Hearing loss has profound effects for both early development and the elderly. A better understanding of the process by which sounds are translated into neural signals and used to support cognitive function is interesting in its own right, but this research has also informed efforts to ameliorate hearing loss. In this issue, we present a collection of Perspectives and Reviews on clinical and research advances in the neurobiology of hearing. Cover design by Erin Boyle based on images from iStockphoto.com (pp 677–724)
692 On hearing with more than one ear: lessons from evolution
J W H Schnupp & C E Carr

698 Unraveling the principles of auditory cortical processing: can we learn from the visual system?
A J King & I Nelken

REVIEWS: HEARING

703 Linking genes underlying deafness to hair-bundle development and function
C Petit & G P Richardson

711 Tonotopic reorganization of developing auditory brainstem circuits
K Kandler, A Clause & J Noh

718 Maps and streams in the auditory cortex: nonhuman primates illuminate human speech processing
J P Rauschecker & S K Scott

BRIEF COMMUNICATIONS

725 Intracellular zinc inhibits KCC2 transporter activity
M Hershfeld, K Kandler, M E Knoch, M Dagan-Rabin, M A Aras, C Abramovitch-Dahan, I Sekler & E Aizenman

728 Adult neurogenesis promotes synaptic plasticity in the olfactory bulb
A Nissant, C Bardy, H Katagiri, K Murray & P-M Lledo

731 Long-term plasticity of excitatory inputs to granule cells in the rat olfactory bulb
Y Gao & B W Strowbridge

ARTICLES

735 Lfc and Tctex-1 regulate the genesis of neurons from cortical precursor cells
A Gauthier-Fisher, D C Lin, M Greeve, D R Kaplan, R Rottapel & F D Miller

745 Na+-activated K+ channels express a large delayed outward current in neurons during normal physiology
G Budelli, T A Hage, A Wei, P Rojas, Y-J I Jong, K O’Malley & L Salkoff
A resting pool of vesicles is responsible for spontaneous vesicle fusion at the synapse
N B Fredj & J Burrone  ► see also p 671

Synaptotagmin-1 functions as a Ca\(^{2+}\) sensor for spontaneous release
J Xu, Z P Pang, O-H Shin & T C Südhof

Synaptotagmin-IV modulates synaptic function and long-term potentiation by regulating BDNF release
C Dean, H Liu, F M Dunning, P Y Chang, M B Jackson & E R Chapman

Ube3a is required for experience-dependent maturation of the neocortex

Serotonergic modulation of odor input to the mammalian olfactory bulb
G C Petzold, A Hagiwara & V N Murthy  ► see also p 673

Sparse temporal coding of elementary tactile features during active whisker sensation
S P Jadhav, J Wolfe & D E Feldman

Coherent gamma oscillations couple the amygdala and striatum during learning
A T Popescu, D Popa & D Paré  ► see also p 675

ERRATA AND CORRIGENDUM

NATURE NEUROSCIENCE CLASSIFIED

See back pages.