

JSNC 2017  
Joint Symposium on Neural Computation, San Diego  
May 20, 2017

POSTER/DEMO SESSION

- 1. Parents' prediction of their children's action related reward: EEG recordings from social interaction with reward expectancy violation**  
J. A. Adrian, K. Jenson, A. Li, S. Makeig, G. O. Deak  
UC San Diego
- 2. Model-Based Analysis of Electrode Placement and Pulse Amplitude for Hippocampal Prostheses**  
C.S. Bingham, K. Loizos, G. Yu, D. Song, J-M.C. Bouteiller, G. Lazzi, T.W. Berger  
University of Southern California
- 3. Calcium imaging of hippocampal cell activity in behaving rats**  
G. Blair, A.G. Howe, D. Aharoni, S. Flores, T. Shuman, P. Golshani, H.T. Blair  
UC Los Angeles
- 4. A New EEG Based Methodology for Generalizing Dynamic Causal Cortical Connectivity across Individuals Performing BCI Assisted Cognitive Tasks**  
H. Courellis, J. Iversen, D. Peterson, G. Cauwenberghs  
UC San Diego
- 5. Machine Consciousness Engineering**  
S. Deiss  
UC San Diego
- 6. Embedded learning on neuromorphic systems: Towards a unified computing framework**  
G. Detorakis, C. Augustine, S. Paul, E. Neftci  
UC Irvine, and Intel Corporation
- 7. Single-neuron and field-potential correlates of error monitoring in the human medial frontal cortex**  
Z. Fu, D-A.J. Wu, Sh. Sullivan, I. Ross, J.M. Chung, A.N. Mamelak, R. Adolphs, U. Rutishauser  
Caltech, Huntington Memorial Hospital, and Cedars-Sinai Medical Center
- 8. Dynamic network analysis and application to C. Elegans**  
V. George, F. Puppo, G. Silva  
UC San Diego
- 9. From Discrete Chaotic Dynamics of Living and Thinking Systems to Artificial Brain, Consciousness and Creativity**  
V. Gontar  
Ben-Gurion University of the Negev
- 10. A Dynamic Perceptron Model**  
N. Grayson, P. Bhattacharya, V. George, G. Silva  
UC San Diego

- 11. An uncertainty principle for neural coding**  
R. Grgurich, H.T. Blair  
UC Los Angeles
- 12. Comparing Learning Networks Through Edge Detection**  
P.K. Gunalan, B. Mel  
University of Southern California
- 13. Quantitative assessment of natural social communication with portable eye-tracking and automated analysis**  
S. Guo, J. Cao, Q. Chen, N. Devgan, E. Ho, K. Zhou, J. Townsend, P. Cosman, L. Chukoskie  
UC San Diego
- 14. Modulation of Imitative Behavior and Mirror Neuron System Responsivity: A Joint Behavioral-EEG Investigation**  
K. Jenson, G. Deak  
UC San Diego
- 15. Discrete-time approach to large-scale simulations of realistic brain networks**  
M. Komarov, G. Krishnan, S. Chauvette, N. Rulkov, I. Timofeev, M. Bazhenov  
UC San Diego, and Universite Laval Quebec,  
Canada
- 16. Slow-wave sleep improves learning through spike sequence replay**  
G.P. Krishnan, Y. Wei, M. Komarov, S. Skorheim, M. Bazhenov  
UC San Diego, and HRL Labs
- 17. Modeling of Coordinated Sequence Replay in CA3 and CA1 During Sharp-Wave Ripples**  
P. Malerba, A.L. Fodder, M.W. Jones, M. Bazhenov  
UC San Diego, and University of Bristol, UK
- 18. Deciding How to Decide: Dynamic Routing in Artificial Neural Networks**  
M. McGill, and P. Perona  
Caltech
- 19. Behavioral Modulation of Neocortical Dendritic Spikes in Freely Behaving Rats**  
J.J. Moore, M.R. Mehta  
UC Los Angeles
- 20. Local generation of errors in multi-layer networks through broad category tuning of each neuron**  
H. Mostafa and G. Cauwenberghs  
UC San Diego
- 21. Coupling of heart inter-beat intervals and slow oscillations during sleep**  
M. Najji, G.P. Krishnan, M. Bazhenov, S.C. Mednick  
UC Riverside, and UC San Diego

- 22. Inhibitory Dimensionality Control of Hierarchical Networks with Linear-Threshold Rate Dynamics**  
E. Nozari, E.J. Peterson, J. Cortes, UC San Diego
- 23. Emergent spatio-temporal tradeoff in axon arbors defines dynamic efficiency in neurons**  
F. Puppo, V. George, G.A. Silva  
UC San Diego
- 24. Replicating neurophysiological data with spiking neural networks utilizing an evolutionary framework**  
E.L. Rounds, A.S. Alexander, E.O. Scott, K.A. De Jong, D.A. Nitz, J.L. Krichmar  
UC Irvine, UC San Diego, and George Mason University
- 25. Three organizing principles for feature selectivity in V2**  
R. Rowekamp, T. Sharpee  
Salk Institute for Biological Studies
- 26. Neural change-detection without the need to detect changes: leaky integration approaches Bayesian optimality**  
C.K. Ryali, A.J. Yu  
UC San Diego
- 27. Precise timing of sharp wave - ripple complexes affects spatio-temporal pattern of sleep slow oscillations in a model of memory consolidation**  
P. Sanda, P. Malerba, G. Krishnan, M. Bazhenov  
UC San Diego
- 28. Membrane-based Unsupervised Online Learning and Detection of Temporal Gestures Captured from Event Based Sensors**  
S. Sheik, S. Paul, C. Augustine, G. Cauwenberghs  
UC San Diego, and Intel Corporation
- 29. Programming Synaptic Devices for Computational Efficiency and Robustness in Neuromorphic Systems**  
Y. Shi, L. Nguyen, X. Liu, A. Malik, D. Kuzum  
UC San Diego
- 30. Multistable Winner-Takes-All Neural Networks Based on NMDA Receptors and Feedback Inhibition**  
P. Shoemaker  
San Diego State University
- 31. A bio-hybrid approach suggests a novel role for resurgent sodium current in regulating burst discharge of trigeminal sensory Mesencephalic neurons**  
S. Venugopal, S. Seki, D.H. Terman, A. Pantazis, R. Olcese, S.H. Chandler  
UC Los Angeles, and Ohio State University
- 32. Neuromorphic Silicon Neural Interfaces**  
J. Wang, S. Joshi, G. Cauwenberghs, F. Broccard  
UC San Diego

**33. Synaptic mechanisms of memory consolidation during NREM sleep**

Y. Wei, G.P. Krishnan, M. Bazhenov  
UC San Diego

**34. A simple data driven dynamical model of whole brain fMRI signals**

E. Wong  
UC San Diego