

# James S. Santangelo

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## EDUCATION & APPOINTMENTS

PhD Candidate	<i>University of Toronto</i> Department of Ecology and Evolutionary Biology Advisors: <a href="#">Marc T. J. Johnson</a> and <a href="#">Rob W. Ness</a> Thesis: Evolutionary processes in urban environments	Sept. 2016 - present
HBSc	<i>University of Toronto Mississauga</i> Department of Biology Faculty supervisor: <a href="#">Marc T. J. Johnson</a> Graduate student advisor: <a href="#">Nash E. Turley</a> Thesis: The effects of fungal endophyte infection in mediating the competitive ability of the host grass, <i>Festuca rubra</i>	Sept. 2009 - June 2015

## FUNDING

NSERC PGS-D, National Engineering and Research Council of Canada (\$63,000)	2018
Ontario Graduate Scholarship, Government of Ontario, Canada (\$15,000)	2017
NSERC CGS-M, National Engineering and Research Council of Canada (\$17,500)	2016

## HONORS, AWARDS, & FELLOWSHIPS

R. Ramsay Wright Graduate Scholarship, University of Toronto Ecology and Evolutionary Biology Department (\$1000)	2020
Stephen Stearns Graduate Student Prize, European Society for Evolutionary Biology (\$375)	2019
ASN 1 <sup>st</sup> place presentation, Ontario Ecology, Ethology, and Evolution colloquium (OE3C), Kingston, Canada (\$125)	2017
CSPB best talk in botany, Ontario Biology Day (OBD), Ottawa, Canada (\$100)	2015
New Phytologist Prize for best presentation in botany, Canadian Society for Ecology and Evolution (CSEE), Saskatoon, Canada (\$100)	2015
Award for research excellence in evolution, Ontario Biology Day (OBD), Mississauga, Canada	2014
Undergraduate research grant, University of Toronto Mississauga (\$500)	2014
Alan F. Coventry Memorial Scholarship, University of Toronto Mississauga (\$782.23)	2013

## PUBLICATIONS

### Published and Accepted Manuscripts <sup>†</sup>Mentee authors

1. Santangelo J. S., Thompson, K. A., <sup>†</sup>Cohan, B., <sup>†</sup>Syed, J., Ness, R. W., and Johnson, M. T. J. Predicting the strength of urban-rural clines in a Mendelian polymorphism along a latitudinal gradient. *Evolution Letters*. [PDF GitHub](#)

2. Johnston L., Bonsma-Fisher M., Ostblom J., Hasan A., **Santangelo J. S.**, Tran L., Sales de Andrade E., Coome L., and Mahallati S. (2019). A graduate student-led participatory live-coding quantitative methods course in R: Experiences on initiating, developing, and teaching. *Journal of Open Source Education* 2: 6-11. [PDF](#) [GitHub](#)
3. L. Ruth Rivkin, **Santangelo J. S.**, Alberti M., Aronson M. F. J., de Keyser C. W., Diamond S. E., Fortin M.-J., Frazee L. J., Gorton A. J., Hendry A. P., Liu Y., Losos J. B., MacIvor J. S., Martin R. A., McDonnell M. J., Miles L. S., Munshi-South J., Ness R. W., Newman A. E. M., Stothart M. R., Theodorou P., Thompson K. A., Verrelli B. C., Whitehead A., Winchell K. M., and Johnson M. T. J. (2019). A roadmap for urban evolutionary ecology. *Evolutionary Applications* 12: 384-398. [PDF](#)
4. **Santangelo J. S.**, Thompson K. A., and Johnson M. T. J. (2019). Herbivores and plant defenses affect selection on plant reproductive traits more strongly than pollinators. *Journal of Evolutionary Biology* 32: 4-18. [PDF](#) [GitHub](#)  
 \*\*\**This manuscript won ESEB's Stephen Stearns Prize*
5. **Santangelo J. S.**, L. Ruth Rivkin, and Johnson M. T. J. (2018). The evolution of city life. *Proceeding of the Royal Society B: Biological Sciences* 285: 20181529. [PDF](#)
6. **Santangelo J. S.**, Johnson M. T. J., and Ness R. W. (2018). Modern spandrels: the roles of genetic drift, gene flow and selection in the evolution of parallel clines. *Proceeding of the Royal Society B: Biological Sciences* 285: 20180230. [PDF](#) [GitHub](#)
7. Cadotte M. W., Livingstone S. W., Yasui S.-L. E., Dinnage R. Li, J.-T., Marushia R. **Santangelo J. S.**, and Shu W. (2017). Explaining ecosystem multifunction with evolutionary models. *Ecology* 98: 3175-3187. [PDF](#)
8. **Santangelo J. S.**, and Kotanen P. M. K. (2016). Non-systemic fungal endophytes increase survival but reduce tolerance to simulated herbivory in subarctic *Festuca rubra*. *Ecosphere* 7: e01260. [PDF](#)
9. **Santangelo J. S.**, Turley N. E., and Johnson M. T. J. (2015). Fungal endophytes of *Festuca rubra* increase in frequency following long-term exclusion of rabbits. *Botany* 93(4): 233-241. [PDF](#)

#### Book chapters

10. **Santangelo J. S.**, Miles L. M., Breitbart S. T., Murray-Stoker D., L. Ruth Rivkin, Johnson M. T. J., and Ness R. W. Urban environments as a framework to study parallel evolution. In: *Urban Evolutionary Biology*. M. Szulkin, J. Munshi-South, and A. Charmantier, eds. Oxford University Press, Oxford, UK. *In press*.

#### Submitted Manuscripts and pre-prints

11. **Santangelo J. S.**, <sup>†</sup>Advenard, C., L. Ruth Rivkin, Thompson, K. A. Multivariate phenotypic divergence along an urbanization gradient. *Submitted*. [Pre-print](#) [GitHub](#)

#### Educational resources (not peer reviewed)

12. **Santangelo J. S.** (2019). Data simulation and randomization tests. *NEON Faculty Mentoring Network, QUBES Educational Resources*. [Access](#).

## TEACHING EXPERIENCE

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#### Course instructor/developer

EEB313: Quantitative methods in R for biology	2018 - present
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#### Guest lectures

HSC302: Biocommunication visualization	2018 - present
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#### Teaching assistant

BIO342: Evolutionary biology	2017 - present
BIO205: Ecology	2017

## INVITED TALKS

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Radcliffe Institute, Harvard University	Next in Evolution	2018
University of Toronto Mississauga	19 <sup>th</sup> annual New Phytologist Workshop	2017

## CONTRIBUTED PRESENTATIONS

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(\*Poster presentation; †Award)

†ESEB, Turku, Finland	2019
Evolution meeting, Providence, Rhode Island	2019
Evolution joint congress, Montpellier, France	2018
Evolution meeting, Portland, Oregon	2017
†Ontario Ecology, Ethology, and Evolution Colloquium (OE3C), Kingston, Canada	2017
†Ontario Biology Day (OBD), Ottawa, Canada	2015
†Canadian Society for Ecology and Evolution (CSEE), Saskatoon, Canada	2015
†Ontario Biology Day (OBD), Mississauga, Canada	2014
Canadian Society of Plant Biologists (CSPB), Mississauga, Canada	2013

## MENTORSHIP & ADVISING

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Cindy Roux (visiting graduate student from France)	Summer 2019
Trevor Schmahl	Sept. 2018 - April 2019
Beata Cohan	Sept. 2017 - Dec. 2018
Carole Advenard (visiting graduate student from France)	Summer 2017
Jibran Syed	Sept. 2016 - April 2017

## SERVICE, LEADERSHIP, & PROFESSIONAL EXPERIENCE

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Grad student rep, UTM Systems Biology faculty search	2018 - present
Co-organizer/instructor, UTM bi-weekly graduate student programming workshops	2018 - 2019
Editor, UofT EEB Quarterly Review magazine	2018 - present
Member, UTM Biology Executive Committee	2017 - 2019
Member, UTM Biology Seminar Committee	2017 - 2019
Member, Tri-campus graduate chair search committee	2018
Member, Ecology and Evolutionary Biology chair search committee	2018
UTM campus representative, EEB Graduate Student Association	2018

<b>Guest Editor</b> , <i>Proceedings B</i> Special Issue: "The Evolution of City Life"	2017-2018
<b>Organizer</b> , 19 <sup>th</sup> annual New Phytologist Workshop: "Synthesis in the City: Urban Evolutionary Ecology"	2017
<b>Co-president</b> , UTM Biology Graduate Student Society	2017
<b>Treasurer</b> , UTM Biology Graduate Student Society	2016
<b>Member</b> , UTM Biology chair search committee	2018

## REVIEWER

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Annals of Botany  
Ecology and Evolution  
Evolution  
Frontiers Ecology and Evolution  
Journal of Evolutionary Biology  
Proceedings of the Royal Society B  
Science

## SOCIETY MEMBERSHIPS

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Society for the Study of Evolution (SSE)  
American Society of Naturalists (ASN)  
Canadian Society of Ecology and Evolution (CSEE)