

## Tessa K. Solomon-Lane

### *Curriculum vitae*

Department of Integrative Biology  
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### Education

- 2015-present Postdoctoral Fellow, Integrative Biology, University of Texas at Austin; adviser: Dr. Hans Hofmann  
2009-2014 Doctor of Philosophy, Neuroscience, Georgia State University; adviser: Dr. Matthew Grober  
2013 Master of Science, Neuroscience, Georgia State University; adviser: Dr. Matthew Grober  
2004-2008 Bachelor of Arts, Neuroscience and Behavior, Vassar College; adviser: Dr. Erica Crespi

### Honors & Awards

- 2018 Travel Award, Pan American Neuroendocrine Society  
2018 Travel Award, BEACON Center for the Study of Evolution in Action  
2017 Travel Award, BEACON Center for the Study of Evolution in Action  
2017 Pop-Up Institute Fellowship, University of Texas at Austin  
2014 Travel Award, American Neuroendocrine Society  
2014 2<sup>nd</sup> Place in TechTalks, a science oratory competition, Atlanta Science Festival  
2013-2014 Honeycutt Fellowship, Georgia State University  
2013 Steven Kudravi Memorial Award for Outstanding Introductory Instruction, Georgia State University  
2012 Travel Award, Society for Behavioral Neuroendocrinology  
2012 Graduate Award for Outstanding Instruction, Georgia State University  
2012, '13, '14 Charlotte Mangum Student Support, Society for Integrative and Comparative Biology  
2009-2014 Brains and Behavior Fellowship, Georgia State University  
2009 Center for Neuromics Award for Research, Georgia State University  
2009 National Science Foundation, Honorable Mention, Graduate Research Fellowship Program  
2008 Senior Prize in Neuroscience and Behavior, Vassar College  
2008 General Honors and Departmental Honors in Neuroscience and Behavior, Vassar College  
2007, 2008 Undergraduate Summer Research Institute Fellowship, Vassar College, Poughkeepsie, NY

### Grants

- 2017 NSF BEACON Center for the Study of Evolution in Action, "BEACON and Beyond: Broadening Participation and the Scope of Public Engagement"  
2016 NSF BEACON Center for the Study of Evolution in Action, "An evidence-based framework for transforming scientific communication and engagement with the public"  
2013 Georgia State University, Dissertation Grant, "The causes and consequences of variation in social behavior in the bluebanded goby, *Lythrypnus dalli*"  
2013 NSF Doctoral Dissertation Improvement Grant, "Integrating across behavior, hormones, and social context to understand the dynamic interactions between social behavior and fitness"  
2012 Sigma Xi, Grants-in-Aid of Research, "Lifetime fitness consequences of early-life social experience"

**Publications** (\*research mentee)

15. **Solomon-Lane, T.K.** & Hofmann, H.A. (2018). Early-life social environment alters juvenile behavior and neuroendocrine function in a highly social cichlid fish. *bioRxiv preprint* [doi.org/10.1101/281097](https://doi.org/10.1101/281097)
14. Weitekamp, C.A., **Solomon-Lane, T.K.**, Del Valle, P.\*, Triki, Z., Nugent, B.M., & Hofmann, H.A. (2017) A role for oxytocin-like receptor in social habituation in a teleost. *Brain, Behavior, and Evolution*, 89 (3):153-161. [doi.org/10.1159/000464098](https://doi.org/10.1159/000464098)
13. Schuppe, E.R., **Solomon-Lane, T.K.**, Pradhan, D.S., Thonkulpitak, K., & Grober, M.S. (2016). Ancestral androgenic differentiation pathways are repurposed during the evolution of adult sexual plasticity. *Evolution & Development* 18 (5-6): 285-296. [doi.org/10.1111/ede.12207](https://doi.org/10.1111/ede.12207)
12. **Solomon-Lane, T.K.**, Shvidkaya, P.\*, Thomas, A.\*, Williams, M.M.\*, Rhyne, A., Rogers, L., & Grober, M.S. (2016). Juvenile social status predicts primary sex allocation in a sex changing fish. *Evolution & Development*, 18 (4): 245-253. [doi.org/10.1111/ede.12195](https://doi.org/10.1111/ede.12195)
11. **Solomon-Lane, T.K.** & Grober, M.S. (2016). The effects of previous experience and current condition on status contests in the bluebanded goby (*Lythrypnus dalli*). *Acta Ethologica*, 19 (1): 51-60. [doi.org/10.1007/s10211-015-0224-x](https://doi.org/10.1007/s10211-015-0224-x)
10. **Solomon-Lane, T.K.**, Pradhan, D.S., Willis, M.C.\*, & Grober, M.S. (2015). Agonistic reciprocity is associated with reduced male reproductive success within harem social networks. *Proceedings of the Royal Society B: Biological Sciences*, 282, 20150914. [doi.org/10.1098/rspb.2015.0914](https://doi.org/10.1098/rspb.2015.0914)
9. Pradhan, D.S., Willis, M.C., Solomon-Lane, T.K., Thonkulpitak, K., & Grober, M.S. (2015). Simultaneous courtship and parenting in males and sex role reversal in females of the harem bluebanded goby, *Lythrypnus dalli*. *Behaviour*: 1-24. [doi.org/10.1163/1568539X-00003262](https://doi.org/10.1163/1568539X-00003262)
8. Pradhan, D.S., **Solomon-Lane, T.K.**, & Grober, M.S. (2015). Contextual modulation of social and endocrine correlates of fitness: insights from the life history of a sex changing fish. *Frontiers in Neuroscience*, 9: 1-21. [doi.org/10.3389/fnins.2015.00008](https://doi.org/10.3389/fnins.2015.00008)
7. Archambeault, S., Ng, E., Rapp, L., Cerino, D., Bourque, B., **Solomon-Lane, T.**, Grober, M., Rhyne, A., & Crow, K. (2015). Reproduction, larviculture, and early development of the Bluebanded goby, *Lythrypnus dalli*, an emerging model organism for studies in evolutionary developmental biology and sexual plasticity. *Aquaculture Research*, 1-18. [doi.org/10.1111/are.12648](https://doi.org/10.1111/are.12648)
6. Pradhan, D.S., **Solomon-Lane, T.K.**, & Grober, M.S. (2014). Water-borne and tissue endocrine profiles of an alternative male reproductive phenotype in the sex changing fish, *Lythrypnus dalli*. *Copeia*, 4: 716-724. [doi.org/10.1643/CP-14-018](https://doi.org/10.1643/CP-14-018)
5. Pradhan, D.S., **Solomon-Lane, T.K.**, Willis, M.C., & Grober, M.S. (2014). A novel mechanism for rapid neurosteroidal regulation of parenting behaviour. *Proceedings of the Royal Society B: Biological Sciences*, 281: 20140239. [doi.org/10.1098/rspb.2014.0239](https://doi.org/10.1098/rspb.2014.0239)
4. **Solomon-Lane, T.K.**, Willis, M.C.\*, Pradhan, D.S., & Grober, M.S. (2014). Female, but not male, agonistic behavior is associated with male reproductive success in stable bluebanded goby (*Lythrypnus dalli*) hierarchies. *Behaviour*, 151: 1367-1387. [doi.org/10.1163/1568539X-00003188](https://doi.org/10.1163/1568539X-00003188)
3. **Solomon-Lane, T.K.**, Crespi, E.J., & Grober, M.S. (2013). Stress and serial adult metamorphosis: Multiple roles for the stress axis in socially regulated sex change. *Frontiers in Neuroscience*, 7: 1-12. [doi.org/10.3389/fnins.2013.00210](https://doi.org/10.3389/fnins.2013.00210)
2. **Solomon-Lane, T.K.** & Grober, M.S. (2012). Behavioral and physiological responses to central administration of corticotropin-releasing factor in the bluebanded goby (*Lythrypnus dalli*). *Physiology and Behavior*, 106: 619-625. [doi.org/10.1016/j.physbeh.2012.04.017](https://doi.org/10.1016/j.physbeh.2012.04.017)
1. Frisch, A.J., Walker, S.P.W., McCormick, M.I., & **Solomon-Lane, T.K.** (2007). Regulation of protogynous sex change by competition between corticosteroids and androgens: An experimental test using sandperch, *Parapercis cylindrica*. *Hormones and Behavior*, 52: 540-545. [doi.org/10.1016/j.yhbeh.2007.07.008](https://doi.org/10.1016/j.yhbeh.2007.07.008)

**Conference & Invited Presentations** (selection, \*research mentee)

11. **Solomon-Lane, T.K.** Early-life social environments shape juvenile behavior and neuroendocrine function. Brain, Behavior and Evolution Spring Symposium: Behavioral Epigenetics, The University of Texas at Austin, 2018. (Invited speaker)
10. **Solomon-Lane, T.K.** Early-life experience illuminates variation in social behavior and neuroendocrine function. Trinity University, 2018. (Invited speaker)
9. **Solomon-Lane, T.K.** Consequences of early-life social experience for individual variation in behavior and neuroendocrine function. Brain, Behavior, and Evolution Seminar, The University of Texas at Austin, 2017. (Invited speaker)
8. **Solomon-Lane, T.K.**, Butler, B. \*, Usmani, H. \*, & Hofmann, H.A. Development illuminates variation in behavior and neuroendocrine function. Society for Behavioral Neuroendocrinology, Long Beach, CA, 2017. (Poster)
7. **Solomon-Lane, T.K.**, Hagey, T.J., Warwick, A.R., & Hofmann, H.A. Using evidence to broaden participation and the scope of public engagement. Society for Behavioral Neuroendocrinology, Long Beach, CA, 2017. (Poster)
6. **Solomon-Lane, T.K.** & Hofmann, H.A. Consequences of early-life social experience for individual variation in behavior and neuroendocrine function. Society for Behavioral Neuroendocrinology, Montreal, Canada, 2016. (Poster)
5. **Solomon-Lane, T.K.** Social decisions and consequences in a variable world. Baylor University, 2015. (Invited speaker)
4. **Solomon-Lane, T.K.** The causes and consequences in agonistic behavioral variation in the bluebanded goby (*Lythrypnus dalli*). Brain, Behavior, and Evolution Seminar, The University of Texas at Austin, 2015. (Invited speaker)
3. **Solomon-Lane, T.K.**, Pradhan, D.S., Williams, M.M. \*, Willis, M.C. \*, Rogers, L., & Grober, M.S. The central role of the middle-ranking female for behavior and reproductive success in bluebanded goby (*Lythrypnus dalli*) social groups. Animal Behavior Conference, Indiana University, Bloomington, IN, 2014. (Speaker)
2. **Solomon-Lane, T.K.**, Williams, M.M. \*, Martinelli, A. \*, Thomas, A. \*, Rogers, L., & Grober, M.S. Reproductive choices, hormones, and behavior in bluebanded goby (*Lythrypnus dalli*) social groups. Society for Integrative and Comparative Biology, Austin, TX, 2014. (Speaker)
1. **Solomon-Lane, T.K.**, Williams, M.M. \*, Martinelli, A. \*, Thomas, A. \*, Shvidkaya, P. \*, Rogers, L., & Grober, M.S. The effects of reproductive state and egg-laying decisions on bluebanded goby (*Lythrypnus dalli*) hormones and behavior. International Congress of Neuroendocrinology / Society for Behavioral Neuroendocrinology, Sydney, Australia, 2014. (Poster)

**Teaching Experience**

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| 2015      | Instructor, Comparative Animal Physiology, The University of Texas at Austin (BIO 361T)     |
| 2014      | Co-instructor, Animal Behavior, Agnes Scott College (BIO-285)                               |
| 2011-2013 | Teaching Assistant, Principles of Biology II (majors), Georgia State University (BIOL 2108) |
| 2008-2009 | Science Instructor, Newfound Harbor Marine Institute  |
| 2008      | Laboratory assistant, Introduction to Biology Laboratory, Vassar College (BIOL 106)         |

**Science Education & Public Engagement** (selection)

- 2016-present Organizer & workshop leader, STEM Public Engagement training and research, NSF BEACON Center for the Study of Evolution in Action and University of Texas at Austin;
- 2015-present Volunteer, recent selection of events: [Nerd Nite](#) speaker (2016, 2017); classroom visit at the University of Texas Child Development Center (2016); scientist host for [Shadow a Scientist](#) (2016, 2017); speed mentor for the [Girls Empowerment Network](#) Pathfinder Leadership

- Summit (2016); interview with KVRX [They Blinded Me with Science](#) (2015); [Women in Bio](#) event at the Science Mill Museum (2015); [Science Under the Stars](#) speaker (2015)
- 2013-2014 Member, Georgia State Organizing Committee, Atlanta Science Festival, Atlanta, GA
- 2011-2013 Education and Community Service Specialist, Neuroscience Graduate Student Association, Georgia State University
- 2009-2014 Organizer & Volunteer, Atlanta Brain Awareness Campaign, Atlanta Chapter of the Society for Neuroscience (37 schools, 2,550 students visited personally).
- 2009-2014 Speaker, Saturdays at the Lab, Family Science Camp, and the University of Southern California's Associates Day, Wrigley Institute for Environmental Studies, Catalina Island, CA

### **STEM Public Engagement Training Workshops** (organizer, leader)

- 2018 "BEACON STEM Public Engagement Workshop: Framing and Effective Engagement with Public Policy," The University of Texas at Austin, Austin, TX
- 2017 "BEACON STEM Public Engagement Workshop: Evidence-based Best Practices in Science Communication and Engagement," The University of Texas at Austin, Austin, TX
- 2017 "Build a Frame: Matching the scientific context to the audience," BEACON Center for the Study of Evolution in Action Congress, East Lansing, MI
- 2017 "Bridging the gap between STEM and public policy," BEACON Center for the Study of Evolution in Action Congress, East Lansing, MI
- 2017 "Public Engagement and External Relations Workshop," Society for Behavioral Neuroendocrinology Annual meeting, Long Beach, CA
- 2017 Public Engagement Workshop, BEACON Center for the Study of Evolution in Action, University of Texas at Austin, Austin, TX
- 2016 "Building an evidence-based framework within BEACON," BEACON Center for the Study of Evolution in Action Congress, East Lansing, MI
- 2016 "Prepare to engage: build your own public engagement experience," BEACON Center for the Study of Evolution in Action Congress, East Lansing, MI
- 2012 "Atlanta Brain Awareness Campaign Volunteer Workshop for working with K-12 students," Neuroscience Graduate Student Association, Georgia State University Atlanta, GA
- 2011 "Special Science Education Workshop," Brains and Behavior Program / Neuroscience Graduate Student Associate Student Retreat, Big Canoe, GA
- 2010 "Fundamentals of teaching, neuroscience, and neuroscience education," Collegiate Neuroscience Society, Georgia State University, Atlanta, GA

### **Mentoring Experience**

- Master's students (2); Undergraduate students (22); High school students (2)  
Including 21 women; 13 members of groups underrepresented in STEM; 5 co-authors on peer-reviewed articles; 2 undergraduate research fellowships

### **Other Synergistic Activities & Professional Service**

- 2015-present *Ad hoc* peer-reviewer: *Hormones & Behavior*; *Frontiers in Ecology and Evolution*; *Copeia*; *PLOS One*; *The Science of Nature (Naturwissenschaften)*; *Current Opinion in Behavioral Sciences*; *Journal of Experimental Zoology Part A*; *Behavioral Ecology*; *Ethology*; *Brain Behavior and Evolution*; *Behavioral Ecology and Sociobiology*.
- 2013 Local co-organizer, Society for Behavioral Neuroendocrinology Annual Meeting
- 2012 Public Education Committee, Society for Behavioral Neuroendocrinology
- 2010-2013 Graduate Student Representative for Georgia State University, Atlanta Chapter of the Society for Neuroscience

**Professional Organizations**

Society for Behavioral Neuroendocrinology; Faculty for Undergraduate Neuroscience; Pan American Neuroendocrine Society; Animal Behavior Society; Society for Integrative and Comparative Biology; *Sigma Xi; Psi Chi*