

# James S. Santangelo

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website: [james-s-santangelo.github.io/](http://james-s-santangelo.github.io/)  
code/data: [github.com/James-S-Santangelo](https://github.com/James-S-Santangelo)

## 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

Doctoral excellence scholarship, University of Toronto Faculty of Arts and Science (\$5000.00)	2020
Rustom H. Dastur Graduate Scholarship, University of Toronto Ecology and Evolutionary Biology Department (\$2602.33)	2020
R. Ramsay Wright Graduate Scholarship, University of Toronto Ecology and Evolutionary Biology Department (\$1000)	2020
Robert L. Jefferies Graduate Scholarship, University of Toronto Ecology and Evolutionary Biology Department (\$396.20)	2020
Stephen Stearns Graduate Student Prize, European Society for Evolutionary Biology (\$375)	2019
Frederick P. Ide Graduate Award, University of Toronto Ecology and Evolutionary Biology Department (\$3000)	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 Biology Department (\$782.23)	2013

## PUBLICATIONS

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

10. Santangelo J. S., L. Ruth Rivkin, <sup>†</sup>Advenard, C., Thompson, K. A. Multivariate phenotypic divergence along an urbanization gradient. *Biology Letters* 16: 20200511. [PDF](#) [GitHub](#)
9. 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* 4: 212-225. [PDF](#) [GitHub](#)
8. 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](#)
7. 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](#)
6. 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](#)
4. 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](#)
3. 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](#)
2. 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](#)
1. 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

1. Santangelo J. S., Miles L. M., Breitbart S. T., Murray-Stoker D., L. Ruth Rivkin, Johnson M. T. J., and Ness R. W. (2020). 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.

### Submitted Manuscripts and pre-prints

1. Innes, S. G., Santangelo J. S., Kooyers, N. J., Olsen, K. M., Johnson, M. T. J. Evolution in response to climate in the native and introduced ranges of a globally distributed plant. *Submitted*.

### Educational resources (not peer reviewed)

1. 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 - 2019

### Guest lectures

HSC302: Biocommunication visualization 2018 - present

### Teaching assistant

BIO152: Introduction to evolution and genetics 2020  
 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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<b>Grad student rep</b> , UTM Systems Biology faculty search	2019 - 2020
<b>Editor</b> , UofT EEB Quarterly Review magazine	2018 - 2020
<b>Co-organizer/instructor</b> , UTM bi-weekly graduate student programming work-shops	2018 - 2019
<b>Member</b> , UTM Biology Executive Committee	2017 - 2019
<b>Member</b> , UTM Biology Seminar Committee	2017 - 2019
<b>Member</b> , Tri-campus graduate chair search committee	2018
<b>Member</b> , Ecology and Evolutionary Biology chair search committee	2018
<b>UTM campus representative</b> , 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  
Journal of Urban Evolution  
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)