Chapter 1 : Neural syntax: cell assemblies, synapsembles and readers

Information Processing by Neuronal Populations 3 Cell assemblies and serial computation in neural circuits 49 Kenneth D. Harris.

Nearest Nobel PubMed Report error high-probability publications. We are testing a new system for linking publications to authors. If you notice any innacuracies, please sign in and mark papers as correct or incorrect matches. If you identify any major omissions or other inaccuracies in the publication list, please let us know. Coherent encoding of subjective spatial position in visual cortex and hippocampus. Robustness of spike deconvolution for neuronal calcium imaging. The Journal of Neuroscience: Harris KD, et al. Community-based benchmarking improves spike rate inference from two-photon calcium imaging data. Challenges and opportunities for large-scale electrophysiology with Neuropixels probes. Current Opinion in Neurobiology. Fully integrated silicon probes for high-density recording of neural activity. Synaptic scaling in sleep. Science New York, N. Inhibitory control of correlated intrinsic variability in cortical networks. Improving data quality in neuronal population recordings. Spike sorting for large, dense electrode arrays. Packet-based communication in the cortex. The Journal of Physical Chemistry Letters. The Nature of Shared Cortical Variability. Cortical computation in mammals and birds. Stochastic transitions into silence cause noise correlations in cortical circuits. Angewandte Chemie International Ed. Cortical state determines global variability and correlations in visual cortex. Monitoring the evolution of crystallization processes by in-situ solid-state NMR spectroscopy. Solid State Nuclear Magnetic Resonance. Why are neurotransmitters neurotoxic? A genuine layer 4 in motor cortex with prototypical synaptic circuit connectivity. High-dimensional cluster analysis with the masked EM algorithm. Sleep replay meets brain-machine interface. Highly efficient chiral resolution of DL-arginine by cocrystal formation followed by recrystallization under preferential-enrichment conditions. Ongoing network state controls the length of sleep spindles via inhibitory activity. Supervised learning with decision margins in pools of spiking neurons. Journal of Computational Neuroscience. Hardware-accelerated interactive data visualization for neuroscience in Python. The Journal of Physical Chemistry. C, Nanomaterials and Interfaces. The Convallis rule for unsupervised learning in cortical networks. Cortical connectivity and sensory coding. Integration of visual motion and locomotion in mouse visual cortex. Controlling spatial distributions of molecules in multicomponent organic crystals, with quantitative mapping by confocal Raman microspectrometry. Journal of the American Chemical Society. Top-down control of cortical state. Physical Chemistry Chemical Physics: Sleep and the single neuron: Gating of sensory input by spontaneous cortical activity. Laminar-dependent effects of cortical state on auditory cortical spontaneous activity. Frontiers in Neural Circuits. Population rate dynamics and multineuron firing patterns in sensory cortex. Cell assemblies of the superficial cortex. The effect of intermolecular hydrogen bonding on the planarity of amides. Towards reliable spike-train recordings from thousands of neurons with multielectrodes. High-resolution solid-state 2H NMR spectroscopy of polymorphs of glycine. Cortical state and attention. Natural-abundance solid-state 2H NMR spectroscopy at high magnetic field. State-dependent representation of amplitude-modulated noise stimuli in rat auditory cortex. Exploiting powder X-ray diffraction for direct structure determination in structural biology: Journal of Structural Biology. An incommensurate thiourea inclusion compound. Chemical Communications Cambridge, England. Direct structure elucidation by powder X-ray diffraction of a metal-organic framework material prepared by solvent-free grinding. A strategy for retrospectively mapping the growth history of a crystal. Direct observation of a transient polymorph during crystallization. The asynchronous state in cortical circuits. Laminar structure of spontaneous and sensory-evoked population activity in auditory cortex. Population coding of tone stimuli in auditory cortex: The European Journal of Neuroscience. A simple model of cortical dynamics explains variability and state dependence of sensory responses in urethane-anesthetized auditory cortex. Spontaneous events outline the realm of possible sensory responses in neocortical populations.

Nitrogen and hydrogen adsorption by an organic microporous crystal. Early cognitive and language skills are linked to resting frontal gamma power across the first 3 years. Theta-mediated dynamics of spatial information in hippocampus. Data sharing for computational neuroscience. Stability of the fittest: Valuations for spike train prediction. Cell assemblies and serial computation in neural circuits Information Processing by Neuronal Populations. Kinetics of molecular transport in a nanoporous crystal studied by confocal Raman microspectrometry: Enhanced efficiency of direct-space structure solution from powder X-ray diffraction data in the case of conformationally flexible molecules. Mechanistic aspects of the solid-state transformation of ammonium cyanate to urea at high pressure. A triptycene-based polymer of intrinsic microposity that displays enhanced surface area and hydrogen adsorption. Sequential structure of neocortical spontaneous activity in vivo. Structure-reactivity correlations for solid-state enantioselective photochemical reactions established directly from powder X-ray diffraction. Abundant polymorphism in a system with multiple hydrogen-bonding opportunities: Significant conformational changes associated with molecular transport in a crystalline solid. Significantly contrasting solid state dynamics of the racemic and enantiomerically pure crystalline forms of an amino acid. Neural signatures of cell assembly organization. Structural rationalisation of co-crystals formed between trithiocyanuric acid and molecules containing hydrogen bonding functionality. How to determine structures when single crystals cannot be grown: Direct time-resolved and spatially resolved monitoring of molecular transport in a crystalline nanochannel system. Characterization of neocortical principal cells and interneurons by network interactions and extracellular features. Hallucinations and nonsensory correlates of neural activity Behavioral and Brain Sciences. Ammonium cyanate shows N-H N hydrogen bonding, not N-H Place representation within hippocampal networks is modified by long-term potentiation. Massively parallel recording of unit and local field potentials with silicon-based electrodes. Organization of cell assemblies in the hippocampus. Selective impairment of hippocampal gamma oscillations in connexin knock-out mouse in vivo. Hippocampal network patterns of activity in the mouse. Design of a bilayer structure in an organic inclusion compound.

Chapter 2 : Kenneth D. Harris - Publications

/ Christian Hölscher -- Cellular mechanisms underlying network synchrony in the medial temporal lobe / Edward O. Mann and Ole Paulsen -- Cell assemblies and serial computation in neural circuits / Kenneth D. Harris -- Neural population recording in behaving animals: constituents of a neural code for behavioral decisions / Robert E. Hampson.

Neurosciences Table of contents Part I. How could populations of neurons encode information? Christian Hoelscher; Part II. Organisation of Neuronal Activity in Neuronal Populations: Cellular mechanisms underlying network synchrony in the medial temporal lobe Edward O. Mann and Ole Paulsen; 3. Cell assemblies and serial computation in neural circuits Kenneth D. Neural population recording in behaving animals: Hampson and Sam A. Measuring distributed properties of neural representations beyond the decoding of local variables - implications for cognition Adam Johnson, Jadin C. Single-neuron and ensemble contributions to decoding simultaneously recorded spike trains Mark Laubach, Nandakumar S. Narayanan and Eyal Y. Functional roles of Theta and Gamma oscillations in the association and dissociation of neuronal networks in primates and rodents Christian Hoelscher; 8. Distributed population codes in sensory and memory representations of the neocortex Matthias Munk; The role of neuronal populations in auditory cortex for learning Frank W. Ohl and Henning Scheich; The construction of olfactory representations Thomas A. Anatomical, physiological, and pharmacological properties underlying hippocampal sensorimotor integration Brian Bland; A face in the crowd: The role of interactions between prefrontal and visual cortex in learning and memory Kristina J. Nielsen and Gregor Rainer; Disturbances of Population Activity as the Basis of Schizophrenia: Neural co-ordination and psychotic disorganization Andre Fenton; Summary and Future Targets: Summary of chapters, conclusion and future targets Christian Hoelscher and Matthias Munk. He has published widely in international journals on topics of memory formation, synaptic plasticity, neurodegeneration, and information processing in neuronal populations. He was the editor of Neuronal Mechanism of Memory Formation in that investigated processes of synaptic plasticity that might underlie memory formation. He has conducted extensive research in the area of information processing in the visual cortex of primates, using electrophysiological, pharmacological and imaging techniques. He has published his research widely in a range of top scientific journals.

Chapter 3 : Publications Authored by Kenneth D Harris | PubFacts

Kenneth D. Harris - Publications. Harris KD. Cell assemblies of the superficial cortex. Cell assemblies and serial computation in neural circuits Information.

Artikel bewerten Bringing together a multitude of data from different backgrounds, this book answers many questions including how networks are formed and separated and associated with other networks. It strives to cover the range of single cell activity analysis to observation of network activity and to brain area activity and cognitive processes. Models and concepts of brain function have always been guided and limited by the available techniques and data. This book brings together a multitude of data from different backgrounds. It addresses questions such as: How do neuronal populations encode the information? How are networks formed and separated or associated with other networks? The authors present data at the single cell level both in vitro and in vivo, at the neuronal population level in vivo comparing field potentials EEGs in different brain areas, and also present data from spike recordings from identified neuronal populations during the performance of different tasks. Written for academic researchers and graduate students, the book strives to cover the range of single cell activity analysis to the observation of network activity, and finally to brain area activity and cognitive processes of the brain. He has published widely in international journals on topics of memory formation, synaptic plasticity, neurodegeneration, and information processing in neuronal populations. He was the editor of Neuronal Mechanism of Memory Formation in that investigated processes of synaptic plasticity that might underlie memory formation. He has conducted extensive research in the area of information processing in the visual cortex of primates, using electrophysiological, pharmacological and imaging techniques. He has published his research widely in a range of top scientific journals. How could populations of neurons encode information? Christian Hoelscher; Part II. Organisation of Neuronal Activity in Neuronal Populations: Cellular mechanisms underlying network synchrony in the medial temporal lobe Edward O. Mann and Ole Paulsen; 3. Cell assemblies and serial computation in neural circuits Kenneth D. Neural population recording in behaving animals: Hampson and Sam A. Measuring distributed properties of neural representations beyond the decoding of local variables - implications for cognition Adam Johnson, Jadin C. Single-neuron and ensemble contributions to decoding simultaneously recorded spike trains Mark Laubach, Nandakumar S. Narayanan and Eyal Y. Functional roles of Theta and Gamma oscillations in the association and dissociation of neuronal networks in primates and rodents Christian Hoelscher; 8. Distributed population codes in sensory and memory representations of the neocortex Matthias Munk; The role of neuronal populations in auditory cortex for learning Frank W. Ohl and Henning Scheich; The construction of olfactory representations Thomas A. Anatomical, physiological, and pharmacological properties underlying hippocampal sensorimotor integration Brian Bland; A face in the crowd: The role of interactions between prefrontal and visual cortex in learning and memory Kristina J. Nielsen and Gregor Rainer; Disturbances of Population Activity as the Basis of Schizophrenia: Neural co-ordination and psychotic disorganization Andre Fenton; Summary and Future Targets: Summary of chapters, conclusion and future targets Christian Hoelscher and Matthias Munk.

Chapter 4 : Information Processing by Neuronal Populations : Christian Holscher :

/ Christian Hölscher --Cellular mechanisms underlying network synchrony in the medial temporal lobe / Edward O. Mann and Ole Paulsen --Cell assemblies and serial computation in neural circuits / Kenneth D. Harris --Neural population recording in behaving animals: constituents of a neural code for behavioral decisions / Robert E. Hampson and.

Chapter 5 : Princeton Computational Neuroscience Journal Club

3 Cell assemblies and serial computation in neural circuits 49 Kenneth D. Harris 4 Neural population recording in behaving animals.

Chapter 6 : Publications Authored by Kenneth Harris | PubFacts

Neural signatures of cell assembly organization Kenneth D. Harris cortical circuits show successive steps in a serial computation that.

Chapter 7 : Kenneth D. Harris

Models and concepts of brain function have always been guided and limited by the available techniques and data. This book brings together a multitude of data from different backgrounds. It addresses questions such as: how do different brain areas interact in the process of channelling information.

Chapter 8 : - NLM Catalog Result

A widely discussed hypothesis in neuroscience is that transiently active ensembles of neurons, known as 'cell assemblies', underlie numerous operations of the brain, from encoding memories to reasoning. However, the mechanisms responsible for the formation and disbanding of cell assemblies and.

Chapter 9 : The Enhanced Storage Capacity in Neural Networks with Low Activity Level - IOPscience

Yoram Baram, Developmental metaplasticity in neural circuit codes of firing and structure, Neural Networks, 85, (), (). Crossref Andreas J Keller, Rachael Houlton, BjÃ¶rn M Kampa, Nicholas A Lesica, Thomas D Mrsic-Flogel, Georg B Keller and Fritjof Helmchen, Stimulus relevance modulates contrast adaptation in visual cortex, eLife, 6.