Caroline Jackson Smith, PhD
Straus Family Sesquicentennial Assistant Professor
Department of Psychology & Neuroscience
McGuinn Hall 430C • 140 Commonwealth Ave • Chestnut Hill, MA, 02467
413-822-2896 • Caroline.smith.3@bc.edu

Education & Employment

2023-present	**Assistant Professor**, Department of Psychology & Neuroscience, Boston College
2019-2023	**Postdoctoral Fellow**, Duke University, *Advisor: Dr. Staci Bilbo*
2017-2019	**Postdoctoral Fellow**, Harvard Medical School, *Advisor: Dr. Staci Bilbo*
2013-2017	**Ph.D. Behavioral Neuroscience**, Boston College, *Advisor: Dr. Alexa Veenema*
2011-2013	**M.A. Behavioral Neuroscience**, Boston College, *Advisor: Dr. Alexa Veenema*
2010-2011	**Research Associate**, Boston College, Veenema Lab
2010	**Research Assistant**, University of Massachusetts Amherst, Forger Lab
2005-2010	**B.S. Neuroscience**, University of Massachusetts Amherst, *Honors Thesis Advisors: Dr. Nancy Forger & Dr. Geert De Vries*

Research Funding

Current:

2023-2026 **R00 NIH Pathway to Independence Award** (R00ES033278 to CJS)
Title: Effects of air pollution/maternal stress on microglial sculpting of social circuits.

Previous:

2021-2023 **K99 NIH Pathway to Independence Award** (K99ES033278 to CJS)
Title: Effects of air pollution/maternal stress on microglial sculpting of social circuits.

2019-2022 **F32 Ruth L. Kirschstein National Research Service Award** (F32ES029912 to CJS)
Title: The microglial developmental index: A novel framework for understanding the role of microglia in the etiology of autism spectrum disorder –transitioned 08/2021 to K99.

2020-2021 **Charles LaFitte Foundation Research Grant** (co-awarded with Dr. Danielle Rendina)
Title: Impact of air pollution and vertical transmission of gut microbiota on disparities in developmental health outcomes.

2012-2015 **National Science Foundation Graduate Research Fellowship** (NSFGRFP2012138127 to CJS) *Title: Sex differences in the role of vasopressin in social novelty preference in juvenile rats*

Academic & Professional Honors

2022	**Travel Award**, America College of Neuropsychopharmacology, Phoenix, AZ
2022	**Best Postdoctoral Poster Award**, Duke University Glia Camp, Durham, NC
2022	**Outstanding Postdoc Award**, Nominated, Duke University
2021	**Symposium co-chair**, Society for Behavioral Neuroendocrinology Meeting, *virtual meeting*
2021	**Symposium co-chair**, Psychoneuroimmunology Society Meeting, *virtual meeting*
2021	**Invited Speaker**, NIEHS Next Generation in Autism Symposium, *virtual meeting*
2021	**Selected Speaker**, NIEHS Microbiome Workshop, *virtual meeting*

2020	**Selected Speaker**, Cold Springs Harbor Glia in Health and Disease, *virtual meeting*
2020	**Invited Speaker**, Center for Human Health and the Environment, Raleigh, NC
2018	**Travel Award**, Psychoneuroimmunology Society Meeting, Miami, FL
2018	**Travel Award**, NIEHS Comprehensive Grantee Meeting: Environmental Impacts in ASD, MIND Institute UC Davis, Sacramento, CA
2016	**AIBS Emerging Public Policy Leadership Award** (Honorable Mention)
2014	**Travel Award,** Federation of European Neurosciences Forum, Milan, Italy
2011	**Travel Award**, US-Japan Workshop on Pro-Social Behavior, Emory University, Atlanta, GA

Pre-prints/ Manuscripts under review

***Smith C.J.**, Rendina D.N., Kingsbury, M.A., Malacon K.E., Nguyen D.N., Tran J.J., Devlin B.A., Clark M.J., Raju R.M., Burgett L., Zhang J.H., Cetinbas M., Sadreyev R.I., Chen K., Iyer M.S., Bilbo S.D. Social deficits induced by pervasive environmental stressors are prevented by microbial or dopaminergic modulation. **BioRxiv 2202.02.28.482288**, under revision at Molecular Psychiatry.*

Peer-Reviewed Publications

Smith C.J.*, Lintz T.*, Clark M.J., Malacon K.E., Abiad A.[#], Constantino N.J., Kim V.J., Jo Y.C., Alonso-Caraballo Y., Bilbo S.D.*, Chartoff E.C.* (2022) Prenatal opioid exposure induces microglial sculpting of the dopamine system selectively in adolescent male offspring. *Neuropsychopharmacology*, 47(10):1755-1763.

Block C.L., Eroglu O., Mague S.D., **Smith C.J.**, Ceasrine A.M., Sriworarat C.[#], Blount C.[#], Malacon K.E.[#], Beben K.A.[#], Ndubuizu N.[#], Nyangacha T.[#], Carlson D.E., Dzirasa K., Eroglu C., Bilbo S.D. (2022) Prenatal environmental stressors impair postnatal microglia function and adult behavior in males. *Cell Reports*, 40(5):111161.

Devlin B.A., **Smith C.J.**, Bilbo S.D. (2022) Sickness and the Social Brain: How the immune system regulates behavior across species, *Brain, Behavior, and Evolution,* 97(3-4):197-210.

Smith C.J. (2021) Emerging roles for microglia and microbiota in the development of social circuits, *Brain, Behavior, and Immunity – Health* 16:100296.
Invited mini review in special issue: "Emerging PNI Research: Future Leaders in Focus"

Smith C.J., Bilbo S.D. (2021) Sickness and the Social Brain: Love in the time of COVID*, Frontiers in Psychiatry,* 12:633664.

Suda, N.[#], Hernandez J.C.[#], Poulton J., Jones J.P., Konsoula J., **Smith C.J.**, Parker W. (2021) Therapeutic doses of acetaminophen with co-administration of cysteine and mannitol during early development result in long term behavioral changes in laboratory rats, *PLoS One,* epub ahead of print.

Smith C.J.*, Kingsbury M.A.*, Dziabis J.E., Hanamsagar R., Malacon K.E.[#], Tran J.N.[#], Norris, H.A., Gulino M., Bilbo S.D. (2020) Neonatal immune challenge induces female-specific changes in social behavior and somatostatin cell number, *Brain, Behavior, and Immunity, 90:332-345.*
Selected for a commentary in BBI: "Expanding the focus on female brain and behavior"

Bordt E.A., Block C.L., Petrozziello T., Sadri-Vakili G., **Smith C.J.**, Edlow A.G., Bilbo S.D. (2020) Isolation of microglia from mouse or human tissue, *Star Protocols,* 1(1):100035.

Smith C.J., Bhanot A., Norman E., Mullett J.E., Bilbo S.D., McDougle C.J., Zurcher N.R., Hooker J.M. (2019) A protocol for sedation-free MRI and PET imaging in adults with autism spectrum disorder. *Journal of Autism and Developmental Disorders*, 49(7):3036-3044.

Smith C.J., Bilbo S.D. (2019) Microglia sculpt sex differences in social behavior. *Neuron*, 102:276-277.

Kopec A.M., **Smith C.J.**, Bilbo S.D. (2019) Neuroimmune mechanisms regulating social behavior: Dopamine as mediator? *Trends in Neurosciences,* 42(5): 275-277.

Smith C.J., DiBenedictis B.T., Veenema A.H. (2019) Comparing vasopressin and oxytocin fiber and receptor density patterns in the social behavior neural network: Implications for cross-system signaling. *Frontiers in Neuroendocrinology*, 53:100737.

Edlow A.G., Glass R.M., **Smith C.J.,** Tran P.K., James K., Bilbo S.D. (2019) Placental Macrophages: A window into fetal neuroimmune function in maternal obesity. *International Journal of Developmental Neuroscience,* 77:60-68.

Bordt E.A., **Smith C.J.**, Demarest T.G., Bilbo S.D., Kingsbury M.A. (2019) Mitochondria, Oxytocin, and Vasopressin: Unfolding the inflammatory protein response. *Neurotoxicology Research,* 36(2):239-256.

Kopec A.M., **Smith C.J.,** Ayre N.R., Sweat S.C.[#], Bilbo S.D. (2018) Microglial dopamine receptor elimination defines sex-specific nucleus accumbens development and social behavior in adolescent rats. *Nature Communications,* 9(1): 3769.

Smith C.J., Ratnaseelan A.M.[#], Veenema A.H. (2018) Robust age, but limited sex, differences in μ-opioid receptors in the rat brain: relevance for reward and drug-seeking behavior in juveniles. *Brain Structure & Function, 223:475-488.*

Smith C.J., Wilkins K.B.[#], Li S.[#], Tulimieri M.[#], Veenema A.H. (2018) Nucleus accumbens μ-opioid receptors regulate context-specific social preferences in the juvenile rat. *Psychoneuroendocrinology, 89:59-68.*

Smith C.J., Mogavero J.M.[#], Tulimieri M.[#], Veenema A.H. (2017) Involvement of the oxytocin system in the nucleus accumbens in the regulation of juvenile social novelty-seeking behavior. *Hormones & Behavior,* 93:94-98.

Smith C.J., Poehlmann M.L., Li S.[#], Ratnaseelan A.M.[#], Bredewold R., Veenema A.H. (2017) Age and sex differences in oxytocin and vasopressin V1a receptor binding densities in the rat brain: Focus on the social decision-making network. *Brain Structure & Function*, 222(2):981-1006.

Smith C.J., Wilkins K.B.[#], Mogavero J.M.[#], Veenema A.H. (2015) Social novelty investigation in the juvenile rat: modulation by the μ-opioid system. *Journal of Neuroendocrinology*, 10:752-64.

Bredewold R., **Smith C.J.,** Dumais K.M., Veenema A.H. (2014) Sex-specific modulation of juvenile social play behavior by vasopressin and oxytocin depends on social context. *Frontiers in Behavioral Neuroscience,* 8: 216.

Rood B.D., Stott R.T.[#], You S.[#], **Smith C.J.[#],** Woodbury M.E.[#], De Vries G.J. (2013) Site of origin of and sex differences in the vasopressin innervation of the mouse (Mus musculus) brain. *Journal of Comparative Neurology,* 521: 2321-58.

*Equal Author contribution, [#]Undergraduate trainee

My Google Scholar Profile
My NCBI Bibliography

Teaching & Mentoring Experience

Teaching & Guest Lecturing

2022	**Guest Lecturer,** Neurobiology of Emotional Learning, Boston College
2021	**Guest Lecturer,** Neurobiology of Emotional Learning, Boston College
2021	**Guest Lecturer,** Neuroimmunology, Duke University
2020	**Guest Lecturer,** Neurobiology of Emotional Learning, Boston College
2020	**Guest Lecturer,** Neuroimmunology, Duke University
2020	**Guest Lecturer,** Research Methods in Psychological Science, Duke University
2016-2020	**Course Facilitator, *Human Neuropsychology*** Boston University School of Social Work MA Program (7-week course) • Responsible for weekly online lecture/discussion sessions, grading, and student evaluation Summer 2020: 1 section Summer 2019: 3 sections Summer 2018: 2 sections Summer 2017: 2 sections Fall 2016: 1 section
2020	**Guest Lecturer,** Graduate Neuroimmunology Seminar, Duke University
2019	**Guest Lecturer,** Neuroimmunology, Duke University
2019	**Guest Lecturer,** Neurobiology of Emotional Learning, Boston College
2019	**Guest Lecturer,** Graduate Neuroscience Seminar, Massachusetts College of Pharmacy and Health Sciences
2018	**Guest Lecturer,** Graduate Neuroscience Seminar, Massachusetts College of Pharmacy and Health Sciences
2016-2016	**Co-Instructor** – *with Dr. Veenema,* Neurobiology of Mental Illness, Boston College • Responsible for ~ half of course material – lecturing & grading
2015-2015	**Teaching Assistant,** Behavioral Neuroscience, Boston College
2016	**Guest Lecturer,** Abnormal Psychology, Boston College
2015	**Guest Lecturer,** Neurobiology of Stress, Boston College
2014	**Guest Lecturer,** Neurobiology of Mental Illness, Boston College
2012	**Teaching Assistant,** Psychopharmacology, Boston College
2011	**Teaching Assistant,** Learning and Motivation, Boston College
2009	**Undergraduate Teaching Assistant**, Behavioral Neuroendocrinology, University of Massachusetts Amherst

Mentoring

2013-present	**Supervisor of Undergraduate Senior Thesis Projects** of: Lauren Burgett (Duke University) Jason Zhang (Duke University)

Dang Nguyen (Duke University)
Karen Malacon (Harvard University)
Jazmin Mogavero (Boston College)
Kevin Wilkins (Boston College)
Aarane Ratnaseelan (Boston College)
Sara Li (Boston College)

2010-present **Supervisor of High School and Undergraduate Research Training** of:
Kate Guittari (Summer high school student, Duke University)
Jasmine Parker (Summer high school student, Duke DUNE program)
Virginia Keziah (Duke University)
Mary Gulino (MGH)
Jessica Tran (MGH)
Izabella Bankowski (MGH)
Evangelina Barnard (Boston College)
Kayla Reardon (Boston College)
Maxwell Tulimieri (Boston College)
Richard Gilmore (UMASS Amherst)

2014-present **Supervisor of Graduate Student Training** of:
Monroe (Graduate rotation student at Duke University)
Makala Moore (Graduate rotation student at Duke University)
Madeline Clark (Graduate student at Duke University)
Veronica Kim (Graduate rotation student at Duke University)
Max Poehlmann (Masters Student at Boston College)

Professional Positions

2022 **Chairperson,** Communications Committee, Psychoneuroimmunology Society (PNIRS)
2020 **Duke University Glia Camp Organizing Committee,** Duke University
2014-2016 **Graduate Student President,** Psychology Dept. Boston College
2014-2016 **Delegate to Graduate School of Arts and Sciences**, Boston College
2014-2015 **Organizer, Behavioral Neuroscience Journal Club**, Boston College
2013-2016 **Co-Founder/Organizer**, Graduate Research Workshop, Boston College
2011-2014 **Member**, Psychology Department Colloquium Series Committee
2011 **Assistant to the Organizing Committee**, World Congress on Neurohypophyseal Hormones (WCNH), Northeastern University, Boston MA

Outreach and Volunteer Work

2014-2019 Volunteer, **Friendshipworks** – providing support & reducing isolation among the elderly, Boston, MA
2012-2015 Outreach, **Boston Regional Brain Bee**, MIT, Cambridge MA
2012-2016 Outreach, **Brain Awareness Week Activities**, Roxbury MA
2014 Outreach, **826 National: Writing, Publishing, Tutoring**, Roxbury MA
2008 Volunteer, **Physicians Aide,** Medical Aide Mission, San Pedro Sula, Honduras
2008 Volunteer, **Emergency Room Aide**, Fairview Hospital, Great Barrington, MA

Professional Affiliations

Society for Behavioral Neuroendocrinology
Society for Neuroscience
Society for Social Neuroscience
Psychoneuroimmunology Research Society

Ad-hoc Reviewer

Research Topic Editor: Frontiers in Cellular Neuroscience
Review Editor for Frontiers in Behavioral Neuroscience: Emotion Regulation and Processing
Cell Reports
Neuropsychopharmacology
Science Advances
Brain, Behavior, and Immunity
Hormones & Behavior
Physiology & Behavior
Neuroscience
Journal of Autism and Neurodevelopmental Disorders
Appetite
Biological Psychiatry Global Open Access
Brain Structure & Function
Journal of Neuroendocrinology
Brain, Behavior, and Immunity Health
Frontiers in Cellular Neuroscience
Frontiers in Pharmacology
International Journal of Molecular Sciences
Philosophical Transactions of the Royal Society
Scientific Reports

Symposia & Invited Talks

10/2022	**American Academy of Child and Adolescent Psychiatry 2022**, Toronto, Canada
09/2022	**Bowdoin College**, Invited Talk, Brunswick, ME
05/2022	**Dopamine Society 2022**, Selected Symposium, Montreal, Quebec
05/2022	**Microbiome Maternal and Fetal Health Summit**, Invited Speaker, Boston, MA
02/2022	**University of Virginia** Invited Talk, *virtual seminar*
01/2022	**McLean Hospital/Massachusetts General Hospital**, Invited Talk, *virtual seminar*
12/2021	**American College of Neuropsychopharmacology Meeting**, Selected Symposium, San Juan, Puerto Rico
11/2021	**Boston College,** Invited Talk, Chestnut Hill, MA

11/2021	**PIXIElab Immunopsychiatry Meetings**, Invited Talk, Kings' College, London
10/2021	**Lurie Center for Autism**, Invited Talk, MA
10/2021	**Rutgers University Pharmacology and Toxicology**, Invited Talk, New Brunswick, NJ
06/2021	**Society for Behavioral Neuroendocrinology**, Invited Talk, *Symposium co-chair
05/2021	**Psychoneuroimmunology Society Meeting**, Invited Talk, *Symposium co-chair
02/2021	**NIEHS Microbiome Workshop,** Lightning Talk, *Selected for oral presentation from all submitted abstracts.
07/2020	**Cold Spring Harbor Laboratory Glia in Health and Disease Meeting**, Invited Talk, *Selected for oral presentation from all submitted abstracts.
02/2020	**Center for Human Health & the Environment Symposium**, Invited Talk, North Carolina State University
04/2019	**Duke Neuroimmunology & Glia Group Camp**, Invited Talk, *Selected for oral presentation from all submitted abstracts.
03/2019	**Harvard Interdisciplinary Oxytocin Research Initiative***,* Invited Talk, Boston, MA
02/2019	**Autism Research Foundation Think Tank**, Invited talk, Boston, MA
06/2018	**Psychoneuroimmunology Society Meeting**, Invited Data Blitz Talk, Miami, FL *Selected for travel award and oral presentation.
02/2017	**Harvard Interdisciplinary Oxytocin Research Initiative***,* Invited Talk, Boston, MA
02/2016	**Social Brain Sciences Symposium**, Selected Speaker, Brandeis University, Waltham, MA
02/2015	**Graduate school of Arts and Sciences Inter-Departmental Research Blitz**, Selected Speaker, Boston College, Chestnut Hill, MA
02/2014	**Social Brain Sciences Symposium,** Selected Speaker, Boston College, Chestnut Hill, MA
01/2012-12/2016	**Annual Graduate Research Day Symposium**, Boston College, Chestnut Hill, MA

Informal Talks

02/2020	**Systems & Integrated Neurosciences Seminar Series** Duke University
02/2020	**Neurogenetics Seminar Series**, Duke University
10/2019	**Microbial Genomics Lunch Seminar**, Duke University
11/2018	**Neuroinflammation Program Project Grant Meeting**, Lurie Center for Autism
10/2018	**Carlezon/Chartoff joint lab meeting**, Invited Talk McLean Hospital

01/2018	**Carlezon/Chartoff joint lab meeting**, Invited Talk McLean Hospital
08/2017	**Lurie Center for Autism**, Junior Faculty Mentoring Meeting, Lurie Center for Autism
01/2016-12/2016	**Bilbo Lab**, Invited Talk, Massachusetts General Hospital
	Brenhouse Lab, Invited Talk, Northeastern University
	Katz Lab, Invited Talk, Brandeis University
	Somerville Lab, Invited Talk, Harvard University

Abstracts and Poster Presentations

Smith C.J., Rendina D.N., Kingsbury M.A., Malacon K.E., Nguyen D.N., Burgett L., Devlin B.A., Zhang J., Tran J.J., Bilbo S.D. "*Social deficits induced by pervasive environmental stressors are prevented by microbial or dopaminergic modulation"* Psychoneuroimmunology Meeting, Glasgow Scotland, 2022

Smith C.J., Rendina D.N., Kingsbury M.A., Malacon K.E., Nguyen D.N., Burgett L., Devlin B.A., Zhang J., Tran J.J., Bilbo S.D. "*Social deficits induced by pervasive environmental stressors are prevented by microbial or dopaminergic modulation"* International Behavioral Neuroscience Society Meeting, Glasgow Scotland, 2022

Smith C.J., Rendina D.N., Kingsbury M.A., Malacon K.E., Nguyen D.N., Burgett L., Devlin B.A., Zhang J., Tran J.J., Bilbo S.D. "*Modulating social behavior via manipulation of the gut microbiome and activation of the dopamine system in a mouse model of prenatal toxicant/stress exposure"* American College of Neuropsychopharmacology Meeting, San Juan Puerto Rico, 2021

Smith C.J., Lintz T., Clark M.J., Potter D., Malacon K.E., Young J.C., Bilbo S.D., Chartoff, E.C. "*Prenatal exposure to opioids disrupts the development of the dopamine system during adolescence: a role for microglia?*" American College of Neuropsychopharmacology Meeting, Virtual Meeting, 2020

Smith C.J., Malacon K.E., Alter M., Hanamsagar R., Tran P.K., Kingsbury M.A., Bilbo S.D. "*Sex-specific effects of air pollution and maternal stress on social behavior, the gut microbiome, and neuro-immune interactions*" American College of Neuropsychopharmacology Meeting, Orlando, FL, 2019

Smith C.J., Malacon K.E., Tran P.K., Gulino M., Bilbo S.D. "*Maternal immune activation via environmental exposures induces male-biased changes in social behavior, neuroimmune signaling pathways, and the gut microbiome*" Gordon Research Conference, Venture, CA, 2019

Smith C.J., Malacon K.E., Tran P.K., Gulino M., Block C.S., Bilbo S.D. "*Combined environmental stressors as a mouse model of autism spectrum disorder: Sex-specific changes in the gut microbiome and intestinal epithelial barrier*" Society for Neuroscience, San Diego, CA, 2018

Malacon K.E., **Smith C.J.**, Tran P.K., Gulino M., Block C.S., Bilbo S.D. "*Combined environmental stressors as a mouse model of autism spectrum disorder: Sex-specific social behavior deficits and underlying neuro-immune mediators*" Society for Neuroscience, San Diego, CA, 2018

Kopec A.M., **Smith C.J.,** Ayre N.R., Sweat S.C., Bilbo S.D. "*Microglial elimination of dopamine receptors defines sex-specific nucleus accumbens development and social behavior during adolescence*" Society for Neuroscience, San Diego, CA, 2018

Bordt E.A., Milian A.A., Hanamsagar R. **Smith C.J.,** Bilbo S.D. "*Sex-biased mitochondrial and behavioral alteration following early-life immune activation*" Society for Neuroscience, San Diego, CA, 2018

Smith C.J., Malacon K.E., Tran P.K., Gulino M., Bilbo S.D. "*Combined exposure to air pollution and maternal stress induces sex-specific, autism-like social behavior deficits and gut dysbiosis in mice*" Psychoneuroimmunology Society Meeting, Miami, FL, 2018

Smith C.J., Tran P.K., Malacon K.E., Fiorentino M.R., Bilbo S.D. "*Combined exposure to air pollution and maternal stress induces sex-specific, autism-like social behavior deficits and gut dysbiosis in mice*" NIEHS Comprehensive ASD Grantee Meeting, Sacramento, CA, 2018

Smith C.J., Dibenedictis B.D., Veenema A.H. "*Oxytocin and vasopressin in the social behavior neural network: How do receptors and fiber projections compare?*" Society for Neuroscience, Washington D.C., 2017

Kopec A. M., **Smith C.J.,** Ayre N.R., Sweat S.C., Bilbo S.D. "*The natural developmental relationship between microglia and dopamine D1 receptors is altered by adolescent morphine exposure in the nucleus accumbens*" Society for Neuroscience, Washington D.C., 2017

Smith C.J., Ratnaseelan A.M, Li S., Tulimieri M.T., Veenema A.H. "*Involvement of mu opioid receptors in the regulation of juvenile social novelty-seeking behavior: brain region specific effects and modulation by social separation*" Society for Neuroscience, San Diego CA, 2016

Smith C.J., Ratnaseelan A.M, Li S., Tulimieri M.T., Veenema A.H. "*Involvement of mu opioid receptors in the regulation of juvenile social novelty-seeking behavior: brain region specific effects and modulation by social separation*" Society for Social Neuroscience, San Diego CA, 2016

Smith C.J., Ratnaseelan A.M, Li S., Tulimieri M.T., Veenema A.H. "*Involvement of mu opioid receptors in the regulation of juvenile social novelty-seeking behavior: brain region specific effects and modulation by social separation*" Society for Behavioral Neuroendocrinology, Montreal, Quebec, Canada, 2016

Dibenedictis B.D., **Smith C.J.** Cheung H.K., Nussbaum E.K., Veenema A.H. "*Involvement of ventral pallidum vasopressin in the sex-specific regulation of opposite sex preference in rats* " Society for Neuroscience, San Diego CA, 2016

Dibenedictis B.D., **Smith C.J.** Cheung H.K., Nussbaum E.K., Veenema A.H. "*Involvement of ventral pallidum vasopressin in the sex-specific regulation of opposite sex preference in rats* " Society for Behavioral Neuroendocrinology, Montreal, Quebec, Canada, 2016

Smith C.J., Poehlmann M.L., Ratnaseelan A.M, Li S, Bredewold R., Veenema A.H. "*Pre-pubertal emergence of oxytocin and vasopressin receptors in the rat brain*" Organization for the Study of Sex Differences, Philadelphia, PA, 2016

Smith C.J., Ratnaseelan A.M, Li S, Poehlmann M.L., Veenema A.H. "*Role of u-opioid receptors in social novelty seeking behavior in the juvenile rat: Involvement of nucleus accumbens and basolateral amygdala*" Society for Neuroscience, Chicago, IL, 2015

Smith C.J., Ratnaseelan A.M, Li S, Poehlmann M.L., Veenema A.H. "*Role of u-opioid receptors in social novelty seeking behavior in the juvenile rat: Involvement of nucleus accumbens and basolateral amygdala*" Society for Social Neuroscience, Chicago, IL, 2015

Smith C.J., Poehlmann M.L., Li S., Bredewold R., Veenema A.H. "*Age differences in oxytocin and vasopressin V1a receptor binding in the rat brain: implications for juvenile social behavior*" CNS Symposium, UMASS Amherst, Amherst MA, 2015

Smith C.J., Poehlmann M.L., Li S., Bredewold R., Veenema A.H. "*Age differences in oxytocin and vasopressin V1a receptor binding in the rat brain: implications for juvenile social behavior*" Society for Behavioral Neuroendocrinology, Pacific Grove, CA, 2015

Smith C.J., Poehlmann M.L., Mogavero J.N., Wilkins K.B., Bredewold R., Veenema A.H. "*Age differences in the brain oxytocin system: Implications for juvenile social motivation*" Boston Area Psychology Graduate Student Symposium, Boston, MA, 2015

Smith C.J., Poehlmann M.L., Mogavero J.N., Wilkins K.B., Bredewold R., Veenema A.H. "*Age differences in the brain oxytocin system: Implications for juvenile social motivation*" Society for Social Neuroscience, Washington D.C., 2014

Smith C.J., Poehlmann M.L., Mogavero J.N., Wilkins K.B., Bredewold R., Veenema A.H. "*Age differences in the brain oxytocin system: Implications for juvenile social motivation*" Society for Neuroscience, Washington D.C., 2014

Smith C.J., Wilkins K.B., Mogavero J.N., Veenema A.H. "*Social isolation impairs while oxytocin facilitates social novelty-seeking behavior in the juvenile rat*" Federation for European Neurosciences, Milan, Italy, 2014

Smith C.J., Mogavero J.N., Wilkins K.B., Reardon K.I., Bredewold R., Veenema A.H. "*Role of opioids, oxytocin, and stress in modulating social novelty-seeking behavior in the juvenile rat*" Society for Neuroscience, San Diego, CA, 2013

Bredewold R., **Smith C.J.W.,** Dumais K.M., Veenema A.H., "*Sex specific regulation of social play by oxytocin and vasopressin depends on social context",* Society for Neuroscience, San Diego, CA, 2013

Smith C.J., Mogavero J.N., Wilkins K.B., Reardon K.I., Bredewold R., Veenema A.H. "*Role of opioids, oxytocin, and stress in modulating social novelty-seeking behavior in the juvenile rat*" Society for Social Neuroscience, San Diego, CA, 2013

Smith C.J., Wilkins K.B., Mogavero J.N., Veenema A.H. "*Social isolation impairs while oxytocin facilitates social novelty-seeking behavior in the juvenile rat*" CNS Symposium at UMass, Amherst, MA, 2013

Bredewold R., **Smith C.J.W.,** Dumais K.M., Veenema A.H., "*Sex specific regulation of social play by oxytocin and vasopressin depends on social context",* Society for Social Neuroscience, San Diego, CA, 2013

Smith C.J., Mogavero J.N., Bredewold R., Veenema A.H., *"Social isolation abolishes social novelty-seeking behavior in the juvenile rat",* Society for Behavioral Neuroendocrinology, Atlanta GA, 2013

Bredewold R., **Smith C.J.,** Dumais K.M., Veenema A.H., "*Sex specific regulation of social play by oxytocin and vasopressin depends on social context",* Society for Behavioral Neuroendocrinology, Atlanta GA, 2013

Smith C.J., Mogavero J.N., Barnard E.M., Bredewold R., Veenema A.H. "*Social novelty-seeking behavior in the juvenile rat: roles of sex, anxiety, and neuropeptides"* , NEURON, Quinnipiac, CT, 2013

Smith C.J., Mogavero J.N., Barnard E.M., Bredewold R., Veenema A.H. "*Social novelty-seeking behavior in the juvenile rat: roles of sex, anxiety, and neuropeptides*" CNS Symposium at UMass, Amherst, MA, 2012

Smith C.J., Mogavero J.N., Barnard E.M., Bredewold R., Veenema A.H. "*Social novelty-seeking behavior in the juvenile rat: roles of sex, anxiety, and neuropeptides*" Society for Behavioral Neuroendocrinology, Madison, WI, 2012

Bredewold R., **Smith C.J.**, Dumais K.M., Veenema A.H., "*Neural Circuitry of social play: Distinct modes of interplay between septal vasopressin and GABA in male and female rats*" Society for Neuroscience, New Orleans, LA, 2012

Bredewold R., **Smith C.J.**, Dumais K.M., Veenema A.H., "*Neural Circuitry of social play: Distinct modes of interplay between septal vasopressin and GABA in male and female rats*" Society for Social Neuroscience, New Orleans, LA, 2012

Bredewold R., **Smith C.J.**, Veenema A.H., "*Neural circuitry of social play: involvement of septal vasopressin and GABA*" Society for Behavioral Neuroendocrinology, Madison, WI, 2012

Meng Q., Bredewold R., **Smith C.J.**, Veenema A.H., **"***Adverse early life peer interactions alter anxiety and play-fighting behaviors"* Society for Behavioral Neuroendocrinology, Madison, WI, 2012

Bredewold R., **Smith C.J.**, Veenema A.H., "*Neural circuitry of social play: involvement of septal vasopressin and GABA*" International Behavioral and Neural Genetics Society, Boulder, CO, 2012

Smith C.J., Bredewold R., Veenema A.H., "*Septal vasopressin regulates play-fighting in male and female juvenile rats: sex and context-specific effects"* US-Japan Workshop on Prosocial Behaviors, Emory University, Atlanta, GA, 2011

Bredewold R., **Smith C.J.*,** Veenema A.H., "*Septal vasopressin regulates play-fighting in male and female juvenile rats: sex and context-specific effects"* World Congress on Neurohypophyseal Hormones, Boston, MA, 2011

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