

Jill M. Daniel
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Education

- Postdoctoral Training Pharmacology, Louisiana State University Health Sciences Center, New Orleans, Louisiana. 2000 – 2002.
- Ph.D. Behavioral Neuroscience, Tulane University, New Orleans, Louisiana. May, 2000.
- M.S. Behavioral Neuroscience, Tulane University, New Orleans, Louisiana. May, 1997.

Academic Appointments

- Director, Brain Institute, Tulane University, New Orleans, Louisiana. 2016 – Present.
- Professor, Department of Psychology and Program in Neuroscience, Tulane University, New Orleans, Louisiana. 2014 – Present.
- Director, Neuroscience Program, Tulane University, New Orleans, Louisiana. 2014 – 2016.
- Associate Professor, Department of Psychology and Program in Neuroscience, Tulane University, New Orleans, Louisiana. 2008 – 2014.
- Assistant Professor, Department of Psychology and Program in Neuroscience, Tulane University, New Orleans, Louisiana. 2006 – 2008.
- Assistant Professor, Department of Psychology, University of New Orleans, New Orleans, Louisiana. 2002 – 2006.

Peer-Reviewed Publications

- Zimmerman, M.A., Hutson, D.D., Trimmer, E.H., Kashyap, S.N., Duong, J.L., Murphy, B., Grissom, E.M., Daniel, J.M. & Lindsey, S.H. (2017). Long- but not short-term estradiol treatment induces renal damage in midlife ovariectomized Long- Evans rats. *American Journal of Physiology-Renal Physiology*. 312(2): F305-F311.
- Grissom, E.M. & Daniel, J.M. (2016). Evidence for ligand-independent activation of hippocampal estrogen receptor alpha by insulin-like growth factor-1 in hippocampus of ovariectomized rats. *Endocrinology*, 157(8): 3149-56.
- Nelson, B.S., Black, K.L., & Daniel J.M. (2016). Circulating estradiol regulates brain-derived estradiol via actions at GnRH receptors to impact memory in ovariectomized rats. *eNeuro*, 3(6) pii: ENEURO.0321-16.2016.
- Black, K.L., Witty, C.F., & Daniel J.M. (2016). Previous oestradiol treatment results in long-term maintenance of hippocampal oestrogen receptor α levels in ovariectomised rats:

Mechanisms and implications for memory. *Journal of Neuroendocrinology*, 28(10) doi: 10.1111/jne.12429.

- Bayless, D.W. & Daniel, J.M. (2015). Sex differences in myelin-associated protein levels within and density of projections between the orbital frontal cortex and dorsal striatum of adult rats: implications for inhibitory control. *Neuroscience*, 300: 286-296.
- Hawley, W.R., Witty, C. F., Daniel, J.M., Dohanich, G. P. (2015). Choline acetyltransferase in the hippocampus is associated with learning strategy preference in adult male rats. *Behavioural Brain Research*, 289: 118-124.
- Daniel, J.M., Witty, C. F., Rodgers, S. P. (2015). Long-term consequences of estrogens administered in midlife on female cognitive aging. Invited review in Special Issue, Estradiol and Cognition: Molecules to Mind, *Hormones and Behavior*, 74: 77-85.
- Bayless, D. W., Perez, M. C., Daniel, J. M. (2015). Comparison of the validity of the use of the spontaneously hypertensive rat as a model of attention deficit hyperactivity disorder in males and females. *Behavioural Brain Research*, 286: 85-92.
- Nelson, B.S, Springer, R.C. & Daniel, J.M. (2014). Antagonism of brain insulin-like growth factor-1 receptors blocks estradiol effects on memory and levels of hippocampal synaptic proteins in ovariectomized rats. *Psychopharmacology*, 231: 899-907.
- Bayless, D.W., Darling, J.S. & Daniel, J.M. (2013). Mechanisms by which neonatal testosterone exposure mediates sex differences in impulsivity in prepubertal rats. *Hormones and Behavior*: 64: 764-769.
- Daniel, J.M. (2013). Estrogens, estrogen receptors and female cognitive aging: Impact of timing. Invited review in Special Issue, Hormones & Neurotrauma, *Hormones and Behavior*, 63: 231-237.
- Witty, C.F., Gardella, L.P., Perez, M.C. & Daniel, J.M. (2013). Short-term estradiol administration in aging ovariectomized rats provides lasting benefits for memory and the hippocampus: a role for insulin-like growth factor-I. *Endocrinology*, 154: 842-852.
- Witty, C.F., Foster, T.C., Semple-Rowland, S.L. & Daniel, J.M. (2012). Increasing hippocampal estrogen receptor alpha levels via viral vectors increases MAP kinase activation and enhances memory in aging rats in the absence of ovarian estrogens. *PLOS ONE*, 7(12):e51385.
- Nelson, B.S., Witty, C.F., Williamson, E.A. & Daniel, J.M. (2012). A role for actin rearrangement in object placement memory in female rats. *Neurobiology of Learning and Memory*, 98: 284-90.
- Bayless, D.W., Darling, J.S., Stout, W.J. & Daniel, J.M. (2012). Sex differences in attentional processes in adult rats as measured by performance on the 5-choice serial reaction time task. *Behavioural Brain Research*, 235: 48-54.
- Stelly, C.E., Cronin, J., Daniel, J.M & Schrader L.A. (2012). Long-term oestradiol treatment enhances hippocampal synaptic plasticity that is dependent on muscarinic acetylcholine receptors in ovariectomised female rats. *Journal of Neuroendocrinology*, 24: 887-896.
- Winsauer, P.J., Daniel, J.M., Filipeanu, C.M., Leonard, S.T., Hulst, J.L., Rodgers, S.P., Lassen-Greene & C.L., Sutton, J.L. (2011) Long-term behavioral and pharmacodynamic effects of delta-9-tetrahydrocannabinol in female rats depend on ovarian hormone status. *Addiction Biology*, 16: 64-81.
- Daniel, J.M. & Bohacek, J. (2010). The critical period hypothesis of estrogen effects on cognition: Insights from basic research. Invited review in Special Issue, Estrogen Action in the Brain, *Biochimica et Biophysica Acta – General Subjects*, 1800: 1068-1076.

Rodgers, S.P., Bohacek, J. & Daniel, J.M. (2010). Transient estradiol exposure during middle-age in ovariectomized rats exerts lasting effects on cognitive function and the hippocampus. *Endocrinology*, 151: 1194-203.

This paper was the subject of an *Endocrinology* commentary, Gibbs, R.B. (2010) 151:846-5.

Bohacek, J. & Daniel, J.M. (2010). The beneficial effects of estradiol on attentional processes are dependent on timing of treatment initiation following ovariectomy in middle-aged rats. *Psychoneuroendocrinology*, 35: 694-705.

Bohacek, J. & Daniel, J.M. (2009). Ability of oestradiol administration to regulate protein levels of oestrogen receptor alpha in the hippocampus and prefrontal cortex of middle-aged rats is altered following long-term ovarian hormone deprivation. *Journal of Neuroendocrinology*, 21: 640–647.

Bohacek, J., Bearl A.M. & Daniel, J.M. (2008). Long-term ovarian hormone deprivation alters the ability of subsequent oestradiol replacement to regulate choline acetyltransferase protein levels in the hippocampus and prefrontal cortex of middle-aged rats. *Journal of Neuroendocrinology*, 20: 1023-1027.

Bohacek, J. & Daniel, J.M. (2007). Increased daily handling of ovariectomized rats enhances performance on a radial-maze task and obscures effects of estradiol replacement. *Hormones and Behavior*, 52: 237-243.

Daniel, J.M. (2006). Effects of oestrogen on cognitive function: What have we learned from basic research? Invited Review. *Journal of Neuroendocrinology*, 18: 787-795.

Daniel, J.M., Hulst, J.L., & Berbling, J.L. (2006). Estradiol replacement enhances working memory in middle-aged rats when initiated immediately after ovariectomy, but not after a long-term period of ovarian hormone deprivation. *Endocrinology*, 147: 607-614.

Daniel, J.M., Sulzer, J.K., & Hulst, J.L. (2006). Estrogen increases the sensitivity of ovariectomized rats to the disruptive effects produced by antagonism of D2 but not D1 dopamine receptors during performance of a response learning task. *Hormones and Behavior*, 49: 38-44.

Daniel, J.M., Hulst, J.L. & Lee, C.D. (2005). Role of hippocampal M2 muscarinic receptors in the estrogen-induced enhancement of working memory. *Neuroscience*, 132: 57-64.

Daniel, J.M. & Lee, C.D. (2004). Estrogen replacement in ovariectomized rats affects strategy selection in the Morris water maze. *Neurobiology of Learning and Memory*, 82: 142-149.

Daniel, J.M., Winsauer, P.J., & Moerschbaecher, J.M. (2003). Castration in rats impairs performance during acquisition of a working memory task and exacerbates deficits in working memory produced by scopolamine and mecamylamine. *Psychopharmacology*, 170: 294-300.

Daniel, J.M., Winsauer, P.J., Brauner, I.N., & Moerschbaecher, J.M. (2002). Estrogen improves accuracy and attenuates the disruptive effects of Δ^9 -THC in ovariectomized rats responding under a multiple schedule of repeated acquisition and performance. *Behavioral Neuroscience*, 116: 989-998.

Gozal, D., Daniel, J.M. & Dohanich, G.P. (2001). Behavioral and anatomical correlates of chronic episodic hypoxia during sleep in the rat. *Journal of Neuroscience*, 21: 2442-2450.

Daniel, J.M. & Dohanich, G.P. (2001). Acetylcholine mediates the estrogen-induced increase in NMDA receptor binding in CA1 of the hippocampus and the associated improvement in working memory. *Journal of Neuroscience*, 21: 6949-6956.

Daniel, J.M., Roberts, S.L. & Dohanich, G.P. (1999). Effects of ovarian hormones and environment on radial maze and water maze performance of female rats. *Physiology and Behavior*, 66: 11-20.

Dohanich, G.P., Daniel, J.M., Fader, A.J., Wolff, S.C., Gallogly, P.M., & Overstreet, D.M. (1998). Sexual behavior of Flinders line female rats bred for differential cholinergic sensitivities. *Hormones and Behavior*, 33: 77-84.

Daniel, J.M., Fader, A.J., Spencer, A.L., & Dohanich, G.P. (1997). Estrogen enhances performance of female rats during acquisition of a radial arm maze. *Hormones and Behavior*, 32: 217-225.

Book Chapters

Daniel, J.M., Beck, K.D. (2017) Hormones and Memory. In: Eichenbaum, H. (ed.), Memory Systems, Vol. 3 of Learning and Memory: A Comprehensive Reference, 2nd edition, Byrne, J.H. (ed.). pp. 445–462. Oxford: Academic Press.

Bimonte-Nelson, H. A., Daniel, J.M., & Koebele, S. V. (2015). The mazes. In Bimonte-Nelson, H.A. (Ed.) *The Maze Book: Theories, Practice, and Protocols for Testing Rodent Cognition*, 94: 37-72, New York: Springer.

Daniel, J.M. (2015). The land radial-arm maze: Eight out of eight arms baited with food protocol for rodents. In Bimonte-Nelson, H.A. (Ed.) *The Maze Book: Theories, Practice, and Protocols for Testing Rodent Cognition*, 94: 429-432, New York: Springer.

Invited Talks, Seminars, and Conference Symposiums

Tulane University Health Sciences Research Days Distinguished Lecture, “Estrogens, Androgens, the Brain and Cognition”.

LSU Health Sciences Center, Department of Physiology, New Orleans, LA, March 30, 2016. “Impact of Midlife Estrogen Use on the Aging Female Brain.”

Loyola University, Department of Biological Sciences, New Orleans, LA, February 24, 2015, “Estrogen: Impact on Memory and the Brain”.

LSU Health Sciences Center, Department of Cell Biology and Anatomy, New Orleans, LA, September 29, 2014. “Estrogens, Memory and the Aging Brain.”

Society for Behavioral Neuroendocrinology Annual Meeting, Atlanta, GA, June 24, 2013, Symposium, Hormones and Neurocognitive Aging, “Short-term Estradiol Use in Middle-Age: Long-Term Implications for Female Cognitive Aging.”

Tulane University Health Sciences Center, Department of Physiology, New Orleans, LA, March 18, 2013, “Estrogens, Estrogen Receptors, and Female Cognitive Aging.”

Tulane University Health Sciences Center, Department of Pharmacology in association with the D.W. Mitchell Lecture Series and the Provost’s Faculty Seminars in Interdisciplinary Research, New Orleans, LA, January 25, 2013. “Effects of Midlife Estrogen Use on the Aging Female Brain.”

LSU Health Sciences Center, Department of Cell Biology and Anatomy, New Orleans, LA, November 2, 2009. “The Critical Period Hypothesis of Estrogen Effects on Cognition.”

University of Massachusetts Amherst, Neuroscience and Behavior Program, September 16, 2009. “The Critical Period Hypothesis of Estrogen Effects on Cognition.”

Wake Forest University School of Medicine, Graylyn Conference on Women’s Cognitive Health October 24 – 26, 2007. “Critical Period Hypothesis of Estrogen Effects on Cognition: Evidence from Rodent Models.”

Tulane University Health Sciences Center, Department of Structural and Cellular Biology Seminar Series, New Orleans, LA, March 9, 2005. "Effects of Estrogen on the Memory Systems of the Brain."

University of New Orleans, Honors Program, New Orleans, LA, Forms of Inquiry, January 5, 2005. "Effects of Estrogen on Memory and the Brain."

LSU Health Sciences Center, Department of Pharmacology, New Orleans, LA, July 24, 2003. "Memory Systems of the Brain."

Tulane Neuroscience Program Seminar Series, New Orleans, LA, October 30, 2003. "Mechanism of Estrogen Action in the Hippocampus."

Tulane Neuroscience Homecoming Symposium. New Orleans, LA, October 11, 2003. "Estrogen, Memory and the Hippocampus."

Southwestern Psychological Association Annual Meeting. New Orleans, LA, April, 2003. "Mechanism of Estrogen Action."

Media Contributions

FOXnews.com, February 10, 2014. FoxNews Health.
<http://www.foxnews.com/health/2014/02/10/estrogen-shown-to-have-anti-aging-effects-on-brain.html>

Endocrine News Magazine, March, 2013. Trends and Insights. *Estrogen mitigates female mid-life memory loss.*

CBSnews.com, November 30, 2012. Health News Headline. *Estrogen shown to have anti-aging effect on the brain.* www.cbsnews.com/video/watch/?id=50136156n

WWLTV Eyewitness News, New Orleans, LA, November 29, 2012. News feature. *Tulane research shows possibility of estrogen with anti-aging effect on brain.*

Baton Rouge Advocate, October 16, 2012. Education Briefs. *Tulane scientist gets brain project funding.*

Research Support

Current

R01 AG041374, Daniel (PI) Total Costs: \$1,437,945
NIH/National Institute on Aging
08/01/12 – 05/31/18
Short-term Estradiol Use in Middle-Age: Implications for Female Cognitive Aging
Role: Principal Investigator

R21DA043072, Daniel (PI) Total Costs: \$413,875
NIH/National Institute on Drug Abuse
09/01/2017 – 07-31-2019
Neural Mechanism Underlying Sex Differences in Impulsivity
Role: Principal Investigator

LEQSF (2015-20)-GF-11, Daniel (PI) Total Costs: 114,000
08/01/15 – 07/31/20
Louisiana Board of Regents Support Fund, Graduate Fellows Program
Superior Graduate Students in Neuroscience
Role: Principal Investigator

LEQSF (2014-19)-GF-09, Daniel (PI) Total Costs: 228,000
 08/01/14 – 07/31/19
 Louisiana Board of Regents Support Fund, Graduate Fellows Program
 Superior Graduate Students in Neuroscience
 Role: Principal Investigator

LEQSF (2013-18)-GF-17, Daniel (PI) Total Costs: 228,000
 08/01/13 – 07/31/18
 Louisiana Board of Regents Support Fund, Graduate Fellows Program
 Superior Graduate Students in Neuroscience
 Role: Principal Investigator

Completed

LEQSF, Daniel (PI)
 08/01/10 – 07/31/17
 Louisiana Board of Regents Support Fund, Graduate Fellows Program
 Superior Graduate Students in Neuroscience
 Role: Principal Investigator

Grant 0951008, Daniel (PI)
 National Science Foundation
 04/15/10 – 3/31/14
 Long-Term Effects of Transient Estradiol Exposure on Hippocampal Function
 Role: Principal Investigator

Department of Army, Schrader (PI)
 9/08 – 3/10
 Hormonal Regulation of Extinction: Implications for Gender Differences Mechanisms of PTSD
 Role: Collaborator

R01 DA019625-01, Winsauer (PI)
 NIH/National Institute on Drug Abuse
 03/15/06 – 03/14/09
 Effects of Chronic THC in Adolescence
 Role: Co-Investigator

Grant 0715725 (formerly 0423331), Daniel (PI)
 National Science Foundation
 09/01/04 – 08/31/08
 Mechanisms of Estrogen Action in the Hippocampus
 Role: Principal Investigator

Faculty Research Enhancement Fund Phase II, Schrader (PI)
 Tulane University
 11/15/06 – 12/31/07
 Signal Transduction and Genetic Regulation in Response to Stress
 Role: Co- Investigator

Individual National Research Service Award DA14162-01, Daniel (PI)
 NIH/ National Institute on Drug Abuse

4/1/01 – 8/15/02

Effects of Estrogen and Cannabinoids on Learning

Role: Principal Investigator

Honors and Awards

Distinguished Lecturer, Tulane University Health Sciences Research Days, 2017.

Graduate Student Studies Association Outstanding Faculty Award for School of Science and Engineering, 2013-2014.

President, Greater New Orleans Society for Neuroscience, 2009-2010.

National Institute on Drug Abuse Director's Travel Award to attend the 2001 College on Problems of Drug Dependence annual meeting.

National Institute of Mental Health Travel Award to attend the 1999 Society for Behavioral Neuroendocrinology annual meeting.

Women in Neuroscience Travel Award to attend the 1998 Society for Neuroscience annual meeting.

Adamo-Haarstad Graduate Student Research Award presented by the Greater New Orleans Society for Neuroscience, 1997.

Travel Award presented by the Neuroscience Center of Excellence, LSU Health Sciences Center, for outstanding poster presentation, 1997.

Ruiz Research Fellowships awarded by the Department of Psychology, Tulane University, 1996, 1998.

Professional Service and Activities

Member of Grant Review Panel for the following agencies:

NIH, ZRG1 BDCN-Q (2), Special Emphasis Panel. 2017.

NIH, ZRG1 MDCN-R 54 R, PAR Panel: Neuropharmacology, 2014.

NIH, F02a Behavioral Neuroscience Fellowship Study Section, 2009, 2010, 2011, 2014.

NSF, Biology Directorate, Neural Systems Cluster, 2007, 2009, 2010, 2011.

L'Oreal USA Fellowships for Women in Science, 2008.

Member of Journal Editorial Board

Hormones and Behavior

Life Sciences

Ad-Hoc Reviewer for the following peer-reviewed journals:

Journal of Neuroscience, Endocrinology, Endocrine Reviews, European Journal of Neuroscience, Hormones and Behavior, Learning and Memory, Neuroscience, Neurobiology of Learning and Memory, Neurobiology of Aging, Neuropsychopharmacology, Journal of Neuroendocrinology, Brain Research, Psychoneuroendocrinology, Neurotoxicity Research, PNAS, Molecular and Cellular Endocrinology, Journal of Chemical Neuroanatomy, Pharmacological Research, Pharmacology Biochemistry and Behavior, Genes Brain and Behavior, Hippocampus, Behavioral Neuroscience, Journal of Alzheimer's Disease, Behavioural Brain Research, Frontiers in Aging Neuroscience

Professional Society Memberships:

Greater New Orleans Society for Neuroscience

Society for Neuroscience

Faculty for Undergraduate Neuroscience
Society for Behavioral Neuroendocrinology

Ph.D. Students Mentored

Current

Nina Baumgartner August, 2016 – Present
Jeffrey Darling August, 2013 – Present

Past

Katelyn Black Ph.D. awarded August, 2017
Kevin Pollard Ph.D. awarded August, 2017
Daniel Bayless Ph.D. awarded May, 2014
Britta Nelson Ph.D. awarded May, 2014
Christine Faust Witty Ph.D. awarded May 2013
Shaefali P. Rodgers Ph.D. awarded August 2009
Johannes Bohacek Ph.D. awarded May 2009

Postdoctoral Fellow Mentored

Past

Elin Grissom 2013-2015

Courses Taught

Tulane University

Graduate

Physiological Psychology
Trends in Neuroscience
Professional Issues in Psychology

Undergraduate and Graduate

Neurobiology of Learning and Memory

Undergraduate

Brain and Behavior – Honors
Brain and Behavior
Senior Capstone Lecture Course in Psychology

University of New Orleans

Graduate

Advanced Learning
Behavioral Neuroendocrinology Seminar

Undergraduate

General Statistics
Psychology of Learning
Experimental Design and Methods
Introduction to Biopsychology

Institutional Activities and Service

Tulane University

Current

Executive Committee, School of Science and Engineering, Member (2014 – Present)
School of Science and Engineering, Promotion and Tenure Committee (2017 – 2018)
Newcomb College Institute, Newcomb Fellow (2006 – Present)
Department of Psychology, Ph.D. Admissions Committee, Chair (2012 – Present)
Neuroscience Program, Doctoral Program Steering Committee, Member (2009 – Present)

Past

School of Science and Engineering, Promotion and Tenure Committee (2013 – 2016)
University Graduate Student Honors Board, Member (2007 – 2016; Officer (2009 – 2016)
Neuroscience Program, Master's Program Admissions Committee, Member (2007 - 2014)
Department of Psychology, Graduate Training Committee, Member (2007 – 2014)
Department of Psychology, Colloquium Committee, Chair (2011 - 2012)
University Graduate Council, Member (2009 – 2012)
School of Science and Engineering Grievance Committee, Member (2007 – 2009)
Department of Psychology Doctoral Admissions Committee, Member (2007 – 2011)

University of New Orleans

University Faculty Senate (2004-2006)
College of Science, Pre-Med Committee (2003 – 2004)
Department of Psychology, Graduate Policy Committee, Member (2002 – 2004)
Department of Psychology, Undergraduate Policy Committee, Member (2003 – 2004)