

Sarah Meerts, Ph.D.

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Education

2008	Dartmouth College	Ph.D. Psychological and Brain Sciences
2001	Vassar College	B.A. <i>with Departmental Honors</i> , Biopsychology

Academic Appointments

2011-present	Carleton College	Assistant Professor of Psychology
2009-2011	Michigan State University Neuroscience Program	Postdoctoral Research Fellow Advisor: Cheryl L. Sisk
2008	Dartmouth College Psychological and Brain Sciences	Postdoctoral Research Associate Advisor: Ann S. Clark

Awards

2016	Writing Across the Curriculum Grant: <i>Preparing Students for Scientific Writing Success</i>
2016	Future Learning Technologies Grant: <i>Behavioral Neuroscience Online Resource</i>
2015-16	Broadening the Bridge: <i>Initiating the Cannon Callosum Colloquium</i>
2015-16	Targeted Opportunity Grant: <i>Exploring effects of mating experience on reproductive success</i>
2014-15	Hewlett Mellon Fellowship, Carleton College
2012	Gilman Grant, Carleton College
2010-2011	Institutional Postdoctoral Fellowship from National Institutes of Health training grant award to the Neuroscience Program, Michigan State University
2010	Travel Award, Postdoctoral Association, Michigan State University
2009-2011	Michigan State University Office of the Provost Postdoctoral Fellowship
2007	American Psychological Association, Dissertation Research Award
2007	Marie A. Center 1982 Award for Excellence in Research, Dartmouth College, Department of Psychological and Brain Sciences

Courses Taught

Principles of Psychology	Special Topics in Psychological Research
Hormones & Behavior	Seminar: Neurobiology of Motivated Behavior
Behavioral Neuroscience	Seminar: Neurochemistry of Love and Sex
Laboratory in Behavioral Neuroscience	
Psychology Capstone Seminar	

Publications (* indicates Carleton student)

Meerts, S.H., Park*, J., & Sekhawat*, R. (in press). Sexual experienced modulates partner preference and mPOA nitric oxide synthase in female rats. *Behav Neurosci*

Guterl*, S.A., McNamara*, T.A., Klumpp*, G.C., & **Meerts, S.H.** (2015). Female rats express a conditioned object preference for receipt of sexual stimulation. *Physiol Behav* 151, 320-326. doi: 10.1016/j.physbeh.2015.07.040.

Meerts, S.H., Strnad*, H.K., & Schairer*, R.S. (2015). Paced mating behavior is affected by clitoral-vaginal lidocaine application in combination with sexual experience. *Physiol Behav*. 140, 222-229. doi: 10.1016/j.physbeh.2014.12.043

Meerts, S.H., Schairer*, R.S., Farry-Thorn*, M. E., Johnson*, E.G., & Strnad*, H.K. (2014). Previous sexual experience alters the display of paced mating behavior in female rats. *Horm Behav*. 65, 497-504. doi: 10.1016/j.yhbeh.2013.12.015

Bell, M.R., **Meerts, S.H.** & Sisk, C.L. (2013) Adolescent brain maturation is necessary for adult-typical mesocorticolimbic responses to a rewarding social cue. *Dev Neurobio*, 73, 856-69. doi:10.1002/dneu.22106

Clark, A.S, Robinson, S., **Meerts, S.H.**, Quill, K.A. & Boisvert, E. (2011). Genitosensory nerve modulation of paced mating behavior: Evidence for pelvic, but not hypogastric, nerve influence. *Behav Neurosci*, 125, 668-673. doi:10.1037/a0024263

Meerts, S.H., Guarraci, F.A., & Clark, A.S. (2012). An intact medial preoptic area is necessary for zaprinast to modulate paced mating behavior in female rats. *Physiol Behav*, 105, 264-268. doi:10.1016/j.physbeh.2011.08.026

Bell, M.R., **Meerts, S.H.** & Sisk, C.L. (2010). Male Syrian hamsters demonstrate a conditioned place preference for sexual behavior and female chemosensory stimuli. *Horm Behav*. 58, 410-414. doi:10.1016/j.yhbeh.2010.05.017

Meerts, S.H. Boisvert, E.M., Spjut, K.A., & Clark, A.S. (2010). Paced mating behavior persists in rats with vaginal Lidocaine. *Physiol Behav*, 99, 139-141. doi:10.1016/j.physbeh.2009.10.010

Meerts, S.H. & Clark, A.S. (2009). Lesions of the medial preoptic area interfere with the display of a conditioned place preference for artificial vaginal stimulation in rats. *Behav Neurosci*, 123, 752-757. doi:10.1037/a0016077

Meerts, S.H. & Clark, A.S. (2009). Conditioned place preference for mating is preserved in rats with pelvic nerve transection. *Behav Neurosci*, 123, 539-546. doi:10.1037/a0015267

Clark, A.S., **Meerts, S.H.** & Guarraci, F.A. (2009). Zaprinast, a phosphodiesterase type-5 inhibitor, alters paced mating behavior in female rats. *Physiol Behav*, 96, 289-293. doi:10.1016/j.physbeh.2008.10.013

Meerts, S.H. & Clark, A.S. (2009). Artificial vaginal stimulation induces a conditioned place preference in female rats. *Horm Behav*, 55, 128-132. doi:10.1016/j.yhbeh.2008.09.003

Meerts, S.H. & Clark, A.S. (2007). Female rats exhibit a conditioned place preference for nonpaced mating behavior. *Horm Behav*, 51, 89-94. doi:10.1016/j.yhbeh.2006.08.007

Meerts, S.H. & Clark, A.S. (2006). Stimulus animal characteristics do not modulate the expression of partner preference by female rats. *Physiol Behav*, 89, 623-626. doi:10.1016/j.physbeh.2006.08.031

Clark, A.S., Costine, B.A., Jones, B.L., Kelton-Rehkopf, M.C., **Meerts, S.H.**, Nutbrown-Greene, L.L., Penatti, C.A.A., Porter, D.M., Yang, P. & Henderson, L.P. (2006). Sex- and age-specific effects of anabolic androgenic steroids on reproductive behaviors and GABAergic transmission in neuroendocrine control regions. *Brain Res*, 1126, 122-138.
doi:10.1016/j.brainres.2006.08.081

Presentations at National Conferences (* indicates Carleton student)

Meerts, S.H., Arnold*, M., Fehring*, J., Azuma*, L., Guterl*, S., Sekhawat*, R., Suresh*, M., Velasco*, S. (2016). Sexual experience induced changes in paced mating behavior are unrelated to testing interval and anxiety. [Abstract] Society for Behavioral Neuroendocrinology Annual Meeting, Montreal, Quebec, CA, August 2016.

Bachman*, R., Park*, J.H., Sekhawat*, R., & **Meerts, S.H.** Partner preference is modulated by sexual experience in female rats. [Abstract] Society for Behavioral Neuroendocrinology Annual Meeting, Asilomar, CA, June 2015.

Van Der Wege, M. & **Meerts, S.H.** Embedding and supporting authentic research in the liberal arts student experience. [Abstract] National Institute for the Teaching of Psychology Annual Meeting, St. Pete Beach, FL, January 2015.

Dairaghi*, L., Mason*, N., & **Meerts, S.H.** Corticolimbic response to vaginocervical stimulation in adult female rats with or without ovaries during puberty. [Abstract] Faculty for Undergraduate Neuroscience Society for Neuroscience Annual Meeting, Washington, DC, November 2014.

McNamara*, T.A., Klumpp*, G.C., Guterl*, S. & **Meerts, S.H.** Conditioned object preference as a task to measure reward in adult female rats. [Abstract] Society for Neuroscience Annual Meeting, Washington, DC, November 2014.

Meerts, S.H., Strnad*, H.K., McNamara*, T.A., Puritz*, A.C. Strain differences and similarities in motivation and reward for mating and amphetamine. [Abstract] Society for Neuroscience Annual Meeting, Washington, DC, November 2014.

Meerts, S.H., Farry-Thorn*, M.E., Kay* W., Mason*, N., Dairaghi*, L., & Schairer*, R.S. Absence of pubertal ovarian hormone exposure induces higher activity, but not receptivity, in hormone-primed adult female rats. [Abstract] Society for Neuroscience Annual Meeting, San Diego, CA, November 2013.

Anderson*, K.S., Farry-Thorn*, M.E., Johnson*, E.G., Taxier*, L.R., Schairer*, R.S., & **Meerts, S.H.** The effects of prepubertal ovariectomy on sexual reward and motivation. [Abstract] Society for Behavioral Neuroendocrinology Annual Meeting, Atlanta, GA, June 2013.

Schairer*, R.S., Farry-Thorn*, M.E., Johnson*, E.G., Strnad*, H.K., & **Meerts, S.H.** Effects of previous sexual experience are evident during 30-minute tests of paced mating behavior. [Abstract] Society for Behavioral Neuroendocrinology Annual Meeting, Atlanta, GA, June 2013.

Meerts, S.H., Johnson*, E.G., Schairer*, R.S., Strnad*, H.K., Taxier*, L.R., Farry-Thorn*, M.E. & Amofa*, P.A. Clitoral-vaginocervical lidocaine alters paced mating behavior in female rats. [Abstract] Society for Behavioral Neuroendocrinology Annual Meeting, Madison, WI, June 2012.

Bell, M.R., DeLorme, K.C., **Meerts, S.H.** & Sisk, C.L. Testosterone-treated juvenile male Syrian hamsters show a conditioned place preference for vaginal secretions. [Abstract] Society for Neuroscience Annual Meeting, Washington DC, November 2011.

Bell, M.R., **Meerts, S.H.**, DeLorme, K.C. & Sisk, C.L. Behavioral and corticolimbic responses to a rewarding social cue mature over adolescence in male Syrian hamsters. [Abstract] Society for Behavioral Neuroendocrinology Annual Meeting, Queretaro, Mexico, June 2011.

Meerts, S.H., Bell, M.R., Figueira, R.J., Melkonian, A.A., Sisk, C.L. Right under our nose: Prepubertal and adult male hamsters show different patterns of Fos expression in the accessory olfactory bulb following vaginal secretion exposure. [Abstract] Society for Behavioral Neuroendocrinology Annual Meeting, Toronto, Canada, July 2010.

Boisvert, E.M., **Meerts, S.H.**, & Clark, A.S. Estrogen modulation of conditioned place preference for artificial vaginocervical stimulation. [Abstract] Society for Neuroscience Annual Meeting, Washington DC, November 2008.

Meerts, S.H., & Clark, A.S. Conditions that lead to a conditioned place preference for nonpaced mating behavior in female rats. [Abstract] Society for Neuroscience Annual Meeting, San Diego, CA, November 2007.

Meerts, S.H., & Clark, A.S. Induction of a conditioned place preference by nonpaced mating behavior in female rats. [Abstract] Society for Behavioral Neuroendocrinology Annual Meeting, Pittsburgh, PA, June 2006. Also presented at Neuroscience Day, Dartmouth College, Hanover, NH, February 2007

Meerts, S.H., Christensen, A.E & Clark, A.S. Parameters of mating-induced conditioned place preference in female rats. [Abstract] Society for Neuroscience Annual Meeting, Washington DC, November 2005.

Meerts, S.H. & Clark, A.S. Is progesterone necessary for female rats to prefer a sexually active male? [Abstract] Horm Behav, 48, 115, Society for Behavioral Neuroendocrinology Annual Meeting, Austin, TX, June 2005.

Clark, A.S. & **Meerts, S.H.** Do si do: The role of stimulus animal pairing in the expression of partner preference. [Abstract] Horm Behav, 48, 94, Society for Behavioral Neuroendocrinology Annual Meeting, Austin, TX, June 2005.

Meerts, S. H., Nutbrown, L.L., & Clark, A.S. Perivaginal lidocaine alters the display of paced mating behavior in female rats. [Abstract] Society for Neuroscience Annual Meeting, San Diego, CA, October 2004. Also presented at Neuroscience Day, Dartmouth College, Hanover, NH, February 2005.

Presentations at Regional Conferences (* indicates Carleton student)

Sekhawat*, R., Velasco*, S., & **Meerts, S.H.** Time intervals between paced mating experiences have no effect on paced mating behavior. [Abstract] Minnesota Undergraduate Psychology Conference, Augsburg College, St. Paul, MN, April 2016.

Azuma*, L., Fehring*, J., Suresh*, M., & **Meerts, S.H.** Hormone treatment reduces anxiety independent of sexual experience in female rats. [Abstract] Minnesota Undergraduate Psychology Conference, Augsburg College, St. Paul, MN, April 2016.

Bachman*, R., Park*, J.H., Sekhawat*, R., & **Meerts, S.H.** Partner preference is modulated by sexual experience in female rats. [Abstract] Minnesota Undergraduate Psychology Conference, Macalester College, St. Paul, MN, April 2015. Also presented at Midbrains: The Undergraduate

Neuroscience Conference of the Upper Midwest, Bethel University, Saint Paul, MN, October 2015.

Strnad*, H.K., McNamara*, T.A., Puritz*, A.C., & **Meerts, S.H.** Strain differences and similarities in motivation and reward for mating and amphetamine. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of the Upper Midwest, Bethel University, Saint Paul, MN, October 2014.

Dairaghi*, L.K., Mason*, N.R., **Meerts, S.H.** Corticolimbic response to vaginocervical stimulation in adult female rats with or without ovaries during puberty. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of the Upper Midwest, Bethel University, Saint Paul, MN, October 2014.

McNamara*, T.A., Klumpp*, G.C., Guterl*, S., **Meerts, S.H.** Conditioned object preference as a task to measure reward in adult female rats. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of the Upper Midwest, Bethel University, Saint Paul, MN, October 2014.

Puritz, A, **Meerts, S.H.** Female Wistar and Long-Evans rats show conditioned place preference for amphetamine. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of the Upper Midwest, Bethel University, Saint Paul, MN, October 2014.

Strnad*, H.K., Choi*, Y., Dairaghi*, L.K., Johnson*, E.G., Mason*, N., Taxier*, L.R., Seyoum*, D., Schairer*, R.S. & **Meerts, S.H.** Nonpaced mating is rewarding to Long-Evans, but not Wistar, female rats. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of the Upper Midwest, Carleton College, Northfield, MN, October 2013. Also presented at Student Research Symposium and Celebration, Carleton College, Northfield, MN, October 2013.

Kay*, W. Mason*, N., Dairaghi*, L. & **Meerts, S.H.** Effect of pubertal ovarian hormones on activity level after mating or no mating. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of the Upper Midwest, Carleton College, Northfield, MN, October 2013. Also presented at Student Research Symposium and Celebration, Carleton College, Northfield, MN, October 2013.

Anderson*, K.S., Farry-Thorn*, M.E., Johnson*, E.G., Taxier*, L.R., Schairer*, R.S., & **Meerts, S.H.** The effects of pubertal ovariectomy on sexual motivation and reward in female rats. Minnesota Undergraduate Psychology Conference, Macalester College, St. Paul, MN, April 2013.

Anderson*, K.S., Cocroft*, C.S.G., Johnson*, E.G., Strnad*, H.K., Taxier*, L.R. & **Meerts, S.H.** Male preference is enhanced in female rats receiving clitoral-vaginocervical lidocaine prior to paced mating behavior. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of the Upper Midwest, Carleton College, Northfield, MN, October 2012. Also presented at Student Research Symposium and Celebration, Carleton College, Northfield, MN, October 2012.

Farry-Thorn*, M.E., Taxier*, L.R., Johnson*, E.G., Schairer*, R.S., Strnad*, H.K., Amofa*, P.A. & **Meerts, S.H.** Clitoral-vaginocervical lidocaine alters paced mating behavior in female rats. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of the Upper Midwest, Carleton College, Northfield, MN, October 2012. Also presented at Student Research Symposium and Celebration, Carleton College, Northfield, MN, October 2012.

Johnson*, E.G., Taxier*, L.R., Strnad*, H.K. & **Meerts, S.H.** Female rats without ovarian hormone exposure during puberty demonstrate higher sexual receptivity after subprime hormone administration. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of

the Upper Midwest, Carleton College, Northfield, MN, October 2012. Also presented at Student Research Symposium and Celebration, Carleton College, Northfield, MN, October 2012.

Schairer*, R.S., Amofa*, P.A., Anderson*, K.S., Cocroft*, C.S.G., Farry-Thorn*, M.E., Johnson*, E.G., Strnad*, H.K. & **Meerts, S.H.** Sexual experience must be paced to affect and alter paced mating behavior. [Abstract] MidBrains: The Undergraduate Neuroscience Conference of the Upper Midwest, Carleton College, Northfield, MN, October 2012. Also presented at Student Research Symposium and Celebration, Carleton College, Northfield, MN, October 2012.

Boisvert, E.M., Spjut, K.A., **Meerts, S.H.**, & Clark, A.S. An analysis of paced mating behavior in female rats using operant conditioning vs. a divided arena. Poster presented at Neuroscience Day, Dartmouth College, Hanover, NH, February 2008.

Boisvert, E.M., **Meerts, S.H.**, & Clark, A.S. Female rats exhibit a CPP for mating: role of the duration of the post-ejaculatory interval. Poster presented at the Annual Wetterhahn Science Poster Symposium, Dartmouth College, Hanover, NH, May 2007.

Meerts, S.H. & Clark, A.S. A comparison of mating paradigms: Operant conditioning and paced mating behavior in female rats. Annual Symposium of the Center for Neuroendocrine Studies, University of Massachusetts Amherst, Amherst, MA, October 2005.

Talks

2015	St. Olaf College, Biology Department
2015	Oberlin College, Neuroscience Department
2014	Society for Behavioral Neuroendocrinology meeting, professional development
2013	Carleton College, Faculty Retreat
2013	Carleton-St Olaf College iPad learning community
2012	Wesleyan University, Biology Department
2012	Carleton College, Summer Tea Talk
2012	Carleton College, Advanced Placement Psychology Summer Institute
2011	Carleton College, Biology Department
2011	Michigan State University, SNAP
2010	Berea College, Psychology Department
2010	Carleton College, Psychology Department
2008	Michigan State University, Neuroscience Program
2006	Florida State University, Neuroscience Group
2006	Dartmouth College, Psychological & Brain Sciences

Pedagogical Training

2015	<i>Course-Based Research Experiences: Development, Implementation, and Assessment</i> , Carleton College Winter Workshop
2014	<i>Teaching as Learning</i> , Carleton College Winter Workshop
2013	<i>Science and Math and Civic Engagement</i> , Carleton College Winter Workshop
2013	<i>Teaching Circle</i> , Carleton College Learning Teaching Center
2011	<i>Marshaling Resources and Scaffolding Skills for Comps Writers</i> , Carleton College Winter Workshop
2011	<i>Beginning a Research Program in the Natural Sciences at a Predominantly Undergraduate Institution</i> , Council on Undergraduate Research
2010	<i>Teaching College Science</i> , 16-week course through College of Natural Sciences at Michigan State University
2010	<i>Teaching with Teams</i> , workshop through Michigan State University
2009	<i>Will This Be on the Test? Using Critical Thinking Concepts to Engage Students</i>

- Deeply in Thinking of the Discipline*, workshop through Michigan State University
- 2007 *Preparing Women for Academic Jobs*, workshop through Dartmouth College
- 2005 *Exploring Teaching and Learning*, workshop presented by the Dartmouth Center for the Advancement of Learning
- 2005 *Teaching, Learning, and the Brain*, a 10-week course through Psychological and Brain Sciences at Dartmouth College
- 2003 *Ethical Conduct of Research*, Dartmouth Medical School

Service and Community Outreach

- 2016 National Science Foundation, Integrative Organismal Systems (IOS) pre-proposal and full proposal review panel
- 2015 Panelist for *Course-Based Research Experiences: Development, Implementation, and Assessment*, Carleton Winter Workshop
- 2015-current Education and Curriculum Committee, Carleton College
- 2014-current Science Facility Planning Committee, Carleton College
- 2014 Panelist for new faculty orientation, Carleton College
- 2014 Book Group through Carleton's Learning and Teaching Center, *Lean-In* by Sheryl Sandberg
- 2013 Pre-Health Committee, Carleton College
- 2012-2014 Sexual Misconduct Committee, Carleton College
- 2011-current Psychology Department representative to the Carleton College Science Board
- 2011-current Neuroscience Concentration faculty member, Carleton College
- 2010-current Brain Awareness, Lansing, MI, Faribault, MN, Northfield, MN, Castle Rock, MN
- 2010 Postdoctoral representative to Michigan State University's advisory committee for NSF grant "The Center for Academic and Future Faculty Excellence"
- 2005-2006 Graduate student representative to the Psychological and Brain Sciences Graduate Committee
- 2004 Brain Awareness Week
Hartford Memorial Middle School, White River Junction, VT
- 2003 **Founder**, Graduate Research Roundtable in Psychological and Brain Sciences, Dartmouth College

Ad hoc reviewer: Hormones & Behavior; Physiology & Behavior; Journal of Sexual Medicine; Pharmacology, Biochemistry & Behavior; Psychoneuroendocrinology; Brain Research; Journal of Applied Toxicology

Support for Students

- 2016 Travel support for Moriah Arnold & Jennifer Fehring to attend annual Society for Behavioral Neuroendocrinology meeting
- 2015 Travel support for Scarlet Park, Rachel Bachman, Ria Sekhawat to attend annual Society for Behavioral Neuroendocrinology meeting
- 2014 Travel support for Leigh Dairaghi, Sophie Guterl, Noah Mason, Alyssa Puritz, Gracie Klumpp, Tanner McNamara to attend annual Society for Neuroscience meeting
- 2014 Summer, Alanna Bares, Leigh Dairaghi, Sophie Guterl, Noah Mason, Alyssa Puritz
- 2013 Winter break, Alyssa Puritz
- 2013 Summer, Helen Strnad
- 2013 Travel support for Molly Farry-Thorn, Elliott Johnson, Lisa Taxier, Kelly Anderson & Rosemary Schairer to attend annual Society for Behavioral Neuroendocrinology meeting

2012	Summer, Lisa Taxier, Kelly Anderson, Helen Strnad, Claire Cocroft, Elliott Johnson
2012	Travel support for Molly Farry-Thorn & Elliott Johnson to attend annual Society for Behavioral Neuroendocrinology meeting
2011	Winter Break, Helen Strnad, Julia Baker

Professional Membership

Society for Behavioral Neuroendocrinology, Co-chair Professional Development Committee, 2014-2017
 Society for Neuroscience
 Faculty for Undergraduate Neuroscience
 Society for the Teaching of Psychology
 Sigma Xi – Carleton College Chapter President, 2014-present

Proposals submitted

2016	<i>Characterizing the contribution of ovarian hormones to female-typical maturation of brain and behavior.</i> National Science Foundation, Career Proposal.
2015	<i>Characterizing the contribution of pubertal ovarian hormones to female-typical maturation of brain and behavior.</i> National Institutes of Health, R15.
2015	<i>Estradiol and progesterone during puberty influence locomotor activity and cell birth in the hypothalamus of female rats.</i> American Association of University Women
2015	<i>Neural and behavioral plasticity induced by reproductive experience in female rats.</i> National Science Foundation, Preproposal.
2014	<i>Characterizing the contribution of pubertal ovarian hormones to female-typical maturation of brain and behavior.</i> National Science Foundation, Career Proposal.
2014	<i>The role of estrogen and progesterone during puberty on the development of the female brain.</i> National Science Foundation, Preproposal.
2013	<i>Characterizing the contribution of pubertal ovarian hormones to female-typical maturation of brain and behavior.</i> National Science Foundation, Career Proposal.
2012	<i>Exploration of dopaminergic modulation of female sexual motivation</i> Whitehall Foundation, Letter of Intent
2013	<i>Role of pubertal ovarian hormones on female rat brain & behavior maturation</i> Whitehall Foundation, Letter of Intent.
2011	<i>Zaprinast modulation of paced mating behavior: central or peripheral action?</i> SOMAS, Support of Mentors and their Students in the Neurosciences.

Student proposals under my supervision

2013	<i>Neural activation of medial preoptic area after vaginocervical stimulation in Wistar and Long-Evans female rats.</i> Sigma Xi, Helen Strand '14
2014	<i>Reevaluating the role of dopamine in mating-induced reward.</i> Sigma Xi, Sophie Guterl '15