

## **Curriculum Vitae**

Joseph J. Gillespie, M.S., Ph.D  
Assistant Professor, Tenure Track

<https://www.medschool.umaryland.edu/profiles/Gillespie-Joseph/>

Department of Microbiology and Immunology  
University of Maryland School of Medicine

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### **Contact Information**

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Foreign Languages: Spanish (working knowledge)

### **Education**

1994 - 1998 B.S., Biology, Widener University  
1998 - 2001 M.S., Entomology and Applied Ecology, University of Delaware, Thesis Advisor - Doug Tallamy; *"Inferring phylogenetic relationships among basal taxa of the leaf beetle tribe Luperini (Chrysomelidae: Galerucinae) through the analysis of mitochondrial and nuclear DNA sequences"*  
2001 - 2005 Ph.D., Entomology, Texas A&M University, Thesis Advisor - Anthony Cognato  
*"Structure-based methods for the phylogenetic analysis of ribosomal RNA molecules"*

### **Post Graduate Education and Training**

2006 - 2008 Post-Doctoral Fellow, Virginia Bioinformatics Institute (Virginia Tech)  
2008 - 2013 Senior Research Associate, Virginia Bioinformatics Institute (Virginia Tech)

### **Academic Appointments**

2013 - 2018 Assistant Professor, non-tenure track, University of Maryland School of Medicine  
2018 - 2023 Assistant Professor, tenure track, University of Maryland School of Medicine

### **Professional Society Membership**

1998-2005 Member, Entomological Society of America  
2000-present Member, American Association for the Advancement of Science  
2000-present Member, Society for Molecular Biology and Evolution  
2000-2003 Member, Society for the Study of Evolution  
2000-present Member, Society of Systematic Biologists  
2004-2005 Member, European Society for Evolutionary Biology  
2006-present Member, American Society for Microbiology  
2006-present Member, American Society for Rickettsiology

## **Institutional Service**

2013-present SOM Graduate Research Conference; Judge for presentations  
2013-present M&I Graduate Research Competition; Judge for presentations  
2013-present Medical Student Research Day; Judge for presentations  
2013-present Instructor for RCR, CIPP907: Responsible Conduct of Research  
2014-present Instructor (former course director) for GPLS 725: Advanced Microbial Pathogenesis  
2016-2019 Representative, University of Maryland School of Medicine Council  
2016-present Instructor (current course director) for GPLS 710: Principles of Microbial Pathogenesis  
2016-2019 UMB M&I DIVE (Departmental Image and Visualization Enhancement) Committee  
2016-2018 UMB SOM Web Site Advisory Committee  
2019-present UMB Molecular Microbiology and Immunology Admissions Committee  
2020-present UMB Molecular Microbiology and Immunology Curriculum Committee  
2020-present Instructor for GPILS 693: Introduction to Molecular Microbiology and Immunology  
2023-present Ethics and Integrity working group, Middle States Commission on Higher Education  
2023-present Problem based learning (PBL) preceptor in the Foundations course for medical students  
2023-present Discussion group preceptor for GPLS 601 Mechanisms in Biomedical Sciences (Core)

## **National Service**

2001-present *Ad Hoc* reviewer for numerous journals (estimated two reviews per month)  
2017-present: Editorial Board, *PeerJ*, <https://peerj.com/JGillespie/>  
2017-present Scientific Review Committee, American Society for Rickettsiology  
2019-2021: Reviewer, ZRG1 IDM-B 80 Study Section (Topics in Bacterial Pathogenesis), NIH  
2021-2022: Reviewer, ZRG1 IDIB-B 02 Study Section (Biology and Immunology of Bacteria and Other Pathogens), NIH  
2018-present: Reviewer, Medical Research Council, United Kingdom Research and Innovation  
2019: Site Visit Team Member for the review of Intramural Research Programs in the Tumor Vaccines and Biotechnology Branch (TVBB), Division of Cellular and Gene Therapies (DCGT), Office of Tissues and Advanced Therapies (OTAT), Center for Biologics Evaluation and Research (CBER), U.S. Food and Drug Administration, DHHS  
2017-present: Scientific Review Committee, American Society for Rickettsiology  
2020-present: Editorial Board, *PLoS Neglected Tropical Diseases*  
2021-present: Editorial Board, *Frontiers in Cellular and Infection Microbiology*  
2021-present: Reviewer, Maratona da Saúde (MdS), Infectious Diseases  
2021-present: Ad hoc reviewer, Bacterial Pathogenesis Study Section, NIH  
2022-present: Ad hoc reviewer, Prokaryotic Cell and Molecular Biology Study Section, NIH

## **Teaching Service**

### **Undergraduate Student Teaching**

2004-2005 Dr. Kerry Harris, Texas A&M University, General Entomology (ENTO 201) 200 students, two semesters (five sections per semester)  
2013-present Numerous Summer Research Training Programs 1 or 2 undergraduates, daily contact for the summer  
2022 American Cancer Society-Diversity in Cancer Research Internship Program; trained Trinity Soto, a rising senior at Towson University, in microbiology techniques.

## Medical Student Teaching

- 2015-2020 Small Group (Koch's Postulates) Discussion Leader, former HDID course (MSPR 520)  
16, 2<sup>nd</sup> year medical students
- 2017-2020 Small Group (Parasitology) Discussion Leader, former HDID course (MSPR 520)  
16, 2<sup>nd</sup> year medical students
- 2023-present Problem based learning (PBL) preceptor in the Foundations course for medical students

## Post-Graduate Teaching

- 2014-present Responsible Conduct of Research (Ethics) Discussion Leader, Name of course (CIPP 907)  
8-10 Graduate students, Post docs, scientific staff
- 2014-present Advanced Microbial Pathogenesis, Lecturer (GPLS 710)  
8-10 Graduate students, Post docs, scientific staff
- 2016-present Principles of Microbial Pathogenesis, Lecturer (GPLS 710)  
15-20 Graduate students, Post docs, scientific staff

## Graduate Student Committees

- 2011-2013 Timothy P. Driscoll, Ph. D. [**Major advisor**]. Dissertation: "*Host-Microbe Relations: A Phylogenomics-Driven Bioinformatic Approach to the Characterization of Microbial DNA from Heterogeneous Sequence Data*". Genetics, Bioinformatics, and Computational Biology Program. Virginia Tech. May 1, 2013.
- 2011-2015 Eric Nordberg, Ph.D. [**Thesis Committee member**]. Dissertation: "*Phylogenomic Estimation with Progressive Alignment*". Genetics, Bioinformatics, and Computational Biology Program. Virginia Tech. November 13, 2015.
- 2014-2019 Mark L. Guillotte. [**Thesis Committee member**]. Dissertation: "*Structure and Synthesis of Rickettsia Lipid A*". Department of Microbiology and Immunology, University of Maryland School of Medicine.
- 2018-2020 Adrienne Kambouris. [**Thesis Committee member**]. Dissertation: "4<sup>th</sup> year Ph.D. student of Dr. Bavoil. Department of Microbiology and Immunology, University of Maryland School of Medicine.
- 2019-present Jessica Towey. [**Thesis Committee member**]. Dissertation: "*Identification of Host-specific surface protein interactions during rickettsia rickettsii infection*". 2<sup>nd</sup> year Ph.D. student of Dr. Driscoll. Department of Biology, West Virginia University.
- 2020-2023 Riley Risteen. [**Major advisor**]. Dissertation: "TBA". 3<sup>rd</sup> year Ph.D. student, Department of Microbiology and Immunology, University of Maryland School of Medicine.

- 2022-present Jenny Farner. [**Thesis Committee member**]. Dissertation: “*Mechanisms by which Spotted Fever Group Rickettsia Induce Endothelial Vascular Permeability*”. 3<sup>rd</sup> year Ph.D. student of Dr. Dumler, Emerging Infectious Diseases, Uniformed Services University of the Health Sciences.
- 2022-present Chris Holt. [**Thesis Committee member**]. Dissertation: “Genomics and Transcriptomics of Filarial Nematodes”. 3<sup>rd</sup> year Ph.D. student of Dr. Dunning Hotopp, Institute for Genome Sciences, University of Maryland School of Medicine.
- 2023-present Alexia Smith, Ph. D. [**Major advisor**]. Thesis: “*Rickettsia pathogens have diverse strategies for acetyl-CoA utilization*”. Cellular & Molecular Biomedical Sciences, MS program, University of Maryland School of Medicine.

## **Grant Support**

### **Active Grants:**

- 02/01/23 - 02/01/25      **(Co-investigator, 9%),** PI: V. Vadyvaloo  
 “*Emerging understanding of the rat flea response to Yersinia pestis infection*”.  
 NIH/NIAID, R21 AI164730  
*Overseeing RNA-Seq analyses; data analysis, manuscript writing*  
 Annual Direct Costs: \$150,000  
 Total Direct Costs: \$275,000
- 07/01/22 - 06/30/24      **(PI: 30%),** R.K. Ernst (PI)  
 “*Investigating Rickettsia Interspecies and Host-Specific Lipopolysaccharide Variation*”.  
 NIH/NIAID, R21 AI166832  
 Annual Direct Costs: \$150,000  
 Total Direct Costs: \$275,000

### **Completed Grants:**

- 01/22/21 - 12/31/23      **(PI: 30%),** T.P. Driscoll (PI)  
 “*Characterizing the Pan-genome of a Rickettsia Infecting the Eastern Black-legged Tick*”.  
 NIH/NIAID, R21 AI156762  
 Annual Direct Costs: \$150,000  
 Total Direct Costs: \$275,000
- 05/23/19 - 04/30/21      **(PI: 30%),** M.S. Rahman (PI)  
 “*Rickettsia cell envelope glycoconjugates are derived from the host cell amino sugar biosynthesis pathway*”  
 NIH/NIAID, R21 AI146773  
 Annual Direct Costs: \$150,000  
 Total Direct Costs: \$275,000

5/23/16 - 4/30/19

(PI: 30%), M.S. Rahman (PI)

“Characterizing gene family expansion in an atypical bacterial secretion system”

NIH/NIAID, R21AI26108-01

Annual Direct Costs: \$150,000

Total Direct Costs: \$275,000

09/01/1982 – 05/31/2023

(Key Personnel, 26%) PI: A.F. Azad

“Murine Typhus: Vector Biology and Transmission”

NIH/NIAID, R01AI017828

Annual Direct Costs: \$45,295

Total Direct Costs: \$226,475

Data collection and analysis; manuscript writing; leadership

## Publications

### Peer-reviewed journal articles

1. Gillespie, J.J., Kjer, K.M., Duckett, C.N., Tallamy, D.W. (2003) Convergent evolution of cucurbitacin-feeding and pharmacophagy in spatially isolated rootworm taxa (Coleoptera: Chrysomelidae; Galerucinae, Luperini). *Molecular Phylogenetics & Evolution* **29**: 161-175.
2. Gillespie, J.J., Cannone, J.J., Gutell, R.R., Cognato, A.I. (2004) A secondary structural model of the 28S rRNA expansion segments D2 and D3 from rootworms and related leaf beetles (Coleoptera: Chrysomelidae; Galerucinae). *Insect Molecular Biology* **13**: 495-518.
3. Gillespie, J.J. (2004) Characterizing regions of ambiguous alignment caused by the expansion and contraction of hairpin-stem loops in ribosomal RNA molecules. *Molecular Phylogenetics & Evolution* **33**: 936-943.
4. Gillespie, J.J., Munro, J.B, Heraty, J.M., Yoder, M.J., Owen, A.K., Carmichael, A.E. (2005) A secondary structural model of the 28S rRNA expansion segments D2 and D3 for chalcidoid wasps (Hymenoptera: Chalcidoidea). *Molecular Biology & Evolution* **22**: 1593-1608.
5. Gillespie, J.J., Yoder, M.J., Wharton, R.A. (2005) Predicted secondary structures for expansion segments D2-D10 of the 28S large subunit ribosomal RNA from ichneumonoid Hymenoptera: Homology assignment and phylogenetic implications. *Journal of Molecular Evolution* **61**: 114-137.
6. Gillespie, J.J., McKenna, C.H., Yoder, M.J., Gutell, R.R., Johnston, J.S., Kathirithamby, J., Cognato, A.I. (2005) Assessing the odd secondary structural properties of nuclear small subunit ribosomal RNA sequences (18S) of the twisted-wing parasites (Insecta: Strepsiptera). *Insect Molecular Biology* **14**: 625-643.
7. Wharton, R.A., Yoder, M.J., Gillespie, J.J., Patton, J.C., Honeycutt, R.L. (2006) Relationships of *Exodontiella*, a non-alysiine, exodont member of the family Braconidae (Insecta, Hymenoptera). *Zoologica Scripta* **35**: 323-340.
8. Deans, A.R., Gillespie, J.J., Yoder, M.J. (2006) An evaluation of ensign wasp classification (Hymenoptera: Evaniidae) based on molecular data and insights from ribosomal RNA secondary structure. *Systematic Entomology* **31**: 517-528.
9. Honey Bee Genome Sequencing Consortium. (2006) Insights into social insects from the genome of the honey bee *Apis mellifera*. *Nature* **443**: 931-949.
10. Gillespie, J.J., Johnston, J.S., Cannone, J.J., Gutell, R.R. (2006) Characteristics of the nuclear (18S, 5.8S, 28S, and 5S) and mitochondrial (16S and 12S) rRNA genes of *Apis mellifera* (Insecta: Hymenoptera): Structure, organization and retrotransposable elements. *Insect Molecular Biology* **15**: 657-686.

11. Kjer, K.M., **Gillespie, J.J.**, Ober, K.A. (2006) Structural homology in ribosomal RNA, and a deliberation on POY. *Arthropod Systematics & Phylogenetics* **64**: 159-164.
12. Snyder, E.E., Kampanya, N., Lu, J., Nordberg, E., Rajasimha, H., Shukla, M., Soneja, J., Tian, Y., Xue, T., Yoo, H., Zhang, F., Dharmanolla, C., Dongre, N.V., **Gillespie, J.J.**, Hamelius, J., Hance, M., Huntington, K., Jukneliene, D., Koziski, J., Mackasmiel, L., Mane, S.P., Nguyen, V., Purkayastha, A.K., Shallom, J., Yu, G., Guo, Y., Gabbard, J., Hix, D., Azad, A., Baker, S., Boyle, S., Khudyakov, Y., Meng, X.J., Rupprecht, C., Vinje, J., Crasta, O., Czar, M.J., Dickerman, A., Eckart, J.D., Kenyon, R., Will, R., Setubal, J., Sobral, B. (2007) PATRIC: The VBI PathoSystems Resource Integration Center. *Nucleic Acids Research (Database Issue)* **35**: D401-406.
13. Hines, H.M., Hunt, J.H. O'Connor, T.K., **Gillespie, J.J.**, Cameron, S.A. (2007) A multi-gene phylogeny reveals eusociality evolved twice in vespid wasps. *Proceedings of the National Academy of Science* **104**: 3295-3299.
14. **Gillespie, J.J.**, Beier, M.S., Rahman, M.S., Ammerman, N.C., Purkayastha, A., Shallom, J.M., Sobral, B.S., Azad, A.F. (2007) Plasmids and rickettsial evolution: Insight from *Rickettsia felis*. *PLoS ONE* **2**: e266.
15. Ceraul, S.M., Dreher-Lesnack, S.M., **Gillespie, J.J.**, Rahman, M.S., Azad, A.F. (2007) A new tick defensin isoform and antimicrobial gene expression in response to *Rickettsia montanensis* challenge. *Infection & Immunity* **75**: 1973-1983.
16. Kjer, K.M., **Gillespie, J.J.**, Ober, K.A. (2007) Opinions on alignment, and an empirical comparison of repeatability and accuracy between POY and structural alignment. *Systematic Biology* **56**: 133-146.
17. Kathirithamby, J., **Gillespie, J.J.**, Cognato, A.I., Johnston, J.S. (2007) Cordelia's dilemma: High nucleotide divergence with morphological stasis - How does this happen in a dimorphic parasite with disparate hosts? *Zootaxa* **1636**: 59-68.
18. **Gillespie, J.J.**, Tallamy, D.W., Riley, E.G., Cognato, A.I. (2008) Molecular phylogeny of rootworms and related galerucine beetles (Coleoptera: Chrysomelidae). *Zoologica Scripta* **37**: 195-222.
19. Jordal, B., **Gillespie, J.J.**, Cognato, A.I. (2008) Secondary structure alignment and direct optimization of 28S rDNA sequences provide limited phylogenetic resolution in bark and ambrosia beetles (Curculionidae: Scolytinae). *Zoologica Scripta* **37**: 43-56.
20. **Gillespie, J.J.**, Williams, K., Shukla, M., Snyder, E.E., Nordberg, E., Ceraul, S.M., Dharmanolla, C., Rainey, D., Soneja, J., Vishnubhat, N.D., Wattam, R., Purkayastha, A., Shallom, J.M., Czar, M., Crasta, O., Setubal, J., Azad, A., Sobral, B. (2008) *Rickettsia* phylogenomics: unwinding the intricacies of obligate intracellular life. *PLoS ONE* **3**: e2018.
21. Marvaldi, A.E., Duckett, C.N., Kjer, K.M., **Gillespie, J.J.** (2009) Structural alignment of 18S and 28S rDNA sequences provides insights into the phylogeny of Phytophaga and related beetles (Coleoptera: Cucujiformia). *Zoologica Scripta* **38**: 63-77.
22. **Gillespie, J.J.**, Ammerman, N.C., Beier-Sexton, M.S., Sobral, B.S., Azad, A.F. (2009) Louse and flea-borne rickettsioses: Biological and genomic analysis. *Veterinary Research* **40**: 12.
23. Kjos, S.A., **Gillespie, J.J.**, Olson, J.K., Snowden, K.F. (2009) Detection of *Blastocrithidia* spp. (Kinetoplastida: Trypanosomatidae) in Chagas disease vectors from Texas, USA. *Vector-Borne and Zoonotic Diseases* **9**: 213-216.
24. **Gillespie, J.J.**, Ammerman, N.C., Dreher-Lesnack, S., Rahman, M.S., Worley, M.J., Setubal, J.C., Sobral, B.S., Azad, A.F. (2009) An Anomalous Type IV Secretion System in *Rickettsia* is Evolutionarily Conserved. *PLoS ONE* **4**: e4833.
25. Ammerman, N.C.\*, **Gillespie, J.J.\***, Neuwald, A.F., Sobral, B.S., Azad, A.F. (2009) A typhus group-specific protease defies reductive evolution in rickettsiae. *Journal of Bacteriology* **191**: 7609-7613.  
\*equal author contribution.
26. Suttén, E.L., Norimine, J., Beare, P.A., Heinzen, R.A., Lopez, J.E., Morse, K., Brayton, K.A., **Gillespie, J.J.**, Brown, W.C. (2010) *Anaplasma marginale* type IV secretion system proteins VirB2, VirB7, VirB11, and VirD4 are immunogenic components of a protective bacterial membrane vaccine. *Infection and Immunity* **78**: 1314-1325.

27. Dreher-Lesnack, S.M., Ceraul, S.M., Lesnick, S.C., **Gillespie, J.J.**, Ribeiro, J.M.C., Valenzuela, J.G., Azad, A.F. (2010) Analysis of *Rickettsia typhi*-infected and uninfected cat flea (*Ctenocephalides felis*) midgut cDNA libraries: deciphering molecular pathways involved in host response to *R. typhi* infection. *Insect Molecular Biology* **19**: 229-241.
28. **Gillespie, J.J.**, Brayton, K.A., Williams, K.P., Quevedo Diaz, M.A., Brown, W.C., Azad, A.F., Sobral, B.W. (2010) Phylogenomics reveals a diverse Rickettsiales type IV secretion system. *Infection and Immunity* **78**: 1809-1823.
29. Williams, K.P., **Gillespie, J.J.**, Snyder, E.E., Shallom, J.M., Sobral, B.W., Dickerman, A. (2010) A robust species tree for the *Gammaproteobacteria*. *Journal of Bacteriology* **192**: 2305-2314.
30. Ananiadou, S., Sullivan, D., Levow, G., Black, W., **Gillespie, J.J.**, Mao, C., Pyysalo, S., Tsujii, J., Sobral, B. (2011) Named entity extraction for bacterial type IV secretion systems. *PLoS ONE* **6**: e14780.
31. **Gillespie, J.J.\***, Wattam, A.R.\*, Cammer, S.A.\*, Gabbard, J.\*, Shukla, M.P.\*, Dalay, O., Timothy Driscoll<sup>1</sup>, Hix, D., Mane, S.P., Mao, C., Nordberg, E.K., Scott, M., Schulman, J.R., Snyder, E.E., Sullivan, D.E., Wang, C., Warren, A., Williams, K.P., Xue, T., Yoo, H.S., Zhang, C., Zhang, Y., Will, R., Kenyon, R.W., Sobral, B.W. (2011) PATRIC: The Comprehensive Bacterial Bioinformatics Resource with a Focus on Human Pathogenic Species. *Infection and Immunity* **79**: 4286-4298. **\*equal author contribution.**
32. **Gillespie, J.J.\***, Joardar, V.\*, Williams, K.P., Driscoll, T., Hostetler, J.B., Nordberg, E.K., Shukla, M., Walenz, B., Hill, C.A., Nene, V.M., Azad, A.F., Sobral, B.W., Caler, E. (2012) A *Rickettsia* genome overrun by mobile genetic elements provides insight into the acquisition of genes characteristic of an obligate intracellular lifestyle. *Journal of Bacteriology* **194**: 376-394. **\*equal author contribution.**
33. Sears, K.T., Ceraul, S.M., **Gillespie, J.J.**, Ammerman, N.C, Rahman M.S., Azad, A.F. (2012) Surface proteome analysis and initial characterization of Surface cell antigen (Sca) or autotransporters family of *Rickettsia typhi*. *PLoS Pathogens* **8**: e1002856.
34. Kaur, S., Rahman M.S., Ammerman, N.C, Vasudevan, P., Beier-Sexton, M., Ceraul, S.M., **Gillespie, J.J.**, Azad, A.F. (2012) TolC-dependent secretion of an ankyrin repeat-containing protein of *Rickettsia typhi*. *Journal of Bacteriology* **194**: 4920-4932.
35. Kappmeyer, L.S., Thiagarajan, M., Herndon, D.R., Ramsay, J.D., Caler, E., Djikeng, A., **Gillespie, J.J.**, Lau, A.O.T., Roalson, E.H., Silva, J.C., Silva, M.G., Suarez, C.E., Ueti, M.W., Nene, V.M., Mealey, R.H., Knowles, D.P., Brayton, K.A. (2012) Comparative genomic analysis and phylogenetic position of *Theileria equi*. *BMC Genomics* **13**:603.
36. Driscoll, T. \*, **Gillespie, J.J. \***, Nordberg, E., Azad, A.F., Sobral, B.W. (2013) Bacterial DNA sifted from the *Trichoplax adhaerens* (Animalia: Placozoa) genome project reveals a putative rickettsial endosymbiont. *Genome Biology and Evolution*. **5**: 621-645. **\*equal author contribution.**
37. Rahman M.S., **Gillespie, J.J.**, Kaur, S., Sears, K.T., Ceraul, S.M., Beier-Sexton, M., Azad, A.F. (2013) *Rickettsia typhi* possesses phospholipase A<sub>2</sub> enzymes that are involved in infection of host cells. *PLoS Pathogens*. **9**:e1003399.
38. Choy, A., Severo, M.S., Sun, R., Girke, T., **Gillespie, J.J.**, Pedra, J.H.F. (2013) Decoding the Ubiquitome of Arthropod Disease Vectors. *PLoS ONE* **8**:e78077.
39. Wattam, A.R., Abraham, D., Dalay, O., Disz, T.L., Driscoll, T., Gabbard, J., **Gillespie, J.J.**, Gough, R., Hix, D., Kenyon, R.W., Machi, D., Mao, C., Nordberg, E.K., Olson, R., Overbeek, R., Pusch, G.D., Shukla, M.P., Schulman, J.R., Stevens, R.L., Sullivan, D.E., Vonstein, V., Warren, A., Will, R., Wilson, M.J.C., Yoo, H.S., Zhang, C., Zhang, Y., Sobral, B.W. (2013) PATRIC, the Bioinformatics Resource Center for bacterial data. *Nucleic Acids Research (Database Issue)*. **42**:D581-91.
40. Kang, Y.J., Diao, X.N., Zhao, G.Y., Chen, M.H., Xiong, Y., Shi, M., Fu, W.M., Guo, Y.J., Pan, B., Chen, X.P., Holmes, E.C., **Gillespie, J.J.**, Dumler, S.J., Zhang, Y.Z. (2014) Extensive diversity of Rickettsiales bacteria in two species of ticks from China and the evolution of the Rickettsiales. *BMC Evol Biol*. **14**:167.

41. **Gillespie, J.J.**, Driscoll T, Verhoeve VI, Utsuki T, Husseneder C, Chouljenko VN, Azad AF, Macaluso KR. (2014) Genomic diversification in strains of *Rickettsia felis* isolated from different arthropods. *Genome Biology and Evolution* 7:35-56.
42. **Gillespie, J.J.**, Kaur, S.J., Rahman, M.S., Rennoll-Bankert, K., Sears, K.T., Beier-Sexton, M., Azad, A.F. (2015) Secretome of obligate intracellular *Rickettsia*. *FEMS Microbiol Rev.* **39**:47-80
43. Smith TA, Driscoll T, **Gillespie, J.J.**, Raghavan R. A *Coxiella*-like endosymbiont is a potential vitamin source for the Lone Star tick. *Genome Biology and Evolution.* (2015) 7:831-8.
44. Rennoll-Bankert KE, Rahman MS, **Gillespie, J.J.**, Guillotte ML, Kaur SJ, Lehman SS, Beier-Sexton M, Azad AF. (2015) Which Way In? The RalF Arf-GEF Orchestrates *Rickettsia* Host Cell Invasion. *PLoS Pathogens* **11**:e1005115.
45. **Gillespie, J.J.**, Phan IQ, Scheib H, Subramanian S, Edwards TE, Lehman SS, Piitulainen H, Rahman MS, Rennoll-Bankert KE, Staker BL, Taira S, Stacy R, Myler PJ, Azad AF, Pulliainen AT. (2015) Structural Insight into How Bacteria Prevent Interference between Multiple Divergent Type IV Secretion Systems. *mBio* **6**:e01867-15.
46. Gulia-Nuss M, Nuss AB, Meyer JM, Sonenshine DE, Roe RM, Waterhouse RM, Sattelle DB, de la Fuente J, Ribeiro JM, Megy K, Thimmapuram J, Miller JR, Walenz BP, Koren S, Hostetler JB, Thiagarajan M, Joardar VS, Hannick LI, Bidwell S, Hammond MP, Young S, Zeng Q, Abrudan JL, Almeida FC, Aylon N, Bhide K, Bissinger BW, Bonzon-Kulichenko E, Buckingham SD, Caffrey DR, Caimano MJ, Croset V, Driscoll T, Gilbert D, **Gillespie, J.J.**, Giraldo-Calderon GI, Grabowski JM, Jiang D, Khalil SM, Kim D, Kocan KM, Koci J, Kuhn RJ, Kurtti TJ, Lees K, Lang EG, Kennedy RC, Kwon H, Perera R, Qi Y, Radolf JD, Sakamoto JM, Sanchez-Gracia A, Severo MS, Silverman N, Simo L, Tojo M, Tornador C, Van Zee JP, Vazquez J, Vieira FG, Villar M, Wespiser AR, Yang Y, Zhu J, Arensburger P, Pietrantonio PV, Barker SC, Shao R, Zdobnov EM, Hauser F, Grimmelikhuijzen CJ, Park Y, Rozas J, Benton R, Pedra JH, Nelson DR, Unger MF, Tubio JM, Tu Z, Robertson HM, Shumway M, Sutton G, Wortman JR, Lawson D, Wikel SK, Nene VM, Fraser CM, Collins FH, Birren B, Nelson KE, Caler E, Hill CA. (2016) Genomic insights into the *Ixodes scapularis* tick vector of Lyme disease. *Nature Communications* 7:10507.
47. **Gillespie, J.J.**, Phan IQ, Driscoll TP, Guillotte ML, Lehman SS, Rennoll-Bankert KE, Subramanian S, Beier-Sexton M, Myler PJ, Rahman MS, Azad AF. (2016) The *Rickettsia* type IV secretion system: unrealized complexity mired by gene family expansion. *Pathogens and Disease* **74**.
48. Rennoll-Bankert KE, Rahman MS, Guillotte ML, Lehman SS, Beier-Sexton M, **Gillespie, J.J.**, Azad AF. (2016) RalF-Mediated Activation of Arf6 Controls *Rickettsia typhi* Invasion by Co-Opting Phosphoinositol Metabolism. *Infection and Immunity* **84**: 3496-3506.
49. Driscoll TP, Verhoeve VI, Guillotte ML, Lehman SS, Rennoll SA, Beier-Sexton M, Rahman MS, Azad AF, **Gillespie, J.J.** (2017) Wholly *Rickettsia*! Reconstructed Metabolic Profile of the Quintessential Bacterial Parasite of Eukaryotic Cells. *mBio* **8**.
50. Rennoll SA, Rennoll-Bankert KE, Guillotte ML, Lehman SS, Driscoll TP, Beier-Sexton M, Rahman MS, **Gillespie, J.J.**, Azad AF. (2018) The Cat Flea (*Ctenocephalides felis*) Immune Deficiency Signaling Pathway Regulates *Rickettsia typhi* Infection. *Infection and Immunity* **86**.
51. Lehman SS, Noriea NF, Aistleitner K, Clark TR, Dooley CA, Nair V, Kaur SJ, Rahman MS, **Gillespie, J.J.**, Azad AF, Hackstadt T. (2018) The rickettsial ankyrin repeat protein 2 is a type IV secreted effector that associates with the endoplasmic reticulum. *mBio* **9**.
52. **Gillespie, J.J.**, Driscoll TP, Verhoeve VI, Rahman MS, Macaluso KR, Azad AF. (2018) A tangled web: origins of reproductive parasitism. *Genome Biology and Evolution* **10**: 2292-2309.
53. Guillotte ML, **Gillespie, J.J.**, Chandler CE, Rahman MS, Ernst RK, Azad AF. (2018) *Rickettsia* Lipid A biosynthesis utilizes the late acyltransferase LpxJ for secondary fatty acid addition. *Journal of Bacteriology* **200**.
54. Hagen R, Verhoeve VI, **Gillespie, J.J.**, Driscoll TP. (2018) Conjugative Transposons and Their Cargo Genes Vary across Natural Populations of *Rickettsia buchneri* Infecting the Tick *Ixodes scapularis*. *Genome Biology and Evolution* **10**.



55. Driscoll TP, Verhoeve VI, **Gillespie, J.J.**, Johnston JS, Guillotte ML, Rennoll-Bankert KE, Rahman MS, Hagen D, Elsik C, Macaluso KR, Azad AF. (2020) Cat fleas in flux: Rampant gene duplication, genome size plasticity, and paradoxical *Wolbachia* infection. *BMC Biology* ??.
56. Voss, O, **Gillespie, J.J.**, Lehman SS, Rennoll SA, Beier-Sexton M, Rahman MS, Azad AF. (2020) RISK-1, a secreted phosphatidylinositol 3-kinase effector, targets intracellular trafficking by reprogramming membrane phosphoinositide dynamics to establish a replicative niche of *Rickettsia typhi*. *mBio* 16:11.
57. Verhoeve VI, Plumer ML, Driscoll TP, Macaluso KR, Azad AF, **Gillespie, J.J.** (2020) The complete mitochondrial genome of the cat flea, *Ctenocephalides felis*. *Mitochondrial DNA B Resour.* 5:3422-3424.
58. Driscoll TP, Verhoeve VI, Brockway C, Shrewsbury DL, Plumer M, Sevdalis SE, Beckmann JF, Krueger LM, Macaluso KR, Azad AF, **Gillespie J.J.** (2020) Evolution of *Wolbachia* mutualism and reproductive parasitism: insight from two novel strains that co-infect cat fleas. *PeerJ* 8:e10646.
59. Guillotte ML, Chandler CE, Verhoeve VI, **Gillespie J.J.**, Driscoll TP, M. Rahman MS, Ernst RK, Azad AF. (2021) Lipid A Structural Divergence in *Rickettsia* Pathogens. *mSphere* 6: e00184-21.
60. Atwal S, Chuenklin S, Bonder EM, Flores J, **Gillespie J.J.**, Driscoll TP, Salje J. (2021) Discovery of a Diverse Set of Bacteria That Build Their Cell Walls without the Canonical Peptidoglycan Polymerase aPBP. *mBio.* 12: e0134221.
61. Verhoeve VI, Fauntleroy TD, Risteen RG, Driscoll TP, **Gillespie J.J.** (2022) Cryptic Genes for Interbacterial Antagonism Distinguish *Rickettsia* Species Infecting Blacklegged Ticks From Other *Rickettsia* Pathogens. *Front Cell Infect Microbiol.* 12: 880813.
62. Verhoeve VI, Brammer JA, Driscoll TP, Kambouris AR, Rasko DA, Cross AS, **Gillespie, J.J.** (2022) Genome sequencing of *Pseudomonas aeruginosa* strain M2 illuminates traits of an opportunistic pathogen of burn wounds. *G3 (Bethesda).* 12.
63. Verhoeve VI, **Gillespie J.J.** (2022) Origin of rickettsial host dependency unravelled. *Nat Microbiol.* 7:1110-1111.
64. Beckmann J, **Gillespie J.J.**, Tauritz D. (2023) Modeling emergence of *Wolbachia* toxin-antidote protein functions with an evolutionary algorithm. *Front Microbiol.* 2023;14:1116766.
65. **Gillespie J.J.**, Salje J. (2023) *Orientia* and *Rickettsia*: different flowers from the same garden. *Curr Opin Microbiol.* 74:102318.
66. Giengkam S, Kullapanich C, Wongsantichon J, Adcox HE, **Gillespie J.J.**, Salje J. (2023) *Orientia tsutsugamushi*: analysis of the mobilome of a highly fragmented and repetitive genome reveals ongoing lateral gene transfer in an obligate intracellular bacterium. *mSphere*. In production.

#### **Submitted or In-Revision Peer-reviewed journal articles**

1. Oyler B.L., Salje J., Rennoll-Bankert KE, Rahman MS, Skerry C., Azad AF, Goodlett, D.R., **Gillespie J.J.** (2023) *Rickettsia typhi* peptidoglycan mapping with data-dependent tandem mass spectrometry. *Nat. Communications*. In revision.
2. Verhoeve VI, Lehman SS, Driscoll TP, Beckmann JF, **Gillespie J.J.** (2023) Metagenome diversity illuminates origins of pathogen effectors. [bioRxiv. 2023 Feb 27;. doi: 10.1101/2023.02.26.530123]. *mBio*. Accepted with minor revision.
3. Yang H, Verhoeve VI, Chandler CE, Nallar S, Snyder GA, Ernst RK, **Gillespie J.J.** (2023) Structural determination of *Rickettsia* lipid A without chemical extraction confirms shorter acyl chains in later-evolving Spotted Fever Group pathogens. [bioRxiv. 2023 Jul 6:2023.07.06.547954]. *mSphere*. In revision.
4. Hofstaedter C., Chandler C.E., Met C.M., **Gillespie J.J.**, Harro J.M., Goodlett D.R., Rasko D., Ernst RK. (2023) *Pseudomonas aeruginosa* LpxO homologs perform differential lipid A 2-hydroxylation. *mBio*. In revision.

## Non-peer reviewed journal articles

1. **Gillespie, J.J.**, Duckett, C.N., Kjer, K.M. (2001) Identification of a gene region that gives good phylogenetic signal for determining high level divergences within alticine and galerucine chrysomelids. *Chrysomela* **40/41**: 10-11.

## Book Chapters

1. **Gillespie, J.J.**, Kjer, K.M., Riley, E.G., & Tallamy, D.W. (2004) The evolution of cucurbitacin pharmacophagy in rootworms: Insight from Luperini paraphyly. Pp, 37-58 *in* New Developments on The Biology of Chrysomelidae. Edited by Pierre H. Jolivet (Paris), Jorge A. Santiago-Blay (Washington) and Michael Schmitt. Kluwer Academic, Boston, MA.
2. Duckett, C.N., **Gillespie, J.J.**, Kjer, K.M. (2004) Reanalysis of Chrysomelidae data (18S) based on homology assessments. Pp 3-18, *in* New Developments on The Biology of Chrysomelidae. Edited by Pierre H. Jolivet (Paris), Jorge A. Santiago-Blay (Washington) and Michael Schmitt. Kluwer Academic, Boston, MA.
3. Tallamy, D.W., Hibbard, B.E., Clark, T.L., **Gillespie, J.J.** (2005) Western corn rootworm, cucurbits, and cucurbitacins. Pp 67-93, *in* Ecology and Management of Western Corn Rootworm (*Diabrotica virgifera virgifera* LeConte). Stefan Vidal, Uli Kuhlmann, and Rich Edwards (eds.), CABI publishers, Wallingford, United Kingdom.
4. Azad, A., Beier, M.S., **Gillespie, J.J.** (2008) The Rickettsiaceae. Pp 439-450, *in* Practical Handbook of Microbiology. Edited by L. Green and E. Goldman. CRC Press. 17 pages, 4 Tables, 2 Figs.
5. Kjer, K.M., Roshan, U., **Gillespie, J.J.** (2009) Structural and evolutionary considerations for multiple sequence alignment of RNA, and the challenges for algorithms that ignore them. Pp 105-149 *in* Sequence Alignment: Methods, Models, Concepts, and Strategies, M.S. Rosenberg, Ed. University of California Press.
6. **Gillespie, J.J.**, Nordberg, E., Azad, A.F., Sobral, B.W. (2012) Phylogeny and Comparative Genomics: The Shifting Landscape in the Genomics Era. Pp 84-141, *in* Intracellular Pathogens II: Rickettsiales, Azad, A. F., Palmer, G. H., eds. American Society of Microbiology.
7. Beier, M.S., Driscoll, T., Azad, A., **Gillespie, J.J.** (2015) The Rickettsiaceae. Pp 547-566, *in* Practical Handbook of Microbiology. Edited by L. Green and E. Goldman. CRC Press.
8. Driscoll, TP, Verhoeve VI, T., Beier, MS, Azad, A, **Gillespie, J.J.** (2021) The Rickettsiaceae. Pp 547-566, *in* Practical Handbook of Microbiology. Edited by L. Green and E. Goldman. CRC Press.

## Major Invited Speeches

### Local

1. **Gillespie, J.J.** (1999) Guest lecturer on molecular techniques for ENWC 455/655: Conservation Genetics. University of Delaware, Newark, Delaware, USA.
2. **Gillespie, J.J.** (2002) Guest lecturer on Bayesian analysis and phylogeny reconstruction for ENTO 601: Principles of Systematics. Texas A&M University, College Station, Texas, USA.
3. **Gillespie, J.J.** (2002) Guest lecturer on Maximum Likelihood approaches to phylogeny reconstruction for ENTO 601: Principles of Systematics. Texas A&M University, College Station, Texas, USA.
4. **Gillespie, J.J.** (2003) Guest lecturer on Bayesian analysis and phylogeny reconstruction for ENTO 601: Principles of Systematics. Texas A&M University, College Station, Texas, USA.
5. **Gillespie, J.J.** (2003) Guest lecturer on Maximum Likelihood approaches to phylogeny reconstruction for ENTO 601: Principles of Systematics. Texas A&M University, College Station, Texas, USA.
6. **Gillespie, J.J.** (2004) Guest lecturer on Bayesian analysis and phylogeny reconstruction for ENTO 601: Principles of Systematics. Texas A&M University, College Station, Texas, USA.

7. **Gillespie, J.J. (2004)** Guest lecturer on Maximum Likelihood approaches to phylogeny reconstruction for ENTO 601: Principles of Systematics. Texas A&M University, College Station, Texas, USA.
8. **Gillespie, J.J. (2006)** The importance of phylogeny in determining candidate proteins for vaccine design: A case study using nine rickettsial genomes. All-hands meeting for the PATRIC project, Virginia Bioinformatics Institute (Virginia Tech), Blacksburg, Virginia, USA.
9. **Gillespie, J.J. (2007)** Rickettsiae orthologous groups: Currently established for 10 genomes. All-hands meeting for the PATRIC project, Virginia Bioinformatics Institute (Virginia Tech), Blacksburg, Virginia, USA.
10. **Gillespie, J.J. (2007)** Heterologous complementation of the *Rickettsia* type IV secretion system (T4SS) in a T4SS-mutant strain of *Sinorhizobium meliloti*. Cyberinfrastructure Division Laboratory Meeting, Virginia Bioinformatics Institute (Virginia Tech), Blacksburg, Virginia, USA.

### National

1. **Gillespie, J.J. (2002)** Biology of cucurbitacin feeding in rootworms (Chrysomelidae: Galerucinae; Aulacophorina & Diabroticina); Searching for non-neutral markers to test the convergence model as revealed by molecular phylogeny. Entomological Society of America, Annual Meeting, Fort Lauderdale, Florida, USA.
2. **Gillespie, J.J. (2003)** The impact of rRNA structure on phylogeny reconstruction. University of California, Riverside. Departmental seminar. Riverside, California, USA.
3. **Gillespie, J.J. (2005)** Structure based methods for the phylogenetic analysis of ribosomal RNA molecules, Entomology departmental seminar, The Ohio State University, Columbus, Ohio, USA.
4. **Gillespie, J.J. (2005)** The use of molecular structure in phylogenetics, and its integration into informatics. Microbiology and Immunology seminar (interview), University of Maryland (School of Medicine), Baltimore, Maryland, USA.
5. **Gillespie, J.J. (2005)** The use of molecular structure in phylogenetics, and its integration into informatics. Virginia Bioinformatics Institute (Virginia Tech), seminar (interview), Blacksburg, Virginia, USA.
6. **Gillespie, J.J. (2007)** From bugs to bioinformatics: anything is possible. Seminar on career opportunities for a graduating class of bioinformatic majors at University of Maryland (Baltimore County campus), Baltimore, Maryland, USA.
7. **Gillespie, J.J. (2009)** Scratching the surface? Current knowledge of "bugs" within bugs. Entomology departmental seminar, North Carolina State University, Raleigh, North Carolina, USA.
8. **Gillespie, J.J. (2009)** Proliferation of Mobile Genetic Elements and Extensive Genome Rearrangement in a Rickettsial Symbiont of the Deer Tick (*Ixodes scapularis*). 58<sup>TH</sup> Annual Meeting of the American Society of Tropical Medicine and Hygiene, Washington DC, USA.
9. **Gillespie, J.J. (2012)** Informatics-guided research in Rickettsiology. Virginia Bioinformatics Institute Research Symposium, Blacksburg, VA, Mar 27, 2012.
10. **Gillespie, J.J. (2014)** Methods in comparative genomics and bioinformatics. Louisiana State University, School of Veterinary Medicine, Pathobiological Sciences, Seminar for graduate students.
11. **Gillespie, J.J. (2014)** Two divergent type IV secretion systems contribute to the pathogenicity landscape of obligate intracellular *Rickettsia*. Louisiana State University, School of Veterinary Medicine, Pathobiological Sciences, Departmental Seminar.
12. **Gillespie, J.J. (2015)** Structural Insight into How Bacteria Prevent Interference between Multiple Divergent Type IV Secretion Systems. Seattle Structural Genomics Center for Infectious Diseases. Invited presentation for NAIAD annual review symposium.
13. **Gillespie, J.J., Guillotte, ML, Lehman SS, Rahman, MS, Rennoll-Bankert, KE, Beier-Sexton, M, Azad, AF. (2015)** Structural and Functional Insights on the Rickettsiales vir Homolog (rvh) Type IV Secretion System. Plenary Talk, American Society for Rickettsiology, Annual Meeting, Lake Tahoe, CA. June 20-25.

10. **Gillespie, J.J. (2019)** Methods Against the wind: mechanisms of evolution in an obligate intracellular parasite. Department of Biology, West Virginia University, Departmental Seminar.
11. **Gillespie, J.J.**, Driscoll TP, Verhoeve VI, Johnston JS, Guillotte ML, Rennoll-Bankert KE, Rahman MS, Beckmann, JF, Hagen D, Elsik C, Macaluso KR, Azad AF. **(2019)** Reproductive Parasitism: The Pieces, Players and Shifting Paradigm. Plenary Talk, American Society for Rickettsiology, Annual Meeting, Santa Fe, NM.
12. **Gillespie, J.J. (2019)** *Rickettsia* parasites RAGE against reductive genome evolution. Department of Veterinary Medicine University of Maryland- College Park and Virginia-Maryland College of Veterinary Medicine, Departmental Seminar.
13. **Gillespie, J.J. (2020)** *Rickettsia* parasites RAGE against reductive genome evolution. Division of Biological Sciences, College of Humanities and Sciences, University of Montana, Departmental Seminar.
14. **Gillespie, J.J. (2020)** Underappreciated Mutualisms in Vector Biology: Lessons from the Deer tick and Cat flea. An AGNR Cornerstone Event: Improve Human, Animal, and Environmental Health, University of Maryland, College of Agriculture and Natural Resources. Nov. 11<sup>th</sup>.
15. **Gillespie, J.J. (2021)** Guest Lecturer on Phylogenomics, in VMSC689 (Use of Genomics and Proteomics in Infectious Disease), Department of Veterinary Medicine University of Maryland- College Park and Virginia-Maryland College of Veterinary Medicine.
16. **Gillespie, J.J. (2021)** *Rickettsia* parasites RAGE against reductive genome evolution. Department of Biology, Portland State University, Departmental Seminar.
17. **Gillespie, J.J. (2021)** Guest Lecturer on Bacterial Secretion Systems, Department of Biology, Portland State University.
18. **Gillespie, J.J. (2021)** Guest Lecturer on Bacterial Secretion Systems. Pathogenesis of Bacterial Infections course, Department of Molecular Microbiology & Immunology, Johns Hopkins Bloomberg School of Public Health. February 1<sup>st</sup>.
19. **Gillespie, J.J. (2021)** Sugar Thievery. Spotlight on *Rickettsia*. American Society for Rickettsiology. March 24<sup>th</sup>.
20. **Gillespie, J.J. (2021)** The importance of arthropod-borne pathogens turned mutualists. Oct. 24<sup>th</sup>. Texas A&M Entomology Departmental Seminar.
21. **Gillespie, J.J. (2022)** *Rickettsia* parasites RAGE against reductive genome evolution. College of Veterinary Medicine, Kansas State University, Departmental Seminar.
22. **Gillespie, J.J. (2024)** The *Rickettsia* paradox: stealing host sugars to make PAMPs in eukaryotic cytosol. University of Texas Medical Branch (Galveston), Departmental Seminar.

### International

1. Kjer, K.M., **Gillespie, J.J.**, and Ober, K.A. **(2005)** Structural homology in ribosomal RNA. 2<sup>nd</sup> meeting on "The Phylogenetic Relationships within the Insect Orders", Dresden, Germany.

### Proffered Communications

#### National

1. **Gillespie, J.J. (1998)** Effect of a recent fire on arthropod diversity and abundance in the New Jersey Pine Barrens. National Conference for Undergraduate Research, Salisbury University, Maryland, USA.
2. **Gillespie, J.J. (2000)** Inferring phylogenetic relationships among basal taxa of the tribe Luperini, or "rootworms" (Coleoptera: Chrysomelidae; Galerucinae), through the analysis of mitochondrial and nuclear DNA sequences. Masters thesis defense, University of Delaware, Newark, Delaware.

3. **Gillespie, J.J. (2000)** Inferring phylogenetic relationships among basal taxa of the tribe Luperini, or "rootworms" (Coleoptera: Chrysomelidae; Galerucinae), through the analysis of mitochondrial and nuclear DNA sequences. Entomological Society of America, Joint Annual Meeting, Montreal, Quebec, Canada.
4. **Gillespie, J.J. (2001)** Phylogenetic signal from multiple molecules suggests the convergent evolution of cucurbitacin pharmacophagy in rootworms (Coleoptera: Chrysomelidae; Galerucinae; Luperini). Entomological Society of America, Annual Meeting, San Diego, California, USA.
5. Kjer, K.M., Duckett, C.N. **Gillespie, J.J.** Tallamy, D.W. & Konstantinov, A. (2002) Phylogeny of Galerucines and Flea Beetles. Ent-event, New Jersey Museum of Agriculture.
6. Kjer, K.M., Duckett, C.N. **Gillespie, J.J.** Tallamy, D.W. & Konstantinov, A. (2002) Phylogeny of Galerucines and Flea Beetles. Annual Meeting, Society of Systematic Biology, Champaign, Illinois, USA.
7. Duckett, C.N., **Gillespie, J.J.** & Kjer, K.M. (2002) Reanalysis of Chrysomelidae data (18S) based on homology assessments. Entomological Society of America, Annual Meeting, Fort Lauderdale, Florida, USA.
8. Duckett, C.N., **Gillespie, J.J.** & Kjer, K.M. (2003) Phylogeny of Chrysomelidae and the evolution of bifid tarsal setae. Annual Meeting, Society of Systematic Biology, Chico, California, USA.
9. **Gillespie, J.J. (2003)** Phylogeny of galerucine leaf beetles (*sensu stricto*) with emphasis on the biology, ecology, and evolution of cucurbitacin feeding and pharmacophagy in rootworms (Chrysomelidae: Galerucinae: Luperini). Dissertation proposal presentation, Texas A&M University, College Station, Texas, USA [Note: dissertation title has since been modified].
10. **Gillespie, J.J. (2003)** A predicted structure for the expansion segments D2 & D3 of the LSU 28S rRNA from chrysomelid beetles: Applications for homology assignment and maximum likelihood modeling of rRNA molecules. 6th Annual Graduate Student Forum, Texas A&M University, College Station, Texas, USA.
11. **Gillespie, J.J.** & Cognato, A.I. (2003) Accommodating the non-independence of pairing regions in the phylogenetic analysis of rRNA molecules: An example from the rootworms (Coleoptera: Chrysomelidae; Galerucinae; Luperini). Entomological Society of America, Annual Meeting, Cincinnati, Ohio, USA.
12. Duckett, C.N., **Gillespie, J.J.**, Reid, C.A. & Kjer, K.M. (2003) Phylogeny of the Chrysomelidae (Coleoptera) based on 18S DNA data and morphology with special emphasis on the relationships among galerucines and flea beetles. Entomological Society of America, Annual Meeting, Cincinnati, Ohio, USA.
13. Wharton, R.A., **Gillespie, J.J.**, & Yoder, M.J. (2003) What's at the Base? Entomological Society of America, Annual Meeting, Cincinnati, Ohio, USA.
14. Deans, A.R., Whitfield, J.B., **Gillespie, J.J.** (2004) Estimates of relationships between ensign wasp genera (Hymenoptera: Evaniidae). Annual Meeting, Society of Systematic Biology, Fort Collins, Colorado, USA.
15. Duckett, C.N., Reid, C.A.M., **Gillespie, J.J.**, Kjer, K.M. (2004) Phylogeny of Chrysomelidae based on two ribosomal genes and morphology. Evolution's greatest success: The evolutionary history of the Coleoptera Phytophaga (Convenors: Rolf G. Oberprieler and Catherine N. Duckett). International Congress of Entomology, Symposium, Brisbane, Australia.
16. Windsor, D., Duran, D., Keller, **Gillespie, J.J.**, Vencl & Duckett, C.N. (2004) Contrasts in the host-plant and molecular phylogenetic relationships of cassidine and hispine beetles. Evolution's greatest success: The evolutionary history of the Coleoptera Phytophaga (Convenors: Rolf G. Oberprieler and Catherine N. Duckett). International Congress of Entomology, Symposium, Brisbane, Australia.
17. Marvaldi, A., Duckett, C.N., **Gillespie, J.J.**, Kjer, K.M. & Reid, C.R. (2004) Phylogeny of Phytophaga based on two molecular markers and morphology. Evolution's greatest success: The

- evolutionary history of the Coleoptera Phytophaga (Convenors: Rolf G. Oberprieler and Catherine N. Duckett). International Congress of Entomology, Symposium, Brisbane, Australia.
18. Yoder, M.J., **Gillespie, J.J. (2004)** Perl-scripted manipulation of insect RNA multiple sequence alignments. International Congress of Entomology, Symposium, Brisbane, Australia.
  19. Munro, J.B., **Gillespie, J.J.**, Heraty, J.M, Yoder, M.J., Owen, A.K. **(2004)** A secondary structural model of the 28S rDNA expansion segments D2 and D3 from chalcid wasps (Hymenoptera: Chalcidoidea): Implications for multiple sequence alignment and phylogeny reconstruction. Entomological Society of America, Annual Meeting, Salt Lake City, Utah, USA.
  20. Yoder, M.J., **Gillespie, J.J. (2004)** Exploring the potential for automated prediction of insect rRNA secondary structure regions via information derived from manually-aligned multiple sequence alignments. Entomological Society of America, Annual Meeting, Salt Lake City, Utah, USA.
  21. Yoder, M.J., **Gillespie, J.J. (2004)** Towards the use of morphological characters based on RNA secondary structure in revisionary systematics. PEET V. University of Illinois at Urbana-Champaign, Illinois, USA.
  22. Duckett, C.N., **Gillespie, J.J.**, Kjer, K.M. **(2004)** Phylogeny of the flea beetles (Chrysomelidae: Galerucinae: Alticini) based on three molecular markers. Entomological Society of America, Annual Meeting, Salt Lake City, Utah, USA.
  23. **Gillespie, J.J.**, Yoder, M.J., Cognato, A.I. **(2004)** New structure-based methods for the phylogenetic analysis of ribosomal RNA sequences using the parsimony optimality criterion. Entomological Society of America, Annual Meeting, Salt Lake City, Utah, USA.
  24. McKenna, C.H., **Gillespie, J.J.**, Johnston, J.S., Kathirithamby, J., Cognato, A.I. **(2005)** Bizarre secondary structure in the rRNA gene complex of Strepsiptera (Insecta). Agriculture Program Conference Student Research Poster Competition, Texas A&M University, College Station, Texas, USA.
  25. **Gillespie, J.J. (2005)** Structure based methods for the phylogenetic analysis of ribosomal RNA molecules. Dissertation defense, Texas A&M University, College Station, Texas, USA.
  26. Yoder, M.J., **Gillespie, J.J. (2006)** A preliminary phylogeny of Diapriidae: Sub-familial relationships. 6th International Conference of Hymenopterists, International Society of Hymenopterists, Sun City, South Africa.
  27. Woolley, J.B., Noyes, J.S., Quicke, D.L.J., **Gillespie, J.J.**, Yoder, M.J. **(2006)** Phylogeny and classification of Encyrtidae inferred by 28S rDNA (Hymenoptera). 6th International Conference of Hymenopterists, International Society of Hymenopterists, Sun City, South Africa.
  28. Kjer, K.M., **Gillespie, J.J.**, Ober, K.A. **(2006)** Opinions on alignment, and an empirical comparison of repeatability and accuracy between POY and structural alignment. Annual Meeting, Society of Systematic Biology, State University of New York at Stony Brook, Stony Brook, New York, USA.
  29. Worley, M.J., **Gillespie, J.J.**, Azad, A.F. **(2006)** *Rickettsia typhi* type IV secretion. Joint Meeting: The 20th Meeting of the American Society for Rickettsiology and The 5th International Conference on *Bartonella* as Emerging Pathogens, Asilomar Conference Grounds, Pacific Grove, California, USA.
  30. **Gillespie, J.J.**, Purkayastha, A., Yu, G., Hance, M., Czar, M., Snyder, E., Crasta, O., Setubal, J., Azad, A., Sobral, B. **(2006)** The rickettsial hypothetical proteins: utility in rickettsial biology and systematics. Joint Meeting: The 20th Meeting of the American Society for Rickettsiology and The 5th International Conference on *Bartonella* as Emerging Pathogens. Asilomar Conference Grounds, Pacific Grove, California, USA. [This poster was delivered by several members of the Azad lab].
  31. Kjos, S.A., **Gillespie, J.J.**, Logan, K.S., Olson, J.K., Snowden, K.F. **(2006)** Genetic characterization of *Trypanosoma cruzi* isolates from *Triatoma* spp. in the United States based on SSU ribosomal RNA gene sequences. 55<sup>TH</sup> Annual Meeting of the American Society of Tropical Medicine and Hygiene, Atlanta, Georgia, USA.
  32. **Gillespie, J.J.**, Beier, M.S., Rahman, M.S., Ammerman, N.C., Purkayastha, A., Shallom, J.M., Sobral, B.S., Azad, A.F. **(2006)** Horizontal inheritance of plasmid genes in *Rickettsia felis*. 55<sup>TH</sup> Annual Meeting of the American Society of Tropical Medicine and Hygiene, Atlanta, Georgia, USA.

33. Shallom, J.M., Dongre, N.V., Crasta, O., **Gillespie, J.J.**, Azad, A., Setubal, J., Sobral, B. (2007) Prediction of Sec-dependent secreted proteins in *Rickettsia conorii* (Malish 7) using bioinformatics tools. Virginia Bioinformatics Institute 2<sup>nd</sup> Annual Research Symposium, Pembroke, Virginia, USA.
34. **Gillespie, J.J.**, Williams, K., Shukla, M., Snyder, E.E., Nordberg, E., Ceraul, S.M., Dharmanolla, C., Rainey, D., Soneja, J., Vishnubhat, N.D., Wattam, R., Purkayastha, A., Shallom, J.M., Czar, M., Crasta, O., Setubal, J., Azad, A., Sobral, B. (2007) *Rickettsia* phylogenomics: unwinding the intricacies of obligate intracellular life. 21st Meeting of the American Society for Rickettsiology. September 8-11, 2007, Colorado Springs, Colorado, USA.
35. **Gillespie, J.J.**, Williams, K., Snyder, E.E., Nordberg, E., Soneja, J., Purkayastha, A., Shallom, J.M., Shukla, M., Czar, M., Crasta, O., Setubal, J., Azad, A., Sobral, B. (2007) Comparative phylogenomics of rickettsiae. Virginia Bioinformatics Institute 2<sup>nd</sup> Annual Research Symposium, Pembroke, Virginia, USA.
36. Sakamoto, J.M, **Gillespie, J.J.**, Beier, M.S., Azad, A.F. (2007) Investigating the role of *Rickettsia felis* plasmid pRF genes in pathogenicity. 6<sup>th</sup> Cold Spring Harbor meeting on Microbial Pathogenesis and Host Response. Cold Spring Harbor, New York, USA.
37. Shallom, J.M., Wattam, R.A., Dharmanolla, C., Purkayastha, A., Shallom, S.J., Shukla, M., Snyder, E.E., **Gillespie, J.J.**, Nagarani, S., Czar, M., Crasta, O., Setubal, J., Sobral, B. (2008) Annotation of *Rickettsia africae* and *Rickettsia massiliae* at the PathoSystem Resource Integration Center (PATRIC). 5th International Conference on Rickettsiae and Rickettsial Diseases. Marseille, France.
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