

# 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

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 †Mentee authors

10. Santangelo J. S., L. Ruth Rivkin, †Advenard, C., Thompson, K. A. Multivariate phenotypic divergence along an urbanization gradient. *Biology Letters* *In Press*. [Pre-print](#) [GitHub](#)
9. Santangelo J. S., Thompson, K. A., †Cohan, B., †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 Keyzer 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 - present

### 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  
Jibrán Syed Sept. 2016 - April 2017

## SERVICE, LEADERSHIP, & PROFESSIONAL EXPERIENCE

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Grad student rep, UTM Systems Biology faculty search	2019 - 2020
Editor, UofT EEB Quarterly Review magazine	2018 - 2020
Co-organizer/instructor, UTM bi-weekly graduate student programming workshops	2018 - 2019
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
Guest Editor, <i>Proceedings B</i> Special Issue: "The Evolution of City Life"	2017-2018
Organizer, 19 <sup>th</sup> annual New Phytologist Workshop: "Synthesis in the City: Urban Evolutionary Ecology"	2017
Co-president, UTM Biology Graduate Student Society	2017
Treasurer, UTM Biology Graduate Student Society	2016
Member, 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)