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Cornell University
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EDUCATION

Arizona State University	Ph.D. Animal Behavior	2018
Butler University	B.A. Biology & Chemistry, Summa Cum Laude	2011

POSTDOCTORAL EXPERIENCE

Sheehan Lab Postdoctoral Associate	2018-Present
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FELLOWSHIPS

Smithsonian Tropical Research Institute Fellow	2011-2013
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PUBLICATIONS

JOURNAL ARTICLES (*=undergraduate co-author, ‡=Co-authors contributed equally)

‡**Jernigan, C.M.**, ‡Stafstrom, J.A., *Zaba, N.C., Vogt, C.C., Sheehan, M.J. (*in review*). Color is necessary for specialized face learning in the Northern paper wasp, *Polistes fuscatus*. *bioRxiv*. <https://doi.org/10.1101/2021.10.03.462925>

Tumulty, J.P., Miller, S.E., Van Belleghem, S.M., Weller, H.I., **Jernigan, C.M.**, *Vincent, S., *Staudenraus, R.J., Legan, A.W., Polnaszek, T.J., Uy, F.M.K., Walton, A., Sheehan, M.J. (*in review*). Evidence for a selective link between cooperation and individual recognition. *bioRxiv*. <https://doi.org/10.1101/2021.09.07.459327>

Lei, H., ‡**Jernigan, C.M.**, ‡Haney, S.H., Guo, X., Cook, C., Bazhenov, M., Smith, B.H. (*in review*). Novelty detection in early olfactory processing of the honey bee, *Apis mellifera*. *bioRxiv*. <https://doi.org/10.1101/2021.10.06.463371>

Uy, F.M.K., **Jernigan, C.M.**, *Zaba, N.C., *Mehrotra, E., Miller, S.E., Sheehan, M.J., (2021). Dynamic neurogenomic responses to social interactions and dominance outcomes in female paper wasps. *PLOS Genet*. doi: <https://doi.org/10.1101/2021.03.01.433260>

Miller, S.E., **Jernigan, C.M.**, Legan, A.W., Miller, C.H., Tumulty, J.P., Walton, A., Sheehan, M.J. (2021). Animal behavior missing from data archives. *Trends Ecol. Evol*. <https://doi.org/10.1016/j.tree.2021.07.008>

Legan, A.W., **Jernigan, C.M.**, Miller, S.E., *Fuchs, M.F., Michael, M.J. (2021). Expansion and accelerated evolution of 9-exon odorant receptors in *Polistes* paper wasps. *Mol. Biol. Evol*. *Msab023*, <https://doi.org/10.1093/molbev/msab023>

Jernigan, C.M., *Zaba, N.C., Sheehan, M.J. (2021). Age and social experience induced plasticity across brain regions of the paper wasp *Polistes fuscatus*. *Biol. Lett*. 17, 20210073. <https://doi.org/10.1098/rsbl.2021.0073>

Recommended by Faculty Opinions Chittka L: Faculty Opinions Recommendation of [Jernigan CM et al., Biol Lett 2021 17(4):20210073]. In Faculty Opinions, 13 Oct 2021; 10.3410/f.739962161.793588839

Jernigan, C.M., *Halby, R., Gerkin, R., Sinakevitch, I., Locatelli, F., Smith, B.H. (2020). Experience-dependent tuning of early olfactory processing in the adult honey bee, *Apis mellifera*. *J. Exp. Biol.* doi:10.1242/jeb.206748

Jernigan, C. M., Birgiolas, J., *McHugh, C., Roubik, D. W., Wcislo, W. T., & Smith, B.H. (2018). Colony-level non-associative plasticity of alarm responses in the stingless honey bee, *Tetragonisca angustula*. *Behavioral Ecology and Sociobiology*, 72(3), <https://doi.org/10.1007/s00265-018-2471-0>

Birgiolas, J., **Jernigan, C.M.**, Gerkin, R.C., Smith, B.H., Crook, S.M. (2017). Real-time assessment of insect antenna movement and proboscis extension reflex. *J. Vis. Exp.* 130, e56803, doi:10.3791/56803

Birgiolas, J., **Jernigan, C.M.**, Smith, B.H., Crook, S. (2016). SwarmSight: Measuring the temporal evolution of animal group activity levels from natural scene and laboratory videos. *Behavior research methods*. doi:10.3758/s13428-016-0732-2

Jernigan, C.M., Roubik, D. W., Wcislo, W.T., and Riveros, A.J. (2014). Color dependent learning in restrained africanized honey bees. *J. Exp. Biol.* 217, 337-343. doi:10.1242/jeb.091355

INDEPENDENT COURSES

2019 Craw-Fly, Cornell University, Ithaca, NY
2012 Sensory Ecology Course, Lund University, Sweden
2012 Neural Systems and Behavior, Woods Hole, MA- Course Assistant

RESEARCH INTERESTS

sensory ecology, neuroethology, neural and behavioral plasticity, experience dependent plasticity, olfaction, vision, social insects

ACADEMIC WORK & TEACHING EXPERIENCE

2018-present Postdoctoral Associate Sheehan lab
2016-2018 Guest Lecture BIO331, ASU- Animal Behavior, Learning section
2016-2018 Research Assistantship Smith Lab
2015 BIO361, ASU- Animal Physiology Lab Teaching Assistant
2015 BIO182, ASU-General Biology II Teaching Assistant
2014-2015 BIO331, ASU- Animal Behavior, Innovative Teaching Assistant
2014 Phoenix Dessert Botanical Gardens instructor for honey bee ecology continued education course
2013-2014 BIO361, ASU- Animal Physiology Lab Teaching Assistant
2013 Led field workshop on stingless bee diversity and behavior in association with Marc Seid and The University of Scranton
2012 BIO 201, ASU- Human Anatomy and Physiology Teaching Assistant

- 2012 Course Assistant for Woods Hole NS&B course assistant
 2012 Led workshop on honey bee olfactory learning with Dr. Andre Riveros in association with Butler University tropical field biology course
 2010-2011 Biology Tutor Butler University

HONORS, GANTS, AWARDS, & FELLOWSHIPS

- 2019-2020 FORE-I: Identifying genes controlling natural variation in vision and visual behavior using a novel insect model system (Awarded to PI: Sheehan)- \$27,543
 2018 Social Insect Research Grant-SIRG ASU- \$730
 2016 GPSA Travel Award for travel to ICN2016- \$950
 2015 GPSA Jumpstart Research Grant- \$500
 2015 GPSA Event Funding for Vision: From Behavior to Brains- \$1483.25
Co-funded event written with Nikos Lessios, Brett Seymoure, Meghan Duell, and Salvatore Anzaldo
 2014 ASU GPSA Travel Award for workshop with Fernando Locatelli- \$950
 2014 NSF-GRFP Honorable Mention
 2013 Smithsonian Tropical Research Institute Short Term Fellowship- \$2,510
 2011 Smithsonian Tropical Research Institute Short Term Fellowship- \$3,700
 2011 Outstanding Biology Senior
 Butler University
 2010 The Robert C. Karn Award, which recognizes an exceptional student planning a professional career in biological sciences
 Butler University

CONTRIBUTIONS TO ACADEMIC MEETINGS

- 2021 Animal Behavior Society meeting, Talk, virtual
 2021 Cold Spring Harbor Meeting: Biology and Genomics of Social Insects, Poster/Talks
 2019 Janelia Color Vision: Circuits and Behavior Conference, Poster, Janelia, VA
 2018 V Colombian Congress of Zoology, invited speaker, Native bees symposium, Bogotá, Colombia
 2018 International Union for the Study of Social Insects, Talk, Guarujá Brazil
 2016 International Congress of Neuroethology Poster presentations, Montevideo, Uruguay
 2014 International Union for the Study of Social Insects, Poster Presentation, Cairns, Australia
 2014 Frontiers in Insect Behavior, Social organization and Evolution, Poster Presentation, Julius-Maximilians-University of Würzburg, Germany
 2014 Arizona Imaging and Microanalysis Society Conference, Poster presentation, Arizona State University
 2012 International Congress of Neuroethology Poster presentation, University of Maryland
 2011 Presented Honors Thesis work at the Undergraduate Research Conference at Butler University
 2009 Presented Howler Monkey independent Research at the Undergraduate Research Conference at Butler University

SELECTED PRESENTATIONS AT UNIVERSITIES AND RESEARCH INSTITUTIONS

- 2018 **University del Rosario, Invited talk:** "Why bees may stop to smell the flowers: how olfactory restriction affects odor signaling in the honey bee."
- 2018 **Cornell University-NBB Group- invited talk:** "Experience dependent plasticity of early olfactory processing and Learning in honey bees"
- 2017 **ASU Social Insect Research Group Talk:** "Experience dependent plasticity of early olfactory processing and behavior in honey bees"
- 2016 **ASU Social Insect Research Group Talk:** "Digital research tools for analyzing insect behavior"
- 2015 **ASU-Wurzberg Workshop Talk:** "Non-associative plasticity of alarm responses in the stingless bee, *Tetragonisca angustula*."
- 2015 **ASU Social Insect Research Group Talk:** "Non-associative plasticity of alarm responses in the stingless bee, *Tetragonisca angustula*."
- 2013 **ASU Social Insect Research Group Talk:** "Aggression Plasticity in the Stingless bee, *Tetragonisca angustula*."
- 2013 **Pontificia Universidad Javeriana Invited Speaker:** "Learning and Multitmodality in bees"
- 2013 **STRI Gamboa Talk:** "To Attack or not to Attack: The multimodal impacts of context and learning on colony defense and aggression in the stingless bee *Tetragonisca angustula*"
- 2012 **ASU Social Insect Research Group Talk:** "Color learning using the Extension Reflex protocol in restrained Africanized honey bees, *Apis mellifera scutellata*"
- 2012 **STRI Bambi Talk:** "Color learning using the Extension Reflex protocol in restrained Africanized honey bees, *Apis mellifera scutellata*"
- 2012 **Butler University Invited symposium Talk:** "Color learning using the Extension Reflex protocol in restrained Africanized honey bees, *Apis mellifera scutellata*"
- 2012 **STRI Gamboa Talk:** "Color dependent learning insights using the Africanized honey bee"

Educational and PROFESSIONAL SOCIETY AFFILIATIONS

Phi Beta Kappa

International Society for Neuroethology (ISN)

International Union for the Study of Social Insects (IUSSI)

Animal Behavior Society (ABS)

Society for Neuroscience (SfN)

UNDERGRADUATE MENTORSHIP

*traditionally underrepresented background

2021-present Chiazam Nzeako*, post-baccalaureate research assistant- Cornell University

2018-2020 Natalie Zaba*-Honors thesis- Cornell University

2017-2018 Maud Koopman*- ASU

2015-2017 Rachel Halby*- Honors thesis student, ASU

2015-2017 Kyle Steinmetz- Honors thesis student, ASU

2015-2016 Taryn O'Boyle* and Jennell Jennett*- ASU

2013-2015 Cora McHugh* Honors thesis student- ASU

2014-2015 Zach Norris-ASU
2013-2014 Mentoring Undergraduates: Erik Rohner, Cora McHugh*, Sonia Villa*, and Jordan Simmons*-ASU

INSTITUTIONAL & SOCIETY SERVICE EXPERIENCE

2021-2022 IUSI 2022 Program Committee
2017-2018 ASU SOLS Graduate Executive Board Vice President
2016-2017 ASU SOLS Research Training Initiatives Grant Committee Graduate Representative
2015-2016 ASU Graduate brown bag seminar coordinator
2014-2016 ASU Graduate Professional Student Association Travel Grant Reviewer

PUBLIC OUTREACH

2019 Insectapalooza- Cornell University
2017 Ask-A-Biologist Bee Story and Game:
<https://askbiologist.asu.edu/explore/honey-bees>
2017 ASU Night of the Open Door
2014-2016 ASU Graduate Partners in Science Education
2015 Ask-A-Biologist Zombie Ant PLOSable:
<https://askbiologist.asu.edu/zombie-ants>
2014 Honey bee and Ant Presentations at Desert Vista High School, Phoenix, AZ
2013-2015 Bug Theatre, Phoenix, AZ
2012-Present Ask-A-Biologist contributor
2010 ESL science and math tutor at Crispus Attucks High school, Indianapolis, IN