James B. Ackman

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Department of Neurobiology
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New Haven, CT 06510

Education and Research

Postdoctoral Fellow, Yale University School of Medicine, New Haven, CT, May, 2008 – present
Advisor: Michael C. Crair

Postdoctoral Fellow, Mediterranean Institute of Neurobiology, Marseille, France, Sep, 2006 – Apr, 2008
Advisors: Alfonso Represa, Rosa Cossart, and Yesekiel Ben-Ari

Ph.D. Physiology and Neurobiology, University of Connecticut, Storrs, CT, June, 2006
Advisor: Joseph J. LoTurco

B.S. Physiology and Neurobiology, University of Connecticut, Storrs, CT, December, 1999
Minor in Molecular and Cell Biology

Honors, Fellowships, and Funding

SfN Travel Award to Japan Neuroscience Society Meeting in Nagoya, Japan, Sep 18-21, 2012
NIH National Research Service Award T32, 2008-2010
INSERM Postdoctoral Fellowship for Foreign Researchers, Oct 2006 – Sep 2007
Doctoral Dissertation Fellowship, University of Connecticut, 2006
Neuroscience Fellow, University of Connecticut, 2004-2005
New England Scholar, 1999

Publications

pubmed

Ackman JB, Burbridge TJ, Crair MC. Retinal waves coordinate patterned activity throughout the developing visual system. *Nature* 2012 Oct 11;490, 219–225.

Zhang J, **Ackman JB**, Xu HP, Crair MC. Visual map development depends on the temporal pattern of binocular activity in mice. *Nat Neurosci*. 2011 Nov 18;15(2):298-307.

Zhang J*, **Ackman JB***, Dhande OS, Crair MC. Visualization and manipulation of neural activity in the developing vertebrate nervous system. *Front Mol Neurosci*. 2011 Nov 18;4:43. **Equal contribution*.

Ackman JB, Aniksztein L, Crépel V, Becq H, Pellegrino C, Cardoso C, Ben-Ari Y, Represa A. Abnormal Network Activity in a Targeted Genetic Model of Human Double Cortex. *J Neurosci.* 2009 Jan 14;29(2):313-27.

Pignatelli A, **Ackman JB**, Vigetti D, Beltrami AP, Zucchini S, Belluzzi O. A potential reservoir of immature dopaminergic replacement neurons in the adult mammalian olfactory bulb. *Pflugers Archiv*. 2009; 457(4):899-915.

Allène C, Cattani A, **Ackman JB**, Bonifazi P, Aniksztejn L, Ben-Ari Y, Cossart R. Sequential generation of two distinct synapse-driven network patterns in developing neocortex. *J Neurosci.* 2008 Nov 26;28(48):12851-63.

Bai J, Ramos RL, Paramasivam M, Siddiqi F, **Ackman JB**, LoTurco JJ. The role of DCX and LIS1 in migration through the lateral cortical stream of developing forebrain. *Dev Neurosci.* 2008; 30:144-56.

Ackman JB, Ramos RL, Sarkisian MR, LoTurco JJ. Citron kinase is required for postnatal neurogenesis in the hippocampus. *Dev Neurosci.* 2007; 29(1-2):113-23.

Ackman JB, Siddiqi F, Walikonis RW, LoTurco JJ. Fusion of microglia with pyramidal neurons after retroviral infection. *J Neurosci.* 2006 Nov 1;26(44):11413-22. *'Recommended' on Faculty of 1000*

Ackman JB, LoTurco JJ. The potential of endogenous neuronal replacement in developing cerebral cortex following hypoxic injury. *Exp Neurol.* 2006 May;199(1):5-9.

Pignatelli A, Benedusi M, **Ackman J**, Loturco JJ, Belluzzi O. Functional Properties of Adult-born Juxtaglomerular Cells in the Mammalian Olfactory Bulb. *Chem Senses.* 2005 Jan;30 Suppl 1:i119-i120.

Bai J, Ramos RL*, **Ackman JB***, Thomas AM, Lee RV, LoTurco JJ. RNAi reveals doublecortin is required for radial migration in rat neocortex. *Nat Neurosci*. 2003 Dec; 6(12):1277-83. *'Recommended' on Faculty of 1000. *Equal contribution.*

Belluzzi O, Benedusi M, **Ackman J**, LoTurco JJ. Electrophysiological differentiation of new neurons in the olfactory bulb. *J Neurosci.* 2003 Nov 12; 23(32):10411-8.

Abstracts

Ackman JB, Burbridge TJ, Crair MC. Spontaneous retinal waves propagate throughout the developing visual system in vivo. *Soc Neurosci Abstr*, Oct 2012

Burbridge TJ, Xu HP, **Ackman JB**, Crair MC. In vivo examination of retinal waves and visual map development in β2 nicotinic acetylcholine receptor whole animal and conditional deletion knockout mice. *Soc Neurosci Abstr*, Oct 2012

Ackman JB, Burbridge TJ, Crair MC. Retinal waves coordinate patterned activity throughout the developing visual system in vivo. *Japan Neuroscience Society, Nagoya, Japan*, Sep 2012

Ackman JB, Burbridge TJ, Crair MC. Retinal waves coordinate patterned activity throughout the developing visual system in vivo. *CSHL, 'Neuronal Circuits'*, Mar 2012

Ackman JB, Zhang J, Crair MC. Temporal pattern prediction in the developing superior colliculus before eye opening. *Soc Neurosci Abstr*, 2010

Represa A, Lapray D, Becq H, Kindler J, Jorquera I, Crepel V, Aniksztejn L, **Ackman J**, Cardoso C, Luhman H. Increased cortical network excitability and epilepsy in an animal model of subcortical band heterotopia after in utero RNA knockdown of DCX. *Soc Neurosci Abstr*, 2009

Pignatelli A, **Ackman J**, Beltrami AP, Zucchini S, Gambardella C, Martins DC, Belluzzi O. Properties and maturation of adult-generated dopaminergic neurons in the mammalian olfactory bulb. *Soc Neurosci Abstr*, 2009

Allene C, Cattani A, **Ackman JB**, Bonifazi P, Aniksztejn L, Ben-Ari Y, Cossart R. Synaptic and extrasynaptic basis for the generation of early network oscillations in the developing cortex. *Amino Acids*, 2009 Jul; 37:27-37.

Allène C, **Ackman JB**, Bonifazi P, Cattani A, Aniksztejn L, Ben-Ari Y, Cossart R. Sequential generation of two distinct synapse-driven network patterns in developing neocortex. *Soc Neurosci Abstr*, 2008

Ackman JB, Becq H, Pelligrino C, Cardoso C, Ben-Ari Y, Represa A. Development of spontaneous activity patterns in dysplastic cortical networks. *Soc Neurosci Abstr*, 2007

Ackman JB, Becq H, Pelligrino C, Cardoso C, Ben-Ari Y, Represa A. Development of spontaneous activity patterns in dysplastic cortical networks. *Gordon Research Conference, 'Neural Circuits and Plasticity'*, 2007

Siddiqi F, Bai J, Ramos RL, **Ackman JB**, LoTurco JJ. Doublecortin overexpression induces neuronal differentiation at the expense of astrocytes. *Soc Neurosci Abstr*, 2006

Ackman JB, Siddiqi F, Zwang ML, Walikonis RW, LoTurco JJ. A source of mistaken neurogenesis: microglial-neuronal fusion in postnatal cerebral cortex. *Soc Neurosci Abstr*, 2005

Ackman JB, LoTurco JJ. Retroviral evidence for generation of neurons in postnatal neocortex. *Soc Neurosci Abstr*, 2004

Pathak H, **Ackman J**, LoTurco J, Coulter DA. Abnormal Inhibitory Innervation of Adult Born Neurons in the Dentate Gyrus Following Status Epilepticus. *Soc Neurosci Abstr*, 2004

Belluzzi O, Benedusi M, **Ackman J**, LoTurco JJ. Functional aspects of neurogenesis in the adult olfactory bulb. *AChemS Abstr*, 2003

Ackman JB, LoTurco JJ. Postnatal generation of neocortical pyramidal neurons in the *flathead* mutant rat. *Soc Neurosci Abstr*, 2003

Bai J, Ramos RL, **Ackman JB**, Thomas AM, LoTurco JJ. Doublecortin is required for radial migration in neocortex. *Soc Neurosci Abstr*, 2003

Ramos R, **Ackman JB**, LoTurco JJ, Chrobak JJ. Physiology and morphology of nucleus renunions neurons *in vitro*: Implications for the hippocampal memory system. *Soc Neurosci Abstr*, 2003

Pathak H, Kelly ME, **Ackman J**, LoTurco J, Lowenstein DH, Coulter DA. Synaptic integration of newborn neurons in adult dentate gyrus following status epilepticus. *Soc Neurosci Abstr*, 2003

Ackman JB, Benedusi M, Belluzzi O, LoTurco JJ. Fate and function of newly generated interneurons in the adult rodent olfactory bulb. *Soc Neurosci Abstr*, 2002

Kelly ME, Pathak H, **Ackman J**, LoTurco J, Lowenstein DH, Coulter DA. Morphological characterization of newborn dentate granule cells in epileptic and control rats using a retroviral vector expressing green fluorescent protein. *American Epilepsy Society Abstr*, 2002

Ackman JB, LoTurco JJ. Barrel formation and deformation in the neocortex of the *flathead* mutant. *Soc Neurosci Abstr*, 2000

Presentations

Japan Neuroscience Society, Nagoya, Japan. Retinal waves coordinate patterned activity throughout the developing visual system in vivo, Sep 20, 2012

Fudan University, Shanghai, China. Retinal waves coordinate patterned activity throughout the developing visual system in vivo, Sep 17, 2012

Yale University, '*NeuroDay*', New Haven, CT. The ebb and flow of brain development: Spontaneous waves propagate throughout the visual system in vivo, Jun 14, 2012

CSHL, '*Neuronal Circuits*', Cold Spring Harbor, NY. Retinal waves coordinate patterned activity throughout the developing visual system in vivo, Mar 29, 2012

Amherst College, Amherst, MA. Emergent network activity and the development visual circuits, Mar 5, 2012

Harvard Medical School, Boston, MA. Development of spontaneous activities in malformed cortical networks. Jan 30, 2008

Yale University, New Haven, CT. Neuronal-glial interactions and spontaneous network activities during cortical development, Jan 3, 2008

Institut de Neurobiologie de la Méditerranée, Marseille, France. Neuronal-glial fusion in postnatal neocortex: implications for cortical development and regeneration, Feb 27, 2006

Teaching experience

2002-2006	Confocal microscope facility in Department of Physiology and Neurobiology, University of Connecticut. Trained users in principles and practice of using laser-scanning confocal microscopy.
Summer 2003	UConn Mentor Connection, 'Brain Power'. Mentorship of high school students in neuroscience research.
Spring 2002	Teaching Assistant, Biology of the Brain, PNB 251, University of Connecticut
Fall 2001, Fall 2000	Teaching Assistant, Investigations in Neurobiology Laboratory, PNB 263W, University of Connecticut
Spring 2000	Teaching Assistant, Human Anatomy and Physiology Laboratory, PNB 265, University of Connecticut

Technical experience

Microscopy	Confocal microscopy and two-photon microscopy. Managed Leica TCS-SP2 confocal microscope facility in Dept of Physiology and Neurobiology as graduate student. Trained users and performed hardware and software repairs. Experienced with Zeiss LSM 510 and Olympus Fluoview FV1000 confocal systems as well as PerkinElmer Ultraview/Yokogawa spinning-disk confocal and LaVision Biotec and Prarie Technologies IV two-photon microscope systems. Produced cover image for *Nature Neuroscience* Volume 6 No 12
Physiology	In vivo and in vitro two-photon calcium imaging, whole cell patch clamp, multiunit and local field potential recordings in vivo, optogenetic stimulation
Anatomy	Intracardial perfusions, vibratome and cryostat sectioning, immunocytochemistry and immunohistochemistry
Surgery	Stereotaxic surgery in neonatal and adult rodents, retrovirus injections, neural cell transplantation, osmotic mini-pump implantation, midbrain and cortical craniotomies for in vivo imaging
Culture	Mammalian cell culture, neurosphere/neural stem cell assay, primary cell dissociation and culture (neuronal and mixed glial), retrovirus synthesis
Molecular Biology	PCR, gene cloning, plasmid and genomic DNA prep, transfection, genotyping, Western blot, lentiviral-shRNA vector prep
Programming	R, MATLAB, Python, Unix shell scripting (bash, grep, sed, awk, rsync, ssh), html, Applescript

Professional affiliations

Society for Neuroscience
American Association for the Advancement of Science