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

Friday, November 11, 2011
8:30 AM – 6:00 PM
Constitution Ballroom, Grand Hyatt Washington, 1000 H Street NW, Washington, DC

8:30 – 9:00 Registration and Poster set-up for Morning Poster Session

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

9:05 – 10:00 **Keynote Lecture:** Paula Tallal, Ph.D., Board of Governors Professor of Neuroscience, Co-Director Center for Molecular and Behavioral Neuroscience, Rutgers University

“It’s About Time: In the Perception of Speech, Time is of the Essence”

10:00 – 11:30 **Morning Poster Session** and Coffee Break

**Slide Session I** (Chairs: Robert Liu & Tim Griffiths)

11:30 – 11:45 **Auditory working memory in rhesus monkeys**
B.H. Scott, P. Yin, M. Mishkin

11:45 – 12:00 **Invariant cortical representation of attended speaker in multitalker speech perception**
N. Mesgarani and E. Chang

12:00 – 12:15 **A study on rat vocal interactions and syntax**

12:15 – 12:30 **Comparison of task related plasticity in ferret primary and secondary auditory cortex**

12:30 – 12:45 **How the auditory cortex drives decisions**
P. Znamenskiy and A.M. Zador

12:45 – 2:00 Lunch on your own (morning posters can remain up through lunch)

2:00 – 2:15 Poster set-up for Afternoon Poster Session

**Slide Session II** (Chairs: Jennifer Linden & Mitch Sutter)

2:15 – 2:30 **Increasing specificity for complex acoustic stimuli towards the temporal pole of the cat cerebrum**
S.G. Lomber and A.J. McMillan

2:30 – 2:45 **Spectro-temporal neural coding of speech in human auditory cortex**
N. Ding and J.Z. Simon

2:45 – 3:00 **Single-unit and population activity of A1 during auditory recognition memory performance in primates**
A Poremba, J. Bigelow, R. Opheim

3:00 – 3:15 **Dissociating representation of spectrotemporal features from perceived unpleasantness of aversive sound stimuli in the amygdala: a human fMRI study**
S. Kumar, K. von Kriegstein, T. Griffiths

3:15 – 3:30 **Cross-modal context-sensitive responses to combined face-vocalization stimuli in ventrolateral prefrontal cortex of non-human primates**
J. Hwang and L.M. Romanski

3:30 – 3:45 **Neural correlates of pitch discrimination during passive and active listening**

3:45 – 4:00 **Behavioural and functional imaging analysis of ‘artificial-grammar’ sequence learning in Rhesus macaques**
B. Wilson, M.G. Collison, H. Slater, D.M. Hunter, K. Smith, W. Marslen-Wilson, C.I. Petkov
Morning Posters:
2. Prototype-based cerebral representation of voice identity, Belin, P.; Latinus, M.
3. Biasing the content of hippocampal replay during sleep using task-related sounds, Bendor, D.; Wilson, M.
4. Psychophysical correlates of co-modulation masking release in a macaque, Bennur, S.; Cohen, Y.E.
5. Primary sensory cortex predicts the utility of specific sensory information in a behavioral learning set by enhancing the cortical representation of the critical signal, Bieszczad, K.M.; Weinberger, N.M.
6. Auditory recognition memory correlates and stimulus-selectivity of local field potentials in primate lateral prefrontal cortex, Bigelow, J.; Plakke, B.; Poremba, A.
7. Task demands and motivation affect neuronal activity in the auditory cortex of nonhuman primates, Brosch, M.; Babanin, M.; Selezneva, E.; Huang, Y.; Scheich, H.
8. Golgi-architecture of the subcortical auditory structures in the Mongolian gerbil, Budinger, E.; Scheich, H.; Mylius, J.
9. Arc in sensory cortex is necessary for learning and physiological plasticity, Carpenter-Hylan, E.; Vazdarjanova, A.; Blake, D.
10. Neuronal activation pattern across cortical laminae in cat primary auditory cortex, Carrasco, A.; Brown, T.A.; Lomber, S.G.
12. Reference frame of visual and auditory signals in the primate frontal eye fields, Caruso, V.; Pages, D.; Groh, J.M.
13. Differential sensitivity to appearing and disappearing objects in complex acoustic scenes, Chait, M.; Cervantes-Constantino, F.; Kashino, M.
14. Dynamic faces speed up vocal processing in the auditory cortex of behaving monkeys, Chandrasekaran, C.; Lemus, L.; Ghazanfar, A.A.
15. Stimulation of the amygdala facilitates cortical memory traces by inducing dual forms of representation plasticity, Chavez, C.M.; McGuagh, J.L.; Weinberger, N.M.
16. Automatic phoneme categorization in the dorsal auditory pathway, Chevillet, M.A.; Jiang, X.; Rauschecker, J.P.; Riesenhuber, M.
17. Stimulus-specific adaptation measured in the guinea pig using magnetoencephalography, Christianson, G.B.; Chait, M.; deCheveigne, A.; Linden, J.F.
19. The basal ganglia in perceptual timing: timing performance in Multiple System Atrophy and Huntington's Disease, Cope, T.E.; Grube, M.; Singh, B.; Burn, D.J.; Griffiths, T.D.
21. Effects of congruent and incongruent face and vocalization pairs on neurons in ventral prefrontal cortex, Diehl, M.M.; Ditz, M.D.; Romanski, L.M.
23. Spike-timing reliability and cross correlations are enhanced by a partial blockage of GABAa inhibitions in the guinea pig auditory cortex, Edeline, J.-M.; Gaucher, Q.; Gourévitch, B.; Huetz, C.
27. Neuronal adaptation in the awake rat auditory cortex depends on the spectrottemporal features of structured sound stimuli, Gaese, B.H.; Schmale, K.; Klein, C.
28. Modulation of slow oscillations to the sound coding in auditory thalamus, Gao, L.; He, J.
29. Synaptic inputs to large tectothalamic projection neurons of the mouse inferior colliculus, Geis, H-R.; Borst, G.G.
30. Structural correlates of auditory and phonological skill in school children, Grube, M.; Kumar, S.; Cooper, F.; Griffiths, T.D.
32. Crossmodal thalamocortical connections of the primary auditory, somatosensory and visual cortex in the Mongolian gerbil, Henschke, J.; Scheich, H.; Budinger, E.


34. Frequency tuning in mouse auditory cortex depends on the sequencing of probe tones, Hildebrandt, J.K.; Anderson, L.A.; Sahani, M.; Linden, J.F.

35. Relationships among speech-evoked cortical oscillations, speech-evoked brainstem responses, and reading-related skills in children, Hornickel, J.; Touny, M.; Escobedo Quiroz, R.; Kraus, N.

36. Neural correlates of rapid changes in sound categorization, Jaramillo, S.; Znamenskiy, P.; Zador, A.M.


38. Frequency tuning in mouse auditory cortex depends on the sequencing of probe tones, Hildebrandt, J.K.; Anderson, L.A.; Sahani, M.; Linden, J.F.

39. The segregation of simultaneous broadband sources in elevation using envelope cues: behavior and modeling, Johnson, J.S.; O’Conner, K.N.; Sutter, M.

40. Harmonic preference in the lateral belt of rhesus monkey auditory cortex, Kikuchi, Y.; Horwitz, B.; Mishkin, M.; Rauschecker, J.P.

41. Directing cortical plasticity to understand and repair the central auditory system, Kilgard, M.

42. Subcortical representation of sound is enhanced in bilinguals, Krizman, J.; Marian, S.A.; Skoe, E.; Kraus, N.

43. Population analysis reveals specialization for “what” processing in early rostral areas of macaque auditory cortex, Kusmierek, P.; Ortiz, M.; Rauschecker, J.P.

44. Role of pup experience and hormones on auditory system plasticity in the maternal context, Lin, F.G.; Miranda, J.A.; Galindo-Leon, E.E.; Shepard, K.N.; Ivanova, T.N.; Liu, R.C.

45. Neural deficits in auditory temporal processing in auditory thalamus of ectopic BXSB/MpJ mice, Linden, J.F.; Anderson, L.A.

Afternoon Posters:
1. Psychophysical behavior during an auditory frequency contour discrimination task, Liu, A.; Tsunada, J.; Gold, J.; Cohen, Y.E.
2. Discrimination of acoustic sequences in songbird auditory forebrain, Lu, K.; Ziv; Vicario
3. Factors accounting for variation in the degree of contralateral preference in human auditory cortical processing of binaural cues: a functional magnetic resonance imaging study, McLaughlin, S.A.
5. Tonotopic map of human inferior colliculus unraveled by functional MRI at 7T, Moerel, M.; De Martino, F.; Ugurbil, K.; van de Moortele, P-F.; Formisano, E.; Yacoub, E.
6. Inclusion or exclusion: encoding concurrent acoustic events in auditory cortex, Zhou, Y.; Wang, X.
7. Activity correlated to animals' decision in primary auditory cortex (A1), Niwa, M.; O'Connor, K.N.; Johnson, J.; Sutter, M.L.
8. Regions of human auditory cortex exhibit pitch-selective responses across a wide variety of sounds, Norman-Haignere, S.; McDermott, J.; Fedorenko, E.; Kanwisher, N.
9. Spectral contrast sensitivity of primary auditory cortical neurons: effects of bandwidth and ripple frequency, O'Connor, K.N.; Yin, P.; Petkov, C.I.; Sutter, M.L.
10. Synaptic inputs to inferior colliculus (IC) neurons underlying doding of interaural level differences in mouse, Ono, M.; Oliver, D.
11. Cochleotopic mapping of macaque auditory cortex with functional magnetic resonance imaging at 3 Tesla, Ortiz, M.; Artchakov, D.A.; Dewitt, I.; Kusmierek, P.; Cui, D.; Vanneter, J.; Rauschecker, J.P.
12. Dual mechanisms for processing pitch in marmosets (Callithrix jaccus), Osmanski, M.S.; Bendor, D.A.; Wang, X.
15. Phonetic encoding by intracranial signals in human auditory cortex, Pasley, B.N.; Crone, N.E.; Knight, R.T.; Chang, E.F.
16. Spectral and temporal processing of ‘vocoded’ communication signals in the monkey brain, Petkov, C.I.; Oleser, J.
18. Modeling the influence of inhibition in shaping temporal coding in the medial geniculate body (MGB), Rabang, C.F.; Bartlett, E.L.
22. Adaptation of neuronal responses to repeated tones in auditory cortex of awake freely moving mice implanted with tetrode arrays, Rutledge, M.T.; O'Keefe, J.; Linden, J.F.
23. State-dependent interactions in auditory thalamocortical network, Sakata, S.
24. Neural coding of vocalizations in auditory scenes transforms along the auditory pathway, Schneider, D.M.; Woolley, S.M.N.
25. Phonological working memory and FOXP2, Schulze, K.; Vargha-Khadem, F.; Mishkin, M.
26. Subcortical connections of the supratemporal plane and rostral superior temporal gyrus in macaque monkeys, Scott, B.H.; Yin, P.; Mishkin, M.
27. Comparison of invasive depth electrode and magnetoencephalographic virtual electrode recordings of induced gamma responses to pitch, Sedley, W.; Teki, S.; Kumar, S.; Overath, T.; Barnes, G.; Griffiths, T.
29. Brainstem correlates of pattern learning, Skoe, E.; Spitzer, E.; Kraus, N.
30. Linear and nonlinear spectral processing underlying auditory spatial tuning in nontonopic regions of the inferior colliculus, Sglee, S.
31. Functional magnetic resonance imaging of binaural cues in human auditory cortex: nonmonotonic response tuning to interaural level difference, Stecker, G.C.; McLaughlin, S.A.
32. Current-source density and multiunit analysis across layers of primary auditory cortex following systemic salicylate administration in the rat, Stolzberg, D.; Salvi, R.; Allman, B.
33. Using optimal experimental design for capturing parameters of neural networks in the inferior colliculus of the common marmosets, Tam, W.; Dekel, E.; Dimattina, C.; Young, E.D.; Zhang, K.
34. Auditory figure-ground segregation using a complex stochastic stimulus, Teki, S.; Chait, M.; Williams, D.; Siddiq, A.; Barascud, N.; Kumar, S.; Shamma, S.A.; Griffiths, T.D.
36. Social recognition during dynamic vocal interactions: antiphonal calling in common marmosets, Thomas, A.W.; Miller, C.T.
37. Differential representation of speech sound categories between cell classes in the primate superior temporal gyrus, Tsunada, J.; Lee, J.H.; Cohen, Y.E.
38. Postnatal development of the auditory colliculo-thalamic inhibitory synapse, Venkataraman, Y.; Bartlett, E.L.
40. Auditory thalamic neurons show nonlinear sensitivity to stimulus context, Williamson, R.S.; Anderson, L.A.; Christianson, G.B.; Sahani, M.; Linden, J.F.
42. Tonotopic organization of the human lateral superior temporal gyrus: implications for complex sound processing, Steinschneider, M.; Nourski, K.V.; Oya, H.; Kawasaki, H.; Howard, M.A.
43. Changing microcircuits in the subplate of the neonatal cortex, Viswanathan, S.; Kao, J.P.Y.; Kanold, P.O.
44. Human auditory cortex activations to phoneme and nonphoneme vowels during discrimination and memory tasks, Rinne, T.; Harinen, K.