

Tucker-Davis Symposium on Advances and Perspectives in Auditory Neurophysiology (APAN)

Hilton New Orleans Riverside (Grand Ballrooms A & B)

Friday, October 12, 2012

8:00 AM – 6:00 PM

8:00 – 9:00 Registration and Poster set-up

9:00 – 9:05 Introduction (Liz Romanski)

9:05 – 10:00 **Keynote Lecture: Catherine E. Carr, Ph.D.**, University of Maryland
“Evolution of sound localization circuits”

10:00 – 11:00 **Morning Poster Session** and Coffee Break

Slide Session I (Chairs: Jennifer Linden & Jennifer Groh)

11:15 – 11:30 **Norm-based coding of voice in human auditory cortex**, M. Latinus, P. McAleer, P. Bestelmeyer, P. Belin*

11:30 – 11:45 **Neuronal representation of temporal regularity associated with pitch perception in macaque auditory cortex**, *Y. Kikuchi, S. Kumar, S. Baumann, T. Overath, T.D. Griffiths, C.I. Petkov

11:45 – 12:00 **The Cortical Pitch Complex: Responses to Resolved Harmonics, Unresolved Harmonics, and Distortion Products**, *S. Norman-Haignere*, N. Kanwisher, and J.H. McDermott

12:00 – 12:15 **High Gamma Oscillations Reveal Cortical Auditory Processing of Pitch Perturbation in Voice Feedback**, *R. Behroozmand, J. Greenlee, D. Hansen, C. Larson, H. Chen, H. Oya, H. Kawasaki, M. Howard

12:15 – 12:30 **Information Transfer in the Ventral Auditory Processing Stream**, *E.H. Smith, S.S. Kellis, P.A. House, B. Greger

12:30 – 2:00 Lunch on your own (posters remain up through entire meeting)

Slide Session II (Chairs: Robert Liu & Mitch Sutter)

2:15 – 2:30 **Differential Modulation of Perceptual Acuity by Coarse and Fine Discriminative Auditory Fear Conditioning**, M. Aizenberg*, M.N. Geffen

2:30 – 2:45 **Auditory spatial perception aligns with long-term changes in eye position: A novel robust adaptation phenomenon**, G.D. Paige*, W. E. O’Neill

2:45 – 3:00 **Frontal eye field may be “read out” differently for auditory vs. visual saccades**, V. Caruso, D. Pages, J.M. Groh

3:00 – 3:15 **Time-dependent consolidation of associative representational plasticity in the primary auditory cortex predicts the behavioral selection of specific sound information to solve an auditory problems**, *K. M. Bieszczad, N.M. Weinberger

3:15 – 3:30 **A specific deficit in central auditory processing in mouse model of developmental and autoimmune disorders**, L. A. Anderson, J. Mattley, and J. F. Linden*

3:30 – 3:45 Announcements (Yale Cohen, Xiaoqin Wang)

3:45 – 6:00 **Afternoon Poster Session** and Refreshments

6:00 – 7:00 APAN Business meeting (all are welcome)

POSTER PRESENTATIONS

1. **Anatomical and functional changes of auditory development in cross-fostered rats**, Adise, S.; Saliu, A.; Maldonado, N.; Cardoso, L.; Rodriguez-Contreras, A.
2. **Finding histological correlates of behaviourally-identified tinnitus**, Berger, J.I. ; Coomber, B.; Shackleton, T.M.; Wallace, M.N. ; Palmer, A.R.
3. **The budgerigar as a model for human detection of tones in noise**, Carney, L.H.; Abrams, K.; Mao, J.; Schwarz, D.; Idrobo, F.
4. **Mechanism of Cortical Encoding of Ultra-Sonic Vocalizations**, Carruthers, I.; Natan, R.G.; Geffen, M.N.
5. **An adaptive stimulus search method for rapid characterization of multidimensional receptive fields in auditory cortex of awake animals**, Chambers, A.R.; Hancock, K.E.; Polley, D.B.
6. **Activity of Neuronal Ensembles during the Development of Hearing: evidence for clusters of co-active neurons in the auditory brainstem of rats**, Cloud, P.; Shaffer, E.; Amarasingham, A.; Rodriguez-Contreras, A.
7. **Changes in neural activity and nitric oxide synthase distribution in an animal model of tinnitus**, Coomber B., Berger J., Leggett R.C., Shackleton T.M., Palmer A.R., & Wallace M.N.
8. **Breaking down the Cortical Representations of Speech in LFP and MUA**, Ding, N.; Simon, J.Z.; Shamma, S.A.; David, S.V.
9. **Auditory Feature-Selective Attention in Rhesus Macaques**, Downer, J.; O'Connor, K.; Verhein, J.; Noriega, N.; Sutter, M.
10. **Functional characterization of auditory processing in the songbird forebrain**, Elliot, T.; Theunissen, F.E.
11. **Online adaptive stimulus design for studying non-linear spectral integration of neurons in auditory cortex**, Feng, L.; Dekel, E.; Zhang, K.; Wang, X.
12. **Modeling the Mismatch Negativity (MMN) in Primary Auditory Cortex of the Awake Monkey**, Fishman, Y.I.; Steinschneider, M.
13. **Neurodynamic Predictions of Musical Tonality Perception, Modeling the Mismatch Negativity (MMN) in Primary Auditory Cortex of the Awake Monkey**, Flaig, N.K.; Kim, J.C.; Krumhansl, C.L.; Large, E.W.
14. **Concurrent electrical microstimulation of vocalization producing areas in anaesthetized guinea pigs**, Green, D.; Wallace, M.; Palmer, A.
15. **Neuromagnetic signatures of segregation in complex acoustic scenes**, Teki, S.; Payne, C.; Griffiths, T.; Chait, M.
16. **Decoding memories of 'noise-like' stimuli from patterns of brain activity**, Kumar, S.; Bonnici, H.M.; Teki, S.; Agus, T.R.; Pressnitzer, D.; Maguire, E.A.; Griffiths, T.D.
17. **Slow frequency modulation entrains neural delta oscillations and determines human listening behavior**, Henry, M.J.; Obleser, J.
18. **Detection of Tone in Noise in Rat Auditory Cortex**, Hershenhoren, I.; Nelken, I.
19. **Interaural Level Difference tuning in auditory cortex of the human and the rat**, Higgins, N.C.; Storace, D.A.; McLaughlin, S.A.; Stecker, G.C.; Escabi, M.A.; Read, H.L.
20. **Anaesthetic condition alters response time-course, long-range coordination of firing, and spike isolation quality in mouse auditory cortex**, Hildebrandt, K.J.; Anderson, L.A.; Sahani, M.; Linden, J.F.
21. **The integration of vowel formants in rat auditory cortex**, Honey, C.; Nour, J.; Schnupp, J.W.H.
22. **The detection and cortical encoding of amplitude modulation in freely moving gerbils**, Von Trapp, G., Buran, B.N., Semple, M.N. and Sanes, D.H.
23. **Functional organization of spectrotemporal processing in higher-order auditory areas of human temporal lobe**, Hullett P.W, Mesgarani N., Schreiner C.E.; Chang E.F.
24. **Functional topography of thalamocortical and intracortical inputs to layers 4 and 6b**, Lee, C.C.; Imaizumi, K.
25. **Tectothalamic inhibitory neurons in the inferior colliculus receive converged axosomatic excitatory inputs from multiple sources**, Ito, T.; Oliver, D.L.

26. **Intracortical, horizontal connections contribute to cortical receptive fields and coordinate gamma oscillations across cortical space**, Jeschke, M.; Ohl, F.W.
27. **How does the brain process cochlear implant stimulation? Insights from single neuron recordings in auditory cortex**, Johnson, L.; Santina, C.D.; Wang, X.
28. **Behavioral paradigm to measure the lower limit of pitch for complex harmonic sounds in macaques**, Joly, O.; Baumann, S.; Poirier, C.; Thiele, A.; Griffiths, T.D.
29. **Oxytocin-based neuromodulation of mammalian social behavior**, Jones, B.J.; Froemke, R.C.
30. **Stability of consonant pitch intervals in a nonlinear oscillator network model**, Kim, J.C.; Large, E.W.
31. **Fast auditory responses in dorsal premotor cortex of the rhesus monkey**, Kusmirek, P.; Rauschecker, J.P.
32. **Spectral and temporal acoustic features map subfields in human auditory cortex**, Leaver, A.M.; Rauschecker J.P.
33. **Auditory receptive field estimation with bandpass noise**, Ledbetter, N.M.; Sun, H.; Walker, E.Y.; Barbour, D.L.
34. **Bridging the gap: magnetoencephalography in guinea pig reveals rapid auditory cortical adaptation to stimulus statistics**, Christianson, G.B.; Chait, M.; de Cheveigne, A.; Linden, J.F.
35. **A nonlinear dynamical systems approach to pitch perception**, Lerud, K.; Kim, J.; Large, E. W.
36. **Tuning to interaural time difference in human auditory cortex**, McLaughlin, S.A.; Stecker, G.C.
37. **Modified Areal Cartography in the Cat Auditory Cortex Following Early and Late Onset Deafness**, Wong, C.; Chabot, N.; Kok, M.A.; Lomber, S.G.
38. **Core Auditory Cortex of the Cat Revealed Using High Field FMRI**, McMillan, A.J.; Hall, C.L.; Lomber, S.G.
39. **Adaptation to Temporal Correlation in the Primary Auditory Cortex**, Natan, R.G.; Carruthers, I.A.; Geffen, M.N.
40. **Organization of human auditory cortex: Response latencies on Heschl's gyrus and posterior lateral superior temporal gyrus**, Nourski, K.V.; Steinschneider, M.; Oya, H.; Kawasaki, H.; Howard III, M.A.
41. **Organization of human auditory cortex: Response patterns elicited by simple and complex sounds on Heschl's gyrus and posterior lateral superior temporal gyrus**, Steinschneider, M.; Nourski, K.V.; Oya, H.; Kawasaki, H.; Howard III, M.A.
42. **Human depth electrode recording of auditory cortex responses to different pitch classes**, Gander, P.E.; Kumar, S.; Nourski, M.A. Howard III, T.D. Griffiths
43. **Macaque sensitivity to compound amplitude modulation: Effects of component frequency and phase**, O'Connor, K.N.; Cline-Egri, Z; Johnson, J.S.; Sutter, M.L.
44. **Time course variability of sound evoked synaptic inputs in inferior colliculus (IC) of mouse**, Ono, M.
45. **Psychophysical Estimates of Auditory Frequency Selectivity in the common Marmoset (Callithrix Jacchus)**, Osmanski, M.S.; Wang, X.
46. **Age-related effects of NADPH diaphorase and parvalbumin expression in the rhesus macaque superior olivary complex**, Gray, D.T.; Engle, J.R.; Petrovska, A.; Stewart, M.M.; Recanzone, G.H.
47. **Spatial and nonspatial processing in the primary auditory cortex of awake behaving macaque monkeys**, Ng, C.W.; Gray, D.; Overton, J.; Recanzone, G.
48. **Single-unit responses to amplitude modulated tones and noise in the auditory cortex of aged macaque monkeys**, Overton, J.A.; Recanzone, G.H.
49. **The causal role of the inferior colliculus in perception: effects of electrical stimulation on frequency discrimination in primates**, Pages, D.; Ross, D.; Groh, J.M.
50. **Age-Related Changes in Auditory Processing of Speech-like Stimuli Assessed at the Population and Cellular Levels**, Parthasarathy, A.; Bartlett, E.L.
51. **Human psychophysics of an auditory frequency-contour discrimination task**, Liu, A.S.; Croom, A.; Gold, J.I.; Cohen, Y.
52. **Bayesian modeling of human performance in an auditory-categorization task**, Gifford, A.M.; Cohen, Y.E.; Stocker, A.A.
53. **Behavioral correlates of auditory-object processing in rhesus macaques**, Christison-Lagay, K.L.; Cohen, Y.E.

54. **Neuroimaging and neurophysiology of Artificial Grammar learning in the primate brain: Relationship between fMRI-BOLD and neuronal activity**, Kikuchi, Y.; Barrett, J.M.; Attaheri, A.; Milne, A.; Wilson, B.; Petkov, C.I.
55. **Visual influences on neurons in voice-sensitive cortex**, Perrodin, C.; Kayser, C.; Logothetis, N.K.; Petkov, C.I.
56. **Inactivation of ventral prefrontal cortex impairs audiovisual working memory**, Plakke, B.; Hwang, J.; Diltz, M.D.; Romanski, L.M.
57. **Task-dependent spatial responses in auditory cortex of common marmosets**, Remington, E.; Wang, X.
58. **Encoding of simple and complex sounds by local field potentials in primate auditory cortex**, Bigelow, J.; Rossi, B.; Zdilar, I.; Poremba, A.
59. **Local field potential activity in primate A1 during auditory delayed matching-to-sample and operant conditioning task performance**, Rossi, B.N.; Bigelow, J.; Poremba, A.
60. **Frequency-specific connectivity in the macaque auditory cortex**, Scott, B.H.; Leccese, P.A.; Fukushima, M.; Mullarkey, M.; Saleem, K.S.; Mishkin, M.; Saunders, R.C.
61. **Decoding network mechanisms underlying complex sound discrimination using chronometry on trial-by-trial spike-field responses**, Banerjee, A.; Kikuchi, Y.; Mishkin, M.; Rauschecker, J.P.; Horwitz B.
62. **Robust automatic speech recognition using sequential spike code**, Schafer, P.B.; Jin, D.Z.
63. **The prevalence of mode-locked spike trains in the responses of cochlear nucleus neurons to periodic stimuli**, Scholes, C.; Rhode, W.S.; Palmer, A.R.; Coombes, S.; Sumner, C.J.
64. **Neuronal correlates of selective auditory attention in rat prefrontal and primary auditory cortices**, Rodgers, C.; DeWeese, M.
65. **Comparison in A1 of rodent and cat multifilter receptive field models**, Seybold, B.A.; Shih, J.Y.; Hullett, P.W.; Schreiner, C.E.
66. **Evaluating the necessity of norepinephrine for experience-dependent plasticity during auditory cortical development**, Shepard, K.N.; Liles, L.C.; Weinschenker, D.; Liu, R.C.
67. **A statistical dynamic model for buildup of stream segregation with an ambiguous ABA auditory stimulus**, Steele, S.; Tranchina, D.; Rinzel, J.
68. **Population coding of sound level in primary auditory cortex**, Sun, W.; Marongelli, E.; Ferdoash, A.; Barbour, D.L.
69. **Tectothalamic inhibitory neurons in the inferior colliculus receive converged axosomatic excitatory inputs from multiple sources**, Ito, T.; Oliver, D.L.
70. **Responses of marmoset frontal cortex neurons during a natural vocal behavior: antiphonal calling**, Thomas, W.; Gordon, K.; de la Mothe, L.; Miller C.
71. **Population receptive field analysis of human primary auditory cortex**, Thomas, J.M.; Huber, E.; Saenz, M.; Fine, I.
72. **Auditory attention during a natural cocktail party in common marmosets**, Toarmino, C.R.; Miller, C.T.
73. **Multielectrode recordings within and across structures in the inferior colliculus and optic tectum**, Totten, D.; DeBello, W.
74. **Resting-state functional connectivity reveals auditory-limbic network in tinnitus**, Turesky, T.; Leaver, A.M.; Seydell-Greenwald, A.S.; Rauschecker, J.P.
75. **Pulse induction in pseudorandom sequences measured with pulse attribution and tapping rate**, Velasco, M.; Large, E.W.
76. **A hypothetical role for echolocation in shaping left hemispheric specialization for processing social calls in mustached bats**, Washington, S.D.; Tillinghast, J.
77. **Frequency selectivity throughout the auditory system**, Wells, T.; Sumner, C.
78. **Closed-loop audiomotor training improves neural and behavioral discrimination of weak signals in noise in mice and men**, Whitton, J.; Hancock, K.; Polley, D.
79. **Time course of contrast gain control in ferret auditory cortex**, Willmore, B.; Rabinowitz, N.; Schnupp, J.; King, A.
80. **Laminar differences in functional organization of the mouse primary auditory cortex**, Winkowski, D.E.; Kanold, P.O.