

Curriculum Vita
(June 2016)

DONALD ALAN WILSON

Senior Research Scientist and Deputy Director of the Emotional Brain Institute at the Nathan Kline Institute
and
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School of Medicine

CONTACT INFORMATION

- Address: Emotional Brain Institute
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<http://www.med.nyu.edu/people/wilsod05.html>

EDUCATIONAL BACKGROUND

- Postdoctoral Researcher, 1983-1988,
Center for the Neurobiology of Learning and Memory, and
Department of Psychobiology, School of Biological Sciences
University of California at Irvine
- Doctor of Philosophy, 1983, Physiological Psychology
McMaster University, Hamilton, Ontario, Canada
- Bachelor of Science, 1979, (Summa cum laude), Psychology
University of Nebraska at Omaha

ACADEMIC POSITIONS

- Nathan S. Kline Institute for Psychiatric Research
Senior Research Scientist, 2008-*present*
Deputy Director, Emotional Brain Institute, 2013-*present*
- New York University School of Medicine
Department of Child and Adolescent Psychiatry
Department of Neuroscience and Physiology
Research Professor, 2008-2013
Professor with tenure, 2013-*present*
NYU Center of Excellence on Brain Aging
Member, 2009 - *present*
- New York University
Center for Neural Science
Associated Professor, 2010-*present*
- City University of New York
Cognitive Neuroscience Program, City College of New York
Professor, Graduate Faculty, 2008 - *present*
- University of Oklahoma
Department of Zoology/Biology
Affiliated Professor of Biology, 2010-*present*
Professor of Zoology with tenure, 2000-2010
Associate Professor of Zoology with tenure 1994-2000
Assistant Professor of Zoology, 1990 – 1994
Neurobehavioral Institute, 2003-2010
Co-Director
Department of Psychology
Assistant Professor of Psychology, 1989 – 1994

- University of Oklahoma Health Sciences Center
Oklahoma Center for Neuroscience, *and* Department of Psychiatry and Behavioral Sciences
Adjunct Faculty, 1991 - 2008
- University of California at Irvine
Department of Psychobiology, School of Biological Sciences
Assistant Researcher (Research Assistant Professor), 1988-1989

VISITING POSITIONS

- Visiting Scientist, Laboratoire Physiologie Neurosensorielle,
Universite Claude Bernard, Lyon, FRANCE, 1995
- Visiting Researcher, Department of Physiology,
Kochi Medical School, Kochi, JAPAN, 2004
- Visiting Scholar, Department of Psychology,
Macquarie University, Sydney, AUSTRALIA, 2005
- Visiting Scientist, Olfaction Team, CNRS, Lyon, FRANCE, 2013
- Visiting Scientist, Pasteur Institute, Paris, FRANCE, 2015

HONORS and AWARDS

- Outstanding Psychology Undergraduate, University of Nebraska, Omaha, 1979
- Graduated *summa cum laude*, University of Nebraska, Omaha, 1979
- Max Mozell Award for Outstanding Achievement in the Chemical Senses, AChemS, 2014
<http://www.achems.org/i4a/pages/index.cfm?pageid=3700>

CONSULTING POSITIONS

- Givaudan, Neuroscience Unit, 2013 - *present*

TEACHING EXPERIENCE

- Introduction to Neuroscience, upper-level zoology majors and graduate, OU
- Neurobiology of Memory, upper-level zoology/psychology majors and graduate, OU
- Sensory Functions, upper-level zoology/psychology majors, OU
- Human Physiology, pre-health majors, OU
- Physiological Psychology, upper-level psychology majors and graduate, OU
- Chemical Senses, graduate Neuroscience program, NYU/NYUMC
- Chemical Senses/Limbic System, second year medical students, NYUMC

PROFESSIONAL MEMBERSHIPS

- Association for Chemoreception Sciences
- International Society for Developmental Psychobiology
- Society for Neuroscience

PROFESSIONAL SERVICE

Departmental (major appointments and elected posts)

- Departmental Appointments and Promotions Committee, Dept. Child & Adolescent Psych., 2014-*present*
- Assistant Chair, Department of Zoology, 2003-2008
- ad hoc Undergraduate Curriculum Committee (Chair), 2006-2007
- Strategic Planning Committee, Department of Zoology, (Chair), 2005
- Committee A (elected Executive committee), Department of Zoology, 1997-1999, 2007-2008
- Graduate admissions committee,
Department of Psychology, 1989-1993 (Chair, 1991-1993)
Department of Zoology, 1996-1998, 1999-2000
- Faculty search committee
Department of Zoology, 1996-2001, 2006 (Chair of multiple searches)

University/Institute

- Deputy Director of the Emotional Brain Institute, Nathan Kline Institute, 2013-*present*
- Institutional BioSafety Committee, Nathan Kline Institute, 2013-*present*
- Executive Committee, Nathan Kline Institute, 2013-*present*
- Graduate Selections Interviewer, Sackler Institute, NYUMC, 2010-*present*
- Animal Support Advisory Committee, Nathan Kline Institute, 2010-2012
- Advisory committee, Oklahoma Center for Neurosciences, 1999-2006
- Mentor, McNair Scholars Program, 2002-2003
- University of Oklahoma Institutional Animal Care and Use Committee, 1999-2008

- Executive committee, Oklahoma Center for Neurosciences, 1990-1999
- Curriculum committee, Oklahoma Center for Neurosciences, 1991-1995
- University of Oklahoma Research Council, 1998-2001, elected Chair, 2000-2001

National/International

- Member, NIDCD Strategic Plan Working Group, 2016-*present*
- Member, NIDCD Advisory Council, 2015-*present*
- *ad hoc* member, NIA-N study section, National Institutes of Health, 2013
- Member, NIA Division of Neuroscience Program Review Committee, 2012-2013
- President-elect, President and Past-President, Association for Chemoreception Sciences, 2009-2012
- Program Chair for Association for Chemoreception Sciences 2009 annual meeting
- Membership chair, Association for Chemoreception Sciences, 2004-2006
- Program committee member, Association for Chemoreception Sciences meeting, 2004
- Board member, International Society for Developmental Psychobiology, 2003-2005
- Member, IFCN4 study section, National Institutes of Health, 2000-2003
- *ad hoc* Member, IFCN4/SCS study section, National Institutes of Health, 1998-2000, 2003
- Special Emphasis Panel Member, National Institutes of Health, 2004-2014
 - NIMH, Autism STAART Centers, 2002
 - NIDCD, Fellowship Program, 1998
 - NIDCD, Small Grants Program, 1996, 2006-2008 (Study section chair)
- NIH Neuroscience Blueprint, member Olfaction consensus terminology workshop, 2007
- Organizer, Symposium: *Cortical information processing in the olfactory system*, Association for Chemoreception Sciences annual meeting, Sarasota, FL, April 2000
- Organizer, Symposium: *Sensory gating: From genes to behavior* Current Issues in Developmental Psychobiology Winter Conference, Costa Rica, January 2007
- Co-organizer, Symposium: *Olfaction beyond the olfactory bulb: From perception to memory* Association for Chemoreception Sciences annual meeting, Sarasota, FL, April 2007
- Grass Foundation Traveling lecturer, Santiago, Chile chapter, September 2006
- *ad hoc* reviewer, National Science Foundation, various international foundations, multiple journals

EDITORIAL ACTIVITIES

- Executive Editor, *Chemical Senses*, 2015-*present*
- Associate Editor, *Frontiers in Neural Circuits*, 2015-*present*
- Associate Editor, *Chemosensory Perception*, 2014-*present*
- Special topic co-editor, Olfactory memory networks: from emotional learning to social behaviors, Regina M. Sullivan, Donald A. Wilson, Anne-Marie Mouly, and Nadine Ravel, in *Frontiers in Behavioral Neuroscience*, 2015
- Special topic co-editor, Mechanisms of Habituation, Susanne Schmid, Catharine H. Rankin and Donald A. Wilson, in *Frontiers in Integrative Neuroscience*, 2014
- Associate Editor, *Frontiers in Behavioral Neuroscience*, 2010-*present*
- Review Editorial Board, *Frontiers in Integrative Neuroscience*, 2009-*present*
- Editorial Board, *Neural Plasticity*, 2006-2015
- Editorial Advisory Board, *Encyclopedia of Perception*, 2006-2009

OUTREACH ACTIVITIES (*examples*)

- University of Oklahoma Speakers Service, various talks to lay audiences, 1990-1999
- *Scientific American* online, Ask the experts: How do we manage to remember smells despite the fact that each olfactory sensory neuron only survives for about 60 days and is then replaced by a new cell?, October 2007, http://www.sciam.com/askexpert_question.cfm?chanID=sa005&articleID=C8600288-E7F2-99DF-34682C4F8E9B8D81&topic_id=3
- Science Friday, National Public Radio, The Science of Smell, August 27, 2010, <http://www.sciencefriday.com/segment/08/27/2010/the-science-of-smell.html>
- Doctor Radio, Smell and disease. Sirius XM, November 29, 2011.
- Alzheimer's Disease Research Update: What to expect in 2013. What can the sense of smell tell us about aging and disease?. New York University Langone School of Medicine, April 10, 2013.
- BrainWave: The Spice Master. Rubin Museum of Art. New York, New York, April 10, 2013.
- TEDx Salon, Learning to Smell, Leuven, BELGIUM, August 26, 2013 <http://www.youtube.com/watch?v=NgZpDolr148&list=PLsRNoUx8w3rMG1TrfSHqfhUF0sZGW6RGV>

RESEARCH INTERESTS

- Perceptual learning, neurobiology of memory, ontogeny of memory, emotion
- Olfactory system sensory physiology, development and plasticity
- Neurodegenerative and developmental disorders including Alzheimer's Disease and FAS
- Cognitive neuroscience/behavioral neuroscience

RESEARCH FUNDING

Ongoing

National Institutes of Health, "Cortical processing of olfactory stimuli", RO1-DC03906, 12/1/98-11/30/02, \$420,427 total award (Role on project: PI)

Competing renewal 12/1/02-11/30/07, \$852,351 total renewal award

Competing renewal 12/1/07-11/30/13, \$1,554,349 total renewal award

Competing renewal 03/10/13-02/28/18, \$1,640,238 total renewal award

National Institutes of Mental Health "Sensitive Period for Neurobehavioral Development of Social Behavior", R01-MH091451, 7/1/2010-6/30/2016, \$1,920,000 total award (Role on Project: subcontract PI; PI: Regina Sullivan).

National Institutes of Health "Modulation of Olfactory Sensory Function by Amyloid-beta", R01-AG037693, 05/01/11-04/30/17, \$1,619,500 total award (Multiple PI award with Efrat Levy and Ralph Nixon).

National Institutes of Health "Long-lasting consequences of early ethanol on network activity during sleep", R01-AA023181, 08/10/2014-06/30/2019, \$1,612,000 total award (Multiple PI award with Mariko Saito).

National Institutes of Health, "Maternal influence over prefrontal cortex and transition to independence", R37-HD083217, 03/13/15-02/28/20, \$1,920,000 total award (Role on Project: subcontract PI; PI: Regina Sullivan)

Completed

National Science Foundation, "Olfactory system plasticity", BNS 8606786, 9/1/86 - 8/31/89, \$169,087 total award

National Science Foundation, "Neural plasticity induced by early olfactory learning", BNS 8819189, 9/1/89 - 8/31/92, \$134,108 total award

Research Education for Undergraduates Supplement to BNS881989, 9/1/90-8/31/91, \$2,000 total award

National Institutes of Health, "Functional consequences of early olfactory deprivation", (Regina M. Sullivan, co-P.I.) RO1-DC00866, 4/1/91-9/30/94, \$159,253 total award

Minority supplement to RO1-DC00866 (Regina M. Sullivan, co-P.I.), 7/1/92 - 3/31/94, \$27,213 total award

National Science Foundation, "Neural plasticity induced by early olfactory learning", BNS 9209929, 9/1/92 - 8/31/94, \$71,375 total award

National Institutes of Health, "Neural plasticity and early olfactory learning", RO1-DC01674, 9/1/93-8/31/97, \$204,760 total award

National Science Foundation, "Functional consequences of olfactory deprivation", IBN9808149, 1/15/99-12/31/02, \$97,685 total award

Research Education for Undergraduates Supplement to IBN9808149, 1/15/01-12/31/02, \$4,250 total award

Oklahoma Center for the Advancement of Science and Technology, "Neurobiology of perceptual learning", HR02-136R, 7/1/02-6/30/05, \$133,086

Brain Science Foundation, Japan. Collaborative research with Hideto Kaba, Kochi, Japan, 4/1/04-8/1/04, 250,000 Yen

National Science Foundation, "Computational, physiological and behavioral analysis of cortical adaptation in olfaction", CNS 0338981, 8/15/04-7/31/08 (Christiane Linster, Cornell University, P.I.), \$402,895 total award.

National Institutes of Health, "Ensemble coding in olfactory cortex", R21DC007112, 7/1/05-6/30/08, \$394,211 total award.

National Alliance for Autism Research/Autism Speaks, "Functional consequences of sensory gating deficits", 7/1/05-3/30/08, \$117,135 total award.

New York University Center of Excellence on Brain Aging Seed Grant, "Synaptic Adaptor Protein Regulation of Alzheimer's Disease Pathology", 9/01/10-08/31/11, \$60,000 total award (Role on Project: PI, Multiple PI award with Efrat Levy and Paul Matthews).

National Institutes of Health, "Ensemble coding in olfactory cortex", R01-DC008982, 7/1/08-6/30/14, \$1,868,595 total award (Multiple PI award with Robert Rennaker, University of Texas at Dallas).
Administrative (ARRA) supplement, 2009, \$42,000 total award

National Institutes of Health "Ontogeny of Olfactory Hedonic Encoding", R01-DC009910, 8/1/2009-7/31/2015, \$1,810,000 total award (Role on Project: subcontract PI; PI: Regina Sullivan).

ORIGINAL RESEARCH (peer reviewed) (*undergraduate authors)

1. Wilson, D.A. and Racine, R.J. The postnatal development of post-activation potentiation in the rat neocortex. *Developmental Brain Research*, 1983, **7**: 271-276.
2. Wilson, D.A. A comparison of the postnatal development of post-activation potentiation in the neocortex and dentate gyrus of the rat. *Developmental Brain Research*, 1984, **16**: 61-68.
3. Wilson, D.A. and Racine, R.J. Barbiturate-enhanced paired-pulse depression in neonatal rats. *Neuroscience Letters*, 1985, **56**: 101-106.
4. Wilson, D.A., Sullivan, R.M. and Leon, M. Odor familiarity alters mitral cell response in the olfactory bulb of neonatal rats. *Developmental Brain Research*, 1985, **22**: 314-317.
5. Wilson, D.A. and Leon, M. Early appearance of inhibition in the neonatal rat olfactory bulb. *Developmental Brain Research*, 1986, **26**: 289-292.
6. Racine, R.J., Wilson, D.A., *Gingell, R. and Sunderland, D. Long-term potentiation in the interpositus and vestibular nuclei in the rat. *Experimental Brain Research*, 1986, **63**: 158-162.
7. Wilson, D.A., Willner, J. Kurz, E. and Nadel, L. Early handling increases hippocampal long-term potentiation in young rats. *Behavioral Brain Research*, 1986, **21**: 223-227.
8. Wilson, D.A. and Leon, M. Abrupt decrease in synaptic inhibition in the postnatal rat olfactory bulb. *Developmental Brain Research*, 1987, **33**: 134-138.
9. Wilson, D.A. and Leon, M. Evidence of lateral synaptic interactions in olfactory bulb output cell responses to odors. *Brain Research*, 1987, **417**: 175-180.
10. Wilson, D.A., Sullivan, R.M. and Leon, M. Single-unit analysis of postnatal olfactory learning: Modified olfactory bulb output response patterns to learned attractive odors. *Journal of Neuroscience*, 1987, **7**: 3154-3162.
11. Sullivan, R.M., Wilson, D.A. and Leon, M. Physical stimulation decreases brain temperature in infant rats. *Developmental Psychobiology*, 1988, **21**: 237-250.
12. Wilson, D.A. and Leon, M. Spatial patterns of olfactory bulb single-unit responses to learned olfactory cues in young rats. *Journal of Neurophysiology*, 1988, **59**: 1770-1782.
13. Wilson, D.A. and Leon, M. Noradrenergic modulation of olfactory bulb excitability in the postnatal rat. *Developmental Brain Research*, 1988, **42**: 69-75.
14. Sullivan, R.M., Wilson, D.A., *Kim, M.H. and Leon, M. Behavioral and neural correlates of postnatal olfactory conditioning: I. Effect of respiration on conditioned neural responses. *Physiology and Behavior*, 1988, **44**: 85-90.
15. Sullivan, R.M., Wilson, D.A. and Leon, M. Associative processes in early olfactory preference acquisition: Neural and behavioral consequences. *Psychobiology*, 1989, **17**: 29-33.
16. Sullivan, R.M., Wilson, D.A. and Leon, M. Norepinephrine and learning-induced plasticity in infant rat olfactory system. *Journal of Neuroscience*, 1989, **9**: 3998-4006.
17. Wilson, D.A. and Sullivan, R.M. Olfactory associative conditioning in infant rats with brain stimulation as reward. I. Neurobehavioral consequences. *Developmental Brain Research*, 1990, **53**: 215-221.
18. Sullivan, R.M., Wilson, D.A., *Wong, R., *Corrian, A. and Leon, M. Modified behavioral and olfactory bulb responses to maternal odors in preweanling rats. *Developmental Brain Research*, 1990, **53**: 243-247.
19. Wilson, D.A., Guthrie, K.M. and Leon, M. Modification of olfactory bulb synaptic inhibition by early

- unilateral olfactory deprivation. *Neuroscience Letters*, 1990 **116**: 250-256.
20. Guthrie, K.M., Wilson, D.A. and Leon, M. Unilateral olfactory deprivation modifies olfactory bulb function. *Journal of Neuroscience*, 1990, **10**: 3402-3412.
 21. Sullivan, R.M. and Wilson, D.A. Neural correlates of conditioned odor avoidance in preweanling rats. *Behavioral Neuroscience*, 1991, **105**: 85-90.
 22. Wilson, D.A. and Sullivan, R.M. Olfactory associative conditioning in infant rats with brain stimulation as reward. II. Norepinephrine mediates a specific component of the bulb response to reward. *Behavioral Neuroscience*, 1991, **105**: 843-849.
 23. Sullivan, R.M. and Wilson, D.A. The role of norepinephrine in the expression of learned olfactory neurobehavioral responses in infant rats. *Psychobiology*, 1991, **19**:308-312.
 24. Wilson, D.A. and Wood, J.G. Functional consequences of unilateral olfactory deprivation: Time course and age sensitivity. *Neuroscience*, 1992, **49**:183-192.
 25. Wilson, D.A. and Sullivan, R.M. Blockade of mitral/tufted cell habituation to odors by association with reward: A preliminary note. *Brain Research*, 1992, **594**:143-145.
 26. Sullivan, R.M., *Zyzak, D.R., Skierkowski, P. and Wilson, D.A. The role of olfactory bulb norepinephrine in early olfactory learning. *Developmental Brain Research*, 1992, **70**:279-282.
 27. Sullivan, R.M. and Wilson, D.A. The role of the amygdala complex in early olfactory associative learning. *Behavioral Neuroscience*, 1993, **107**:254-263.
 28. Hamrick, W.D., Wilson, D.A. and Sullivan, R.M. Neural correlates of memory for odor detection conditioning in adult rats. *Neuroscience Letters*, 1993, **163**: 36-40.
 29. Racine, R.J., Wilson, D.A., Teskey, G.C., Milgram, N.W. Post-activation potentiation in the neocortex: I. Acute preparations. *Brain Research*, 1994, **637**:73-82.
 30. Racine, R.J., Teskey, G.C., Wilson, D.A., Seidlitz, E. and Milgram, N.W. Post-activation potentiation and depression in the neocortex of the rat: II. Chronic preparations. *Brain Research*, 1994, **637**:83-96.
 31. Sullivan, R.M., Wilson, D.A., *Lemon, C. and Gerhardt, G.A. Bilateral 6-OHDA lesions of the locus coeruleus impair associative olfactory learning in newborn rats. *Brain Research*, 1994, **643**:306-309.
 32. Wilson, D.A., *Pham, T.-C. and Sullivan, R.M. Norepinephrine and post-training memory consolidation in neonatal rats. *Behavioral Neuroscience*, 1994, **108**:1-6.
 33. Sullivan, R.M. and Wilson, D.A. Dissociation of behavioral and neural correlates of early associative learning. *Developmental Psychobiology*, 1995, **28**:213-219.
 34. Wilson, D.A. NMDA receptors mediate expression of one form of functional plasticity induced by olfactory deprivation. *Brain Research*, 1995, **677**:238-242.
 35. Wilson, D.A. and Sullivan, R.M. The D2 antagonist spiperone mimics the effects of olfactory deprivation on mitral/tufted cell odor response patterns. *Journal of Neuroscience*, 1995, **15**: 5574-5581.
 36. Woo, C.C., Wilson, D.A., Sullivan, R.M. and Leon, M. Early locus coeruleus lesions increase density of beta-adrenergic receptors in the main olfactory bulb of rats. *International Journal of Developmental Neuroscience*, 1996, **14**:913-919.
 37. Wilson, D.A., Sullivan, R.M., Gall, C.M. and Guthrie, K.M. NMDA-receptor modulation of lateral inhibition and c-fos expression in olfactory bulb. *Brain Research*, 1996, **719**:62-71.
 38. Wilson, D.A. Bi-nasal interactions in the rat piriform cortex. *Journal of Neurophysiology*, 1997, **78**:160-169.
 39. Wilson, D.A. Habituation of odor responses in the rat anterior piriform cortex. *Journal of Neurophysiology*, 1998, **79**: 1425-1440.
 40. Wilson, D.A. Synaptic correlates of odor habituation in the rat anterior piriform cortex. *Journal of Neurophysiology*, 1998, **80**: 998-1001.
 41. Wilson, D.A. and Sullivan, R.M. Respiratory airflow pattern at the rat's snout and an hypothesis regarding its role in olfaction. *Physiology and Behavior*, 1999, **66**:41-44.
 42. Young, T.A. and Wilson, D.A. Frequency-dependent modulation of inhibition in the rat olfactory bulb. *Neuroscience Letters*, 1999, **276**:65-67.
 43. Chabaud, P., Ravel, N., Wilson, D.A. and Gervais, R. Functional coupling in rat central olfactory pathways: a coherence analysis. *Neuroscience Letters*, 1999, **276**:17-20.
 44. Wilson, D.A. Odor specificity of habituation in the rat anterior piriform cortex. *Journal of Neurophysiology*, 2000, **83**: 139-145.
 45. Wilson, D.A., *Best, A.R. and Brunjes, P.C. Trans-neuronal modification of anterior piriform cortical circuitry in the rat. *Brain Research*, 2000, **853**:317-322.
 46. Sullivan, R.M., Stackenwalt, G., *Nasr, F., *Lemon, C. and Wilson, D.A. Association of an odor with activation of olfactory bulb noradrenergic β -receptors or locus coeruleus stimulation is sufficient to produce learned approach responses to that odor in neonatal rats. *Behavioral Neuroscience*, 2000, **114**:957-962.
 47. Chabaud, P., Ravel, N., Wilson, D.A., Mouly, A.M., Vigouroux, M., Farget, V. and Gervais, R. Exposure to behaviourally relevant odour reveals differential characteristics in rat central olfactory pathways as studied through oscillatory activities. *Chemical Senses*, 2000, **25**:561-573.
 48. Sullivan, R.M., Landers, M., *Yeaman, B. and Wilson, D.A. Good memories of bad events in infancy. **6**

Nature, 2000, **407**: 38-39.

49. Wilson, D.A. A comparison of odor receptive field plasticity in the rat olfactory bulb and anterior piriform cortex. *Journal of Neurophysiology*, 2000, **84**:3036-3042.
50. Wilson, D.A. Scopolamine enhances generalization between odor representations in rat olfactory cortex. *Learning and Memory*, 2001, **8**:279-285.
51. Fletcher, M.L. and Wilson, D.A. Ontogeny of odor discrimination: A method to assess novel odor discrimination in neonatal rats. *Physiology and Behavior*, 2001, **74**:589-593.
52. Fletcher, M.L. and Wilson, D.A. Experience modifies olfactory acuity: ACh-dependent learning decreases behavioral generalization between similar odorants. *Journal of Neuroscience*, 2002, **22**:RC201(1-5).
53. Best, A.R. and Wilson, D.A. A postnatal sensitive period for plasticity of cortical afferents but not cortical association fibers in rat piriform cortex. *Brain Research*, 2003, **961**:81-87.
54. Wilson, D.A. Rapid, experience-induced enhancement in odorant discrimination by anterior piriform cortex neurons. *Journal of Neurophysiology*, 2003, **90**:65-72.
55. Leung, C.H.W. and Wilson, D.A. Trans-neuronal regulation of cortical apoptosis in the adult rat olfactory system. *Brain Research*, 2003, **984**:182-188.
56. Fletcher, M.L. and Wilson, D.A. Olfactory bulb mitral/tufted cell plasticity: Odorant-specific tuning reflects prior odorant exposure. *Journal of Neuroscience*, 2003, **23**:6946-6955.
57. Best, A.R. and Wilson, D.A. Coordinate synaptic mechanisms contributing to olfactory cortical adaptation. *Journal of Neuroscience*, 2004, **24**:652-660.
58. Fletcher, M.L., *Smith, A.M., Best, A.R. and Wilson, D.A. High frequency oscillations are not necessary for simple olfactory discriminations in young rats. *Journal of Neuroscience*, 2005, **25**:792-798. (Highlighted in "This Week in the Journal").
59. Best, A.R., *Thompson, J.V., Fletcher, M.L. and Wilson, D.A. Cortical metabotropic glutamate receptors contribute to habituation of a simple odor-evoked behavior. *Journal of Neuroscience*, 2005, **25**: 2513-2517.
60. *Thompson, J.V., Best, A.R. and Wilson, D.A. Ontogeny of cortical synaptic depression underlying olfactory sensory gating in the rat. *Developmental Brain Research*, 2005, **158**:107-110.
61. *Yadon, C.A. and Wilson, D.A. The role of metabotropic glutamate receptors and cortical adaptation in habituation of odor-guided behavior. *Learning and Memory*, 2005, **12**:601-605.
62. Roth, E.D., Lutterschmidt, W.I. and Wilson, D.A. Relative medial and dorsal cortex volume in relation to sex differences in spatial ecology of a snake population. *Brain, Behavior and Evolution*, 2006, **67**:103-110.
63. Kadohisa, M. and Wilson, D.A. Olfactory cortical adaptation facilitates detection of odors against background. *Journal of Neurophysiology*, 2006, **95**:1888-1896.
64. Moriceau, S., Wilson, D.A., Levine, S. and Sullivan, R.M. Dual circuitry for odor-shock conditioning during infancy: Corticosterone switches between fear and attraction via amygdala. *Journal of Neuroscience*, 2006: **26**:6737-6748. (Highlighted in "This Week in the Journal").
65. Kadohisa, M. and Wilson, D.A. Separate encoding of identity and similarity of complex familiar odors in piriform cortex. *Proceedings of the National Academy of Sciences (USA)*, 2006, **103**:15206-15211. (Commentary: Leon, M. and Johnson, B. Functional units in the olfactory system. *PNAS*, **103**:14985-14986.)
66. Linster, C. *Henry, L., Kadohisa, M. and Wilson, D.A. Synaptic adaptation and odor-background segmentation. *Neurobiology of Learning and Memory*, 2007, **87**:352-360.
67. Rennaker, R.L., *Miller, J., Tang, H. and Wilson, D.A. Minocycline increases quality and longevity of chronic neural recordings. *Journal of Neural Engineering*, 2007, **4**:L1-L5.
68. Rennaker, R.L., Chen, C.-F. F, Ruyle, A., Sloan, A.M. and Wilson, D.A. Spatial and temporal distribution of odorant-evoked activity in the piriform cortex. *Journal of Neuroscience*, 2007, **27**:1534-1542.
69. *Pope, K. and Wilson, D.A. Olfactory system modulation of hippocampal cell death, *Neuroscience Letters*, 2007, **422**:13-17.
70. McNamara, A.M., Magidson, P.D., Linster, C., Wilson, D.A. and Cleland, T.A. Distinct neural mechanisms mediate olfactory memory formation at different timescales. *Learning and Memory*, 2008, **15**:117-125.
71. *Thompson, J.V., Sullivan, R.M. and Wilson, D.A. Developmental emergence of fear learning corresponds with changes in amygdala synaptic plasticity. *Brain Research*, 2008, **1200**:58-65.
72. Bell, H., *Chenoweth, B. and Wilson, D.A. Neurobehavioral consequences of cortical adaptation disruption during ontogeny. *Neuroscience Letters*, 2008, **445**:47-52.
73. *Barnes, D., *Hofacer, R., *Zaman, A., Rennaker, R.L. and Wilson, D.A. Olfactory perceptual stability and discrimination. *Nature Neuroscience*, 2008, **11**: 1378-1380. (Highlighted in "News & Views", pg. 1372. Also, Faculty of 1000 Biology evaluations: <http://www.f1000biology.com/article/id/1160961/evaluation>)
74. *Smith, J.J., Shionoya, K., Sullivan, R.M. and Wilson, D.A. Auditory stimulation dishabituates olfactory responses via noradrenergic cortical modulation. *Neural Plasticity*, Volume 2009, Article ID 754014, 6 pages doi:10.1155/2009/754014.
75. Linster, C., Melon, A., Singh, C. and Wilson, D.A. Odor-specific habituation arises from interaction of afferent synaptic adaptation and intrinsic synaptic potentiation in olfactory cortex. *Learning and Memory*, 2009, **16**:452-459.

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- Neurobiology of memory in infants, CNRS, Université Marie et Pierre Curie, Paris, FRANCE, June 1994
- Memory consolidation in neonates. European Brain and Behavior Society workshop *A new look at time dependent processes in memory formation*, Fourth International Behavioral Neuroscience Society Conference, Santiago de Compostela, SPAIN, May 18-21, 1995
- Functional consequences of olfactory deprivation, Laboratoire Physiologie Neurosensorielle, Université Claude Bernard, Lyon, FRANCE, May 4, 1995
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- Cortical mechanisms of simple memory in the olfactory system. 14th Annual Winter Conference on Current Issues in Developmental Psychobiology, St. Georges, GRENADA, January 7-10, 1999
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Cortical plasticity and olfactory perception. Program in Neuroscience, Boston University, Boston, Massachusetts, March 2, 2005.

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Learning to smell: The role of cortical plasticity in olfaction. Monell Chemical Senses Center, Philadelphia, Pennsylvania, May 9, 2006.

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Perception of odor objects: Neurobiology and behavior. Aroma and Flavor symposium. American Society for Enology and Viticulture 57th annual meeting, Sacramento, California June 27, 2006.

Cortical plasticity and odor perception. Symposium, From Molecules to behavior: The mammalian olfactory system in action. 5th Forum of European Neuroscience, Vienna AUSTRIA, July 11, 2006.

Grass Foundation Traveling Lecture: Learning to smell: Memory and odor perception. University of Chile, Santiago, CHILE, September 5, 2006.

Cortical plasticity: A key to sensory gating and perceptual learning. Department of Psychiatry, Emory University, Atlanta, Georgia, October 2, 2006.

Cortical mechanisms of sensory habituation through development. Symposium: Sensory gating: From genes to behavior. Current Issues in Developmental Psychobiology Winter Conference, COSTA RICA, January 2007.

Learning to smell: Cortical contributions to odor perception. Department of Psychology, Cornell University, Ithaca, New York, February 2, 2007

Learning to smell: Memory and odor perception. Center for Neuroscience, West Virginia University, Morgantown, West Virginia, February 7, 2007.

Cortical dynamics and sensory emotional perception: Learning to smell. Nathan Kline Institute, Orangeburg, New York, April 19, 2007.

Olfaction beyond the receptor. Origins and Evolution of Chemoreception catalysis meeting. National Evolutionary Synthesis Center, Durham, North Carolina, June 4, 2007.

Cortical contributions to sensory habituation. Workshop: Habituation: The foundation of learning and attention. Peter Wall Institute for Advanced Studies, Vancouver, CANADA, August 17, 2007.

Cortical plasticity and odor perception. Foundation des Treilles Workshop: Olfaction: Processing, Learning

and Cognition, Tourtour, FRANCE, August 31, 2007.

Rushton Lecture: Odors as objects: Cortical processing of complex stimuli. Florida State University, Tallahassee, FL, December 1, 2007

Cortical plasticity and odor perception. Department of Neurobiology, Yale University, New Haven, CT, December 6, 2007.

Pattern separation and completion in olfactory cortex: The balance between odor discrimination and perceptual stability. Presidential symposium, Joint meeting of the International Society for Olfaction and Taste *and* the Association for Chemoreception Sciences, San Francisco, California, July 24, 2008.

Cortical plasticity and odor perception. Department of Zoology and Physiology, University of Wyoming, Cheyenne, Wyoming, October 16, 2008.

Learning to smell: Cortical plasticity and odor perception, Department of Biology, University of Haifa, Haifa, ISRAEL, January 11, 2009.

Learning to smell: Cortical plasticity and odor perception, Department of Biology, Weizmann Institute, Rehovot, ISRAEL, January 14, 2009.

Olfaction as a model system for memory and perceptual disorders. Center for Dementia Research, Nathan Kline Institute for Psychiatric Research, February 17, 2009.

Olfactory cortical processing. Keystone Symposium on Chemical Senses: Receptors and Circuits. Tahoe City, California, March 18, 2009.

Cortical plasticity and odor perception. Department of Neurobiology and Anatomy, University of Texas at Houston Medical School, Houston, Texas, April 16, 2009.

The nose is just the beginning: Patterns, objects and experience in olfaction,. Association for Chemoreception Sciences Symposium: Follow the head not only the nose: Top-down influences on olfactory perception. Sarasota, Florida. April 24, 2009.

Perception of odors. NATIONAL INSTITUTES ON DRUG ABUSE Workshop: Sensory Coding in Drug Abuse. Rockville, Maryland, June 9, 2009.

Memory and discrimination of odors. Cosmetic and Sensory Congress: From Neuroscience to Marketing. Tours, FRANCE, June 25, 2009.

Local and global circuit changes associated with learned odor hedonics. 41st European Brain and Behaviour Society meeting, Rhodes, GREECE, September 16, 2009.

Neurobiology of a simple memory in a complex system. Memory in Brain seminar series, Center for Neural Science, New York University, October 2, 2009.

Cortical plasticity and odor perception. Department of Psychology and Program in Cognitive Neuroscience, City College, City University of New York, New York, New York, February 9, 2010.

Neurobiology of a simple memory: Odor habituation from synapse to circuit. Second NovoBrain Conference on Mechanisms of Cognition, Learning and Memory, Bochum, GERMANY, March 10, 2010.

Olfaction as a model system for memory and perceptual disorders. Institute for Social and Psychiatric Initiatives, New York University School of Medicine, March 24, 2010.

Recent advances in understanding olfactory perceptual mechanisms. Association for Chemoreception Sciences Symposium: Industry Symposium, St. Petersburg, Florida, April 22, 2010.

Olfaction as a model system for memory and perceptual disorders. New York State Psychiatric Institute/Columbia University, New York, New York, June 2, 2010.

Amyloid- β Effects on Olfactory Neural Plasticity and Perception. NATIONAL INSTITUTE ON AGING Workshop: Sensory and Motor Dysfunction in Aging and Alzheimer's Disease, Bethesda, Maryland, August 10, 2010.

Cortical plasticity and odor perception, Department of Anatomy and Cell Biology, University of Western Ontario, London, Ontario CANADA, September 24, 2010.

Cortical plasticity and odor perception. Wuhan Institute for Physics and Mathematics, Chinese Academy of Sciences, Wuhan, CHINA, October 11, 2010.

Cortical plasticity and odor perception. National Institute for Biological Sciences, Beijing, CHINA, October 15, 2010.

Cortical plasticity and odor perception, Institute for Psychology, Chinese Academy of Sciences, Beijing, CHINA, October 15, 2010.

Perceptual plasticity in olfaction, Human Chemosensation, Dresden, GERMANY, December 4, 2010.

The neurobiology of olfactory perceptual learning. Institute for Advanced Studies at the Hebrew University conference on Olfaction: From Receptor to Behavior, Jerusalem, ISRAEL, February 9, 2011.

The neurobiology of olfactory perceptual learning. Monell Chemical Senses Center, Philadelphia, Pennsylvania, February 14, 2011.

The neurobiology of olfactory perceptual learning. Department of Neurobiology, SUNY Stony Brook, Stony Brook, New York, February 24, 2011.

The neurobiology of olfactory perceptual learning. Interdepartmental Neuroscience Program, Yale University, New Haven, Connecticut, March 7, 2011.

Learning to smell: Cortical plasticity and olfactory perceptual learning. Leon Levy and Shelby White Center for Mind, Brain and Behavior, Rockefeller University, New York, New York, March 23, 2011.

Learning to smell: Cortical plasticity and olfactory perceptual learning. CNRS, Lyon FRANCE, June 24, 2011.

Learning to smell: Cortical plasticity and olfactory perceptual learning. Penn State Hershey College of Medicine, Pennsylvania September 1, 2011.

Learning to smell: Cortical plasticity and odor perception. McKnight Brain Institute, University of Florida, Gainesville, Florida December 2, 2011.

Learning to smell: Cortical plasticity and odor perception. Neuroscience Seminar, Cold Spring Harbor Labs, Cold Spring Harbor, New York, February, 6, 2012

Cortical odor object processing. COSYNE 2012 Workshop: Is it time for theory in olfaction? Snowbird, Utah, February 27-28, 2012.

Learning to smell: Circuits and synapses. NYU Neuroscience Retreat, Mohonk, New York, April, 20, 2012.

How do I smell? Olfaction as a window into memory, perception and disease. Department of Psychiatry Grand Rounds, Lincoln Hospital, New York, New York, May 1, 2012.

Odor perception as a network phenomenon. Center for Dementia Research, Nathan Kline Institute for Psychiatric Research, Orangeburg, New York, May 3, 2012.

The role of piriform cortical ensembles, pattern recognition and plasticity in odor perception. Symposium on "Odor memory and perception: Cells to Circuits" at The International Society for Olfaction and Taste (ISOT), Stockholm, SWEDEN, June 27, 2012.

The role of piriform cortical ensembles, pattern recognition and plasticity in odor perception. Symposium on "Odor memory and perception: Cells to Circuits" at the Federation of European Neuroscience Societies (FENS), Barcelona, SPAIN, July 16, 2012.

Learning to smell: Cortical plasticity and odor perception. Department of Neuroscience, Case Western Reserve University, Cleveland, Ohio, September 13, 2012.

Cortical adaptation and sensory filtering from early development to senescence in a rodent model. Foundation des Trielles Workshop: Translational Development Neuroscience, Tourtour, FRANCE, September 27, 2012.

Learning to smell: The brain and perception of odor mixtures. Givaudan France Fragrances SAS, Paris, FRANCE October 1, 2012.

Cortical networks and odor perception: Function and dysfunction. Neuroscience Program, University of Wyoming, Laramie, Wyoming, November 29, 2012.

Development of sensation, perception and communication. Symposium (organizer), Sackler Winter Conference in Developmental Psychobiology, Providenciales, TURKS & CAICOS ISLANDS, January 8, 2013.

Cortical adaptation and sensory filtering from early development to senescence. Symposium: Neurobiological Mechanisms And Biomarkers In The Development Of Behavior. Eastern Psychological Association annual meeting, New York, New York, March 2, 2013.

Learning to smell: Cortical plasticity and odor perception. Department of Medicine, Florida Atlantic University, Boca Raton, Florida, March 12, 2013.

Alzheimer's Disease stinks, or does it? Amyloid-beta and olfactory function. Center for Smell and Taste, McKnight Brain Institute, University of Florida, Gainesville, Florida, March 20, 2013.

Learning to smell: Cortical plasticity and odor perception. Neurobiology Group. Children's Hospital of Philadelphia, Philadelphia, Pennsylvania, March 22, 2013.

Alzheimer's Disease stinks, or does it? Amyloid-beta and olfactory function. NYU Comprehensive Center on Brain Aging Research Day, New York University Langone School of Medicine, March 27, 2013.

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Amyloid- β and olfactory function, LIA, LearnEmoTime Team, Orsay, FRANCE, September 16, 2013.

State-dependent and top-down modulation of olfaction, Centre Neuroscience Research- Lyon, Lyon FRANCE, September 23, 2013

Datablitz presentation, Workshop: Sleep for Brain Functioning and Beyond. Centre Neuroscience Research- Lyon, Lyon FRANCE, October 7, 2013

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Pattern recognition and odor objects. The 27th Annual Conference on the Neurobiology of Learning and Memory. Center for the Neurobiology of Learning and Memory, University of California at Irvine, May, 2, 2014.

Plasticity as a mechanism of stability in olfaction. Harriet Baker Honorary Symposium, Burke Medical Research Institute, White Plains, New York, September, 22, 2014.

State-dependent and top-down modulation of olfaction, Institute for Psychology, Chinese Academy of Sciences, Beijing, CHINA, September 29, 2014.

Keynote: Olfaction in animal models of disease. Clinical Chemosensation, Dresden GERMANY, November 22, 2014.

Sleep and odor perception. NYU Sleep Disorders Center, New York, New York, January 15, 2015.

- Cortical-cortical interactions in olfaction. International Graduate School of Neuroscience Symposium. Ruhr University at Bochum, Bochum, GERMANY, January 19, 2015.
- Olfaction in context: Cortical-cortical interactions in olfaction. Pasteur Institute, Paris, FRANCE, June 11, 2015.
- Olfaction in context: Cortical-cortical interactions in olfaction. Center for Interdisciplinary Research in Biology, College de France, Paris, FRANCE, June 16, 2015.
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- Olfactory bulb and odor perception. Chemical Senses in Vertebrates British Workshop XXII. The U.K. Semiochemistry Network, Cambridge University, Cambridge UNITED KINGDOM, July 21, 2015.
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- Smell in context: The role of top-down feedback and dynamic networks in olfaction. Neurobiology and Behavior, Cornell University, Ithaca, New York, October 30, 2015
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Graduate Students/Post-doctoral associates

<u>Name</u>	<u>Degree (funding acquired)</u>	<u>Next Position</u>
William Hamrick	MS, 1993	Drug addiction counselor
Rebecca Smart	MS, 1994	CUNY PhD program
Theresa Young	MS, 1999	NIH technician
Carol Ho-Wing Leung	MS, 2002	U Singapore PhD program
Aaron Best	MS, 2002/PhD, 2005	Post-doc, Harvard Med School
Max Fletcher	MS, 2002/PhD, 2005 (NIH F31)	Postdoc, Yale Med School
Mikiko Kadohisa, Ph.D.	Postdoc, 2004- 2006	Scientist, MRC Cognition and Brain Sciences Unit, Cambridge, U.K.
Heather Bell	MS, 2007	Shedd Aquarium, Chicago
Dipesh Chaudhury, Ph.D.	Postdoc, 2009-2010	Postdoc, Mt. Sinai School of Medicine
Chein-Fu Fred Chen	Ph.D. student, 2005-2011	Post-doc, Columbia University
Daniel Wesson, Ph.D.	Postdoc, 2008-2011 (NSF)	Assist Prof, Case Western Reserve U.
Xiaodan Yan, M.S.	Ph.D. rotation student, 2010	
Julie Chapuis, Ph.D.	Postdoc, 2009-2012 (Fyssen Found.)	
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WenJin Jimmy Xu, Ph.D.	Postdoc, 2011-2014	Research Scientist, Psychogenics
Yaniv Cohen, Ph.D.	Postdoc, 2012- <i>present</i>	
Emmanuelle Courtiol, Ph.D.	Postdoc, 2013- <i>present</i> (NIH R03)	
Monica Lewin	Ph.D. student, 2015- <i>present</i>	
Catia Teixeira, Ph.D.	Research Scientist, 2015- <i>present</i>	