NOËLLE JAMES

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EDUCATION

University of Illinois at Urbana-Champaign December 2019
PhD in Neuroscience
Dissertation supervisor: Dr. Alison M. Bell

Washington University in St. Louis May 2008
B.A. in Psychology

GRANTS, FELLOWSHIPS, AND AWARDS

- Best poster, Carl Woese Institute for Genomic Biology Fellows Symposium 2019
- NSO Student Leadership Award, U of I Neuroscience Program 2019
- Professional Development Award, Society for Neuroscience 2018
- Neuroscience Scholars Affiliate, Society for Neuroscience 2018
- 1st Place Graduate Oral Presentation in Biological Sciences at the 2018 ERN Conference 2018
- AAAS travel award for the 2018 Emerging Researchers National (ERN) Conference in STEM 2017
- SocioGenomics RCN Lab Exchange Award 2015
- American Genetic Association Travel Award 2015
- Anderson Neuroscience Program Fellowship 2014–2015
- Girl Scout Gold Award 2001

PUBLICATIONS

James, N. P., & Bell, A. M. (2021) Minimally invasive brain injections for viral-mediated transgenesis: New tools for behavioral genetics in sticklebacks. *PLoS One*, 16(5):e0251653.

James, N. P., & Furukawa, M. (2020). Presence of a nest does not alter aggression levels in threespined stickleback. *Animal Behaviour* 166(August), 9-17.

James, N. (2019). A multipronged approach to understanding how genes contribute to social behavior in threespine stickleback. University of Illinois at Urbana-Champaign, PhD dissertation.

Bukhari, S. A., Saul, M. C., **James, N. P.**, Bensky, M., Stein, L. , Trapp, R., & Bell, A. M. (2019). Neurogenomic insights into paternal care and its relation to territorial aggression. *Nature Communication*, 10(1), 4437.

Bukhari, S. A., Saul, M. C., Seward, C. H., Zhang, H., Bensky, M., **James, N. P.**, Zhao, S. D., Chandrasekaran, S., Stubbs, L., & Bell, A. M. (2017). Temporal dynamics of neurogenomic plasticity in response to social interactions in male threespine sticklebacks. *PLoS Genetics*, 13(7):e10006840.

James, N. P., Lu, X., & Bell, A. M. (2016). A fluorescence in situ hybridization (FISH) protocol for stickleback tissue. *Evolutionary Ecology Research*, 17(4), 603–617.

Forsthoefel, D. J., **James, N. P.**, Escobar, D. J., Stary, J. M., Vieira, A. P., Waters, F. A., & Newmark, P. A. (2012). An RNAi screen reveals intestinal regulators of branching morphogenesis, differentiation, and stem cell proliferation in planarians. *Developmental Cell*, 23(4), 691–704.

POSTERS & TALKS

Soellner, L, **James, N**, & Auerbach, B. Auditory sensitivity and seizure susceptibility in rat models of Autism Spectrum Disorders. Poster presented by LS at 2023 Beckman Fellowship Symposium, Urbana, IL, July 2023.

Meling, D., **James, N.**, Eggleston, R., Clark, L., & Bonthuis, P. Genomic Imprinting and the Effects of Puberty on Maternally and Paternally Inherited Allele Expression in the Anterior Periventricular Nucleus of the Hypothalamus. Poster presented by DM at UIUC Vet Med Research Day, April 2023 and IGB Fellows Symposium, Urbana, IL, May 2023.

Wang, H., Gauthier, D.W., **James, N. P.**, & Auerbach, B.D. Analyzing Auditory Circuit and Perceptual Disruptions in Genetically-Distinct Rat Models of Autism. Poster presented by HW at 2023 Undergraduate Research Symposium, Urbana, IL, April 2023.

Kumar, S., Inamdar M., Gauthier, D.W., **James, N. P.**, & Auerbach, B.D. Auditory Behavioral Differences in Genetically-Distinct Rat Models of Autism Spectrum Disorders. Poster presented by SK at 2022 MCB Undergraduate Research Symposium, Urbana, IL, November 2022 & 2023 Undergraduate Research Symposium, Urbana, IL, April 2023.

Wang, H., Gauthier, D.W., **James, N. P.**, & Auerbach, B.D. Analyzing Circuit Disruption in Rat Autism Models of FXS and TSC using ABR. Poster presented by HW at 2022 MCB Undergraduate Research Symposium, Urbana, IL, November 2022.

James, N. P., & Bell, A. M. Viral-mediated transgenesis of MAOA and AVP increases territorial aggression in stickleback. Dynamic poster presented at Neuroscience 2019, Chicago, IL, October 2019.

James, N. P., & Bell, A. M. Viral-mediated transgenesis of MAOA and AVP increases territorial aggression in stickleback. Talk presented at Behavior 2019, Chicago, IL, July 2019.

James, N. P., & Bell, A. M. Viral-mediated transgenesis of MAOA and AVP increases territorial aggression in stickleback. Poster presented at the Carl Woese Institute for Genomic Biology Fellows Symposium, Urbana, IL, May 2019. *Won Best Poster*

James, N. P., & Bell, A. M. Viral-mediated transgenesis in the brain as a method to determine molecular mechanisms of aggression in stickleback fish. Poster presented at Neuroscience 2018, San Diago, CA, November 2018.

James, N. P., & Bell, A. M. Fishing for genetic effects on social behavior: Viral-mediated transgenesis in stickleback fish. Oral presentation at 2018 Emerging Researchers National (ERN) Conference in STEM, Washington D.C, February 2018. *Won 1st Place Graduate Oral Presentation in Biological Sciences*

James, N. P., & Bell, A. M. Initial Mapping of the Behavior-Brain Landscape in Threespine stickleback. Poster presented at 8th International Conference on Stickleback Behavior and Evolution, Stony Brook, NY, July 2015.

Forsthoefel, D., **James, N.**, Escobar, D., Stary, J., Vieira, A., Waters, F., & Newmark, P. A. The planarian intestine: A model for stem-cell-driven organ regeneration. Talk by DF at North American Planarian Meeting. Kansas City, MO, May 2013.

Roberts-Galbraith, R. H., **James, N. P.**, & Newmark, P. A. Identification of factors critical for planarian nervous system regeneration. Talk by RRG at American Society for Cell Biology Annual Meeting, December 2012.

Forsthoefel, D., **James, N.**, Waters, F., Park, A., Escobar, D., Stary, J., & Newmark, P. A. Intestinal renewal and regeneration in the planarian *Schmidtea mediterranea*. Talk by DF at EMBO Conference: Molecular and Cellular Basis of Regeneration & Tissue Repair. Sesimbra, Portugal, September 2010.

PROFESSIONAL EXPERIENCE

University of Illinois at Urbana-Champaign November 2021–present
Postdoctoral Researcher & Laboratory Manager Dr. Benjamin Auerbach

- Comparing sensory processing disruptions across genetically-distinct models of autism
- Examining neural mechanisms of hidden hearing loss, hyperacusis, and auditory sensitization due to central gain
- Additional Techniques: Auditory Brainstem Response (ABRs), behavioral training and assay optimization, rat husbandry, maintenance of Med Associate behavior boxes, hiring screening, development of digital database in R

University of Illinois at Urbana-Champaign June 2020–July 2021
Research Coordinator/Lab Manager Dr. Paul Bonthuis

- Identifying hypothalamic subpopulations with non-canonical imprinting of *Ddc*
- Puberty's effect on non-canonical imprinting of monoamine synthesis genes
- Additional Techniques: Mouse husbandry including survival surgery, designing and outfitting a behavioral suite, nuclei isolation for Single Cell Seq, allele discrimination (fPCR-RFLP)

University of Illinois at Urbana-Champaign August 2014–December 2019
Graduate Student Dr. Alison M. Bell

- Viral-mediated transgenesis, brain injection, and fluorescent in situ protocol development
- ChIP-Seq and RNA-Seq on *G. aculeatus* for Simons project 'Molecular Roots of the Social Brain'
- Effect of nest presence on territorial value and aggression
- Adult neurgoenesis induced by territorial defense
- Additional Techniques: BrdU intraperitoneal injections, CRISPR knockdown, qPCR, CLARITY, ELISA, Pharmacology studies, R scripting

Howard Hughes Medical Institute February 2008–August 2014
Research Technician II Dr. Phillip A. Newmark at University of Illinois at Urbana-Champaign

- Genetic screen of differentially expressed genes in the central nervous system of *S. mediterranea*
- RNAi knockdown screen of differentially expressed genes in the intestine of *S. mediterranea*
- Creation, development and maintenance of laboratory inventory database
- Lab computer support including building a workstation for an LSM 710 confocal microscope
- Maintenance of ultra-pure water purification system

Washington University in St. Louis 2004–2005
Computer Technician Residential Technology Services

- Configuration of Cisco network switches
- Top-tier computer support including hardware diagnostics and infection removal

Washington University in St. Louis School of Medicine Summers 2003 & 2004
Research Assistant Dr. David Sibley

- Survey and comparison of SNPs between *Toxoplasma gondii* lineages

Washington University in St. Louis Summer 2002
HHMI Prefreshman Research Scholar Dr. Sarah Elgin

- Independent analysis of heterochromatin protein 1 and heterochromatin protein 2 in *Drosophila melanogaster* via polytene chromosome squashes

Princeton University Summer 2001
Laboratory Assistant Dr. Suzanne Staggs

- Developing freshman astrophysics course for non-physics majors at Princeton University
- Creating lab webpage for PIQU Experiment

University of Wisconsin–Madison Summer 2000
NASA SHARP Plus High School Apprenticeship Dr. Fran Fogerty & Dr. Dean Mosher

- Genetic survey for downstream leukemia suppressors and enhancers in *Drosophila melanogaster*

TEACHING EXPERIENCE

Graduate Teacher Certificate December 2019
University of Illinois at Urbana-Champaign Center for Innovation in Teaching & Learning

University of Illinois at Urbana-Champaign 2016–2017
Teaching Assistant College of Liberal Arts & Sciences

- MCB 150: Molecular and Cellular Basis of Life Spring 2017
- Received a personal instructor rating of Excellent
- IB 150: Organismal Biology Fall 2016

Washington University in St. Louis 2004–2005
Professional Development Instructor Student Technology and Resource Support

- Course: Advanced Virus, Trojan, and Bot Removal
- Course: Windows Network Setup and Troubleshooting

Crim Elementary School 2001
Certified Continuing Education Instructor Bridgewater-Raritan Regional School District

- Course: Supplemental Science Instruction for Teachers; 6 weeks
- Certification by Franklin Institute through National Science Partnership

PROFESSIONAL MEMBERSHIPS

Animal Behavior Society	2019–present
AAAS	2018–present
Society for Neuroscience	2017–present
J.B. Johnston Club	2015

SERVICE AND OUTREACH

Beckman Diversity, Equity and Inclusion (DEI) Committee 2023–present
Member Beckman Institute, University of Illinois at Urbana-Champaign

Mental Health Ambassador Program 2022–present
Level 1 Ambassador University of Illinois at Urbana-Champaign

Letters to a Prescientist 2019–present
Scientist Mentor Landmark Middle School

- Demystifying STEM careers to students from high-poverty schools

Girls Go For It DREAM Big Panel 2017
Panelist Carrie Busey Elementary School

Image of Research 2017
Finalist University of Illinois at Urbana-Champaign

Eye to Eye 2016–2019
Mentor Urbana Middle School & Franklin Middle School

- Eye to Eye focuses on strengthening essential social-emotional skills of children labeled with ADHD or language, reading, and math based learning disabilities

Art of Science 6.0 2016
Contributing Scientist Carl R. Woese Institute for Genomic Biology

Mentor Matching Engine 2015–present
STEM Mentor Illinois Science & Technology Institute

- Connects Illinois high school students and their teachers to STEM professionals who serve as online mentors for student-led research
- *2021 Project*: Animal Domestication
- *2020-2021 Project*: Psychology of Students during the COVID-19 Pandemic
- *2017-2018 Project*: Reality Television and Race Relations
- *2017 Project*: Bipolar Disorder and Schizophrenia
- *2015-2016 Project*: Drosophila Preference Between Natural and Artificial Sugars

ConvoPartner 2011–2012
American Culture Volunteer Intensive English Institute

Junior Scientist Day 2009–2011
Demonstrator Yankee Ridge Elementary School

Interdisciplinary Semester Workshop in an Urban School Setting 2005
Teaching Volunteer Adams Elementary School

- Seven weeks of biology after-school enrichment for 3rd–5th grade students
- Additionally obtained private grant and installed observational fish tank

LeaderShape Institute 2003
Participant Washington University in St. Louis

Engineering Council 2002-2003
Board Member, 'Cheap Lunch' Chairperson Washington University in St. Louis

- Organized a weekly community forum for engineering students and faculty

Interactive Science Discovery Room 2001
Girl Scout Gold Award Project Crim Elementary School

- Designed 47 curriculum-based experiments, 23 in ready-to-use state for up to 100 students
- Authored integrated manual to assist teachers in selecting and teaching experiments

UNDERGRADUATE RESEARCH MENTORSHIP

Andrew Jo, Molecular and Cellular Biology	2023-present
Luna Morales, High School Student	2023-present
Ella Scortino, Psychology & Behavioral Neuroscience	2023-present
Cyrus Fallah, Molecular and Cellular Biology	2023-present

Tirth Patel, Biochemistry 2023-present
Natalie Natiello, Molecular and Cellular Biology 2023-present
Michael Chai, Molecular and Cellular Biology 2023-present
Xander Cue, Molecular and Cellular Biology 2023-present
Laurel Hart, Molecular and Cellular Biology 2022-present
Fellowship: MCB Summer Undergraduate Research Fellowship
Liz Soellner, Neuroscience 2022-present
Grant: Campus Honors Program Summer Research Grant
Fellowship: Beckman Institute Undergraduate Fellows Program
Fellowship: MCB Summer Undergraduate Research Fellowship
Omer Khan, Biochemistry 2022-2023
Zaria George, Molecular and Cellular Biology 2022-2023
Fellowship: AbbVie Black Business Network + School of MCB SURF
Sarika Kumar, Molecular and Cellular Biology 2022-present
Award: Outstanding Poster in the Undergraduate Research Symposium
Fellowship: Beckman Institute Undergraduate Fellows Program
Fellowship: MCB Summer Undergraduate Research Fellowship
Haichao Wang, Biochemistry 2022-present
Award: C. Ladd Prosser Outstanding Achievement Award
Fellowship: MCB Summer Undergraduate Research Fellowship
Amritha Kumar, Molecular and Cellular Biology 2022
Leah Hinderman, Bioengineering 2021
Samuel Rahman, Neuroscience & Econometrics 2021
Highest Distinction Project: Gait tracking in mice using DeepLabCut
Jill Hook, Integrative Biology 2020
Mingkang (David) Qi, Chemistry & Integrative Biology Honors 2019
Rachael Kirchschlager, Integrative Biology 2018
Severin Odland, Natural Resources and Environmental Sciences & Psychology 2017-2019
Masters from the University of Victoria
Erika Carlson, Integrative Biology Honors 2017-2018
Integrative Biology Distinction Award
High Distinction Project: Measurements of Territorial Aggression in Male Stickleback
Megan Furukawa, Molecular and Cellular Biology 2017
2^{nd} Author: Presence of a nest does not alter aggression levels in threespined stickleback
Shuyang (Sigrid) Jin, Integrative Biology 2016-2017
PhD in Neurobiology Graduate student from Duke University
Joseph Dobbins, Integrative Biology Honors 2014-2018
Independent Project: Territorial size under the risks of Predation
Graduated Veterinary school at University of Illinois
Kelly Hynes, Integrative Biology 2015-2016
Andrew Gensburg, Molecular and Cellular Biology 2015-2016
Leslie Pardo, Psychology 2015-2016
Ali Norwood, Molecular and Cellular Biology 2014-2015