

Jeffrey B. Rosen, Ph.D.

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PROFESSIONAL EXPERIENCE

- **University of Delaware**, Professor, Department of Psychological and Brain Sciences, Newark, DE, 2014-present
- **University of Delaware**, Professor, Department of Psychology, Newark, DE, 2009-2014
- **University of Delaware**, Associate Professor, Department of Psychology, Newark, DE, 2001-2009
- **University of Delaware**, Assistant Professor, Department of Psychology, Newark, DE, 1995-2001
- **National Institute of Mental Health**, Senior Staff Fellow, Unit Chief of Neurochemistry, Biological Psychiatry Branch, Bethesda, Maryland, 1989-1995
- **Yale University School of Medicine**, Postdoctoral Fellow, Department of Psychiatry, New Haven, Connecticut, 1985-1989

EDUCATION

- **Wayne State University**, Doctor of Philosophy, Biopsychology, 1986, Detroit, Michigan
- **Wayne State University**, Master of Arts, Biopsychology, 1983, Detroit, Michigan
- **Oakland University**, Bachelor of Arts, Psychology, 1973, Rochester, Michigan

RESEARCH INTERESTS

My interest is the study of the neurobiology of fear and anxiety. Gene expression in the amygdala during fear conditioning and unconditioned fear is a major focus. The research also utilizes a neurobehavioral systems approach in rodents to study the interrelationship of behavioral, pharmacological, anatomical, physiological and molecular aspects of fear and anxiety.

GRANTS/AWARDS

- "Mechanisms of Context Conditioning in the Developing Rat", R01, NICHD, direct costs: \$560,250, MPI, 4/10/2014-3/31/2017.
- "COBRE: The Delaware Center for Neuroscience Research". P20, NIGMS, direct costs: \$10,457,528, UD Administrative Core PI, 9/26/12-9/25/17
- "Oxytocin's novel antianxiety effect". R01, NIMH, direct costs: \$250,000, PI, 2/15/2012-2/14/2013, NCE to 2/14/2014
- "Mechanisms of Trace Fear Conditioning in the Developing Rat", R21, NIMH, direct costs: \$275,000, Multiple Principal Investigator, 7/15/2011-7/14/2013, NCE to 7/14/2014
- "Oxytocin and Social Support as Synergistic Inhibitors of Aversive Fear Conditioning and Fear-Potentiated Startle in Male Rats", Department of Defense Post-Traumatic Stress Disorder/Traumatic Brain Injury Research Program of the Office of the Congressionally Directed Medical Research Programs (CDMRP), direct costs, \$150,000, Principal Investigator, 6/08-12/09

- “Targeted gene expression in the amygdala: Effects of anxiolytic and antidepressant drugs”, National Alliance for Schizophrenia and Depression, total costs, \$100,000, Principal Investigator, 9/02-8/06
- “Conditioning-dependent gene expression in the amygdala”, NSF, Competitive Renewal, direct costs: \$264,840, Principal Investigator, 8/02-7/06
- “Conditioning-dependent gene expression in the amygdala”, NSF, direct costs: \$193,676, Principal Investigator, 8/99-7/02
- “Cocaine, corticosterone, and emotional behavior”, B/START, NIDA, direct costs: \$50,000, Principal investigator, 7/99-6/01
- “Seizures and fear: kindling-enhanced fear-potentiated startle in rats”, University of Delaware Research Foundation Award, direct costs: \$30,000, Principal Investigator, 1996-1997

CONTRACTS

- Assessment of novel anxiolytics with fear-potentiated startle, AstraZeneca, direct costs, \$209,327, Principal Investigator, 2007.

HONORS/AWARDS

- Neuroscientist of the Year, Delaware Chapter of the Society for Neuroscience, 2012
- Fellow of the Association for Psychological Science, 2007- present
- Post-Doctoral National Research Service Award, NIMH, 1987-1989
- Wayne State University Predoctoral Neuroscience Fellowship, 1984-1985
- Wayne State University Graduate-Professional Fellowship, 1984-1985

PROFESSIONAL SOCIETY AFFILIATIONS

Society for Neuroscience; Association for Psychological Science; Behavioral Pharmacology Society; International Behavioral Neuroscience Society; Anxiety and Depression Association of America; American Association of the Advancement of Science; American Psychological Association (Division 6, Behavioral Neuroscience); Emotion Research Group (emeritus)

TEACHING

Undergraduate courses at University of Delaware:

- Drugs and the Brain
- Biopsychology of Anxiety and Depression

Graduate courses at University of Delaware:

- Advanced Neuropharmacology
- Psychopharmacology
- Integrative Neuroscience

STUDENTS

Graduate students at University of Delaware:

- Nicolas Heroux, 2014-
- Trisha Chakraborty, 2012-
- Arun Asok, 2010-

- Luke Ayers, 2008-2013 (completed dissertation and Ph.D., August, 2013)
- Melanie Donley, 2002-2009 (completed dissertation and Ph.D., May 2009)
- Mackenzie Herroon, 2005-2008 (completed thesis and M.A., February, 2008)
- Barney Pagani, 2004-2007 (completed dissertation and Ph.D., June, 2007)
- Peter Carruolo, 2002-2004 (completed thesis and M.A., August, 2004)
- Barbara Thompson, 1997-2003 (completed dissertation and Ph.D., May, 2003)
- Seema Malkani, 1997-2001 (completed dissertation and Ph.D., May, 2001)
- Kathleen Gordon, 1997-1998 (completed dissertation and Ph.D., May, 2001)
- Karin Wallace, 1997-2000 (completed thesis and M.A., December, 2000)

Undergraduates in lab at University of Delaware:

- Stacey Mandichak, 1995-1997
- Daren Djirikian, 1995-1997
- P.J. Torina, 1995-1997
- Pushkor Mukerji, University of Delaware Undergraduate Research Scholar, 1997
- Jeffrey Bauder, 1999-2000
- Christina Cantara, 1999-2000
- Michelle Berman, University of Delaware Undergraduate Research Scholar 2001-2002; funded by NSF Research for Undergraduates grant, 2003
- Heather Rutter, University of Delaware Undergraduate Research Scholar 2002-2003; funded by NSF Research for Undergraduates grant, 2003-2004
- Brooke Dimino, 2001-2002
- Robert Kassees, 2001-2002
- Kyara Panula, University of Delaware Undergraduate Research Scholar, 2002-2003
- Travis Walker, funded by NSF Research for Undergraduates grant, 2004-2005
- John Stant, funded by NSF Research for Undergraduates grant, 2004-2005
- Elizabeth West, 2004-2005
- Katherine Rolla, 2005-2006
- Cameron Davis, Delaware State University, 2005
- Bisola Awoyemi, Lincoln University, Howard Hughes Scholar, 2006
- Chaitu Devulapalli, Howard Hughes Scholar, 2006
- Richard Wittmeyer, 2007-2008
- Benjamin Warheit, 2007-2009
- Greg Gibson, University of Delaware Senior Thesis, Winner of Sigma Xi Undergraduate Research Thesis Award, 2007-2008
- Frankie Heyward, Jr., McNair Scholar, 2008-2009
- Galen Missig, University of Delaware Undergraduate Research Scholar, 2008-2010
- Tyler Weichmann, 2009-2011
- Matthew Watters, 2009-2011
- Charles Warren, 2010
- Ariel Dellicarpini, 2010-2011
- Andrew Agostini, 2011-2013
- Kathryn O'Connell, 2011-2013
- Rachel Harkleroad, 2011-2012

- Kristin Gagliardi, 2012-2013
- Blen Weldekidan, 2012-2013
- Leonard Belotti, 2012-2014
- Alpa Bhatia, 2012
- Erin Eller, 2013-2014
- Erin McKenna 2013-2014
- Alexander Hughes 2014-
- Adam Draper 2014-2016, University of Delaware Undergraduate Research Scholar
- Shannon Walsh 2014-2015
- Zyair Brown 2014-
- Patricia Pa 2014-
- David Gagliardotto 2014-
- Malak Kawan 2015-

DISSERTATION COMMITTEES

- Arun Asok, Department of Psychological & Brain Sciences (Advisor: Jeffrey Rosen)
- Karen Boschen, Department of Psychological & Brain Sciences (Advisor: Anna Klintosva)
- William Schrieber, Department of Psychological & Brain Sciences (Advisor: Mark Stanton & Dayan Knox), 2015
- Vishnu Monahan, Department of Biology (Advisor: Catherine Grimes), 2015
- Sarah Jablonski, Department of Psychological & Brain Sciences (Advisor: Mark Stanton), 2014
- Luke Ayers, Department of Psychology (Advisor: Jeffrey Rosen), 2013
- Nathen Murkawski, Department of Psychology (Advisor: Mark Stanton), 2011
- Johanna Bick, Department of Psychology (Advisor: Mary Dozier), 2011
- Tracey Ko, Department of Psychology (Advisor: John Evenden), present
- Melanie Donley, Department of Psychology (Advisor: Jeffrey Rosen), 2009
- Deborah Watson, Department of Psychology (Advisor: Mark Stanton), 2009
- Barney Pagani, Department of Psychology (Advisor: Jeffrey Rosen), 2007
- Melissa Manni, Department of Psychology (Advisor: Mary Dozier), 2006
- Elizabeth Higley, Department of Psychology (Advisor: Mary Dozier), 2006
- Barbara Thompson, Department of Psychology (Advisor: Jeffrey Rosen), 2003
- Seema Malkani, Department of Psychology (Advisor: Jeffrey Rosen), 2001
- Kathleen Gordon, Department of Psychology (Advisor: Seymour Levine), 2001
- Mark Flynn, Department of Biology (Advisor: Carlos Plata-Salaman), 2000
- Wei Shen, Department of Biology (Advisor: George Molloy), 1999
- Gersham Dent, Department of Psychology (Advisor: Seymour Levine), 1999
- Martina Sitkoske, Department of Zoology, University of Maryland (Advisor: Susan Weiss), 1998
- Sergey Ilyin, Department of Biology (Advisor: Carlos Plata-Salaman), 1997

NATIONAL ORGANIZATION ADMINISTRATIVE DUTIES AND COMMITTEES

- Emotion Research Group Executive Committee, 2001-2004

- NIH study section (IFCN-7), June, 2003
- NIH study section (Special emphasis panel), August, 2003
- NIH study section (Special Program Project panel), June, 2004
- NIH study section (Behavioral Neurosciences Fellowships, IFCN), March, 2005
- NIH study section (Behavioral Neurosciences Fellowships, F02A), June, 2005
- NIH study section (Behavioral Neurosciences Fellowships, F02A), November, 2005
- NIH study section (Behavioral Neurosciences Fellowships, F02A), March, 2006
- NIH study section (Special Emphasis Panel), March, 2010
- NIH study section (Behavioral Neurosciences Fellowships, F02A), June, 2010
- NSF Graduate Research Fellowship Program Reviewer (Neuroscience), January, 2012
- NIH study section (Behavioral Neurosciences Fellowships, F02A), March, 2012
- NIH study section (Behavioral Neurosciences Fellowships, F02A), November, 2012
- NIH study section (Behavioral Neurosciences Fellowships, F02A), October, 2013
- NSF Pre-proposal review panel (Integrative Organismal Systems, Modulation II), April, 2014
- NIH study section (Neurobiology of Motivated Behavior), October, 2014

UNIVERSITY OF DELAWARE ADMINISTRATIVE DUTIES AND COMMITTEES

- Member, University of Delaware Institutional Animal Care and Use Committee, 1999-2001
- Chair, University of Delaware Institutional Animal Care and Use Committee, 2001-2003
- Chair, Department of Psychology Space Committee, 2002-2003
- Head, Behavioral Neuroscience program, Department of Psychology 1998-2009
- Member, Department of Psychology Graduate Committee, 1999-2001
- Coordinator, Department of Psychology Colloquium Series, 1998-2003
- Coordinator, Neuroscience program seminar series, 1998-2009
- Member, Department of Psychology Executive Committee, 2001-2008
- Chair, Behavioral Neuroscience assistant professor search committee, 2006-2007
- Member, University of Delaware Institutional Animal Care and Use Committee, 2008-2010
- Member, University Radiation Safety Committee, 2010-present
- Member, University of Delaware Research Council, 2010-present
- Chair, University of Delaware Institutional Animal Care and Use Committee, 2011-present
- Member, Animal Facilities Scientific Advisory Committee, 2012-present

GUEST EDITORSHIPS

- Special Issue: Olfaction and Defense. *Neuroscience and Biobehavioral Reviews*, 32(7), 2008. C.D. Blanchard, R.J. Blanchard, and **J.B. Rosen**, guest editors.
- Special Issue: Translational research: Parallels of human and animal research in biological psychology. *Biological Psychology*, 73 (1), 2006. **J.B. Rosen**, guest editor.

AD HOC JOURNAL REFEREE

Neuroscience; Journal of Neuroscience, Brain Research; Molecular Brain Research; Pharmacology, Biochemistry and Behavior; Physiology and Behavior; Psychobiology; Neuropeptides; Psychopharmacology; Behavioral Neuroscience; Canadian Journal of Zoology; Stress; Learning and Memory, Behavioural Brain Research, Neuroscience Research, NeuroImage, Neurobiology of Learning and Memory; Biological Psychiatry; PNAS; The Open Psychology Journal; Institute of Laboratory Animal Research (ILAR) Journal; Frontiers in Neurosciences; Emotion, PlosOne; Frontiers in Behavioral Neuroscience

SYMPOSIUM ORGANIZER

- Blanchard, C.D., Blanchard, R.J., and **Rosen, J.B.** Olfaction and Defense, Satellite symposium of the International Behavioral Neuroscience Society, Rio De Janeiro, Brazil, June 12, 2007.

SEMINARS AND INVITED TALKS

- “Kindling-induced neuropeptide mRNA expression in limbic structures”, Department of Anatomy and Cell Biology, Chicago Medical School, June, 1995.
- “The nuts and bolts of fear and anxiety”, University of Delaware Research Foundation, Wilmington, DE, January 11, 1997.
- “The nuts and bolts of fear and anxiety”, DuPont Pharmaceutical, Wilmington, DE, October 15, 1998.
- “The nuts and bolts of fear and anxiety”, Fifth annual meeting of the Emotions Research Group, Lost River, WV, April 15-18, 1999.
- “Effects of Cocaine sensitization on acoustic startle in rats: Study of emotions during drug abstinence”, Addiction Research Center, NIDA, Baltimore, MD, March 15, 2000.
- “Neurobiology of emotion” participant in Virtual Symposium, Brazilian Society for Neuroscience and Behavior, April 24, 2000.
- “Neuroanatomy of conditioned and unconditioned fear”, Sixth annual conference of the Emotions Research Group, Miami Beach, FL, May 4-7, 2000.
- “Allostasis: A useful concept for emotion research?”, 7th annual conference of the Emotion Research Group, Olema, California, March 29 - April 1, 2001.
- “Neurobiology of conditioned and unconditioned fear”, Pavlovian Society Meeting, New Brunswick, NJ, October 11-13, 2001.
- “Gene expression in emotion and fear learning”, 2002 Repole Memorial Lecturer, University of Vermont, February 28, 2002.
- “Fear-inducing stimuli: Are they equivalent?”, 8th annual conference of the Emotion Research Group, Glen Mills, PA, May 9-12, 2002.
- “A neurobehavioral system approach to fear and anxiety”, AstraZeneca Pharmaceuticals, Wilmington, DE, May 23, 2002.
- “Role of specific amygdaloid nuclei in fear and anxiety”, 9th annual conference of the Emotion Research Group, Olema, California, April 3-7, 2003.
- “The emotional brain: Clues for animal research”, Delaware State University, April 19, 2005
- “Role of the amygdala in fear, stimulus intensity and uncertainty”, 11th annual conference of the Emotion Research Group, Asheville, NC, April 29-May 1, 2005.

- “The emotional amygdala: Clues from conditioned and unconditioned fear”, Department of Pharmacology, Physiology and Neuroscience, University of South Carolina School of Medicine, Columbia, SC, October 24, 2005.
- Yearly seminar to psychology class at Concord High, Wilmington, DE, 2003-2006
- “Fear Circuits”, 13th annual conference of the Emotion Research Group, Olema, California, April 19-22, 2007.
- "Neuroanatomical analysis and behavioral constraints of fear to predator odor", Predatory Odors and Defensive Emotions, Satellite symposium of the International Behavioral Neuroscience Society, Rio De Janeiro, Brazil, June 12, 2007.
- “The emotional amygdala: Clues from conditioned and unconditioned fear”, Nemours Biomedical Research, Alfred I. DuPont Hospital for Children, December 3, 2007.
- “The emotional amygdala: Clues from conditioned and unconditioned fear”, Summer enrichment program for high school girls, "Girls' Explorations in Mathematics and Science" (GEMS), Delaware State University, July 17, 2008.
- “The emotional amygdala: Conditioned fear, unconditioned fear, and post-traumatic stress disorder”, The Daniel Z. Gibson and John A. Wagner Visitors Fund Lecture, Washington College, Chestertown, MD, March 25, 2009.
- “Background anxiety: what is it and how it is reduced by oxytocin”, Fall 2011 Neuroscience Seminar Series, Temple University, Philadelphia, PA, November 30, 2011.
- “Oxytocin has selective anti-anxiety properties in a fear-potentiated startle paradigm”, Anxiety and Depression Association of America Conference, San Diego, CA, April 5, 2013.
- “Translational research: Anti-anxiety properties of oxytocin, resiliency from early adversity/early-life stress, and telomere length”, Keynote Speaker at Delaware chapter of the Society for Neuroscience Retreat, Wilmington, DE, May 24, 2013.
- “The smell of fear: Innate fear of predator odor”, Gordon Research Conference, Predator-Prey Interactions: From Genes to Ecosystems to Human Mental Health, Ventura, CA, January 6, 2014.

BIBLIOGRAPHY

JOURNAL ARTICLES AND BOOK CHAPTERS

1. Hoye, J.R., Asok, A., Bernard, K., Roth, T.L., **Rosen, J.B.** and Dozier, M. (Submitted). Intervening Early to Protect Telomeres: Results of a Randomized Clinical Trial.
2. Asok, A., Schulkin, J. and **Rosen, J.B.** (submitted). Corticotropin releasing factor type-receptor antagonism disrupts the retention of contextually conditioned fear, but does not affect unconditioned fear to a predator odor.
3. **Rosen, J.B.** (submitted). Aversive emotions: Molecular basis of unconditioned fear. *Neuroscience and Biobehavioral Psychology*.

4. Ayers, L., Agostini, A., Schulkin, J. and **Rosen, J.B.** (revision submitted). Effects of oxytocin on background anxiety in rats with high or low baseline startle. *Psychopharmacology*.
5. Chakraborty, T., Asok, A., Stanton, M.E. and **Rosen, J.B.** (2016). Variants of contextual fear conditioning induce differential patterns of *Egr-1* activity within the young-adult prefrontal cortex. *Behavioural Brain Research*, 302, 122-130.
6. Heroux, N.A., Robinson-Drummer, P.A., Rosen, J.B. and Stanton, M.E., (2015). NMDA receptor antagonism disrupts the acquisition and retention of the CPFE in adolescent rats. *Behavioural Brain Research*, 301. 168-177.
7. Ayers, L.W., Asok, A., Blaze, J., Roth, T.L. and **Rosen, J.B.** (2015). Changes in dam and pup behavior following repeated postnatal exposure to a predator odor (TMT): A preliminary investigation in Long-Evans rats. *Development Psychobiology*. DOI: 10.1002/dev.21362
8. **Rosen, J. B.**, Asok, A., & Chakraborty, T. (2015). The smell of fear: innate threat of 2,5-dihydro-2,4,5-trimethylthiazoline, a single molecule component of a predator odor. *Frontiers in Neuroscience*, 9. <http://doi.org/10.3389/fnins.2015.00292>
9. Schreiber, W.B., Asok, A., Jablonski, S.A., **Rosen, J.B.** and Stanton, M.E. (2014). *Egr-1* mRNA expression patterns in the prefrontal cortex, hippocampus, and amygdala during variants of contextual fear conditioning in adolescent rats. *Brain Research*, 1576, 63-72.
10. Asok, A., Bernard, K., Dozier, M., **Rosen, J.B.** and Roth, T.L. (2014). Infant-caregiver experiences alter telomere length in the brain. *PLoS ONE*, 9(7), e101437.
11. Asok, A., Schreiber, W.B., Jablonski, S.A., **Rosen, J.B.** and Stanton, M.E. (2013). *Egr-1* Increases in the prefrontal cortex following training in the context preexposure facilitation effect (CPFE) paradigm. *Neurobiology of Learning and Memory*, 106, 145-153.
12. Ayers, L. W., Asok, A., Heyward, F. and **Rosen, J. B.** (2013). Freezing to the predator odor 2,4,5 dihydro 2,5 trimethylthiazoline (TMT) is disrupted by olfactory bulb removal but not trigeminal nerve deafferentation. *Behavioural Brain Research*, 253, 54-59.
13. Dekel, S., Ein-Dor, T., Gordon, M.K., **Rosen, J.B.** and Bonanno, G.A. (2013). Cortisol and PTSD Symptoms among Male and Female High-Exposure 9/11 Survivors. *Journal of Traumatic Stress*, 26, 261-265.
14. Asok, A., Bernard, K., Roth, T.L., **Rosen, J.B.** and Dozier, M. (2013). Parental Responsiveness moderates the association between early-life stress and reduced telomere length. *Development and Psychopathology*, 25, 577-585.

15. Asok, A., Ayers, L.W., Awoyemi, B., Schulkin, J. and **Rosen, J.B.** (2013). Immediate Early Gene and Neuropeptide Expression Following Exposure to the Predator Odor, 2,5-dihydro-2,4,5-trimethylthiazoline (TMT). *Behavioural Brain Research*, 248, 85-93.
16. Ayers, L.W., Missig, G., Schulkin, J. and **Rosen J.B.** (2011). Oxytocin reduces background anxiety in a fear-potentiated startle paradigm: peripheral vs. central administration. *Neuropsychopharmacology*, 36, 2488-97.
17. Schiffino, F.L., Murawski, N.J., **Rosen, J.B.** and Stanton, M.E. (2011). Ontogeny and neural substrates of the context preexposure facilitation effect. *Neurobiology of Learning and Memory*, 95, 190-198.
18. Missig, G, Ayers, L.W., Schulkin, J. and **Rosen, J.B.** (2010). Oxytocin reduces background anxiety in a fear-potentiated startle paradigm. *Neuropsychopharmacology*, 35, 2607-2616.
19. Burman, M.A., Murawski, N.J., Schiffino, F.L., **Rosen, J.B.**, and Stanton, M.E. (2009). Factors governing single-trial contextual fear conditioning in the weanling rat. *Behavioral Neuroscience*, 123, 1148-1152.
20. Pagani, J.H. and **Rosen, J.B.** (2009). The medial hypothalamic defensive circuit and 2,5-Dihydro-2,4,5-Trimethylthiazoline (TMT) induced fear: Comparison of electrolytic and neurotoxic Lesions. *Brain Research*, 1286, 133-146.
21. Izard, C.E., Krauthamer-Ewing, E.S, Woodburn, E.M., Finlon, K.J. and **Rosen, J.B.** (2009). Emotion–cognition interplay in motivating and guiding plans and actions: Commentary on McClure-Tone’s socioemotional functioning in bipolar disorder. *Clinical Psychology: Science and Practice*, 16, 114-120.
22. Reti, I.M., Han, S., Miskimon, M., **Rosen, J.B.**, and Baraban, J.M. (2009). Nicotine and Δ^9 -Tetrahydrocannabinol withdrawal induces Narp in the central nucleus of the amygdala. *Synapse*, 63, 252-255.
23. **Rosen, J.B.**, Donley, M.P., Gray, D., West, E.A., Morgan, M.A., and Schulkin, J. (2008). Chronic corticosterone administration does not potentiate unconditioned freezing to the predator odor, trimethylthiazoline. *Behavioural Brain Research*, 194, 32-38.
24. Blanchard, D.C., Blanchard, R.J., and **Rosen, J.B.** (2008). Predator odors, 5HT and emotion. *Neuroscience and Biobehavioral Reviews*, 32, 1207-1208.
25. **Rosen, J.B.**, Pagani, J.H., Rolla, C., and Davis, C. (2008). Analysis of Behavioral Constraints and the Neuroanatomy of Fear to a Predator Odor: A Model for Animal Phobias. *Neuroscience and Biobehavioral Reviews*, 32, 1267-1276.

26. **Rosen, J.B.** (2008). Aversive Emotions: Molecular Basis of Unconditioned Fear. Encyclopedia of Neuroscience. (L.R. Squire, Editor). Oxford: Academic Press, vol. 1, pp. 1047-1053.
27. **Rosen, J.B.**, West, E.A., Donley, M.P. (2006). Not all rat strains are equal: Differential unconditioned fear responses to the synthetic fox odor trimethylthiazoline in three outbred rat strains. *Behavioral Neuroscience*, 120, 290-297.
28. **Rosen, J.B.** (2006). Translational research: Parallels of human and animal research in biological psychology. *Biological Psychology*, 73, 1-2.
29. **Rosen, J.B.** and Donley, M.P. (2006). Animal studies of amygdala function in fear and uncertainty: Relevance to human research. *Biological Psychology*, 73, 49-60.
30. Thompson, B.L. and **Rosen, J.B.** (2006). Immediate-early gene expression in the central nucleus of the amygdala is not specific for anxiolytic or anxiogenic drugs. *Neuropharmacology*, 50, 57-68.
31. Schulkin, J., Morgan, M.A., and **Rosen, J.B.** (2005). A neuroendocrine mechanism for sustaining fear. *Trends in Neurosciences*, 28, 629-635.
32. Donley, M.P., Schulkin, J. and **Rosen, J.B.** (2005). Glucocorticoid receptor antagonism in the basolateral amygdala and ventral hippocampus interferes with long-term memory of contextual fear. *Behavioural Brain Research*, 164, 197-205.
33. **Rosen, J.B.**, Adamec, R.E. and Thompson, B.L. (2005). Expression of *egr-1* (*zif268*) in rat brain following exposure to a predator. *Behavioural Brain Research*, 162, 279-288.
34. Malkani, S., Wallace, K.J., Donley, M.P. and **Rosen, J.B.** (2004). An *egr-1* (*zif268*) antisense oligodeoxynucleotide infused into the amygdala disrupts fear conditioning. *Learning & Memory*, 11, 617-624.
35. **Rosen, J.B.** and Schulkin, J. (2004). Adaptive Fear and the Pathology of Anxiety and Depression: An Allostatic Framework. J. Schulkin (ed.), *Homeostatic and Allostatic Regulation in Physiological Systems*. MIT Press, Boston, pp. 164-227.
36. **Rosen, J.B.** (2004). The neurobiology of conditioned and unconditioned fear: A neurobehavioral system analysis of the amygdala. *Behavioral and Cognitive Neuroscience Reviews*, 3, 23-41.
37. Thompson, B.L., Erickson, K., Schulkin, J. and **Rosen, J.B.** (2004). Corticosterone facilitates retention of contextually conditioned fear and increases CRH mRNA expression in the amygdala. *Behavioural Brain Research*, 149, 209-215.

38. Schulkin, J., Thompson, B.L., and **Rosen, J.B.** (2003). Demythologizing the emotions: Adaptation, cognition, and visceral representation of emotions in the nervous system. *Brain and Cognition*, 52, 15-23.
39. Wallace, K.J. and **Rosen, J.B.** (2001). Neurotoxic lesions of the lateral nucleus of the amygdala decrease conditioned fear, but not unconditioned fear of a predator odor: comparison to electrolytic lesions. *Journal of Neuroscience*, 21, 3619-3627.
40. Malkani, S. and **Rosen, J.B.** (2001). N-methyl-D-aspartate receptor antagonism blocks contextual fear conditioning and differentially regulates early growth response-1 mRNA expression in the amygdala: Implications for a functional amygdaloid circuit of fear. *Neuroscience*, 102, 853-861.
41. Blanchard, C., Blanchard, R., Fellous, J.-M., Guimarães, F.S., Irwin, W., LeDoux, J., McGaugh, J.L., **Rosen, J.B.**, Schenberg, L.C., Volchan, E., and Da Cunha, C. (2001). The Brain Decade in Debate: III - Neurobiology of Emotion. *Brazilian Journal of Medical and Biological Research*, 34, 283-293.
42. Wallace, K.J. and **Rosen, J.B.** (2000). Predator odor as an unconditioned fear stimulus in rats: Elicitation of freezing by trimethylthiazoline, a component of fox feces. *Behavioral Neuroscience*, 114, 912-922.
43. Malkani, S. and **Rosen, J.B.** (2000). Induction of NGFI-B following contextual fear conditioning and its blockade by diazepam. *Molecular Brain Research*, 80, 153-165.
44. Sitcoske-O'Shea, M.A., **Rosen, J.B.**, Post, R.M., and Weiss, S.R.B. (2000). Specific amygdaloid nuclei are involved in suppression or propagation of epileptiform activity during transition stage between oral automatism and generalized clonic seizures. *Brain Research*, 873:1-17.
45. Malkani, S. and **Rosen, J.B.** (2000). Specific induction of early growth response gene 1 (EGR-1) in the lateral nucleus of the amygdala following contextual fear conditioning in rats. *Neuroscience*, 97, 693-702.
46. Malkani, S. and **Rosen, J.B.** (2000). Differential expression of EGR-1 mRNA in the amygdala following diazepam in contextual fear conditioning. *Brain Research*, 860, 53-63.
47. Thompson, B.L. and **Rosen, J.B.** (2000). The effects of thyrotropin-releasing hormone on acoustic startle, conditioned fear, and avoidance. *Neuropeptides*, 34, 38-44.
48. **Rosen, J.B.**, Malkani S., Wallace K., and Thompson, B. (1999). A neurobehavioral system approach in rats to study the molecular biology of fear. In: W.E. Crusio and R.T. Gerlai, (Eds.). *Molecular-genetic techniques for brain and behavior research*. New York: Elsevier Science, pp.674-695.

49. Gordon, M.K. and **Rosen, J.B.** (1999). Long-lasting effects of repeated-cocaine administration on acoustic and fear-potentiated startle in rats. *Psychopharmacology*, 144, 1-7.
50. Schulkin, J. and **Rosen, J.B.** (1999). The neuroendocrine regulation of fear. In: Schmidt, L.A. and Schulkin, J. (Eds.). *Extreme fear and shyness: Origins, neuroendocrine mechanisms and behavioral outcomes*. New York: Oxford Press.
51. **Rosen, J.B.**, Fanselow, M.S., Young, S.L., Sitcoske, M., and Maren, S. (1998). Immediate-early gene expression in the amygdala following footshock stress and contextual fear conditioning. *Brain Research*, 796, 132-142.
52. **Rosen, J.B.** and Schulkin, J. (1998). From normal fear to pathological anxiety. *Psychological Review*, 105, 325-350.
53. Kim, S.-Y., Smith, M.A., Post, R.M. and **Rosen, J.B.** (1998). Attenuation of kindling-induced decrease in NT-3 mRNA by thyroid hormone depletion. *Epilepsy Research*, 29, 211-220.
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ABSTRACTS

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