structural connectivity on their behaviour with applications to resting-state brain activity, vision, motor-control and spatial navigation. WP 4.4 will create models of neural and large-scale brain activity to understand the constraints imposed by structural connectivity on their behaviour with applications to resting-state brain activity, vision, motor-control and spatial navigation. • WP4.5: Report on first use case(s) for the comparison of brain activity data and model simulation(s). Report on first use case(s) for the comparison of brain activity data and model simulation(s)..

D 9.5.2 SP9 Neuromorphic Computing Platform - Results for SGA1 Period 2

WPs involved: WP9.1, WP9.2, WP9.3, WP9.4 & WP9.5 Summary of SP Results for M13-24, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC

and Reviewers, but not in the version published on the HBP public website. INCLUDE: • Neuromorphic Computing Platform: Status description: Description of the status of the full range of the neuromorphic computing platform (standalone systems and big platform systems) including the software stack and a guidebook update release.

D 1.5.2 SP1 Mouse Brain Organisation - Results for SGA1 Period 2

WPs involved: WP1.1, WP1.2, WP1.3, WP1.4 & WP1.5 Summary of SP Results for M13-24, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. INCLUDE: • Brain Atlas data package. This data, which will be deposited in the HBP Brain Atlas, will include: Maps of the vasculature; Whole-brain maps of different cellular types based on gene expression; Microcircuitry analysis, proteins and receptor distributions and fibre architecture; Maps of cellular distributions, long-range axonal projections, and synaptic proteins; reconstructed morphologies of major neuron types; Whole-brain activation maps; Spatial organization principles in brain activation; Functional maps of cortical activity. • Brain Modelling data package. This package will include strategic data on quantitative description of synaptic connections on neurons; numbers, distributions and relative densities of cells in selected regions and where possible across the whole brain; statistical parameters characterizing particular cell types and spatial arrangements between neurons, glia and blood vessels; a high-resolution quantitative synaptic map of exemplar brain regions; EM blocks scans and volume analysis of exemplar brain regions with quantification of the neuropil organization; microcircuit analysis; functional maps of brain activation; morphological and physiological comparative studies of neurons between rodent and human.

D 12.5.2 First Opinions Report

WPs involved: WP12.1, WP12.2, WP12.3, WP12.4 & WP12.5 This is the first “opinions” reports formulating SP12 observations and recommendations about ethical and social issues arising during the course of HBP.

D 3.5.1 SP3 Systems and Cognitive Neuroscience - Results for SGA1 Period 1

WPs involved: WP3.1, WP3.2, WP3.3, WP3.4 WP3.5 & WP3.6 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones

due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. COULD INCLUDE: • WP3.1 input Period 1: Studies in human brain imaging, rodent electrophysiology, optogenetics, and computational modelling of feedforward and feedback processing in the context of object recognition, and reinforcement learning. This report will include data on improvements made in modelling, experiments, techniques, and reports links to data repositories, use of Platforms as well as collaboration in Co-design projects. • WP3.2 input Period 1: Slow Wave Activity experiments, models and simulations and interaction with HBP platforms. This report will include usage statistics, TRLs, collaboration in Co-design projects and updates on data accessibility. • WP3.3 input Period 1: Studies in human brain imaging, rodent electrophysiology, optogenetics, computational modelling and robotics of concerning Episodic memory and multisensory integration, with Robot demos. This report will include data on improvements made in experiments & measurement techniques, use of the tools by colleagues in the field and/or in HBP, links to data repositories, collaboration in Co-design projects, and TRLs. • WP3.4 input Period 1: Studies in electrophysiology, imaging and behaviour in rodents and humans, and multilevel computational modelling. This report will include methods for assessing consciousness and testing of theories of consciousness; links to data repositories, collaboration in Co-design projects, use of platforms, usage statistics for tools delivered. • WP3.5 input Period 1: Data usage plan and impact of data on models. A detailed plan of data usage and the impact of data on models for the data will be generated • WP3.6 input Period 1: Scientific report on SP3 contributions to the development of the infrastructure and co-design projects. This report will include the development of network simulation models, data analysis methods and other tools, as well as constraints and requirements for further applications using HBP platforms, and usage statistics for tools delivered.

D 6.5.3 CDP2 Components Report for SGA1 M13-M24

The report will include a detailed overview of the components and products delivered and related outcomes for M13-M24 of SGA1. The tasks contributing to the CDP will be mentioned and responsible for the results.

D 4.6.2 WP4.6 EITN - Activity Report SGA1 Period 2

WPs involved: WP4.6 European Institute for Theoretical Neuroscience (EITN) activity report for M13-24

D 11.3.1 HBP Collaboratory Architecture

WPs involved: WP11.2, WP11.3, & WP7.5 • HBP Collaboratory Specification This will update related content in System Engineering Package sent by PCO (Jeff Muller) to the EC in March 2016 and address feedback points received from the EC. NOTE: PEER REVIEW REQUIRED

D 1.5.3 Detailed plan of data usage and the impact of generated data on models

WPs involved: WP1.1, WP1.2, WP1.3, WP1.4 & WP1.5 From M1 to M24, a detailed plan for data usage via cross-SP working meetings will be drawn up. We will provide strategic structural and functional data to model and simulate the four major brain circuits and to set up their use in modelling at sub-cellular, cellular and circuit levels. Due to the possible constraints to produce new data in terms of time and resources, the data generated will be sent to the platforms as it is produced, i.e., not only the initial (and also intermediate), but also incomplete datasets to test all the pipelines. The identification of the gaps between what data is available and what data is needed will be implemented following a scale of priorities for SP2, SP3, SP4, SP5 and SP6. The modelling work and the coordination with the relevant SPs will ensure that data generated is strategic and is used in HBP models. This strategic data plan will be delivered in M24 and will be implemented in the SGA2 and will continue throughout the project.

D5.8.1 Strategy and Architecture for HBP data viewers

New Deliverable requested by EC Feedback from Review of 24 Oct 2016.

D 11.2.4 Report on cumulative expenditure incurred

In line with the reporting streamlining, this document will provide general cost incurred by the Consortium

D 2.7.2 SP2 Human Brain Organisation - Results for SGA1 Period 2

WPs involved: WP2.1, WP2.2., WP2.3, WP2.4, WP2.5, WP2.6 & WP2.7 Summary of SP Results for M13-24, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. INCLUDE: Research results, tools and methods and contribution to initiate the platforms (for Period 2): This data, which will be deposited in the HBP Brain Atlas, will include: Maps of the vasculature; Microcircuitry analysis, proteins and receptor distributions and fibre architecture; Maps of cellular distributions and synaptic proteins; reconstructed morphologies of major neuron types; Functional maps of cortical activity.

D 10.7.1 Release Plan for the NRP for SGA1 and project implementation proposal

WPs involved: WP10.1, WP10.2, WP10.3, WP10.4, WP10.5 & WP10.6 This document will describe the release plan for the SP10 Platform and will detail out the project implementation proposal. It will receive input from WP 10.1, 10.2, 10.3, 10.4, 10.5 and 10.6.

D 1.5.4 CDP1 Components Report for SGA1 M13-M24

The report will include a detailed overview of the components and products delivered and related outcomes for M13-M24 of SGA1. The tasks contributing to the CDP will be mentioned and responsible for the results.

D 5.6.1 Revised SP5 work plan for SGA1 (DPIT)

WPs involved: WP11.3, WP5.1, WP5.2, WP5.3, WP5.4, WP5.5 & WP5.6 plus WP1.5, WP2.7, WP3.5, WP4.5, WP6.5, WP7.6, WP8.6, WP9.5 & WP10.7 The SP5 Month 6 Deliverable D5.6.1 Revised SP5 work plan for SGA1 will form the basis for a special review as agreed between the EC and the HBP. The revisions in D5.6.1 are expected to require an amendment to the SGA1. The Deliverable needs to be accepted by the SIB prior to submission. The Month 6 Deliverable D5.6.1 will replace the Month 3 Deliverable foreseen earlier in the SGA negotiations. D5.6.1 will include: - Data Flow and Project Lifecycle: a listing of data related components from all use cases and datasets, from all SPs and CDPs, in the Project, documenting each Task/component. - A reviewed and agreed SP5 architecture, identifying all components, how they interact, who is responsible for which Task and component, and what each one does. It should cover both tools and supporting infrastructure. - A revised management and implementation plan for SP5 and data-related parts of other SPs, including a revised and expanded list of SP5 Milestones and Deliverables, featuring a visual roadmap / timetable. - A global HBP data-related work breakdown structure and PERT chart with prioritized workflows for SP5 in interaction with the entire HBP. - A comprehensive data curation plan for the entire HBP. - The division of responsibilities, setting out what is done by SP5 and what is done by other SPs. - A description of FeDaPP, its elements and its role in the HBP, along with its interaction with the NIP. - Plans for interaction with external partners. - A budget plan, allocating both money and manpower and broken down, by SP, WP, Task and Partner.

D 9.5.1 SP9 Neuromorphic Computing Platform - Results for SGA1 Period 1

WPs involved: WP9.1, WP9.2, WP9.3, WP9.4 & WP9.5 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report fully on the

above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. COULD INCLUDE: • Neuromorphic Computing Platform: Intermediate Status description report (Period 1). Description of the status of the full range of the neuromorphic computing platform (standalone systems and big platform systems) including the software stack and a guidebook update release.

D 5.6.2 HBP Platform Architecture (DPIT)

WPs involved: WP5.6, WP7.5, WP11.2 & WP11.3 Overall platform architecture of HBP, including: • FedApp.and its funding (EC & other sources) • Target TRL levels for each platform • RI construction plan, with detailed work breakdown structure • RI user support This will update related content in System Engineering Package sent by PCO (Jeff Muller) to the EC in March 2016 and address feedback points received from the EC. NOTE: PEER REVIEW REQUIRED

D 1.5.1 SP1 Mouse Brain Organisation - Results for SGA1 Period 1

WPs involved: WP1.1, WP1.2, WP1.3, WP1.4 & WP1.5 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. COULD INCLUDE: • Brain Atlas data package (Period 1). This data, which will be deposited in the HBP Brain Atlas, will include: Maps of the vasculature; Whole-brain maps of different cellular types based on gene expression; Microcircuitry analysis, proteins and receptor distributions and fibre architecture; Maps of cellular distributions, long-range axonal projections, and synaptic proteins; reconstructed morphologies of major neuron types; Whole-brain activation maps; Spatial organization principles in brain activation; Functional maps of cortical activity. • Brain Modelling data package (Period 1). This package will include strategic data on quantitative description of synaptic connections on neurons; numbers, distributions and relative densities of cells in selected regions and where possible across the whole brain; statistical parameters characterizing particular cell types and spatial arrangements between neurons, glia and blood vessels; a high-resolution quantitative synaptic map of exemplar brain regions; EM blocks scans and volume analysis of exemplar brain regions with quantification of the neuropil organization; microcircuit analysis; functional maps of brain activation; morphological and physiological comparative studies of neurons between rodent and human.

D 4.6.1 WP4.6 EITN - Activity report SGA1 Period 1

WPs involved: WP4.6 European Institute for Theoretical Neuroscience (EITN) activity report for M1-12

D 11.2.1 Central Services IT / Web Tools Specifications

WPs involved: WP11.2, WP11.3, WP11.4 & WP11.5 This document will compile the specifications for the following IT / Web Tools: 1. HBP public website redesign 2. Education Programme website redesign 3. ERP knowledge management tool for PCO Explain ecosystem of PCO IT coordination tools

D 2.7.4 CDP4 Components Report for SGA1 M13-M24

The report will include a detailed overview of the components and products delivered and related outcomes for M13-M24 of SGA1. The tasks contributing to the CDP will be mentioned and responsible for the results.

Demonstrators, pilots, prototypes (9)

D 8.6.4 SP8 Medical Informatics Platform – MIP validation plan

SP8 Medical Informatics Platform – MIP validation plan

D 5.8.2 SP5 Neuroinformatics Platform - Results for SGA1 Period 1

Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP Products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. COULD INCLUDE: Research results, tools and methods and contribution to initiate the Platforms (for Period 1)

D 8.6.2 SP8 Medical Informatics Platform - Results for SGA1 Period 1

WPs involved: WP8.1, WP8.2, WP8.3, WP8.4, WP8.5 & WP8.6 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not

wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. COULD INCLUDE: • Medical Informatics Platform v1.5 (Period 1). This deliverable will consist of the second formal release of the Medical Informatics Platform and related documentation (Release notes, user guide, technical documentation, data management plan and deployment plan). The platform, accessible to end-users via the HBP Collaboratory, will provide access to the clinical infrastructure (WP8.1). The platform will provide access to the user community (neuroscientists, clinicians, data scientists) thought web apps and microservices (WP8.5) to the tools developed in WP8.3/8.4/8.5. The platform will also include services for engaging the general public.

D 10.7.3 SP10 Neurorobotics Platform - Results for SGA1 Period 2

WPs involved: WP10.1, WP10.2, WP10.3, WP10.4, WP10.5 & WP10.6 Summary of SP Results for M13-24, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. INCLUDE: • Public release NR Platform and software with support for physics-based light, musculoskeletal robot designer, graphical brain-body integrator. This deliverable will point to the public release of the SP10 platform and all corresponding software packages at the end of the SGA1.

D 8.6.3 SP8 Medical Informatics Platform - Results for SGA1 Period 2

WPs involved: WP8.1, WP8.2, WP8.3, WP8.4, WP8.5 & WP8.6 Summary of SP Results for M13-24, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. INCLUDE: • Medical Informatics Platform v2 (Period 2).This deliverable will consist of the second formal release of the Medical Informatics Platform and related documentation (Release notes, user guide, technical documentation, data management plan and deployment plan). The platform, accessible to end-users via the HBP Collaboratory, will provide access to the clinical infrastructure (WP8.1). The platform will provide access to the user community (neuroscientists, clinicians, data scientists) thought web apps and microservices

(WP8.5) to the tools developed in WP8.3/8.4/8.5. The platform will also include services for engaging the general public.

D 6.5.1 SP6 Brain Simulation Platform - Results for SGA1 Period 1

WPs involved: WP6.1, WP6.2, WP6.3, WP6.4 & WP6.5 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website.

D 7.6.2 SP7 High-Performance Analytics and Computing Platform - Results for SGA1 Period 1

WPs involved: WP7.1, WP7.2, WP7.3, WP7.4, WP7.5 & WP7.6 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. COULD INCLUDE: • High Performance Analytics and Computing Platform v1.5 (Period 1): This deliverable will consist of the second formal release of the High Performance Analytics and Computing Platform and related documentation. The platform, accessible to end users through the HBP Collaboratory, will provide the neuroscience community with access to federated HPC and Cloud resources, common developer and software deployment services, SimLab-style support for the porting of applications to novel hardware architectures, the simulator NEST as a service and user support. It will incorporate results from WP7.1, WP7.2, WP7.3 and WP7.4.

D 10.7.2 SP10 Neurorobotics Platform - Results for SGA1 Period 1

WPs involved: WP10.1, WP10.2, WP10.3, WP10.4, WP10.5 & WP10.6 Summary of SP Results for M1-12, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications • SP Roadmap for SGA2, validated by other SPs receiving inputs from your SP NOTE: In order to report

fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. INCLUDE: • NRP roadmap for SGA2: This document will describe the roadmap for the SP10 platform in SGA2 • Effective methods for transferring simulated control architectures to real robots calibration, cross-compilation and remote control. • Public release of NR platform and software with partial implementation of soft body collision, muscles, physics and HMD/CAVE visualization.

D 6.5.2 SP6 Brain Simulation Platform - Results for SGA1 Period 2

WPs involved: WP6.1, WP6.2, WP6.3, WP6.4 & WP6.5 Summary of SP Results for M13-24, broken down by Task: • Actual vs. planned results (due & done/due & not done) • Results passed to another Task, WP or SP (due & done/due & not done) • CDP products (due & done/due & not done) • Milestones due and achieved, how validated, by whom. • Milestones due but not achieved, why, impact, corrective action • Publications NOTE: In order to report fully on the above topics, the Deliverable may need to include information that we would not wish to make public. This material will be included in the Deliverable for the EC and Reviewers, but not in the version published on the HBP public website. INCLUDE: • Brain Simulation Platform v2: This deliverable will consist of the second formal release of the Brain Simulation Platform and related documentation. The Platform, accessible to end-users via the HBP Collaboratory, will provide access to tools, apps and services developed in WP6.3 and WP6.4 (based on co-design drivers from WP6.1 and WP6.2, as well as CDP1 and CDP2). • Scaffold model Collabs release v2: This deliverable will expose the latest releases of models and simulations of the scaffold modelling activities of WP6.1 and WP6.2 in their respective Collabs, and showcase the underlying workflows of the Brain Simulation Platform. • CDP2 Collab release v2: CDP2 Deliverable: This deliverable will expose the models and simulations of CDP2 in the respective Collab and showcase the underlying workflows of the Brain Simulation Platform and other platforms.

Publications

Monographic books (2)

High-Performance Scientific Computing

Author(s): Edoardo Di Napoli, Marc-André Hermanns, Hristo Iliev, Andreas Lintermann, Alexander Peyser

Published in: Lecture Notes in Computer Science, 2017, ISBN 978-3-319-53862-4
Publisher: Springer International Publishing
DOI: 10.1007/978-3-319-53862-4

Neurotechnology and Direct Brain Communication - New insights and responsibilities concerning speechless but communicative subjects
Author(s): Farisco M. Evers K.
Published in: 2016, ISBN 9781-315723983
Publisher: Routledge
DOI: 10.4324/9781315723983

Peer reviewed articles (198)

26th Annual Computational Neuroscience Meeting (CNS*2017): Part 1
Author(s): Sue Denham, Panayiota Poirazi, Erik De Schutter, Karl Friston, Ho Ka Chan, Thomas Nowotny, Dongqi Han, Sungho Hong, Sophie Rosay, Tanja Wernle, Alessandro Treves, Sarah Goethals, Romain Brette, Tomas Van Pottelbergh, Rodolphe Sepulchre, Alex D. Bird, Hermann Cuntz, Pedro J. Gonçalves, Jan-Matthis Lueckmann, Giacomo Bassetto, Marcel Nonnenmacher, Jakob H. Macke, Audrey J. Sederberg, Jason N. MacLe
Published in: BMC Neuroscience, Issue 18/S1, 2017, ISSN 1471-2202
Publisher: BioMed Central
DOI: 10.1186/s12868-017-0370-3

26th Annual Computational Neuroscience Meeting (CNS*2017): Part 2
Author(s): Leonid L. Rubchinsky, Sungwoo Ahn, Wouter Klijn, Ben Cumming, Stuart Yates, Vasileios Karakasis, Alexander Peyser, Marmaduke Woodman, Sandra Diaz-Pier, James Deraeve, Eliana Vassena, William Alexander, David Beeman, Pawel Kudela, Dana Boatman-Reich, William S. Anderson, Niceto R. Luque, Francisco Naveros, Richard R. Carrillo, Eduardo Ros, Angelo Arleo, Jacob Huth, Koki Ichinose, Jihoon Park, Yuji
Published in: BMC Neuroscience, Issue 18/S1, 2017, ISSN 1471-2202
Publisher: BioMed Central
DOI: 10.1186/s12868-017-0371-2

A Combination of Machine Learning and Cerebellar-like Neural Networks for the Motor Control and Motor Learning of the Fable Modular Robot
Author(s): Ismael Baira Ojeda, Silvia Tolu, Moisés Pacheco, David Johan Christensen, Henrik Hautop Lund
Published in: Journal of Robotics, Networking and Artificial Life, Issue 4/1, 2017, Page(s) 62, ISSN 2352-6386

Publisher: Atlantis Press
DOI: 10.2991/jrnal.2017.4.1.14

Fast–Slow Bursters in the Unfolding of a High Codimension Singularity and the Ultra-slow Transitions of Classes

Author(s): Maria Luisa Saggio, Andreas Spiegler, Christophe Bernard, Viktor K. Jirsa
Published in: The Journal of Mathematical Neuroscience, Issue 7/1, 2017, ISSN 2190-8567
Publisher: Springer Verlag
DOI: 10.1186/s13408-017-0050-8

Predicting the spatiotemporal diversity of seizure propagation and termination in human focal epilepsy

Author(s): Timothée Proix, Viktor K. Jirsa, Fabrice Bartolomei, Maxime Guye, Wilson Truccolo
Published in: Nature Communications, Issue 9/1, 2018, ISSN 2041-1723
Publisher: Nature Publishing Group
DOI: 10.1038/s41467-018-02973-y

Whole-brain analytic measures of network communication reveal increased structure-function correlation in right temporal lobe epilepsy

Author(s): Jonathan Wirsich, Alistair Perry, Ben Ridley, Timothée Proix, Mathieu Golos, Christian Bénar, Jean-Philippe Ranjeva, Fabrice Bartolomei, Michael Breakspear, Viktor Jirsa, Maxime Guye
Published in: NeuroImage: Clinical, Issue 11, 2016, Page(s) 707-718, ISSN 2213-1582
Publisher: Elsevier BV
DOI: 10.1016/j.nicl.2016.05.010

Defining epileptogenic networks: Contribution of SEEG and signal analysis

Author(s): Fabrice Bartolomei, Stanislas Lagarde, Fabrice Wendling, Aileen McGonigal, Viktor Jirsa, Maxime Guye, Christian Bénar
Published in: Epilepsia, Issue 58/7, 2017, Page(s) 1131-1147, ISSN 0013-9580
Publisher: Blackwell Publishing Inc.
DOI: 10.1111/epi.13791

A new neuroinformatics approach to personalized medicine in neurology

Author(s): Maria I. Falcon, Viktor Jirsa, Ana Solodkin
Published in: Current Opinion in Neurology, Issue 29/4, 2016, Page(s) 429-436, ISSN 1350-7540
Publisher: Lippincott Williams & Wilkins Ltd.
DOI: 10.1097/WCO.0000000000000344

Resting state brain dynamics and its transients: a combined TMS-EEG study

Author(s): Mireille Bonnard, Sophie Chen, Jérôme Gaychet, Marcel Carrere, Marmaduke Woodman, Bernard Giusiano, Viktor Jirsa
Published in: Scientific Reports, Issue 6/1, 2016, ISSN 2045-2322
Publisher: Nature Publishing Group
DOI: 10.1038/srep31220

Structure and Topology Dynamics of Hyper-Frequency Networks during Rest and Auditory Oddball Performance

Author(s): Viktor Müller, Dionysios Perdikis, Timo von Oertzen, Rita Sleimen-Malkoun, Viktor Jirsa, Ulman Lindenberger
Published in: Frontiers in Computational Neuroscience, Issue 10, 2016, ISSN 1662-5188
Publisher: Frontiers Research Foundation
DOI: 10.3389/fncom.2016.00108

Sex differences in the functional connectivity of the amygdalae in association with cortisol

Author(s): Lydia Kogler, Veronika I. Müller, Eva-Maria Seidel, Roland Boubela, Klaudius Kalcher, Ewald Moser, Ute Habel, Ruben C. Gur, Simon B. Eickhoff, Birgit Derntl
Published in: NeuroImage, Issue 134, 2016, Page(s) 410-423, ISSN 1053-8119
Publisher: Academic Press
DOI: 10.1016/j.neuroimage.2016.03.064

Correlations Between Personality and Brain Structure: A Crucial Role of Gender

Author(s): Alessandra D. Nostro, Veronika I. Müller, Andrew T. Reid, Simon B. Eickhoff
Published in: Cerebral Cortex, 2016, ISSN 1047-3211
Publisher: Oxford University Press
DOI: 10.1093/cercor/bhw191

Behavior, sensitivity, and power of activation likelihood estimation characterized by massive empirical simulation

Author(s): Simon B. Eickhoff, Thomas E. Nichols, Angela R. Laird, Felix Hoffstaedter, Katrin Amunts, Peter T. Fox, Danilo Bzdok, Claudia R. Eickhoff
Published in: NeuroImage, Issue 137, 2016, Page(s) 70-85, ISSN 1053-8119
Publisher: Academic Press
DOI: 10.1016/j.neuroimage.2016.04.072

How do parcellation size and short-range connectivity affect dynamics in large-scale brain network models?

Author(s): Timothée Proix, Andreas Spiegler, Michael Schirner, Simon Rothmeier, Petra Ritter, Viktor K. Jirsa

Published in: NeuroImage, Issue 142, 2016, Page(s) 135-149, ISSN 1053-8119
Publisher: Academic Press
DOI: 10.1016/j.neuroimage.2016.06.016

Heterogeneity of time delays determines synchronization of coupled oscillators
Author(s): Spase Petkoski, Andreas Spiegler, Timothée Proix, Parham Aram, Jean-Jacques Temprado, Viktor K. Jirsa
Published in: Physical Review E, Issue 94/1, 2016, ISSN 2470-0045
Publisher: American Physical Society (APS)
DOI: 10.1103/PhysRevE.94.012209

Resting-state test–retest reliability of a priori defined canonical networks over different preprocessing steps
Author(s): Deepthi P. Varikuti, Felix Hoffstaedter, Sarah Genon, Holger Schwender, Andrew T. Reid, Simon B. Eickhoff
Published in: Brain Structure and Function, Issue 222/3, 2017, Page(s) 1447-1468, ISSN 1863-2653
Publisher: Springer Verlag
DOI: 10.1007/s00429-016-1286-x

Estimating Fiber Orientation Distribution Functions in 3D-Polarized Light Imaging
Author(s): Markus Axer, Sven Strohmer, David Gräßel, Oliver Bücker, Melanie Dohmen, Julia Reckfort, Karl Zilles, Katrin Amunts
Published in: Frontiers in Neuroanatomy, Issue 10, 2016, ISSN 1662-5129
Publisher: Frontiers Research Foundation
DOI: 10.3389/fnana.2016.00040

Spatial normalization of brain images and beyond
Author(s): J.-F. Mangin, J. Lebenberg, S. Lefranc, N. Labra, G. Auzias, M. Labit, M. Guevara, H. Mohlberg, P. Roca, P. Guevara, J. Dubois, F. Leroy, G. Dehaene-Lambertz, A. Cachia, T. Dickscheid, O. Coulon, C. Poupon, D. Rivière, K. Amunts, Z.Y. Sun
Published in: Medical Image Analysis, Issue 33, 2016, Page(s) 127-133, ISSN 1361-8415
Publisher: Elsevier BV
DOI: 10.1016/j.media.2016.06.008

Functional Decoding and Meta-analytic Connectivity Modeling in Adult Attention-Deficit/Hyperactivity Disorder
Author(s): Samuele Cortese, F. Xavier Castellanos, Claudia R. Eickhoff, Giulia D'Acunto, Gabriele Masi, Peter T. Fox, Angela R. Laird, Simon B. Eickhoff
Published in: Biological Psychiatry, Issue 80/12, 2016, Page(s) 896-904, ISSN 0006-3223

Publisher: Elsevier BV
DOI: 10.1016/j.biopsych.2016.06.014

Layer-specific cholinergic control of human and mouse cortical synaptic plasticity
Author(s): Matthijs B. Verhoog, Joshua Obermayer, Christian A. Kortleven, René Wilbers, Jordi Wester, Johannes C. Baayen, Christiaan P. J. De Kock, Rhiannon M. Meredith, Huibert D. Mansvelder
Published in: Nature Communications, Issue 7, 2016, Page(s) 12826, ISSN 2041-1723
Publisher: Nature Publishing Group
DOI: 10.1038/ncomms12826

High-frequency oscillations in human and monkey neocortex during the wake–sleep cycle
Author(s): Michel Le Van Quyen, Lyle E. Muller, Bartosz Telenczuk, Eric Halgren, Sydney Cash, Nicholas G. Hatsopoulos, Nima Dehghani, Alain Destexhe
Published in: Proceedings of the National Academy of Sciences, Issue 113/33, 2016, Page(s) 9363-9368, ISSN 0027-8424
Publisher: National Academy of Sciences
DOI: 10.1073/pnas.1523583113

Stochastic inference with spiking neurons in the high-conductance state
Author(s): Mihai A. Petrovici, Johannes Bill, Ilja Bytschok, Johannes Schemmel, Karlheinz Meier
Published in: Physical Review E, Issue 94/4, 2016, Page(s) 42312, ISSN 2470-0045
Publisher: American Physical Society
DOI: 10.1103/PhysRevE.94.042312

Groupwise connectivity-based parcellation of the whole human cortical surface using watershed-driven dimension reduction
Author(s): Sandrine Lefranc, Pauline Roca, Matthieu Perrot, Cyril Poupon, Denis Le Bihan, Jean-François Mangin, Denis Rivière
Published in: Medical Image Analysis, Issue 30, 2016, Page(s) 11-29, ISSN 1361-8415
Publisher: Elsevier BV
DOI: 10.1016/j.media.2016.01.003

Neuroimaging Research: From Null-Hypothesis Falsification to Out-of-Sample Generalization
Author(s): D. Bzdok, G. Varoquaux, B. Thirion
Published in: Educational and Psychological Measurement, 2016, ISSN 0013-1644
Publisher: SAGE Publications
DOI: 10.1177/0013164416667982

ViSimpl: Multi-View Visual Analysis of Brain Simulation Data
Author(s): Sergio E. Galindo, Pablo Toharia, Oscar D. Robles, Luis Pastor
Published in: Frontiers in Neuroinformatics, Issue 10, 2016, ISSN 1662-5196
Publisher: Frontiers Research Foundation
DOI: 10.3389/fninf.2016.00044

Implementation errors in the GingerALE Software: Description and recommendations
Author(s): Simon B. Eickhoff, Angela R. Laird, P. Mickle Fox, Jack L. Lancaster, Peter T. Fox
Published in: Human Brain Mapping, Issue 38/1, 2017, Page(s) 7-11, ISSN 1065-9471
Publisher: John Wiley & Sons Inc.
DOI: 10.1002/hbm.23342

3D Reconstructed Cyto-, Muscarinic M2 Receptor, and Fiber Architecture of the Rat Brain Registered to the Waxholm Space Atlas
Author(s): Nicole Schubert, Markus Axer, Martin Schober, Anh-Minh Huynh, Marcel Huysegoms, Nicola Palomero-Gallagher, Jan G. Bjaalie, Trygve B. Leergaard, Mehmet E. Kirlangic, Katrin Amunts, Karl Zilles
Published in: Frontiers in Neuroanatomy, Issue 10, 2016, ISSN 1662-5129
Publisher: Frontiers Research Foundation
DOI: 10.3389/fnana.2016.00051

Functional Mechanisms of Recovery after Chronic Stroke: Modeling with the Virtual Brain
Author(s): M. I. Falcon, J. D. Riley, V. Jirsa, A. R. McIntosh, E. Elinor Chen, A. Solodkin
Published in: eNeuro, Issue 3/2, 2016, ISSN 2373-2822
Publisher: Society for Neuroscience
DOI: 10.1523/ENEURO.0158-15.2016

Unique membrane properties and enhanced signal processing in human neocortical neurons
Author(s): Guy Eyal, Matthijs B Verhoog, Guilherme Testa-Silva, Yair Deitcher, Johannes C Lodder, Ruth Benavides-Piccione, Juan Morales, Javier DeFelipe, Christiaan PJ de Kock, Huibert D Mansvelder, Idan Segev
Published in: eLife, Issue 5, 2016, ISSN 2050-084X
Publisher: eLife Sciences Publications
DOI: 10.7554/eLife.16553

Imbalance in subregional connectivity of the right temporoparietal junction in major depression
Author(s): Timm B. Poeppl, Veronika I. Müller, Felix Hoffstaedter, Danilo Bzdok, Angela R. Laird, Peter T. Fox, Berthold Langguth, Rainer Rupprecht, Christian Sorg, Valentin Riedl, Roberto Goya-Maldonado, Oliver Gruber, Simon B. Eickhoff
Published in: Human Brain Mapping, Issue 37/8, 2016, Page(s) 2931-2942, ISSN 1065-9471

Publisher: John Wiley & Sons Inc.
DOI: 10.1002/hbm.23217

Selective Activation of Resting-State Networks following Focal Stimulation in a Connectome-Based Network Model of the Human Brain

Author(s): A. Spiegler, E. C. A. Hansen, C. Bernard, A. R. McIntosh, V. K. Jirsa
Published in: eNeuro, Issue 3/5, 2016, ISSN 2373-2822
Publisher: eNeuro, Society for Neuroscience
DOI: 10.1523/ENEURO.0068-16.2016

Hybrid Scheme for Modeling Local Field Potentials from Point-Neuron Networks

Author(s): Espen Hagen, David Dahmen, Maria L. Stavrinou, Henrik Lindén, Tom Tetzlaff, Sacha J. van Albada, Sonja Grün, Markus Diesmann, Gaute T. Einevoll
Published in: Cerebral Cortex, Issue 26/12, 2016, Page(s) 4461-4496, ISSN 1047-3211
Publisher: Oxford University Press
DOI: 10.1093/cercor/bhw237

The Human Brainnetome Atlas: A New Brain Atlas Based on Connectional Architecture

Author(s): Lingzhong Fan, Hai Li, Junjie Zhuo, Yu Zhang, Jiaojian Wang, Liangfu Chen, Zhengyi Yang, Congying Chu, Sangma Xie, Angela R. Laird, Peter T. Fox, Simon B. Eickhoff, Chunshui Yu, Tianzi Jiang
Published in: Cerebral Cortex, Issue 26/8, 2016, Page(s) 3508-3526, ISSN 1047-3211
Publisher: Oxford University Press
DOI: 10.1093/cercor/bhw157

Different involvement of subregions within dorsal premotor and medial frontal cortex for pro- and antisaccades

Author(s): Edna C. Cieslik, Isabelle Seidler, Angela R. Laird, Peter T. Fox, Simon B. Eickhoff
Published in: Neuroscience & Biobehavioral Reviews, Issue 68, 2016, Page(s) 256-269, ISSN 0149-7634
Publisher: Pergamon Press Ltd.
DOI: 10.1016/j.neubiorev.2016.05.012

A neural circuit encoding sexual preference in humans

Author(s): Timm B. Poeppl, Berthold Langguth, Rainer Rupprecht, Angela R. Laird, Simon B. Eickhoff
Published in: Neuroscience & Biobehavioral Reviews, Issue 68, 2016, Page(s) 530-536, ISSN 0149-7634
Publisher: Pergamon Press Ltd.
DOI: 10.1016/j.neubiorev.2016.06.025

Formal Models of the Network Co-occurrence Underlying Mental Operations
Author(s): Danilo Bzdok, Gaël Varoquaux, Olivier Grisel, Michael Eickenberg, Cyril Poupon, Bertrand Thirion
Published in: PLOS Computational Biology, Issue 12/6, 2016, Page(s) e1004994, ISSN 1553-7358
Publisher: Public Library of Science (PLoS)
DOI: 10.1371/journal.pcbi.1004994

The Virtual Epileptic Patient: Individualized whole-brain models of epilepsy spread
Author(s): V.K. Jirsa, T. Proix, D. Perdikis, M.M. Woodman, H. Wang, J. Gonzalez-Martinez, C. Bernard, C. Bénar, M. Guye, P. Chauvel, F. Bartolomei
Published in: NeuroImage, Issue 145, 2017, Page(s) 377-388, ISSN 1053-8119
Publisher: Academic Press
DOI: 10.1016/j.neuroimage.2016.04.049

Synchronous Spike Patterns in Macaque Motor Cortex during an Instructed-Delay Reach-to-Grasp Task
Author(s): E. Torre, P. Quaglio, M. Denker, T. Brochier, A. Riehle, S. Grun
Published in: Journal of Neuroscience, Issue 36/32, 2016, Page(s) 8329-8340, ISSN 0270-6474
Publisher: Society for Neuroscience
DOI: 10.1523/JNEUROSCI.4375-15.2016

Handling Metadata in a Neurophysiology Laboratory
Author(s): Lyuba Zehl, Florent Jaillet, Adrian Stoewer, Jan Grewe, Andrey Sobolev, Thomas Wachtler, Thomas G. Brochier, Alexa Riehle, Michael Denker, Sonja Grün
Published in: Frontiers in Neuroinformatics, Issue 10, 2016, ISSN 1662-5196
Publisher: Frontiers Research Foundation
DOI: 10.3389/fninf.2016.00026

ASSET: Analysis of Sequences of Synchronous Events in Massively Parallel Spike Trains
Author(s): Emiliano Torre, Carlos Canova, Michael Denker, George Gerstein, Moritz Helias, Sonja Grün
Published in: PLOS Computational Biology, Issue 12/7, 2016, Page(s) e1004939, ISSN 1553-7358
Publisher: Public Library of Science (PLoS)
DOI: 10.1371/journal.pcbi.1004939

Seeing it all: Convolutional network layers map the function of the human visual system
Author(s): Michael Eickenberg, Alexandre Gramfort, Gaël Varoquaux, Bertrand Thirion
Published in: NeuroImage, Issue 152, 2017, Page(s) 184-194, ISSN 1053-

8119
Publisher: Academic Press
DOI: 10.1016/j.neuroimage.2016.10.001

[Re] Cellular and Network Mechanisms of Slow Oscillatory Activity (<1 Hz) and Wave Propagations in a Cortical Network Model
Author(s): Maksimov A, van Albada S, Diesmann M
Published in: Rescience, 2016, ISSN 2430-3658
Publisher: Rescience
DOI: 10.5281/zenodo.161526

Exploring the Usefulness of Formal Concept Analysis for Robust Detection of Spatio-temporal Spike Patterns in Massively Parallel Spike Trains
Author(s): Alper Yegenoglu, Pietro Quaglio, Emiliano Torre, Sonja Grün, Dominik Endres
Published in: Graph-Based Representation and Reasoning, 2016, Page(s) 3-16, ISSN 0302-9743
Publisher: Springer Verlag
DOI: 10.1007/978-3-319-40985-6_1

The Spinal Cord Has an Intrinsic System for the Control of pH
Author(s): Elham Jalalvand, Brita Robertson, Hervé Tostivint, Peter Wallén, Sten Grillner
Published in: Current Biology, Issue 26/10, 2016, Page(s) 1346-1351, ISSN 0960-9822
Publisher: Cell Press
DOI: 10.1016/j.cub.2016.03.048

Embodied neurology: an integrative framework for neurological disorders
Author(s): Patrick Freund, Karl Friston, Alan J. Thompson, Klaas E. Stephan, John Ashburner, Dominik R. Bach, Zoltan Nagy, Gunther Helms, Bogdan Draganski, Siawoosh Mohammadi, Martin E. Schwab, Armin Curt, Nikolaus Weiskopf
Published in: Brain, Issue 139/6, 2016, Page(s) 1855-1861, ISSN 0006-8950
Publisher: Oxford University Press
DOI: 10.1093/brain/aww076

Big Science, Brain Simulation, and Neuroethics
Author(s): Michele Farisco, Kathinka Evers, Arleen Salles
Published in: AJOB Neuroscience, Issue 7/1, 2016, Page(s) 28-30, ISSN 2150-7740
Publisher: Taylor and Francis
DOI: 10.1080/21507740.2015.1135834

Premature changes in neuronal excitability account for hippocampal network impairment and autistic-like behavior in neonatal BTBR T+tf/J mice

Author(s): Giada Cellot, Laura Maggi, Maria Amalia Di Castro, Myriam Catalano, Rosanna Migliore, Michele Migliore, Maria Luisa Scattoni, Gemma Calamandrei, Enrico Cherubini
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Searching for principles of brain computation

Author(s): Wolfgang Maass
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The laminar integration of sensory inputs with feedback signals in human cortex

Author(s): Lucy S. Petro, Lars Muckli
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Worldwide initiatives to advance brain research

Author(s): Sten Grillner, Nancy Ip, Christof Koch, Walter Koroshetz, Hideyuki Okano, Miri Polachek, Mu-ming Poo, Terrence J Sejnowski
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Benchmarking Spike-Based Visual Recognition: A Dataset and Evaluation

Author(s): Qian Liu, Garibaldi Pineda-García, Evangelos Stromatias, Teresa Serrano-Gotarredona, Steve B. Furber
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Active subthreshold dendritic conductances shape the local field potential

Author(s): Torbjørn V. Ness, Michiel W. H. Remme, Gaute T. Einevoll
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Texture Segregation Causes Early Figure Enhancement and Later Ground Suppression in Areas V1 and V4 of Visual Cortex

Author(s): Jasper Poort, Matthew W. Self, Bram van Vugt, Hemi Malkki, Pieter R. Roelfsema
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Dendritic-branching angles of pyramidal neurons of the human cerebral cortex

Author(s): Pablo Fernandez-Gonzalez, Ruth Benavides-Piccione, Ignacio Leguey, Concha Bielza, Pedro Larrañaga, Javier DeFelipe
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Comments and General Discussion on “The Anatomical Problem Posed by Brain Complexity and Size: A Potential Solution”

Author(s): Javier DeFelipe, Rodney J. Douglas, Sean L. Hill, Ed S. Lein, Kevan A. C. Martin, Kathleen S. Rockland, Idan Segev, Gordon M. Shepherd, Gábor Tamás
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Shining Light on an mGlu5 Photoswitchable NAM: A Theoretical Perspective

Author(s): James A.R. Dalton, Isaias Lans, Xavier Rovira, Fanny Malhaire, Xavier Gómez-Santacana, Silvia Pittolo, Pau Gorostiza, Amadeu Llebaria, Cyril Goudet, Jean-Philippe Pin, Jesús Giraldo
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Properties and dynamics of inhibitory synaptic communication within the CA3 microcircuits of pyramidal cells and interneurons expressing parvalbumin or cholecystokinin

Author(s): Z. Kohus, S. Káli, L. Rovira-Esteban, D. Schlingloff, O. Papp, T. F. Freund, N. Hájos, A. I. Gulyás
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Spatiotemporal interplay between multisensory excitation and recruited inhibition in the lamprey optic tectum

Author(s): Andreas A Kardamakis, Juan Pérez-Fernández, Sten Grillner
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Comparative electrostatic analysis of adenylyl cyclase for isoform dependent regulation properties

Author(s): Rudi Tong, Rebecca C. Wade, Neil J. Bruce
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Role of DARPP-32 and ARPP-21 in the Emergence of Temporal Constraints on Striatal Calcium and Dopamine Integration

Author(s): Anu G. Nair, Upinder S. Bhalla, Jeanette Hellgren Kotaleski
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Publisher: PLoS
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A Framework for Coupled Simulations of Robots and Spiking Neuronal Networks

Author(s): Georg Hinkel, Henning Groenda, Sebastian Krach, Lorenzo Vannucci, Oliver Denninger, Nino Cauli, Stefan Ulbrich, Arne Roennau, Egidio Falotico, Marc-Oliver Gewaltig, Alois Knoll, Rüdiger Dillmann, Cecilia Laschi, Ralf Reussner
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Neural Activity Elicited by a Cognitive Task can be Detected in Single-Trials with Simultaneous Intracerebral EEG-fMRI Recordings

Author(s): Mani Saignavongs, Carolina Ciumas, Mathilde Petton, Romain Bouet, Sébastien Boulogne, Sylvain Rheims, David W. Carmichael, Jean-Philippe Lachaux, Philippe Ryvlin
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OptoGluNAM4.1, a Photoswitchable Allosteric Antagonist for Real-Time Control of mGlu4 Receptor Activity

Author(s): Xavier Rovira, Ana Trapero, Silvia Pittolo, Charleine Zussy, Adèle Faucherre, Chris Jopling, Jesús Giraldo, Jean-Philippe Pin, Pau Gorostiza, Cyril Goudet, Amadeu Llebaria
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Optical control of endogenous receptors and cellular excitability using targeted covalent photoswitches

Author(s): Mercè Izquierdo-Serra, Antoni Bautista-Barrufet, Ana Trapero, Aida Garrido-Charles, Ariadna Díaz-Tahoces, Nuria Camarero, Silvia Pittolo, Sergio Valbuena, Ariadna Pérez-Jiménez, Marina Gay, Alejandro García-Moll, Carles Rodríguez-Escrich, Juan Lerma, Pedro de la Villa, Eduardo Fernández, Miquel À Pericàs, Amadeu Llebaria, Pau Gorostiza
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Author(s): David Dahmen, Hannah Bos, Moritz Helias
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FHF-independent conduction of action potentials along the leak-resistant cerebellar granule cell axon

Author(s): Katarzyna Dover, Christopher Marra, Sergio Solinas, Marko Popovic, Sathyaa Subramaniyam, Dejan Zecevic, Egidio D'Angelo, Mitchell Goldfarb
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Learning maximum entropy models from finite-size data sets: A fast data-driven algorithm allows sampling from the posterior distribution

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Optimizing Network Traffic for Spiking Neural Network Simulations on Densely Interconnected Many-Core Neuromorphic Platforms

Author(s): Gianvito Urgese, Francesco Barchi, Enrico Macii, Andrea Acquaviva
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PSD95 nanoclusters are postsynaptic building blocks in hippocampus circuits
Author(s): Matthew J. Broadhead, Mathew H. Horrocks, Fei Zhu, Leila Muresan, Ruth Benavides-Piccione, Javier DeFelipe, David Fricker, Maksym V. Kopanitsa, Rory R. Duncan, David Klenerman, Noboru H. Komiyama, Steven F. Lee, Seth G. N. Grant
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BluePyOpt: Leveraging Open Source Software and Cloud Infrastructure to Optimise Model Parameters in Neuroscience
Author(s): Werner Van Geit, Michael Gevaert, Giuseppe Chindemi, Christian Rössert, Jean-Denis Courcol, Eilif B. Muller, Felix Schürmann, Idan Segev, Henry Markram
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Efficient Integration of Coupled Electrical-Chemical Systems in Multiscale Neuronal Simulations
Author(s): Ekaterina Brocke, Upinder S. Bhalla, Mikael Djurfeldt, Jeanette Hellgren Kotaleski, Michael Hanke
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Oscillation-Driven Spike-Timing Dependent Plasticity Allows Multiple Overlapping Pattern Recognition in Inhibitory Interneuron Networks
Author(s): Jesús A. Garrido, Niceto R. Luque, Silvia Tolu, Egidio D'Angelo
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Author(s): Hannah Bos, Markus Diesmann, Moritz Helias
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Computational Modeling of Single Neuron Extracellular Electric Potentials and Network Local Field Potentials using LFPsim

Author(s): Harilal Parasuram, Bipin Nair, Egidio D'Angelo, Michael Hines, Giovanni Naldi, Shyam Diwakar
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Simulation Neurotechnologies for Advancing Brain Research: Parallelizing Large Networks in NEURON

Author(s): William W. Lytton, Alexandra H. Seidenstein, Salvador Dura-Bernal, Robert A. McDougal, Felix Schürmann, Michael L. Hines
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Author(s): Kathinka Evers, Jean-Pierre Changeux
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The Basal Ganglia Over 500 Million Years

Author(s): Sten Grillner, Brita Robertson
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Consciousness and cortical responsiveness: a within-state study during non-rapid eye movement sleep

Author(s): Jaakko O. Nieminen, Olivia Gosseries, Marcello Massimini, Elyana Saad, Andrew D. Sheldon, Melanie Boly, Francesca Siclari, Bradley R. Postle, Giulio Tononi
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A General Procedure to Study Subcellular Models of Transsynaptic Signaling at Inhibitory Synapses

Author(s): Carmen A. Lupascu, Annunziato Morabito, Elisabetta Merenda, Silvia Marinelli, Cristina Marchetti, Rosanna Migliore, Enrico Cherubini, Michele Migliore
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Serial grouping of 2D-image regions with object-based attention in humans

Author(s): Danique Jeurissen, Matthew W Self, Pieter R Roelfsema
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Stratification of unresponsive patients by an independently validated index of brain complexity

Author(s): Silvia Casarotto, Angela Comanducci, Mario Rosanova, Simone Sarasso, Matteo Fecchio, Martino Napolitani, Andrea Pigorini, Adenauer G. Casali, Pietro D. Trimarchi, Melanie Boly, Olivia Gosseries, Olivier Bodart, Francesco Curto, Cristina Landi, Maurizio Mariotti, Guya Devalle, Steven Laureys, Giulio Tononi, Marcello Massimini
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Author(s): James C. Knight, Steve B. Furber
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Neurotechnological assessment of consciousness disorders: five ethical imperatives

Author(s): Evers K
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Author(s): Brian Gardner, André Grüning
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From Neuron Biophysics to Orientation Selectivity in Electrically Coupled Networks of Neocortical L2/3 Large Basket Cells

Author(s): Oren Amsalem, Werner Van Geit, Eilif Muller, Henry Markram, Idan Segev
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The Human Brain Project: Parallel technologies for biologically accurate simulation of Granule cells

Author(s): Giordana Florimbi, Emanuele Torti, Stefano Masoli, Egidio D'Angelo, Giovanni Danese, Francesco Leporati
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The Effects of Realistic Synaptic Distribution and 3D Geometry on Signal Integration and Extracellular Field Generation of Hippocampal Pyramidal Cells and Inhibitory Neurons

Author(s): Attila I. Gulyás, Tamás F. Freund, Szabolcs Káli
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Modeling the Cerebellar Microcircuit: New Strategies for a Long-Standing Issue

Author(s): Egidio D'Angelo, Alberto Antonietti, Stefano Casali, Claudia Casellato, Jesus A. Garrido, Niceto Rafael Luque, Lisa Mapelli, Stefano Masoli, Alessandra Pedrocchi, Francesca Prestori, Martina Francesca Rizza, Eduardo Ros
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Functional Relevance of Different Basal Ganglia Pathways Investigated in a Spiking Model with Reward Dependent Plasticity

Author(s): Pierre Berthet, Mikael Lindahl, Philip J. Tully, Jeanette Hellgren-Kotaleski, Anders Lansner
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The Number of Genomic Copies at the 16p11.2 Locus Modulates Language, Verbal Memory, and Inhibition

Author(s): Loyse Hippolyte, Anne M. Maillard, Borja Rodriguez-Herreros, Aurélie Pain, Sandra Martin-Brevet, Carina Ferrari, Philippe Conus, Aurélien Macé, Nouchine Hadjikhani, Andres Metspalu, Anu Reigo, Anneli Kolk, Katrin Männik, Mandy Barker, Bertrand Isidor, Cédric Le Caignec, Cyril Mignot, Laurence Schneider, Laurent Mottron, Boris Keren, Albert David, Martine Doco-Fenzy, Marion Gérard, Raphael Be
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Neurobiological origin of spurious brain morphological changes: A quantitative MRI study
Author(s): Sara Lorio, Ferath Kherif, Anne Ruef, Lester Melie-Garcia, Richard Frackowiak, John Ashburner, Gunther Helms, Antoine Lutti, Bodgan Draganski
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Author(s): Kathinka Evers
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The pretectal connectome in lamprey
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Author(s): Pieter R. Roelfsema, Floris P. de Lange
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Effect of Heterogeneity on Decorrelation Mechanisms in Spiking Neural Networks: A Neuromorphic-Hardware Study

Author(s): Thomas Pfeil, Jakob Jordan, Tom Tetzlaff, Andreas Grübl, Johannes Schemmel, Markus Diesmann, Karlheinz Meier
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Microstructural proliferation in human cortex is coupled with the development of face processing

Author(s): Jesse Gomez, Michael A. Barnett, Vaidehi Natu, Aviv Mezer, Nicola Palomero-Gallagher, Kevin S. Weiner, Katrin Amunts, Karl Zilles, Kalanit Grill-Spector
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Effect of Ionic Diffusion on Extracellular Potentials in Neural Tissue

Author(s): Geir Halnes, Tuomo Mäki-Marttunen, Daniel Keller, Klas H. Pettersen, Ole A. Andreassen, Gaute T. Einevoll
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Best practices in data analysis and sharing in neuroimaging using MRI

Author(s): Thomas E Nichols, Samir Das, Simon B Eickhoff, Alan C Evans, Tristan Glatard, Michael Hanke, Nikolaus Kriegeskorte, Michael P Milham, Russell A Poldrack, Jean-Baptiste Poline, Erika Proal, Bertrand Thirion, David C Van Essen, Tonya White, B T Thomas Yeo
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The neural basis of sex differences in sexual behavior: A quantitative meta-analysis

Author(s): Timm B. Poeppl, Berthold Langguth, Rainer Rupprecht, Adam Safron, Danilo Bzdok, Angela R. Laird, Simon B. Eickhoff
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The Human Brain Project: Creating a European Research Infrastructure to Decode the Human Brain

Author(s): Katrin Amunts, Christoph Ebell, Jeff Muller, Martin Telefont, Alois Knoll, Thomas Lippert
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Active cortical dendrites modulate perception

Author(s): Naoya Takahashi, Thomas G. Oertner, Peter Hegemann, Matthew E. Larkum
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Topographic organization of the cerebral cortex and brain cartography

Author(s): Simon B. Eickhoff, R. Todd Constable, B.T. Thomas Yeo
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Multimodal evaluation of the amygdala's functional connectivity

Author(s): Rebecca Kerestes, Henry W. Chase, Mary L. Phillips, Cecile D. Ladouceur, Simon B. Eickhoff
Published in: NeuroImage, Issue 148, 2017, Page(s) 219-229, ISSN 1053-8119
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Understanding the brain through large, multidisciplinary research initiatives

Author(s): Gianluca Quaglio, Maurizio Corbetta, Theodoros Karapiperis, Katrin Amunts, Walter Koroshetz, Tetsuo Yamamori, Ruxandra Draghia-Akli
Published in: The Lancet Neurology, Issue 16/3, 2017, Page(s) 183-184, ISSN 1474-4422
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The heterogeneity of the left dorsal premotor cortex evidenced by multimodal connectivity-based parcellation and functional characterization

Author(s): Sarah Genon, Andrew Reid, Hai Li, Lingzhong Fan, Veronika I. Müller, Edna C. Cieslik, Felix Hoffstaedter, Robert Langner, Christian Grefkes, Angela R. Laird, Peter T. Fox, Tianzi Jiang, Katrin Amunts, Simon B. Eickhoff
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Altered Brain Activity in Unipolar Depression Revisited
Author(s): Veronika I. Müller, Edna C. Cieslik, Ilinca Serbanescu, Angela R. Laird, Peter T. Fox, Simon B. Eickhoff
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Evidence for three genetic loci involved in both anorexia nervosa risk and variation of body mass index
Author(s): A Hinney, M Kesselmeier, S Jall, A-L Volckmar, M Föcker, J Antel, Vesna Boraska Perica, Christopher S Franklin, James A B Floyd, Laura M Thornton, Laura M Huckins, Lorraine Southam, N William Rayner, Ioanna Tachmazidou, Kelly L Klump, Janet Treasure, Cathryn M Lewis, Ulrike Schmidt, Federica Tozzi, Kirsty iezebrink, Johannes Hebebrand, Philip Gorwood, Roger A H Adan, Martien J H Kas, Angela Favar
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Identification of rare variants in KCTD13 at the schizophrenia risk locus 16p11.2
Author(s): Franziska Degenhardt, Barbara Heinemann, Jana Strohmaier, Marvin A. Pfohl, Ina Giegling, Andrea Hofmann, Kerstin U. Ludwig, Stephanie H. Witt, Michael Ludwig, Andreas J. Forstner, Margot Albus, Sibylle G. Schwab, Margitta Borrmann-Hassenbach, Leonard Lennertz, Michael Wagner, Per Hoffmann, Dan Rujescu, Wolfgang Maier, Sven Cichon, Marcella Rietschel, Markus M. Nöthen
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Self-Grounded Vision: Hand Ownership Modulates Visual Location through Cortical β and γ Oscillations
Author(s): Nathan Faivre, Jonathan Dönz, Michele Scandola, Herberto Dhanis, Javier Bello Ruiz, Fosco Bernasconi, Roy Salomon, Olaf Blanke
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Fundamental Activity Constraints Lead to Specific Interpretations of the Connectome

Author(s): Jannis Schuecker, Maximilian Schmidt, Sacha J. van Albada, Markus Diesmann, Moritz Helias
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Reproducibility of superficial white matter tracts using diffusion-weighted imaging tractography
Author(s): Miguel Guevara, Claudio Román, Josselin Houenou, Delphine Duclap, Cyril Poupon, Jean François Mangin, Pamela Guevara
Published in: NeuroImage, Issue 147, 2017, Page(s) 703-725, ISSN 1053-8119
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Author(s): Juliana Corlier, Daphné Rimsky-Robert, Mario Valderrama, Katia Lehongre, Claude Adam, Stéphane Clémenceau, Stéphane Charpier, Julien Bastin, Philippe Kahane, Jean-Philippe Lachaux, Vincent Navarro, Michel Le Van Quyen
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Author(s): Amirreza Yousefzadeh, Luis A. Plana, Steve Temple, Teresa Serrano-Gotarredona, Steve B. Furber, Bernabe Linares-Barranco
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Author(s): Gorka Zamora-López, Yuhan Chen, Gustavo Deco, Morten L. Kringelbach, Changsong Zhou
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Connecting Artificial Brains to Robots in a Comprehensive Simulation Framework: The Neurorobotics Platform

Author(s): Egidio Falotico, Lorenzo Vannucci, Alessandro Ambrosano, Ugo Albanese, Stefan Ulbrich, Juan Camilo Vasquez Tieck, Georg Hinkel, Jacques Kaiser, Igor Peric, Oliver Denninger, Nino Cauli, Murat Kirtay, Arne Roennau, Gudrun Klinker, Axel Von Arnim, Luc Guyot, Daniel Peppicelli, Pablo Martínez-Cañada, Eduardo Ros, Patrick Maier, Sandro Weber, Manuel Huber, David Plecher, Florian Röhrbein, Stefan De
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Author(s): Cristiano Capone, Maurizio Mattia
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Author(s): Olivier Bodart, Olivia Gosseries, Sarah Wannez, Aurore Thibaut, Jitka Annen, Melanie Boly, Mario Rosanova, Adenauer G. Casali, Silvia Casarotto, Giulio Tononi, Marcello Massimini, Steven Laureys
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Author(s): Stéphanie Miceli, Torbjørn V. Ness, Gaute T. Einevoll, Dirk Schubert
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Author(s): Francesca Barbieri, Vincent Trauchessec, Laure Caruso, Josué Trejo-Rosillo, Bartosz Telenczuk, Elodie Paul, Thierry Bal, Alain Destexhe, Claude Fermon, Myriam Pannetier-Lecoeur, Gilles Ouanounou
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Author(s): Timothée Proix, Fabrice Bartolomei, Maxime Guye, Viktor K. Jirsa
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Local field potentials primarily reflect inhibitory neuron activity in human and monkey cortex

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Author(s): Baptiste Lefebvre, Pierre Yger, Olivier Marre
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Author(s): Enrico Amico, Olivier Bodart, Mario Rosanova, Olivia Gosseries, Lizette Heine, Pieter Van Mierlo, Charlotte Martial, Marcello Massimini, Daniele Marinazzo, Steven Laureys
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Reproducibility and Comparability of Computational Models for Astrocyte Calcium Excitability
Author(s): Tiina Manninen, Riikka Havela, Marja-Leena Linne
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Data-driven identification of prognostic tumor subpopulations using spatially mapped t-SNE of mass spectrometry imaging data

Author(s): Walid M. Abdelmoula, Benjamin Balluff, Sonja Englert, Jouke Dijkstra, Marcel J. T. Reinders, Axel Walch, Liam A. McDonnell, Boudewijn P. F. Lelieveldt
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Author(s): Aurore Thibaut, Sarah Wannez, Anne-Francoise Donneau, Camille Chatelle, Olivia Gosseries, Marie-Aurélie Bruno, Steven Laureys
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Single Neuron Optimization as a Basis for Accurate Biophysical Modeling: The Case of Cerebellar Granule Cells

Author(s): Stefano Masoli, Martina F. Rizza, Martina Sgritta, Werner Van Geit, Felix Schürmann, Egidio D'Angelo
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Mass Cytometry of the Human Mucosal Immune System Identifies Tissue- and Disease-Associated Immune Subsets

Author(s): Vincent van Unen, Na Li, Ilse Molendijk, Mine Temurhan, Thomas Höllt, Andrea E. van der Meulen-de Jong, Hein W. Verspaget, M. Luisa Mearin, Chris J. Mulder, Jeroen van Bergen, Boudewijn P.F. Lelieveldt, Frits Koning
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Author(s): Alice Geminiani, Claudia Casellato, Alberto Antonietti, Egidio D'Angelo, Alessandra Pedrocchi
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Automated Ischemic Lesion Segmentation in MRI Mouse Brain Data after Transient Middle Cerebral Artery Occlusion

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Reducing GABAA-mediated inhibition improves forelimb motor function after focal cortical stroke in mice

Author(s): Claudia Alia, Cristina Spalletti, Stefano Lai, Alessandro Panarese, Silvestro Micera, Matteo Caleo
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Detection of Conversion from Mild Cognitive Impairment to Alzheimer's Disease Using Longitudinal Brain MRI

Author(s): Zhuo Sun, Martijn van de Giessen, Boudewijn P. F. Lelieveldt, Marius Staring
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Unbinding Kinetics of a p38 MAP Kinase Type II Inhibitor from Metadynamics Simulations

Author(s): Rodrigo Casasnovas, Vittorio Limongelli, Pratyush Tiwary, Paolo Carloni, Michele Parrinello
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Author(s): Gabriel Baglietto, Guido Gigante, Paolo Del Giudice
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Illuminating Phenylazopyridines To Photoswitch Metabotropic Glutamate Receptors: From the Flask to the Animals
Author(s): Xavier Gómez-Santacana, Silvia Pittolo, Xavier Rovira, Marc Lopez, Charleine Zussy, James A. R. Dalton, Adèle Faucherre, Chris Jopling, Jean-Philippe Pin, Francisco Ciruela, Cyril Goudet, Jesús Giraldo, Pau Gorostiza, Amadeu Llebaria
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Author(s): Ulisse Ferrari, Tomoyuki Obuchi, Thierry Mora
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