

## Tuesday, June 9<sup>th</sup> - Poster Session 2

**2.** Mathematical analysis of a model of forward locomotion of *C. elegans*  
**B. AMBROSIO AND M.A. AZIZ-ALAOUI**

**4.** Renewal theory approach to the stability analysis of spiking recurrent networks  
**VARZAD FARKHOOI AND CARL VAN VREEWSIJK**

**6.** Information topology: neural dynamics and adaptation  
**PIERRE BAUDOT**

**8.** Consolidated Hebbian learning and parsimonious energy consumption, resulting in large capacity associative memories  
**ELIOTT COYAC, VINCENT GRIPON, CHARLOTTE LANGLAIS AND CLAUDE BERROU**

**10.** Population Density Techniques for Modeling Neural Populations  
**YI MING LAI, ELAINE DUFFIN AND MARC DE KAMPS**

**12.** A continuous model of the rod photoreceptor: Towards a functional study of the retinal first logical layer  
**TIMOTHÉE T. DUBUC AND ETIENNE B. ROESCH**

**14.** Discovery of salient low-dimensional dynamical structure in neuronal population activity using Hopfield networks  
**FELIX EFFENBERGER AND CHRISTOPHER HILLAR**

**16.** Analytical calculations of functional connectivity and of information processing capabilities of neural networks of arbitrary size  
**DIEGO FASOLI, ANNA CATTANI AND STEFANO PANZERI**

**18.** Functional consequences of non-equilibrium dynamics caused by antisymmetric learning rules  
**D. GRYTSKY, M. DIESMANN AND M. HELIAS**

**20.** Neurally plausible implementation of minimum probability flow  
**CHRISTOPHER HILLAR AND FELIX EFFENBERGER**

**22.** High-quality lossy image compression using a network of binary linear threshold ON/OFF neurons trained on natural images  
**CHRISTOPHER HILLAR, RAM MEHTA AND KILIAN KOEPSELL**

**24.** Calculating mutual information for spike trains and other data with distances but no coordinates  
**CONOR HOUGHTON**

**26.** Generative model estimation through Expectation-Maximization allows insight into perceptual accumulation mechanisms  
**ALEXANDRE HYAFIL, GUSTAVO DECO, JORDI NAVARRA AND RUBÉN MORENO-BOTE**

**28.** The weighted harmonic vector average: a new approach to the aperture problem  
**ALAN JOHNSTON**

**30.** EEG's, permutations and the Kolmogorov-Sinai entropy  
**KARSTEN KELLER**

**32.** A computational model of the influence of depolarization block on the initiation of seizure-like activity  
**CHRISTOPHER KIM AND DUANE Q. NYKAMP**

**34.** Spatial point pattern analysis of neuron somata in the rodent somatosensory barrel cortex  
**RISTO LAAKSO, ROBERT EGGER, MARCEL OBERLAENDER, PATRIK KRIEGER**

**36.** Modeling the Alzheimer's disease network  
**CHRISTINA R. KYRTSOS AND JOHN S. BARAS**

**38.** Can we hear the shape of a brain ? Spectral analysis of cortical anatomy  
**JULIEN LEFÈVRE AND DAVID GERMANAUD**

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**40.** Neuron-like dynamics in ensemble of inhibitory coupled Rulkov elements  
**T. LEVANOVA, A. KAZAKOV AND G. OSIPOV**

**42.** A new numerical algorithm for the neural field equation in the two-dimensional case  
**P.M. LIMA AND E. BUCKWAR**

**44.** Fireflies: new software to interactively visualise the behaviour of dynamical systems by harnessing the power of GPU computing  
**ROBERT MERRISON-HORT AND ROMAN BORISYUK**

**46.** A dynamic neural network model of RT distributions in visual search  
**VILIUS NARBUTAS, YISHIN LI, MATEJ KRISTAN AND DIETMAR HEINKE**

**48.** Open-source numerical simulation tool for two-dimensional neural fields involving finite axonal transmission speed  
**ERIC NICHOLS AND AXEL HUTT**

**50.** Inverse skull conductivity estimation problems from EEG data  
**CHRISTOS PAPAGEORGAKIS, JULIETTE LEBLOND AND JEAN-PAUL MARMORAT**

**52.** Resting state EEG functional connectivity dynamics as diffusion in an attractors  
**DIONYSIOS PERDIKIS, RAOUL HUYS, RITA SLEIMEN-MALKOUN, JEAN JACQUES TEMPRADO AND VIKTOR K. JIRSA**

**54.** On overdispersion in neuronal evoked activity  
**WAHIBA TAOUALI, GIACOMO BENVENUTI, PASCAL WALLISCH, FRÉDÉRIC CHAVANE AND LAURENT U. PERRINET**

**56.** Lower bounds in theoretical connectomics  
**VENKATAKRISHNAN RAMASWAMY**

**58.** Photoreceptor absorption curves account for human chromatic discrimination ability  
**INÉS SAMENGÖ AND MARÍA DA FONSECA**

**60.** Modeling a transient thalamocortical circuit (L5b-L4 loop) in the developing mouse neocortex  
**SY TERAMOTO KIMURA, D. LYNGHOLM, A. MARQUES-SMITH, S.J.B. BUTT, T.P. VOGELS**

**62.** A Mathematical Account of Dynamic Texture Synthesis for Probing Visual Perception  
**JONATHAN VACHER, ANDREW I. MESO, LAURENT PERRINET AND GABRIEL PEYRÉ**

**64.** A new twist for the simulation of time varying chemical reactions and hybrid systems  
**ROMAIN VELTZ**

**66.** On the spatial and temporal scales of perceptual integration in the brain  
**ADRIEN WOHRER AND CHRISTIAN MACHENS**

**68.** Spiking neural fields and applications to image processing  
**LI YANG**

**70.** Discrete dynamics of the oscillations in excitatory-inhibitory neural networks  
**MUSTAFA ŽEKI**

**72.** Fitting a thalamo-cortical model to EEG power spectrum using evolutionary algorithms  
**MEYSAM HASHEMI, AXEL HUTT AND JAMIE SLEIGH**

**74.** Temperature dependence of spike jitter and neuronal synchronisation  
**JAN-HENDRIK SCHLEIMER**

**76.** Input spike trains chaos in balanced target circuits  
**RAINER ENGELKEN, MICHAEL MONTEFORTE AND FRED WOLF**