

Curriculum Vitae

Elizabeth Ann Becker

Saint Joseph's University
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EDUCATION

Ph.D. University of Wisconsin, Madison, WI

Biology of Brain and Behavior
Advisor: Dr. Catherine Marler
2012

**Delta Certificate in Research, Teaching and Learning
University of Wisconsin, Madison, WI**

Defended: October 2010

B.A., June 2005. Lawrence University, Appleton, WI

Major in Psychology

B.M., June 2005. Lawrence University, Appleton, WI

Major in Voice Performance

POSTIONS

Faculty Affiliate Kinney Center for Autism Education and Support, Saint Joseph's University

2017 – present

Director Behavioral Neuroscience Program, Saint Joseph's University

2017 – present

Principal Investigator Saint Joseph's University

2012-present

1. The role of parental care on the development of offspring brain and transmission of behavior.
2. Behavioral and neurodevelopment consequences of maternal SSRI use on offspring
3. Resilience and susceptibility to defeat stress in juveniles

Graduate Project Assistant University of Wisconsin-Madison.

Advisor: Dr. Catherine Marler, September 2006-2012

Dissertation: Behavioral and neuroendocrine mechanisms in the development of aggressive behavior

Other Collaborations: Human Research

1. Learning goals and Performance: The role of Cortisol and DHEA

Research Specialist University of Wisconsin-Madison.

Supervisor: Dr. Catherine Marler, June 2005 - Sept 2008

Provided technical support on graduate student research projects

Provided lab skills training for 8 undergraduate and 3 graduate students

Research Assistant Lawrence University.

Advisor: Dr. Bruce Hetzler, September 2002 - June 2005

Project: Baclofen and alcohol effects on flash-evoked potentials of Long-Evans rats

FELLOWSHIPS, GRANTS AND AWARDS

2017-2018	NSF ROA Award <i>Interactions between Stress and Attention Circuits: Investigating Corticotropin Releasing Modulation of the Basal Forebrain</i>
2016-2017	Summer Research Grant, Saint Joseph's University <i>Investigation of the Neurodevelopmental Consequences of Exposure via Lactation to the Selective Serotonin Reuptake Inhibitor Fluoxetine on Social Behavior in the California Mouse</i>
2015-2016	Psi Chi Faculty Advisor Research Grant <i>Paternal contributions to offspring brain and behavior</i>
2015-2016	Saint Joseph's University Teaching Merit Award
2015-2016	Faculty for Undergraduate Neuroscience Equipment Loan Grant <i>Influence of Early Life Exposure to Prozac on Neurodevelopment and the Reparative Role of OT Treatment in the California Mouse</i>
2015-2016	Tom & Mary Gallagher Foundation Grant <i>Neurodevelopmental Consequences of SSRI Exposure on Offspring</i>
2014-2015	Psi Chi Faculty Travel Grant <i>Paternal retrieval increases testosterone levels in both male and female offspring</i>
2013-2014	Technology Innovation Grant, Saint Joseph's University <i>Teaching, Service Learning and the Brain</i>
2012-2013	Summer Research Grant, Saint Joseph's University <i>Influence of environmental stressors on paternal behavior, patrilineal transmission of behavior, and underlying hormonal mechanisms</i>
2010-2011	Schwartz Fellowship
2010-2011	SICB Grant In Aid of Research
2010-2011	Vilas Conference Presentation Award
2010-2011	Hertz Foundation and Royalty Research Fellowship

2009-2010	University Housing Honored Instructor Award
2009-2010	University of Wisconsin-Madison, Center for the First Year Experience, Outstanding Work with First Year Students Award
2009-2010	Menzies Research Award
2008-2009	Named by Vice Provost for Teaching and Learning, Aaron Brower, among top 5 for best teaching practices at Teaching and Learning Symposium
2008-2009	University of Wisconsin-Madison, Teaching Academy Teaching Grant
2008-2009	University of Wisconsin-Madison, Department of Psychology Travel Grant
2008-2009	University of Wisconsin-Madison, Induction to Future Faculty Partners, Teaching Academy
2008-2009	University of Wisconsin-Madison, Letters and Science Teaching Fellow Alternate
2007-2008	University of Wisconsin-Madison Prize for Collaborative Research
2006-2007	Hertz Foundation Fellowship

PUBLICATIONS

- Olitsky, S., **Becker, E.A.**, Jayo, I., Montcalmo, J., Vinogradov, P. 2018. Constructing Authentic Science: Results from a University-High School Collaboration Integrating Digital Storytelling and Social Networking. *Research in Science Education*. 1-24.
- Becker, E.A.**, Castelli, F.R., Yohn, C., Spencer, L., and Marler, C.A. 2018. Species differences in urine scent-marking and counter-marking in *Peromyscus*. *Behavioral Processes*. 146, 1-9.
- Yohn, C.N., Leithead, A.B., and **Becker, E.A.** 2017. Increased vasopressin expression in the BNST accompanies paternally induced territoriality in male and female California mouse offspring. *Hormones and Behavior*. 93, 9-17.

- Chary, M.C., Cruz, J.P., Bardi, M., and **Becker, E.A.** 2015. Paternal retrievals increase testosterone levels in both male and female California mouse (*Peromyscus californicus*) offspring. *Hormones and Behavior*. 73, 23-29.
- Becker, E.A.** and Marler, C.A. 2015. Postcontest blockade of dopamine receptors inhibits development of the winner effect in the California mouse (*Peromyscus californicus*). *Behavioral Neuroscience*, 129(20), 205-213.
- Becker, E.A.**, Petruno, S. and Marler, C.A. 2012. A comparison of scent marking between a monogamous and promiscuous species of *Peromyscus*: pair bonded males do not advertise to novel females. *PLoS one*, 7,2.
- Becker, E.A.**, Moore, B.M., Auger, C. and Marler, C.A. 2010. Paternal behavior increases testosterone levels in offspring of the California mouse. *Hormones and Behavior*, 58, 385-389.
- Fuxjager, M.J., Montgomery, J. L., **Becker, E.A.**, and Marler, C.A. 2010. Deciding to win: interactive effects of residency, resources, and "boldness" on contest outcome in white-footed mice. *Hormones and Behavior*, 80, 921-927.
- Fuxjager, M.J., Mast, G., **Becker, E.A.**, and Marler, C.A. 2009. The home advantage is necessary for a full winner effect and changes in post-encounter testosterone. *Hormones and Behavior*, 56, 214-219.
- Hetzler, B.E., Ondracek, J., and **Becker, E.A.** 2008. Acute effects of baclofen and alcohol on flash-evoked potentials in the visual system of Long-Evans rats. *International Journal of Neuroscience*. 118, 11: 1558-1581.
- Marler, C.A., Trainor, B.C., Gleason, E.D., Bester-Meredith, J.K. and **Becker, E.A.** 2008. The Effects of Paternal Behavior on Offspring Aggression and Hormones in the Biparental California Mouse. In Robert Bridges (ed.) *Neurobiology of the Parental Brain*.

MANUSCRIPTS UNDER REVIEW

- McCulloch and **Becker, E.A. Under Review**. Sex differences in parental retrieval behavior in the biparental California mouse (*Peromyscus californicus*).

INVITED TALKS

Neuroendocrine Consequences of Paternal Behavior for Developing Offspring
Hawks in Florida, 2017

Like Father, Like Son... and Daughter
Hawk Talk, 2016

Blame it on Your Epigenetics!
Science on the Hill, 2015

A Father's Love Lasts a Lifetime
Philadelphia Science Festival, 2014

INVITED COLLOQUIA

Parental behavior modulate neuroendocrine systems and social behavior in offspring
Kinney Center for Autism Education and Support, 2018

Programming of behavior by paternal care
Temple University, 2017

The importance of fathers for social and neural development of offspring
Ursinus College, 2016

Behavioral and neuroendocrine mechanisms in the development and transmission of behavior in
Peromyscus mice.
Saint Joseph's University (Sigma Xi), 2013

Epigenetic Transmission of Parental Care and Underlying Neural and Hormonal Mechanisms
Lawrence University (Biology), 2012

Neural and hormonal correlates of paternal behavior as possible mechanism for epigenetic
transmission of aggression
Lawrence University (Psychology), 2008

RESEARCH POSTERS

Consequences of prenatal stress and SSRI exposure on social behavior in the California mouse.
S. Peterson, J.P. Cruz, E. McDonald, J. Forbes, C. Sweeney, E.A. Becker
Society for Neuroscience, 2017

Transmission of Parental Behavior in the California mouse. Leithead, A.B. and Becker, E.A.
Faculty for Undergraduate Neuroscience (FUN) Poster Session, 2016
Sigma Xi, 2017
Psi Chi, 2017

Developmental Influence of Stress and Fluoxetine on the Oxytocinergic System in the male
California mouse. J.P. Cruz, J. Palmer, S. Peterson, K. Slattery and Becker, E.A.
Society for Behavioral Neuroendocrinology, 2016
Society for Neuroscience, 2016

A study of sex differences in neural mechanisms underlying paternal influence on offspring
aggression in *Peromyscus californicus*. Yohn, C., Leithead, A., and Becker, E.A.
Society for Behavioral Neuroendocrinology, 2016
Society for Neuroscience, 2016

Species comparisons suggest that signal to female may protect the pair-bond among monogamous males. Yohn, C., Becker, E.A, Spencer, L., and Marler, C.A.
Society for Social Neuroscience, 2015

Dopamine's Role in the Home Field Advantage. Sammartino, N., Becker, E.A, and Marler, C.A.
Sigma Xi, 2015

Influence of mating status on scent marking behaviors in *Peromyscus californicus* and *Peromyscus leucopus*. Yohn, C., Becker, E., and Marler, C.A.
Sigma Xi, 2015

Increased aggression in males as a consequence of resource availability. Stephenson, M.R., McCulloch, R.M. and Becker, E.A.
Animal Behavior Society, 2015
Sigma Xi, 2015

Hormonal Effects of Paternal Care on Male and Female Offspring. Chary, M.C., Cruz, J.P., Bardi, M and Becker, E.A.
Society for Research in Child Development, 2015

Paternal retrievals increase testosterone levels in both male and female offspring. Cruz, J.P. , Chary, M.C., Bardi, M. and Becker, E.A.
Faculty for Undergraduate Neuroscience, FUN Poster Session, 2014
Society for Neuroscience, 2014

A unique role for fathers in the development of offspring aggression. Becker, E.A. and McCulloch, R. C.
Society for Social Neuroscience, 2014

Like sons, daughters experience a rise in Testosterone in response to paternal retrievals. Chary, M.C., Cruz, J.P, and Becker, E.A.
Animal Behavior Society, 2014

Paternal care, but not maternal, increases aggression in adulthood. Stephenson, M., McCulloch, R. and Becker, E.
Sigma Xi, 2014

The Relevance of Mothers and Fathers in Offspring Development. McCulloch, R. C. and Becker, E.A.
Sigma Xi, 2014

Hormonal effects of paternal care in male and female offspring. Chary, M.C., Cruz, J.P, and Becker, E.A.
Sigma Xi, 2014
Psi Chi, 2014
Eastern Psychological Association, 2014

Like father, like son: transmission of paternal care across generations. Becker, E.A., Libo, N., Goetsch, L., Kumerow, M, and Marler, C.A.
Society for Neuroscience, 2012

Non-genomic transmission of paternal care. Becker, E.A., Kumerow, M, and Marler, C.A.
Society for Behavioral Neuroendocrinology, 2012

Peromyscus californicus scent mark more than the closely related *Peromyscus leucopus*
Becker, E.A., Meder, S., and Marler, C.A.
Animal Behavior Society, 2010

Neural estrogen receptor changes in response to winning in the “home field”
Becker, E.A., Mast, G., and Marler, C.A.
Society for Behavioral Neuroendocrinology, 2010

Comparisons between monogamous and promiscuous species of *Peromyscus*
University of Wisconsin-Madison, April 2010

Post encounter dopamine is involved in the regulation of aggressive behavior and the winner effect in the California mouse (*Peromyscus californicus*). Becker, E.A., and Marler, C.A.
Society for Behavioral Neuroendocrinology, 2009

Paternal behavior and pup testosterone levels in the California mouse (*Peromyscus californicus*)
University of Wisconsin-Madison, September 2007

Paternal behavior increases pup testosterone levels in the California mouse (*Peromyscus californicus*). Becker, E.A., Moore, B.M., Auger, C., and Marler, C.A.
Society for Neuroscience, 2006

Baclofen does not counteract acute effects of alcohol on flash-evoked potentials of Long-Evans rats. Hetzler, B., Ondracek, J., and Florek, E.A.
Society for Neuroscience, 2006

TEACHING EXPERIENCE

Assistant Professor Department of Psychology, Saint Joseph’s University

Undergraduate Courses: Introductory Psychology, Research Methods, Neuroscience Foundations, Behavioral Neuroscience, Behavioral Neuroscience Lab
Graduate Courses: Hormones, Brain and Behavior, Systems Neuroscience
Dates: Fall 2012-present

Guest Lecturer Department of Biology, Saint Joseph’s University.

Course: God and Evolution
Dates: Fall 2013

Lecturer Department of Psychology, University of Wisconsin-Madison.

Courses: Introductory Psychology
Dates: Summer 2012

Adjunct Faculty Department of Psychology, Lawrence University.

Courses: Personality Psychology, Brain and Behavior, Neurobiological Research Design and Surgical Techniques
Dates: Spring 2011, Fall 2011, Spring 2012

Teaching Assistant Department of Psychology, University of Wisconsin – Madison.

Courses: Animal Behavior (2 semesters), Abnormal Psychology, Introductory Psychology (9 semesters), Research Methods
Dates: Fall 2006 – Spring 2012

Undergraduate Advising Department of Psychology, University of Wisconsin – Madison.

Advised 33 students 2006-2012
2 recipients of Hilldale Undergraduate/Faculty Research Fellowships
5 co-authors on publications
4 senior thesis projects

Instructor TRIO/CeO (Center for Educational Opportunity), University of Wisconsin – Madison.

The Center for Educational Opportunity is a federally- and state-funded center that provides academic and ancillary support to students from low-income families. The CeO center houses the federally-funded program, TRIO Student Support Services.

Course Designed and Taught: Introductory Psychology for At Risk Students
Dates: Fall 2008 - Fall 2011

Instructor PEOPLE Program (Pre-College Enrichment Opportunity Program for Learning Excellence), University of Wisconsin – Madison.

PEOPLE is a pre-college pipeline for students of color and low-income students, most of whom are the first in their families to potentially attend college.

Under the Neuroscience Training Program: Summer 2006-2011

Course: Feed Your Brain (How food, drugs, and life choices affect the brain)

Guest Lecturer Department of Psychology, University of Wisconsin – Madison.

Courses: Introductory Psychology (4 semesters), Animal Behavior

Guest Instructor Department of Physiology, University of Wisconsin – Madison.

Neonatal Rodent Perfusions: Winter 2007

Instructor Expand Your Horizons, University of Wisconsin-Madison

Course: Exploring the laboratory: Biology Research: Fall 2007

INVITED TEACHING TALKS

Collaboration and the Three Bears Approach to Iterative Development Improve Learning Outcomes

Bryn Mawr Blended Learning Conference, May 2015

Constructing “authentic” science: Results from a university-high school collaboration integrating digital storytelling and social networking

National Association for Research in Science Teaching, April 2015

Enhancing Learning Through Collaboration Between Instructional Technologists and Faculty
e-Learning Conference, Drexel University, March 2015

How to Flip Successfully: strategies for ensuring student participation and enthusiasm

Eastern Psychological Association, March 2015

INVITED TEACHING COLLOQUIA

Storytelling

Saint Joseph’s University, iPad Bootcamp, May 2016

How Technology Changes the way Students Learn and Teachers Teach

Saint Joseph’s University, IT Planning Meeting, June 2015

The Teacher’s Guide to the Flipped Classroom: Don’t Panic

Saint Joseph’s University, Teaching and Learning Forum, June 2015

Classrooms of the Future

Saint Joseph’s University, Academic Technology Leadership Committee, June 2015

Flipped Classroom and Alternative Delivery Methods

Saint Joseph’s University, Teaching and Learning Forum, June 2014

Integrate iPad technology into the classroom: it’s not brain surgery!

Saint Joseph’s University, Technology Innovation Fund Grant, April 2014

Pipelines and Achievement Gaps; What are We Doing and What Else Might be Done

University of Wisconsin-Madison, Equity and Diversity Day, March 2012

From Campus to Classroom: Planning for the Future

University of Wisconsin-Madison, Teaching & Learning Symposium, May 2011

What future faculty should learn before they become professors

University of Wisconsin-Madison, Delta Roundtable, March 2011

Teaching in large lectures

University of Wisconsin-Madison, Department of Psychology TA Training and Orientation, August 2010

Making your teaching shine: High Impact and Authentic Learning Environment Positively Impacts Minority Student Outcomes
University of Wisconsin-Madison, Teaching and Learning Symposium, May 2010

How to become a graduate student in psychology
Lawrence University, February 2007

TEACHING POSTERS

Engaging students through digital storytelling
Saint Joseph's University, Teaching and Learning Forum, June 2014

High Impact and Authentic Learning Environments Positively Impact Minority Student Outcomes
University of Wisconsin-Madison, Teaching and Learning Symposium, May 2010

MASTERS STUDENTS

Mamatha Chary, M.S. 2014
Rebecca McCulloch, M.S. 2014
Thomas Bernardo, 2015
Christine Yohn, M.S. 2016
Jayson Cruz, M.S. 2017
Linda Muller, anticipated 2017
Seattle Heiman, anticipated 2017
Amanda Leithead, anticipated 2018
James Brown, anticipated 2018
Courtney Dye, anticipated 2018
Alex Gill, anticipated 2019
Haley Norris, anticipated 2020

SUMMER SCHOLARS MENTEES

Thomas Bernardo, 2013
Michael Stephenson, 2014
Nicole Sammartino, 2014
Kieran Slattery, 2015
Jamie Palmer, 2015
Amanda Leithead, 2015, 2016
Erica McDonald, 2016
Alex Gill, 2016, 2017
Julia Forbes, 2017
Julian Ford, 2017
Claire Sweeney, 2017

COLLEGE INTERNS

Viral Mistry, Case Western Reserve University, summer 2017

HIGH SCHOOL INTERNS

Drew Ells, summer 2013

William Barker, summer 2014

Noah Gilly, summer 2014

Saraa Fadl, 2015-2016

PROFESSIONAL AFFILIATIONS

Organization for the Study of Sex Differences	2017 - present
Alpha Sigma Nu	2015 - present
Society for Social Neuroscience	2014 - present
International Behavioral Neuroscience Society	2013 - present
Faculty for Undergraduate Neuroscience	2013 - present
Psi Chi	2013 - present
Sigma Xi	2012 - present
Eastern Psychological Association	2012 - present
American Psychological Association	2012 - present
Association for Psychological Science	2011 - present
The Society for the Teaching of Psychology	2011 - present
International Society for Research on Aggression	2009 - present
Society for Behavioral Neuroendocrinology	2009 - present
Society for Integrative and Comparative Biology	2009 - present
University of Wisconsin Teaching Academy	2009 - present
Society for Neuroscience	2008 - present
Animal Behavior Society	2008 - present

PROFESSIONAL DEVELOPMENT

Saint Joseph's University Teaching & Learning Forum	June	2017
Haub School Teaching Forum	March	2017
SJU Office of Teaching & Learning Open Classrooms Initiative	March	2017
Success in Academia Workshop, Society for Neuroscience	November	2016
Inclusive Teaching and Learning Workshop	October	2016
Saint Joseph's University Teaching & Learning Forum	June	2016
iPad Bootcamp	May	2016
Ignation Pedagogy	March	2016

TurnItIn Grademark Training	December	2015
Design Thinking and Your Teaching Workshop	October	2015
Saint Joseph's University ATLC Meeting	June	2015
Saint Joseph's University Teaching & Learning Forum	June	2015
Saint Joseph's University Academic Technology Leadership Workshop	June	2015
Bryn Mawr Blended Learning Conference	May	2015
National Association for Science Teaching Research Conference	April	2015
Drexel e-Learning Conference	March	2015
Online Exams Using Remote Proctor NOW	February	2015
Success in Academia Workshop, Society for Neuroscience	November	2014
ABS Teaching Workshop	August	2014
Saint Joseph's University Teaching & Learning Forum	June	2014
Haub School Teaching Forum	April	2014
Educause	October	2013
SBN Teaching Workshop	June	2013
Saint Joseph's University Teaching & Learning Forum	June	2013
Haub School Teaching Forum	April	2013
Teaching Academy Summer Institute	May	2012
Bridging the Achievement Gap	March	2012
Internationalizing STEM Education	Feb	2012
What Difference does "difference" in the classroom make?	Feb	2012
Teaching Seminar with Michael O'Hare	Feb	2012
Engage "Teaching as Research"	Nov	2011
Creating and Impact Center for First Year Experience Conference	Nov	2011
Technology in the Classroom	Sept	2011
Teaching Academy Symposium	May	2011
President's Summit on Excellence in Teaching and Learning UW-System	April	2011
The Future of Education is Changing: What Role Will you Play?	April	2011
Climate and Diversity Day	April	2011
What future faculty should learn before they become professors	March	2011
Service Learning in a STEM Undergraduate Education	Oct	2010
Teaching and Research at Different Institutions	Oct	2010
Career Development and the First Year	Oct	2010
Teaching Academy Fall Kickoff	Sept	2010
Teaching Academy Symposium	May	2010
Diversity Day Conference	April	2010
Closing the Achievement Gap Retreat	Feb	2010
Inclusive Instruction Workshop	Feb	2010
Teaching in the College Classroom	Summer	2009
Teaching Academy Summer Institute	June	2009
Teaching Academy Symposium	May	2009
Diversity in the College Classroom	Spring	2009
Teaching Improvement Program	Jan	2009
Teaching First Year Students Conference	Oct	2008
Diversity Day Conference	Sept	2008
Graduate Teaching Assistant Equity Workshop	Feb	2008
Grant Writing Seminar	Spring	2008

PROFESSIONAL ACTIVITIES AND SERVICE

Faculty for Undergraduate Neuroscience Secretary
Faculty for Undergraduate Neuroscience Newsletter Staff
Faculty for Undergraduate Neuroscience Booth Volunteer (Society for Neuroscience Meeting)
Grant Reviewer for Animal Behavior Society
Grant Reviewer for Faculty For Undergraduate Neuroscience Equipment Loan Program
Reviewer for Journal of Mammalogy
Reviewer for Physiology and Behavior
Reviewer for Hormones and Behavior
Reviewer for Behavioral Ecology and Sociobiology
Reviewer for Animal Behaviour
Reviewer for Epigenetics
Advisory Board Member for the Achievement Gap Project at University of Wisconsin-Madison
Founder of the Graduate and Professional Development Leadership Certificate at the University of Wisconsin-Madison
Textbook Review

UNIVERSITY SERVICE

CAS Strategic Planning Task Force	2018-present
Advisory Board on Faculty Compensation (ABFC)	2017-present
Saint Joseph's University Strategic Planning Initiative	2016
University Council Interim Parliamentarian	2016-2017
Office of Teaching and Learning Advisory Board Member	2016-present
iPad Boot Camp Planning Committee and Workshop Facilitator	2015-2016
Summer Scholars Program Committee	2015- present
SJU Mission Week Committee	2015 - 2017
Office of Teaching and Learning, Search Committee Member	2015
UC Student Affairs, Part-Time Undergraduate and Graduate Committee	2015 – 2017
Shared Governance Task Force	2015 – 2016
College of Arts and Science Mission Statement Subcommittee	2015
FPP	2014 - 2016
Dean's Research Travel Award Committee	2014 – present
University Council Student Affairs, Full-Time Undergraduate Committee	2014 – present
Teaching Forum Co-Organizer	2014, 2015, 2016
Faculty Senate Executive Council	2014
SJU Community Garden Deputy Director	2013-2016
SJU Community Garden Faculty Representative	2013
Animal Studies Advisory Board Member	2013-present
Behavioral Neuroscience Advisory Board Member	2013-present
Science Safety Committee Member	2013-present
Psi Chi Faculty Advisor	2013-present
Development of Center for Teaching and Learning Committee Member	2013-2015

COMMUNITY SERVICE

- Luke House Homeless Shelter
- St. Vincent DePaul
- St. Bernard Catholic Church
- American Cancer Society
- Big Brothers Big Sisters
- Tellurian UCAN, Inc
- Meals on Wheels
- UW Madison Hooper's SCUBA Club Officer
- Ironman Water Rescue
- Saint Joseph University Brain Awareness Week
- Philabundance
- Lancaster Farm Fresh
- Church of Christian Compassion Food Cupboard
- Children's School at St. John's
- Our Mother of Good Counsel
- Centennial School District, CentennialX