Curriculum Vitae of
Vincent L. Cannataro, Ph.D.

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EDUCATION

University of Florida — Gainesville, FL
Ph.D., Zoology — *May 2016*
Dissertation title:
The Influence of Tissue Architecture on Somatic Tissue Evolution, Homeostasis, Aging, and Cancer
Thesis advisors: Colette M. St. Mary, Ph.D., and Scott A. McKinley, Ph.D.

State University of New York College at Geneseo — Geneseo, NY
B.S., Biochemistry (with honors), Mathematics minor — *May 2010*
Honors thesis title:
TMD-1/tropomodulin Regulates Intestinal Shape and Volume During Development in C. elegans
Thesis advisor: Elisabeth A. Cox, Ph.D.

ACADEMIC APPOINTMENTS

Department of Biology, Emmanuel College — Boston, MA
Assistant Professor — *September 2019 – Present*

Department of Biostatistics, Yale School of Public Health — New Haven, CT
Postdoctoral Fellow; NIH NCI T32 Cancer Biology Training Program — *October 2018 – August 2019*
Mentor: Jeffrey P. Townsend, Ph.D.,
Elihu Professor of Biostatistics and Ecology and Evolutionary Biology;
Director of Bioinformatics, Yale Center for Analytical Sciences.
Clinical co-mentor: Harriet Kluger, M.D.,
Professor of Medicine (Medical Oncology)

Department of Biostatistics, Yale School of Public Health — New Haven, CT
Postdoctoral Associate — *May 2016 – September 2018*
Mentor: Jeffrey P. Townsend, Ph.D.,
Elihu Professor of Biostatistics and
Ecology and Evolutionary Biology;
Director of Bioinformatics, Yale Center for Analytical Sciences

Department of Biology, University of Florida — Gainesville, FL
Teaching Assistant — *Fall 2010 – Summer 2011; Fall 2013 – Spring 2015; Spring 2016*

Department of Biology, University of Florida — Gainesville, FL
Research Assistant — *Summer 2015 – Fall 2015*

Department of Biology, University of Florida — Gainesville, FL
NSF IGERT Research Fellow — *Fall 2011 – Summer 2013*

ACHIEVEMENTS AND HONORS

BBA Molecular Basis of Disease Rising Star Award; Shortlisted as 2024 Finalist
Biochimica et Biophysica Acta journal award — *2024*

Yale Cancer Center Scientific Retreat Poster Award
Award for best poster presentation in the category of Basic Research & Computational Science — *2019*

Awarded NIH NCI T32 Ruth L. Kirschstein National Research Service Award Trainee Fellowship
Postdoctoral Fellowship to provide exposure to the clinical world and practical clinical issues — *2018*

First prize team research award at the Integrated Mathematical Oncology Workshop 6: Resistance
Research team received $50,000 for future research *2016*

Best Graduate Student Teacher Award
For the University of Florida Department of Biology *2013*

Received the first-place national choice award for science outreach video competition
NSF IGERT Video and Poster presentation competition *2013*

Best Graduate Student Teacher Award: Honorable mention
For the University of Florida Department of Biology *2011*

Quantitative Spatial Ecology, Evolution, and Environment IGERT Fellowship recipient
University of Florida *2010 – 2015*

Dr. Mark Diamond Memorial Biology Research Award
For the outstanding biology research presentation of the academic year at SUNY Geneseo *2010*

John C. Johnson Award for excellence in student research
Third Place at the Northeastern Regional Beta Beta Beta District III Concention *2009*

Member of Beta Beta Beta National Biological Honor Society
Inducted at SUNY Geneseo *2008*

PUBLICATIONS[1]

Undergraduate research collaborators underlined
Corresponding author, if different than final listed author, labeled with #

26. **Cannataro, V. L.,** Bracci, P. M., Taylor, J. W., McCoy, L., Rice, T., Hansen, H. M., Heffernan, A. E., Wiemels, J., Wiencke, J., Wrensch, M., Claus E. B. "Glioma mutational signatures associated with haloalkane exposure are enriched in firefighters" (2025) *Cancer* Publication: https://doi.org/10.1002/cncr.35732

25. **Cannataro, V. L.**#**,** Glasmacher, K. A., Hampson, C. E. "Mutations, substitutions, and selection: Linking mutagenic processes to cancer using evolutionary theory" (2024) *Biochimica et Biophysica Acta (BBA)-Molecular Basis of Disease* Publication: https://doi.org/10.1016/j.bbadis.2024.167268

24. Mandell, J. D., **Cannataro, V. L.,** Townsend J. P. "Estimation of neutral mutation rates and quantification of somatic variant selection using cancereffectsizeR" (2023) *Cancer Research*
Publication: https://doi.org/10.1158/0008-5472.CAN-22-1508

23. Mandell, J., Fisk, J. N., Cyrenne, E., Xu, M., **Cannataro, V. L.,** and Townsend, J. P. "Not only mutations but also tumorigenesis can be substantially attributed to DNA damage from reactive oxygen species in RUNX1::RUNX1T1-fusion-positive acute myeloid leukemia" (2022) *Leukemia*
Publication: https://doi.org/10.1038/s41375-022-01752-5

22. **Cannataro, V. L.**#**,** Kudalkar, S., Dasari, K., Gaffney, S. G., Lazowski, H. M., Jackson, L. K., Yildiz, I., Das, R. K., Rothberg, B. E. G., Anderson, K. S., Townsend, J. P. "APOBEC mutagenesis and selection for NFE2L2 contribute to the origin of lung squamous-cell carcinoma" (2022) *Lung Cancer*
Publication: https://doi.org/10.1016/j.lungcan.2022.07.004

21. **Cannataro, V. L.**#**,** Mandell, J. D., Townsend, J. P., "Attribution of Cancer Origins to Endogenous, Exogenous, and Preventable Mutational Processes" (2022) *Molecular Biology and Evolution*
Publication: https://doi.org/10.1093/molbev/msac084

20. Qing, T., Mohsen, H., **Cannataro, V. L.**, Marczyk, M., Rozenblit, M., Foldi, J., Murray, M. F., Townsend, J. P., Kluger, Y., Gerstein, M., Pusztai, L. (2022) "Cancer relevance of human genes" *Journal of the National Cancer Institute* [Publication: https://doi.org/10.1093/jnci/djac068]

19. *Claus, E. B. and ***Cannataro, V. L.**, Gaffney S. G., Townsend, J. P. (2022) "Environmental and sex-specific molecular signatures of glioma causation" *Neuro-Oncology*
[Publication: https://doi.org/10.1093/neuonc/noab103]
* Denotes co-first-authors and equal contributions

[1]Links to my NCBI bibliography and my Google Scholar page.

18. Tan, C., Mandell, J. D., Dasari, K., **Cannataro, V. L.,** Alfaro-Murillo, J. A., Townsend, J. P. (2021) "Heavy mutagenesis by tobacco leads to lung adenocarcinoma tumors with KRAS G12 mutations other than G12D, leading KRAS G12D tumors—on average—to exhibit a lower mutation burden" *Lung Cancer* [Publication: https://doi.org/10.1016/j.lungcan.2021.10.008]

17. Klein, M. I., **Cannataro, V. L.**, Townsend, J. P., Newman, S., Stern, D. F., Zhao, H. (2021) "Identifying Modules of Cooperating Cancer Drivers" *Molecular Systems Biology* [Publication: https://doi.org/10.15252/msb.20209810]

16. Turken, N., **Cannataro, V. L.**, Geda, A., Dixit, A. (2020) "Nature Inspired Supply Chain Solutions: Definitions, Analogies, and Future Research Directions" *International Journal of Production Research* [Publication: https://doi.org/10.1080/00207543.2020.1778206]

15. Lu, L., Gaffney, S. G., **Cannataro, V. L.**, Townsend, J. P. (2020) "Transfer RNA methyltransferase gene NSUN2 mRNA expression modifies the effect of T cell activation score on patient survival in head and neck squamous carcinoma" *Oral Oncology* [Publication: https://doi.org/10.1016/j.oraloncology.2019.104554]

14. Yang, A., **Cannataro, V. L.**, Townsend, J. P. (2020) "Re: Ming-Jun Shi, Xiang-Yu Meng, Philippe Lamy, et al. APOBEC-mediated Mutagenesis as a Likely Cause of FGFR3 S249C Mutation Over-representation in Bladder Cancer. Eur Urol 2019;76:9–13" *European Urology* [Publication: https://doi.org/10.1016/j.eururo.2019.08.018]

13. Somarelli, J. A., Gardner, H., **Cannataro, V. L.**, Gunady, E. F., Boddy, A. M., Johnson, N. A., Fisk, J. N., Gaffney, S. G, Chuang, J. H., Shend, L., Ciccarelli, F. D., Panchenko, A.R., Megquier, K., Kumar, S., Dornburg, A., DeGregori, J., Townsend, J. P. (2020) "Molecular biology and evolution of cancer: from discovery to action" *Molecular Biology and Evolution* [Publication: https://doi.org/10.1093/molbev/msz242]

12. **Cannataro, V. L.** and Townsend, J. P. (2019) "Wagging the long tail of drivers of prostate cancer" *PLOS Genetics* [Publication: https://doi.org/10.1371/journal.pgen.1007820]

11. **Cannataro, V. L.**, Gaffney, S. G., Sasaki, T., Issaeva, N., Grewal, N. K. S., Grandis, J. R., Yarbrough, W. G., Burtness, B., Anderson, K. S., and Townsend, J. P. (2019) "APOBEC-induced mutations and their cancer effect size in head and neck squamous cell carcinoma" *Oncogene* [Publication: https://doi.org/10.1038/s41388-018-0657-6]

10. **Cannataro, V. L.**, Gaffney, S. G., Townsend, J. P. (2018) "Effect sizes of somatic mutations in cancer" *Journal of the National Cancer Institute* [Publication: https://doi.org/10.1093/jnci/djy168]

9. **Cannataro, V. L.** and Townsend, J. P. (2018) "Neutral theory and the somatic evolution of cancer" *Molecular Biology and Evolution* [Publication: https://doi.org/10.1093/molbev/msy079]
Selected to be featured within a special collection highlighting the historic and contemporary contributions to the Neutralist/Selectionist Debate
https://academic.oup.com/smbejournals/pages/neutralist-selectionist-debate-mbe

8. Wilkins, J., **Cannataro, V. L.**, Shuch, B., Townsend, J. P. (2018) "Analysis of mutation, selection, and epistasis: an informed approach to cancer clinical trials" *Oncotarget* [Publication: https://doi.org/10.18632/oncotarget.25155]

7. **Cannataro, V. L.**, Gaffney, S. G., Stender, C., Zhao, Z., Philips, M., Greenstein, A. E., Townsend, J. P. (2018) "Heterogeneity and mutation in KRAS and associated oncogenes: evaluating the potential for the evolution of resistance to targeting of KRAS G12C" *Oncogene* [Publication: https://doi.org/10.1038/s41388-017-0105-z]

6. **Cannataro, V. L.**[#], McKinley, S.A., St. Mary, C.M. (2017) "The Evolutionary Trade-off Between Stem Cell Niche Size, Aging, and Tumorigenesis" *Evolutionary Applications*, 10:590:602. [Publication: https://doi.org/10.1111/eva.12476]

5. Gulbudak, H., **Cannataro,V. L.**, Tuncer, N., Martcheva, M. (2017) " Vector-Borne Pathogen and Host Evolution in a Structured Immuno-Epidemiological System" *Bulletin of Mathematical Biology* 79:325. [Publication: https://doi.org/10.1007/s11538-016-0239-0]

4. Tuncer, N., Gulbudak, H., **Cannataro, V. L.**, Martcheva, M. (2016) "Structural and practical identifiability issues of immuno-epidemiological vector-host models with application to Rift Valley Fever" *Bulletin of Mathematical Biology* 78:1796. [Publication: https://doi.org/10.1007/s11538-016-0200-2]

3. **Cannataro, V. L.**[#], McKinley, S. A., St. Mary, C. M. (2016) "The Implications of Small Stem Cell Niche Sizes and the Distribution of Fitness Effects of New Mutations in Aging and Tumorigenesis" *Evolutionary Applications* 9:4. [Publication: http://dx.doi.org/10.1111/eva.12361]

2. Ferguson, J. M., Langebrake, J., **Cannataro, V. L.**, Garcia, A. J., Hamman, E. A., Martcheva, M., Osenberg, C. W. (2014) "Optimal sampling strategies for detecting zoonotic disease epidemics" *PLOS Computational Biology* 10:6 [Publication: https://doi.org/10.1371/journal.pcbi.1003668]

1. Cox-Paulson, E., **Cannataro, V. L.**, Gallagher, T., Hoffman, C., Mantione, G., Mcintosh, M., Silva, M., Vissichelli, N., Walker, R., Simske, J., Ono, S. and Hoops, H. (2014) "The minus-end actin capping protein, UNC-94/tropomodulin, regulates development of the Caenorhabditis elegans intestine." *Developmental Dynamics* 243:6 [Publication: http://dx.doi.org/10.1002/dvdy.24118]

PREPRINTS SUBMITTED AND IN REVISION

Undergraduate research collaborators underlined

1. Glasmacher, K. A., **Cannataro, V. L.**, Mandell, J. D., Jackson, M., Fisk, J. N., Townsend, J. P., (2023) "Mutation of NOTCH1 is selected within normal esophageal tissues, yet leads to selective epistasis suppressive of further evolution into cancer "
[Preprint: https://doi.org/10.1101/2023.11.03.565535]

TECHNICAL REPORTS

2. Kaznatcheev, A., Grimes, D. R., Velde, R. V., **Cannataro, V. L.**, *et al.* "Dark selection for JAK/STAT-inhibitor resistance in CMML" [https://doi.org/10.1101/211151]

1. Hanson, S., Grimes, D. R., Taylor-King, J. P., **Cannataro, V. L.**, Bauer, B., Warman, P. I., Frankenstein, Z., Kaznatcheev, A., Bonassar, M. J., Motawe, Z. Y., Lima, E. A. B. F., Kim, S., Davila, M. L., Araujo, A. "Toxicity Management in CAR T Cell Therapy for B-ALL: Mathematical modelling as a new avenue for improvement" [http://dx.doi.org/10.1101/049908]

SOFTWARE PACKAGES

- **cancereffectsizeR**: an R package to measure the cancer effect size of somatic mutations
Link: https://townsend-lab-yale.github.io/cancereffectsizeR/
- **ECfitbitR**: an R package to easily gather, clean, and analyze data from FitBit
Link: https://github.com/vcannataro/ECfitbitR

PROFESSIONAL SERVICE AND SOCIETIES

- Served as a reviewer for: *Nature Genetics; The American Naturalist; Human Genomics; Evolution, Medicine, and Public Health; Science Advances; Molecular Biology and Evolution; Nature Ecology & Evolution; PLOS ONE; Genome Medicine; and Evolutionary Applications.*
- Member of: *The Society for the Study of Evolution, The Society for Molecular Biology and Evolution, The American Association for Cancer Research, Beta Beta Beta Biological Honor Society*
- Elected and served as Vice President of the Biology Graduate Student Association of The University of Florida, 2014 – 2015
- Science outreach and communication:
  - Maintains active science blog at vcannataro.com

  - Guest on Bill Nye Saves the World (Netflix) Season 2, Episode 3. Demonstrated the evolutionary dynamics behind the emergence of antibiotic resistant bacteria.

- Serve on Emmanuel College faculty committees
  - Member of the Faculty Affairs committee
  - Member of the COVID19 response team
  - Member of the Global and Public Health Committee
  - Member of the Integrated Digital and Data Science Committee
  - Member of the Computer Science Committee
  - Member of the Data Science and Statistics Committee
  - Co-advisor, Science Living-Learning Community

RESEARCH SUPPORT

JMR Barker Grant, subaward, PI: Dr. Jeffrey P. Townsend, Yale University — $22,962
Constructing and evaluating models of the cancer effect of copy-number aberrations — *June – July, 2024*

JMR Barker Grant, subaward, PI: Dr. Jeffrey P. Townsend, Yale University — $22,294
Constructing and evaluating models of the cancer effect of copy-number aberrations — *June – July, 2023*

Damon Runyon Grant, subaward, PI: Dr. Luisa Escobar-Hoyos, Yale University — $21,049
Understanding RNA splicing in tumor-cell adaptation and anti-tumor immunity — *June – July, 2021*

Integrated Mathematical Oncology Research Grant — $50,000 team award
Awarded to study the evolutionary dynamics in chronic myelomonocytic leukemia — *2016 – Present*

QSE^3 IGERT[2]NSF Research Assistantship — $25,800
Awarded to study the spatial dynamics and evolutionary processes within growing tumors — *Summer 2016 – Fall 2016*

QSE^3 IGERT NSF Research Fellowship — $60,000
Research fellowship support for two academic years — *Fall 2011 – Spring 2013*

WORKSHOPS

Inclusive Pedagogy Practitioner Program — Emmanuel College, Boston MA
Recognizing personal biases, and exploring strategies for inclusive leadership — *2024*

Achievement-oriented Pedagogical Workshop — Emmanuel College, Boston MA
Anti-deficit approaches towards inclusive excellence in STEM — *2023*

HHMI Deep Teaching Residency — Emmanuel College, Boston MA
Re-designing a life science course using anti-racist and anti-deficit frameworks — *2022*

Integrated Mathematical Oncology Workshop 6: Resistance — Moffitt Cancer Center, Tampa FL
Member of first place research team—received $50,000 research grant — *2016*

Integrated Mathematical Oncology Workshop 6: Immune Cancer — Moffitt Cancer Center, Tampa FL
2015

Investigative Workshop: Many-cell System Modeling — NIMBioS, University of Tennessee, Knoxville TN
2015

Emphasis Workshop: Stem Cells, Development, and Cancer — MBI, The Ohio State University, Columbus OH
2015

Experiencing Evolution Educators' Workshop — Evolution Conference, Raleigh NC
2014

[2]Quantitative Spatial Ecology, Evolution, and Environment Integrative Graduate Education and Research Traineeship

Summer Institute in Statistics and Modeling of Infectious Diseases University of Washington, Seattle WA
Completed sessions: *2012*
MCMC1, Stochastic Epidemic Models with Inference,
Graphs and Network Theory in Infectious Diseases

PRESENTATIONS

Undergraduate research collaborators underlined

52. Fisk, N. *et al.* "Evolutionary and epistatic analyses reveal genic interactions with KRAS during malignant progression of pancreatic ductal adenocarcinoma" *Proceedings of the American Association for Cancer Research Special Conference in Cancer Research: Advances in Pancreatic Cancer Research*, Boston MA, Fall 2024
Abstract link: https://doi.org/10.1158/1538-7445.PANCREATIC24-C030

51. Shah R. M. *et al.* "Selective and pairwise epistatic effects of somatic mutations in KRAS wild-type pancreatic cancer" *Proceedings of the American Association for Cancer Research Special Conference in Cancer Research: Advances in Pancreatic Cancer Research*, Boston MA, Fall 2024
Abstract link: https://doi.org/10.1158/1538-7445.PANCREATIC24-C015

50. Medici N. P. *et al.* "Altered mRNA splicing mimics chromosome loss and drives pancreatic cancer" *Proceedings of the American Association for Cancer Research Special Conference in Cancer Research: Advances in Pancreatic Cancer Research*, Boston MA, Fall 2024
Abstract link: https://doi.org/10.1158/1538-7445.PANCREATIC24-PR-11

49. Glasmacher, K. A., **Cannataro, V. L.,** "Analyzing Selective Pressures on Mutations in Barrett's Esophagus and Esophageal Adenocarcinoma Using Computational Methods" *The Eastern New England Biological Conference* Oral Presentation, Merrimack College MA, Spring 2024

48. **Cannataro, V. L.** "Mutation and selection are key to understanding MCED assays" *The American Association for Cancer Research Conference* Invited Oral Presentation, San Diego CA, Spring 2024

47. Rajaei, M. *et al.*, "Persistence and dynamics of mutation, selection, and epistasis during the somatic evolution of low-risk, high-risk, and metastatic prostate cancer" *The American Association for Cancer Research Conference* Poster presentation, San Diego CA, Spring 2024
Abstract link: https://doi.org/10.1158/1538-7445.AM2024-1627

46. Hampson, C. E., **Cannataro, V. L.** "Quantifying selection intensity and epistatic interactions among gene variants within angiosarcoma" *Joint Mathematics Meeting*, Poster presentation, San Francisco CA, Winter 2024

45. Glasmacher, K. A., **Cannataro, V. L.**, Mandell, J. D., Jackson, M., Fisk, J. N., Townsend, J. P., "Mutation of NOTCH1 is selected within normal esophageal tissues, yet leads to selective epistasis suppressive of further evolution into cancer." *Joint Mathematics Meeting*, Poster presentation, San Francisco CA, Winter 2024

44. **Cannataro V. L.,** Glasmacher, K. A., Summers, M., Mandell, J. D., Fisk, J. N., Jackson, M., Asmelash, S., Townsend, J.P. "Unraveling mutation and selection to better understand early cancer evolution" *American Association for Cancer Research Conference on Translating Cancer Evolution and Data Science: The Next Frontier*, Invited Oral Presentation, Boston MA, Fall 2023
Abstract link: https://doi.org/10.1158/1538-7445.CANEVOL23-IA010

43. Hampson, C. E., **Cannataro, V. L.** "Quantifying selection intensity and epistatic interactions among gene variants within angiosarcoma" *American Association for Cancer Research Conference on Translating Cancer Evolution and Data Science: The Next Frontier*, Poster presentation, Boston MA, Fall 2023
Abstract link: https://doi.org/10.1158/1538-7445.CANEVOL23-B043

42. Glasmacher, K. A., **Cannataro, V. L.**, Mandell, J. D., Jackson, M., Fisk, J. N., Townsend, J. P., "Mutation of NOTCH1 is selected within normal esophageal tissues, yet leads to selective epistasis suppressive of further evolution into cancer." *American Association for Cancer Research Conference on Translating Cancer Evolution and*

Data Science: The Next Frontier, Poster presentation, Boston MA, Fall 2023
Abstract link: https://doi.org/10.1158/1538-7445.CANEVOL23-A035

41. Medici N. P. *et al.* "Altered RNA splicing causes pancreatic cancer and exposes a therapeutic vulnerability" *Proceedings of the American Association for Cancer Research Special Conference on Pancreatic Cancer*, Boston MA, Fall 2023 Abstract link: https://doi.org/10.1158/1538-7445.PANCA2023-C075

40. Summers, M. F., Asmelash, S., Fisk, J. N., Mandell, J. M., Townsend, J. P., **Cannataro, V. L.** "KRAS and other cancer driver genes in hyperplastic and cancerous endometrial tissue exhibit stage-specific mutation rates and selection intensities, as well as antagonistic epistasis" *Eastern New England Biological Conference*, Poster Presentation, Simmons University, Spring 2023

39. Glasmacher, K. A., Mandell, J. D., Jackson, M., Fisk, J. N., Townsend, J. P., **Cannataro, V. L.** "Mutation of NOTCH1 is selected within normal esophageal tissues, yet leads to selective epistasis suppressive of further evolution into cancer" *Eastern New England Biological Conference*, Oral Presentation, Simmons University, Spring 2023

38. Medici N. P. *et al.* "Altered RNA splicing causes pancreatic cancer and exposes a therapeutic vulnerability" *Proceedings of the American Association for Cancer Research Special Conference on Pancreatic Cancer*, Boston MA, Fall 2022 Abstract link: https://doi.org/10.1158/1538-7445.PANCA22-A055

37. **Cannataro, V. L.** "Attribution of cancer origins to endogenous, exogenous, and preventable mutational processes" *American Association for Cancer Research, Cancer Evolution Working Group Seminar Series* Invited Talk, Virtual, Fall 2021

36. **Cannataro, V. L.,** Mandell, J. D., Townsend, J. P., "Mutation and selection in tumors: the attribution of cancer origins to endogenous, exogenous, and actionable mutational processes" *Society for Molecular Biology & Evolution: 2021 conference* Poster presentation; conference held virtually, Summer 2021

35. **Cannataro, V. L.**, Gaffney, S. G., Townsend, J. P., "Effect sizes of somatic mutations: the selective advantage that each mutation confers to cancer cells" *Evolution 2019* Oral presentation, Providence, Rhode Island, Summer 2019

34. Claus E. B., **Cannataro V. L.**, Gaffney S. G., Townsend J. P., Sex Specific Molecular Signatures of Glioma Causation *Brain Tumor Epidemiology Consortium.* Oral presentation, Los Angeles, California, Spring 2019

33. **Cannataro, V. L.**, Gaffney, S. G., Townsend, J. P., "The effect sizes of somatic mutations in cancer " *Yale Cancer Center Annual Retreat* Poster presentation, Yale University, New Haven, CT, Spring 2019
Received the 2019 Scientific Retreat Best Poster Award in Basic Research & Computational Science.

32. **Cannataro, V. L.**, Gaffney, S. G., Townsend, J. P., "Effect sizes of somatic mutations: the selective advantage that each mutation confers to cancer cells " *Society for Molecular Biology & Evolution: Satellite meeting on the Molecular Biology and Evolution of Cancer* Oral presentation, Yale University, New Haven, CT, Spring 2019

31. **Cannataro, V. L.**, Gaffney, S. G., Townsend, J. P., "The effect sizes of somatic mutations in cancer and their application in predicting resistance to chemotherapy " *Evolution 2018* Poster presentation, Montpellier, France, Summer 2018

30. **Cannataro, V. L.**, Gaffney, S. G., Townsend, J. P., "Effect sizes of somatic mutations in cancer" *First Annual Yale Cancer Center Trainee Colloquium.* Poster presentation, Yale University, New Haven CT, Summer 2018

29. **Cannataro, V. L.**, Gaffney, S. G., Stender, C., Zhao, Z., Philips, M., Greenstain, A., Townsend, J. P., "Mutation, selection, and the targeting of oncogenic KRAS G12C" *International Society for Ecology and Evolution of Cancer.* Oral presentation, Arizona State University, Tempe AZ, Fall 2017.

28. **Cannataro, V. L.**, Gaffney, S. G., Stender, C., Zhao, Z., Philips, M., Greenstain, A., Townsend, J. P., "Mutation, selection, and the targeting of oncogenic KRAS G12C" *International Symposium on Molecular Evolution and Medicine.* Oral presentation, Temple University, Philadelphia PA, Summer 2017.

27. **Cannataro, V. L.**, Gaffney, S. G., Stender, C., Zhao, Z., Philips, M., Greenstain, A., Townsend, J. P., "The likelihood of heterogeneity or additional mutation of KRAS amino acid 12 to compromise therapeutic targeting of oncogenic KRAS G12C" *Society for Molecular Biology and Evolution Conference.* Poster presentation, Austin TX, Summer 2017.

26. **Cannataro, V. L.**, Stender, C., Zhao, Z., Greenstain, A., Townsend, J. P., "The likelihood of heterogeneity or additional mutation of KRAS amino acid 12 to compromise therapeutic targeting of oncogenic KRAS G12C" *Integrated Mathematical Oncology Workshop 6: Resistance.* Poster presentation, Moffitt Cancer Center, Tampa FL, Fall 2016

25. **Cannataro, V. L.**, "The influence of tissue architecture on aging and cancer" *Exit seminar.* Oral presentation, University of Florida, Gainesville FL, Spring 2016

24. **Cannataro, V. L.**, "Drifting to malignancy: incorporating population biology into our interpretations of cancer dynamics" *Population biology seminar.* Oral presentation, University of Florida, Gainesville FL, Spring 2016

23. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "Small Stem Cell Niches, Aging, and Cancer" *Third International Biannual Evolution and Cancer Conference.* Oral presentation, San Francisco CA, Fall 2015

22. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "Quantifying the Burden of Somatic Evolution in the Context of Cancer and Aging" *Biomathematics Seminar.* Oral presentation, University of Florida, Gainesville FL, Fall 2015

21. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "Quantifying the Burden of Somatic Evolution in the Context of Cancer and Aging" *Integrated Mathematical Oncology Department Seminar.* Oral presentation, Moffitt Cancer Center, Tampa FL, Fall 2015

20. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "The Entropy of Multicellularity: Quantifying the Burden of Somatic Evolution in the Context of Cancer and Aging" *Probability and Statistics Seminar.* Oral presentation, Tulane University, New Orleans LA, Fall 2015

19. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "The Entropy of Multicellularity: Aging and Cancer" *Population Biology Seminar.* Oral presentation, University of Florida, Gainesville FL, Fall 2015

18. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "The Implications of Small Stem Cell Niche Sizes and Distributions of Mutational Effects in Tumorigenesis and Aging" *NIMBioS Investigative Workshop: Many-cell System Modeling.* Poster Presentation, University of Tennessee, Knoxville Tennessee, July 2015

17. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "The Implications of Small Stem Cell Niche Sizes and Distributions of Mutational Effects in Tumorigenesis and Aging" *Mathematical Biosciences Institute Emphasis Workshop: Stem Cells, Development, and Cancer.* Poster Presentation, The Ohio State University, Columbus, Ohio, April 2015.

16. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "The distribution of fitness effects in somatic tissue: aging and tumorigenesis" *Biomath Seminar.* University of Florida, Gainesville FL, Fall 2014

15. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "The distribution of fitness effects in somatic tissue: aging and tumorigenesis" *Population Biology Seminar.* Oral Presentation, University of Florida, Gainesville FL, Fall 2014

14. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M. "The distribution of fitness effects in somatic tissue: aging and tumorigenesis" *Evolution Conference.* Oral Presentation, Raleigh NC, Summer 2014

13. Gulbudak, H., and **Cannataro, V. L.**, "A Nested Immuno-Epidemiological Vector-Host Model with Applications to Arbovirus Diseases" *Fifth Annual QSE^3 IGERT symposium.*, University of Florida, Gainesville FL, Spring 2014

12. **Cannataro, V. L.**, Ferguson J. M., Garcia, A. J., Langebrake, J., Hamman, E. A., "Assessing the Relative Risk of RVF Introduction to the USA via Airline Traffic" Video Presentation, 2013
[Video: http://igert2013.videohall.com/presentations/338]
Received the national public choice award.

11. **Cannataro, V. L.**, Ferguson J. M., Garcia, A. J., Langebrake, J., Hamman, E. A., "Assessing the Relative Risk of RVF Introduction to the USA via Airline Traffic" *NSF Integrative Graduate Education and Research Traineeship Symposium.* Poster Presentation, NSF Headquarters, Washington D.C., 2013

10. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "Distribution of mutational fitness effects: how does somatic evolution differ from organismal evolution?" *Graduate Student Research Day.* Poster presentation, University of Florida, Gainesville FL, Fall 2013

9. **Cannataro, V. L.**, McKinley, S. A., St. Mary, C. M., "Distribution of mutational fitness effects: how does somatic evolution differ from organismal evolution?" *Second International Biannual Evolution and Cancer Conference.* Poster presentation, San Francisco, Summer 2013

8. Gulbudak, H. and **Cannataro, V. L.** "Modeling Rift Valley Fever in a Nested Immuno-epidemiological Vector-Host Model" *QSE*[3] *IGERT Annual Symposium.* Oral Presentation, University of Florida, Gainesville FL, April 2013

7. Ferguson J. M., **Cannataro, V. L.**, Langebrake, J., Hamman, E. A., Garcia, A. J., "Sampling for the early detection of multihost disease outbreaks" *Emerging Pathogens Research Day* Poster Presentation, University of Florida, Gainesville FL, February 2013

6. **Cannataro, V. L.**, McKinley, S. A., "The Evolution of Tumors" *Biomathematics Seminar* Oral Presentation, University of Florida, October 2012

5. **Cannataro, V. L.**, McKinley, S. A., "The Evolution of Tumors" *Biology Department Symposium* Poster Presentation, University of Florida, October 2012

4. **Cannataro, V. L.**, Gallagher, T., and Cox, E. A., "TMD-1/tropomodulin regulates intestinal shape and volume during development in C. elegans." *Geneseo Recognizes Excellence, Achievement, and Talent Day.* Oral Presentation, SUNY Geneseo, Geneseo NY, April 2010
Received the Dr. Mark Diamond Memorial Biology Research Award.

3. **Cannataro, V. L.**, Silva, M., Gallagher, T., and Cox, E. A., "TMD-1 / Tropomodulin Regulates Intestinal Lumen Diameter in C. elegans" *17th International C. elegans Meeting.* Poster Presentation, UCLA, Los Angeles, June 2009

2. **Cannataro, V. L.**, Morris, J., Gallagher, T., and Cox, E. A., "The Tropomodulin, TMD-1, Regulates Intestinal Lumen Diameter in C. elegans" *Geneseo Recognizes Excellence, Achievement, and Talent Day.* Poster Presentation, SUNY Geneseo, Geneseo NY, April 2009

1. **Cannataro, V. L.**, Gallagher, T., and Cox, E. A., "The Tropomodulin, TMD-1, Regulates Intestinal Lumen Diameter in C. elegans" *Beta Beta Beta National Biological Honor Society North East District III Convention.* Poster Presentation, SUNY Geneseo, Geneseo NY, March 2009
Received the John C. Johnson Award for Excellence in Student Research—Third Place

TRAVEL SUPPORT

Evolution Conference *Awarded by the Society for the Study of Evolution*	\$500 *2018*
Society for Molecular Biology and Evolution Conference *Awarded by the Society for Molecular Biology and Evolution*	Registration fees *2017*
International Biannual Evolution and Cancer Conference *Awarded by the College of Liberal Arts and Sciences at the University of Florida*	\$475 *2015*
NIMBioS[3] **Many-Cell System Modeling Workshop** *Awarded by NIMBioS*	Travel and accommodation fees *2015*
NIMBioS Many-Cell System Modeling Workshop *Awarded by QSE*[3] *IGERT NSF Research Fellowship*	\$1000 *2015*
MBI[4] **Workshop: Stem Cells, Development, and Cancer** *Awarded by MBI*	Accommodation fees *2015*

[3] National Institute for Mathematical and Biological Synthesis
[4] Mathematical Biosciences Institute

MBI Workshop: Stem Cells, Development, and Cancer $1000
Awarded by QSE^3 IGERT NSF Research Fellowship *2015*

Evolution conference $1405
Awarded by QSE^3 IGERT NSF Research Fellowship *2014*

International Biannual Evolution and Cancer Conference $150
Awarded by University of Florida Biology Department *2013*

International Biannual Evolution and Cancer Conference $2000
Awarded by QSE^3 IGERT NSF Research Fellowship *2013*

NSF IGERT conference and awards ceremony at NSF headquarters $2000
Awarded by QSE^3 IGERT NSF Research Fellowship *2013*

SISMID[5] workshop Tuition waiver and $500
Awarded by the Department of Biostatistics, University of Washington *2012*

SISMID Workshop Travel fees
Awarded by QSE^3 IGERT NSF Research Fellowship *2012*

[5]Summer Institute in Statistics and Modeling of Infectious Diseases