

Sat PM

101.14	3-4	B3-B5	Sensitivity parameter analysis by evolutionary search method in hippocampal CA1 pyramidal cell model	*J. AMBROS-INGERSON ¹ , L. M. GROVER ² , W. R. HOLMES ¹ ; ¹ Dept Biol Sci, Ohio Univ, Athens, OH, ² Dept of Pharmacol, Physiol & Toxicol, Marshall Univ, Huntington, WV.
101.3	4-5	B3-B5	Simulator-independent specification of cortical network models using XML	*A. P. DAVISON ¹ , M. NGUYEN ² , E. MULLER ³ , T. VIEVILLE ² ; ¹ UNIC, CNRS, Gif sur Yvette, FRANCE, ² Odyssée Lab, INRIA, Sophia Antipolis, FRANCE, ³ Electronic Vision(s) Group, Kirchhoff Institute for Physics, University of Heidelberg, Heidelberg, GERMANY.
101.4	5-6	B3-B5	Parallel network simulation with NEURON	*M. L. HINES; Computer Sci, Yale Univ, New Haven, CT.
39.13	2-3	B3-B5	Quantifying the magnitude of changes in synaptic level parameters with long-term potentiation	*W. R. HOLMES ¹ , L. M. GROVER ² ; ¹ Dept Biological Sci, Ohio University, Athens, OH, ² Dept Pharmacology, Physiology and Toxicology, Marshall University School of Medicine, Huntington, WV.
42.6	3-4	B3-B5	Activity-dependent increase of intrinsic oscillatory frequency in rat hippocampal neurons	*R. NARAYANAN, D. JOHNSTON; Center for Learning and Memory, University of Texas at Austin, Austin, TX.
55.19	4-5	B3-B5	Suppressing the excitability of spinal motoneurons by extracellularly applied electrical fields and current pulses: A modeling study	*S. M. ELBASIOUNY, V. K. MUSHAHWAR; Biomedical Engineering, Univ Alberta, Edmonton, AB, CANADA.
56.15	4-5	B3-B5	Dopaminergic modulation in a computational model of the striatal medium spiny neuron	*J. T. MOYER ¹ , J. A. WOLF ² , L. H. FINKEL ¹ ; ¹ Department of Bioengineering, University of Pennsylvania, Philadelphia, PA, ² Department of Neuroscience, University of Pennsylvania, Philadelphia, PA.
78.11	4-5	B3-B5	Spreading acidification and depression in the cerebellar cortex: conditions required for parallel fiber activation	L. S. POPA ¹ , G. CHEN ² , W. GAO ² , *T. J. EBNER ² ; ¹ Scientific Computation, Univ Minnesota, Minneapolis, MN, ² Dept Neurosci, Univ Minnesota, Minneapolis, MN.

Sun AM

130.3	11-12	B3-B5	Effect of Na channel beta 4 cytoplasmic tail on resurgent current and firing in CA3 hippocampal cells	A. M. LEE, R. A. SIMON, T. K. AMAN, *I. M. RAMAN; Dept Neurobiol & Physiol, Northwestern Univ, Evanston, IL.
130.4	12-1	B3-B5	Modeling study of the effect of persistent Na ⁺ current on motoneuron firing threshold	*L. ZHANG ¹ , C. HECKMAN ^{1,2,3} ; ¹ Physiology, Northwestern Univ, Chicago, IL, ² Physical Med. & Rehab., Northwestern University, Chicago, IL, ³ Institute for Neuroscience, Northwestern University, Chicago, IL.
132.1	10-11	B3-B5	Propagation of postsynaptic currents and potentials via gap-junctions in inhibitory networks of the hippocampus	V. ZSIROS, I. ARADI, *G. MACCAFERRI; Department of Physiology, Northwestern University, Chicago, IL.
133.2	10-11	B3-B5	Spike timing-dependent plasticity in a spatial model neuron: Spatial synaptic organization and symmetry breaking	*N. IANNELLA, S. TANAKA; Lab Visual Neurocomp, RIKEN Brain Sci Inst, Saitama 351-0198, JAPAN.
200.11	11-12	B3-B5	Modeling the effect of conduction block using high frequency stimulation	*L. JOSEPH, B. D. HAEFFELE, R. J. BUTERA; Laboratory for Neuroengineering, Georgia Institute of Technology, Atlanta, GA.
26.17	9-10	B3-B5	Neurons in Action version 2: New tutorials, including single channels, Ca ²⁺ channels, and disease-related experimentation	J. W. MOORE ¹ , *A. E. STUART ² ; ¹ Neurobiology, Duke University, Durham, NC, ² Cell & Molecular Physiology, Univ North Carolina, Chapel Hill, NC.

26.11	11-12	B3-B5	Relevance and irrelevance of computer science for understanding the brain	*W. W. LYTTON; Physiology, Pharmacology, Neurology, SUNY Downstate, Brooklyn, NY.
108.5	10:35-55	Ballroom 3 (Building C)	Why Have Gap Junctions at Distal Dendritic Sites?	F. K. SKINNER; Toronto Western Research Institute, University Health Network, Toronto, ON, CANADA.
Sun PM				
237.1	3-4	B3-B5	Electrotonic analysis of morphologic contributions to increased excitability with aging in neurons of the prefrontal cortex of monkeys	*D. KABASO1,2,3, J. NILSON4, J. I. LUEBKE4, P. R. HOF2,3, S. L. WEARNE1,3,2; 1Center Biomath, Mount Sinai Sch of Med, New York, NY, 2Dept Neuroscience, Mount Sinai Sch. Med., New York, NY, 3Cnic, Mount Sinai Sch. Med., New York, NY, 4Dept Psychiatry, Boston University, Boston, MA.
237.15	4-5	B3-B5	Location-dependent effects of inhibition in a pyramidal neuron model	M. JADI, *B. W. MEL; Biomed Engineering Dept, USC, Los Angeles, CA.
237.3	4-5	B3-B5	Sensitivity of firing dynamics to intrinsic dendritic properties in a model of neurons necessary for eye velocity neural integration	*C. M. WEAVER1,2,3, G. GAMKRELIDZE4, R. BAKER4, S. L. WEARNE1,2,3; 1Neuroscience, Mount Sinai Sch Med, New York, NY, 2Ctr Biomath, Mount Sinai Sch Med, New York, NY, 3Comp Neurobiol & Imaging Ctr, Mount Sinai Sch Med, New York, NY, 4Physiol & Neurosci, NYU Med Sch, New York, NY.
254.5	2-3	B3-B5	High-frequency firing in midbrain dopaminergic neurons is activated by dendritic NMDA, but not AMPA receptors: a modeling study	*A. S. KUZNETSOV1, N. KOPELL2, C. WILSON3; 1Mathematical Sci, IUPUI, Indianapolis, IN, 2Mathematics Dept., Boston Univ., Boston, MA, 3Dept. of Biology, UTSA, San Antonio, TX.
254.7	4-5	B3-B5	Dendritic contribution to hyperpolarization recorded at the soma in SNc dopaminergic neurons	*X. YANG, J. CALLAWAY; Dept Anat & Neurobiol, Univ Tennessee Memphis, Memphis, TN.
Mon AM				
342.5	9-10	B3-B5	Modeling and simulation of chaotic bursting in pacemaker neurons	*G. RACHMUTH, S. WITTMEIER, C. S. POON; Harvard-MIT Division of Health Sciences and Technology, Massachusetts Institute of Technology, Cambridge, MA.
342.1	9-10	B3-B5	Using high-frequency alternating current to block conduction along an axon: computer simulations and animal studies	*J. MILES1, K. L. KILGORE2,3,4, N. BHADRA3, E. LAHOWETZ3; 1Dept Neurol, Univ Hosp Cleveland, Cleveland, OH, 2Orthopedics, MetroHealth Medical Center, Cleveland, OH, 3Biomedical Engineering, Case Western Reserve University, Cleveland, OH, 4Research, Louis Stokes VA Medical Center, Cleveland, OH.
342.22	10-11	B3-B5	Accommodating and reverse accommodating firing patterns of hippocampal CA3 pyramidal neurons	*R. B. GOERTZ1, D. EPSTEIN1, P. HEMOND1, A. MARES1, G. ASCOLI2, M. MIGLIORE3, D. JAFFE1; 1Department of Biology, UTSA, San Antonio, TX, 2Krasnow Institute, George Mason University, Fairfax, VA, 3Inst. of Biophysics, Nat. Res. Council, Palermo, ITALY.

342.2	10-11	B3-B5	Compartment and electrodiffusion models of myelinated axon conduction reliability	*J. S. COGGAN ^{1,2} , C. L. LOPREORE ¹ , T. M. BARTOL ¹ , D. X. KELLER ¹ , G. E. SOSINSKY ² , T. J. SEJNOWSKI ^{1,3,4} , M. H. ELLISMAN ^{2,5} ; ¹ CNL, The Salk Inst, La Jolla, CA, ² National Center for Imaging and Microscopy Research, University of California, San Diego, La Jolla, CA, ³ Hhmi, The Salk Inst, La Jolla, CA, ⁴ Dept. of Biology, University of California, San Diego, La Jolla, CA, ⁵ Dept. of Neurosciences, University of California, San Diego, La Jolla, CA.
342.23	11-12	B3-B5	Modeling the active hyperpolarizing response to somatic current injection in hippocampal CA3 pyramidal neurons	*D. B. JAFFE ¹ , P. HEMOND ¹ , G. ASCOLI ² , M. MIGLIORE ³ ; ¹ Department of Biology, UTSA, San Antonio, TX, ² Krasnow Inst., George Mason Univ., Fairfax, VA, ³ Inst. of Biophysics, Nat. Res. Council, Palermo, ITALY.
350.1	9-10	B3-B5	Neuromodulatory control of rhythmic neural activity in the Tritonia swim CPG: a large-scale computational analysis	*R. CALIN-JAGEMAN ¹ , W. N. FROST ² , P. S. KATZ ¹ ; ¹ Dept Biology, Georgia State Univ, Atlanta, GA, ² Dept Cell Biol and Anat, Rosalind Franklin Univ, North Chicago, IL.
Mon PM				
406.12	4:45-5	Rm B314	The slow oscillation in a physiologically realistic model of laminar deafferented cortex	*J. J. GELFAND, T. BENDER, B. FLOREZ; Center for the Study of Brain, Mind and Behavior, Princeton Univ, Princeton, NJ.
432.1	2-3	B3-B5	Rate-independent characterization of irregular neuronal firing in a regime of balanced background input	*K. MIURA ^{1,2} , Y. TSUBO ³ , T. FUKAI ³ , M. OKADA ^{1,3} ; ¹ Department of Complexity Science and Engineering, University of Tokyo, Chiba, JAPAN, ² Research Fellow, the Japan Society for the Promotion of Science, Chiba, JAPAN, ³ Brain Science Institute, RIKEN, Saitama, JAPAN.
432.12	5-6	B3-B5	Requiem for the spike?	*P. E. LATHAM ¹ , A. ROTH ² , M. HAUSSER ² , M. LONDON ² ; ¹ UCL, Gatsby Computational Neurosci Unit, London, CA, UNITED KINGDOM, ² Wolfson Institute of Biological Research, UCL, London, UNITED KINGDOM.
449.29	2-3	B3-B5	Factors in the evolution of myelin of invertebrates and vertebrates: a simulation study	*A. M. CASTELFRANCO, D. K. HARTLINE; Bekey Lab Neurobiol, PBRC, Univ of Hawaii, Honolulu, HI.
469.3	4-5	B3-B5	Assessing the direct effects of brain electrical stimulation using short axon segment models	*S. SOTIROPOULOS, P. N. STEINMETZ; Harrington Department of Bioengineering, Arizona State University, Tempe, AZ.
Tue AM				
539.12	12-1	B3-B5	Relation of neural and network excitability in simple cortical computer models	*W. W. LYTTON ¹ , A. OMURTAG ² , M. STEWART ² ; ¹ Physiology, Pharmacology, Neurology, SUNY Downstate, Brooklyn, NY, ² Physiology, Pharmacology, SUNY Downstate, Brooklyn, NY.
544.19	11-12	B3-B5	Firing synchrony in networks of dorsal cochlear nucleus cartwheel cells	*P. B. MANIS, J. G. MANCILLA; Dept Otolaryngol/Head & Neck Surg, Univ N Carolina-Chapel Hill, Chapel Hill, NC.
551.27	11-12	B3-B5	Reduction of anion reversal potential subverts the inhibitory control of firing rate in spinal lamina I neurons: A biophysical basis for neuropathic pain	*Y. DE KONINCK ¹ , S. A. PRESCOTT ² , T. J. SEJNOWSKI ^{2,3} ; ¹ Cellular Neurobiology, Laval University / CRULRG, Quebec, PQ, CANADA, ² CNL, Salk Institute, La Jolla, CA, ³ Div Biological Sciences, UCSD, La Jolla, CA.

Tue PM

634.25	2-3	B3-B5	Study of signal propagation in a motoneuron based on a three-dimensional detailed reconstruction	*S. DAICZ1,2, L. SZCZUPAK3,2; 1Departamento de Computacion, Facultad de Ciencias Exactas y Naturales, Univ de Buenos Aires, Buenos Aires, ARGENTINA, 2IFIByNE, CONICET, Buenos Aires, ARGENTINA, 3Dept Fisiologia, Biologia Molecular y Celular, Facultad de Ciencias Exactas y Naturales, Univ de Buenos Aires, Buenos Aires, ARGENTINA.
637.21	2-3	B3-B5	Automated reduction of morphologically detailed multicompartment neuron models for the study of neurodegenerative disorders and aging	*P. J. COSKREN1,2,3, J. I. LUEBKE4, P. R. HOF1,2, S. L. WEARNE1,2,3; 1Dept Neurosci, Mt Sinai Sch Med, New York, NY, 2Comp Neurobiol and Imaging Ctr, Mt Sinai Sch Med, New York, NY, 3Center for Biomathematics, Mt Sinai Sch Med, New York, NY, 4Dept Psychiatry, Boston U, Boston, MA.
637.13	2-3	B3-B5	The relation of information processing at the proximal and distal dendrite in the hippocampal CA1 network	Y. UCHIKUNE1, D. SHIUN1, H. URAKUBO2, T. KITAJIMA3, M. TSUKADA1, *T. AIHARA1; 1Info-Comm Engineering, Tamagawa Univ, Tokyo 194, JAPAN, 2PRESTO, Tokyo Univ, Tokyo, JAPAN, 3Faculty of Engineering, Yamagata Univ, Yamagata, JAPAN.
637.22	3-4	B3-B5	Graded amplification of synaptic inputs: evidence from paired motor axon recordings	*T. C. COPE1, R. K. POWERS2, P. NARDELLI1; 1Neurosci, Cell Biol & Physiol, Wright State Univ, Dayton, OH, 2Physiology and Biophysics, University of Washington, Seattle, WA.
637.14	3-4	B3-B5	Steep decrease of membrane resistance in distal dendrite of hippocampal CA1 pyramidal neuron	*T. OMORI1,2, T. AONISHI3,1, H. MIYAKAWA4, M. INOUE4, M. OKADA5,1; 1Brain Sci Inst, RIKEN, Saitama, JAPAN, 2Research Fellow, JSPS, Tokyo, JAPAN, 3Interdiscip Grad Sch of Sci and Eng, Tokyo Inst of Tech, Kanagawa, JAPAN, 4Sch of Life Sci, Tokyo Univ of Pharm and Life Sci, Tokyo, JAPAN, 5Grad Sch of Front Sci, Univ of Tokyo, Chiba, JAPAN.
637.1	3-4	B3-B5	The role of voltage-gated sodium channels in regenerative action potential propagation in basal dendrites of cortical pyramidal neurons	*C. D. ACKER, S. D. ANTIC; Neuroscience, UConn Health Center, Farmington, CT.
637.15	4-5	B3-B5	Compartmental modeling of multiple spike-initiation zones in leech T-cells	*J. KRETZBERG, F. KRETSCHMER; IBU, University of Oldenburg, Oldenburg, GERMANY.
637.11	4-5	B3-B5	Sodium channel-mediated $[Na^+]_i$ changes in axons, proximal dendrites, and somata of rat layer 5 pyramidal cells	W. N. ROSS1, N. LASSER-ROSS1, M. J. GUTNICK2, *I. A. FLEIDERVISH2; 1Dept. of Physiology, New York Medical College, Valhalla, NY, 2Koret Sch of Vet Med, Hebrew Univ of Jerusalem, Rehovot, ISRAEL.
637.16	5-6	B3-B5	Detailed passive cable models of hippocampal granule cells obtained with two-photon microscopy	C. SCHMIDT-HIEBER, P. JONAS, *J. BISCHOFBERGER; Dept Physiol I, Inst Physiol, Freiburg D-79104, GERMANY.
637.12	5-6	B3-B5	Distance dependence of nonlinear synaptic integration in basal dendrites	*B. F. BEHABADI1, A. POLSKY2, J. SCHILLER2, B. W. MEL1; 1Biomedical Engineering, Univ So California, Los Angeles, CA, 2Physiology, Technion, Haifa, ISRAEL.
649.5	2-3	B3-B5	Understanding the relationship between maximal conductances and functional properties of neurons	*A. L. TAYLOR, E. MARDER; Biology, Brandeis Univ, Waltham, MA.

676.5	2-3	B3-B5	Paired pulse thalamic deep brain stimulation (DBS) reveals dependence of tremor and model neuron responses on stimulation pattern	*M. J. BIRDNO ¹ , S. E. COOPER ² , A. R. REZA ¹ , W. M. GRILL ¹ ; ¹ Biomedical Engineering, Duke University, Durham, NC, ² Neurology, Cleveland Clinic Foundation, Cleveland, OH, ³ Neurosurgery, Cleveland Clinic Foundation, Cleveland, OH.
Weds AM				
730.9	9-10	B3-B5	Activity-dependent regulation of synaptic efficacy	*A. O. KOMENDANTOV ¹ , G. A. ASCOLI ^{1,2} ; ¹ Krasnow Inst. for Advanced Study, George Mason Univ., Fairfax, VA, ² Psychology Dept., George Mason Univ., Fairfax, VA.
730.11	11-12	B3-B5	Computational studies of the role of stochastic synaptic transmission in hippocampus and cortex	*J. FELLOUS ^{1,2} , A. BUNTAINE ² , V. HOANG ² , N. BHANPURI ² ; ¹ Psychol, Univ Arizona, Tucson, AZ, ² Biomedical Engineering, Duke University, Durham, NC.
735.12	12-1	B3-B5	Predictive eye pursuit from a biologically realistic cerebellar model	*R. E. KETTNER ^{1,2} , B. MERKEY ³ , M. LYSETSKIY ^{1,2} ; ¹ Dept Physiol M211, Northwestern Univ Med Sch, Chicago, IL, ² Neuroscience Inst, Northwestern Univ, Chicago, IL, ³ Dept Applied Mathematics, Northwestern Univ, Evanston, IL.
Weds PM				
794.14	3-4	B3-B5	Dendritic spike initiation in pyramidal cell models	*Y. KATZ ¹ , W. L. KATH ² , N. SPRUSTON ³ ; ¹ Interdepartmental Biological Sciences, Northwestern University, Evanston, IL, ² Applied Mathematics, Northwestern University, Evanston, IL, ³ Neurobiology and Physiology, Northwestern University, Evanston, IL.
794.15	4-5	B3-B5	Dendritic branching increases coincidence detection in neurons	B. LOSAVIO ¹ , *P. SAGGAU ² ; ¹ Dept Neurosci #730, Baylor Col Med, Houston, TX, ² Dept Neurosci #603, Baylor Col Med, Houston, TX.
796.23	4-5	B3-B5	Persistent gamma oscillations synchronize granule cell output in simulations of the dentate gyrus slice preparation	*S. CRANSTOUN, L. H. FINKEL; Dept Bioengineering, Univ Pennsylvania, Philadelphia, PA.
797.15	4-5	B3-B5	Mach-bands and distributed contrast enhancement shown by realistic models of PG cell and granule cell microcircuits in the olfactory bulb	*M. MIGLIORE ^{1,2} , G. M. SHEPHERD ² ; ¹ IBF, Natl Research Council, Palermo, ITALY, ² Neurobiology, Yale University School of Medicine, New Haven, CT.
797.16	5-6	B3-B5	Viral transsynaptic tracing from dual injections in the olfactory bulb shows convergent connectivity in granule cell columns	*D. C. WILLHITE ¹ , K. T. NGUYEN ¹ , L. Y. SHON ¹ , M. MIGLIORE ^{2,1} , G. M. SHEPHERD ¹ ; ¹ Neurobiology, Yale University, New Haven, CT, ² Institute of Biophysics, National Research Council, Palermo, ITALY.
813.5	2-3	B3-B5	Serotonergic modulation of afterhyperpolarization and excitability in an interneuron that contributes to learning in the leech	*B. D. BURRELL ¹ , K. CRISP ² ; ¹ Neurosci Group, Sanford Sch Med Univ South Dakota, Vermillion, SD, ² Dept. Biology and Neuroscience Program, St. Olaf College, Northfield, MN.
836.1	3-4	B3-B5	Estimation of the spatial extent of extracellular electrical stimulation using in vitro MEAs	S. JOUCLA ¹ , L. ROUSSEAU ² , V. PERRAIS ² , P. BRANCHEREAU ¹ , *D. CATTART ³ , P. MEYRAND ¹ , B. YVERT ¹ ; ¹ UMR 5816 Neurobiol Des Reseaux, CNRS- Univ Bordeaux 1, Talence, FRANCE, ² SMM, Groupe ESIEE, Noisy le Grand, FRANCE, ³ UMR 5816 Neurobiol Des Reseaux, CNRS- Univ Bordeaux 1, Talence, FL, FRANCE.