

GAVIN C. WOODRUFF, PH.D.

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EDUCATION

Ph.D. Biology. University of Maryland, College Park. 2013

B.S. Biological Sciences. Georgia State University. 2007
Summa cum laude with thesis honors.

POSITIONS

Postdoctoral Fellow 2015-Present
University of Oregon
Advisor: Patrick C. Phillips.
Research topic: Biology of the fig-associated nematode *Caenorhabditis inopinata*

Postdoctoral Fellow 2014-2015
Forestry and Forest Products Research Institute, Tsukuba, Japan
Sponsor: Natsumi Kanzaki
Research topics: Host-sensing behavior in *Caenorhabditis*; biology of fig-associated *Caenorhabditis*; nematode alpha taxonomy

Graduate Fellow and Research Assistant 2007-2013
University of Maryland, College Park
Advisor: Eric S. Haag
Dissertation title: "Investigations into the evolution of self-fertile hermaphroditism and reproductive isolation in *Caenorhabditis* nematodes"

Research Assistant 2006-2007
Georgia State University
Advisor: Walter W. Walthall
Thesis title: "UNC-30 and the specification of inhibitory motor neurons in *Caenorhabditis elegans*"

PUBLICATIONS

Published

G. C. Woodruff, E. Johnson, and P. C. Phillips 2019
"A large close relative of *C. elegans* is slow-developing but not long-lived."
BMC Evolutionary Biology
<https://doi.org/10.1186/s12862-019-1388-1>

G. C. Woodruff and P. C Phillips 2018
"Field studies reveal a close relative of *C. elegans* thrives in the fresh figs of *Ficus septica* and disperses on its *Ceratosolen* pollinating wasps."
BMC Ecology
<https://doi.org/10.1186/s12898-018-0182-z>

- N. Kanzaki, I.J. Tsai, R. Tanaka, V.L. Hunt, K. Tsuyama, D. Liu, Y. Maeda, **G. C. Woodruff**, S. Namai, R. Kumagai, A. Tracey, N. Holroyd, K. Murase, H. Kitazume, M.-M. Billah, H. mien Ke, J. Wang, M. Berriman, P.W. Sternberg, A. Sugimoto, and T. Kikuchi 2018
 “Biology and genome of a newly discovered sibling species of *Caenorhabditis elegans*”
Nature Communications
<https://www.nature.com/articles/s41467-018-05712-5>
- G. C. Woodruff**, J. H. Willis, and P. C. Phillips 2018
 “Dramatic evolution of body length due to post-embryonic changes in cell size in a newly discovered close relative of *C. elegans*”
Evolution Letters
<https://doi.org/10.1002/evl3.67>
- N. Kanzaki*, **G. C. Woodruff***, M. Akiba, and N. Maehara 2015
 “*Diplogasteroides asiaticus* n. sp., associated with *Monochamus alternatus* in Japan”
Journal of Nematology
<http://journals.fcla.edu/jon/article/view/84948>
- N. Kanzaki, **G. C. Woodruff**, and R. Tanaka 2014
 “*Teratodiplogaster variegatae* n. sp. isolated from the syconia of *Ficus variegata* Blume on Ishigaki Island, Okinawa, Japan.”
Nematology
<https://doi.org/10.1163/15685411-00002843>
- G. C. Woodruff**, T. Mangel, C. Knauss, and E. S. Haag 2014
 “Mating damages the cuticle in *C. elegans* hermaphrodites”
PLoS ONE
<https://doi.org/10.1371/journal.pone.0104456>
- J. Ting*, **G. C. Woodruff***, G. Leung, N. R. Shin, A. D. Cutter, and E. S. Haag 2014
 “Intense sperm-mediated sexual conflict promotes reproductive isolation in *Caenorhabditis* nematodes”
PLoS Biology
<https://doi.org/10.1371/journal.pbio.1001915>
- C. G. Thomas, L. Renhua, H. E. Smith, **G. C. Woodruff**, B. Oliver, and E. S. Haag 2012
 “Simplification and desexualization of gene expression in self-fertile nematodes”
Current Biology
<https://doi.org/10.1016/j.cub.2012.09.038>
- C. G. Thomas, **G. C. Woodruff**, and E. S. Haag 2012
 “Causes and consequences of the evolution of reproductive mode in *Caenorhabditis* nematodes”
Trends in Genetics
<https://doi.org/10.1016/j.tig.2012.02.007>
- G. C. Woodruff**, O. Eke, S. E. Baird, M. A. Félix, and E. S. Haag 2010
 “Insights into species divergence and the evolution of hermaphroditism from fertile interspecies hybrids of *Caenorhabditis* nematodes”
Genetics
<https://doi.org/10.1534/genetics.110.120550>

*Equal contribution

Submitted

G. C. Woodruff

2019

“Patterns of putative gene loss reveal rampant developmental system drift in nematodes”

bioRxiv

<https://doi.org/10.1101/627620>

FUNDING

| | |
|---|-----------|
| NIH Ruth L. Kirschstein National Research Service Award Individual Postdoctoral Fellowship Three-year postdoctoral stipend award. \$166,000 | 2015-2018 |
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| JSPS Postdoctoral Fellowship for North American and European Researchers One-year postdoctoral stipend award. ¥4,344,000 or ~\$41,000 | 2014-2015 |
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AWARDS

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| University of Oregon Knight Campus award for student outreach [For the undergraduate program SCORE (Students of Color Opportunities for Research Enrichment), developed in collaboration with multiple colleagues.] \$7,000 | 2017 |
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| University of Maryland Dr. Howard Brinkley travel award \$500 | 2013 |
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| University of Maryland Ann G. Wylie graduate fellowship One-year graduate student stipend. ~\$21,000. | 2011-2012 |
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| University of Washington Summer Institute in Statistical Genetics scholarship Two weeks of coursework and travel. | 2009 |
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| University of Maryland Graduate School fellowship One-year graduate student stipend. ~\$18,000. | 2007-2008 |
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| State of Georgia HOPE Scholarship Four-year undergraduate tuition. ~\$25,000. | 2003-2007 |
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PEER REVIEW

Current Biology

Evolution

Evolution Letters

Journal of Nematology

TEACHING EXPERIENCE

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|---|-----------------|
| Lab instructor and coordinator University of Oregon SCORE (Students of Color Opportunities for Research Enrichment) Program Duties include designing and leading lab sections, as well as giving lectures and leading discussions. | 2015-Present |
| Teaching assistant University of Maryland BSCI 430 Developmental Biology Duties included advising students and grading exams. | 2009-2010, 2013 |
| Teaching assistant University of Maryland BSCI 330 Cell Biology Duties included leading lab sections, giving lectures, leading discussions, and grading assignments. | 2011-2012 |
| Teaching assistant University of Maryland BSCI 207 Organismal Biology Duties included leading weekly study sessions and grading exams. | 2008 |

UNDERGRADUATE MENTEES

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| Eric Hammerschmidt Graduated with thesis honors from the Honor's College. Now a research technician in the Sebastian Seung lab at Princeton University. | 2015-2017 |
| Taylor Kelley Now a research assistant at Oregon Health & Science University. | 2015-2016 |
| Christine Knauss Contributed crucial data and was co-author of a publication in <i>PLoS ONE</i> . Now a graduate student at the University of Maryland Center for Environmental Science. | 2012-2013 |
| Onyi Eke Contributed crucial data and was co-author of a publication in <i>Genetics</i> . Graduated from Johns Hopkins University School of Medicine in 2015. | 2009-2011 |

PRESENTATIONS

Contributed talks

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| Evolution Conference 2019. Providence, RI, USA. "Patterns of genomic diversity and dispersal among island populations of a fig wasp associated relative of <i>C. elegans</i> " | 2019 |
| Northwest Regional Meeting of the Society for Developmental Biology. Friday Harbor, WA, USA. | 2019 |

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| “Dramatic evolution of body length due to post-embryonic changes in cell size in a newly discovered close relative of <i>C. elegans</i> ” | |
| Molecular Evolution of the Cell SMBE Satellite Meeting. Park City, UT, USA. | 2018 |
| “Dramatic evolution of body length due to post-embryonic changes in cell size in a newly discovered close relative of <i>C. elegans</i> ” | |
| International Evolution of <i>Caenorhabditis</i> and Other Nematodes Meeting. Cold Spring Harbor, NY, USA. | 2016 |
| “Dramatic evolution of body length due to post-embryonic changes in cell size in a newly discovered close relative of <i>C. elegans</i> ” | |
| 19 th International <i>C. elegans</i> Meeting. Los Angeles, CA, USA. | 2013 |
| "The Hazards of Love: Sterilization and lethality in interspecies crosses" | |
| International Evolution of <i>Caenorhabditis</i> and Other Nematodes Meeting, Hinxton, UK. | 2010 |
| " <i>C. briggsae</i> / <i>C. sp. 9</i> hybrids, reproductive isolation, and the evolution of hermaphroditism in <i>Caenorhabditis</i> " | |
| International Evolution of <i>Caenorhabditis</i> and Other Nematodes Meeting, Hinxton, UK. | 2008 |
| "Fertile hybrids between the hermaphroditic <i>C. briggsae</i> and a New male/female species, <i>C. sp. 9</i> " | |
| <i>Invited talks</i> | |
| Academia Sinica | 2019 |
| “Connecting the proximate and ultimate causes of phenotypic diversity with fig nematodes” | |
| Georgia State University | 2013 |
| “Intense sperm-mediated sexual conflict promotes reproductive isolation in <i>Caenorhabditis</i> nematodes” | |
| University of California, Los Angeles | 2013 |
| “Intense sperm-mediated sexual conflict promotes reproductive isolation in <i>Caenorhabditis</i> nematodes” | |
| University of Oregon | 2013 |
| “Intense sperm-mediated sexual conflict promotes reproductive isolation in <i>Caenorhabditis</i> nematodes” | |
| <i>Contributed posters</i> | |
| Society for Molecular Biology and Evolution (SMBE) Meeting. Manchester, UK. | 2019 |
| “The diverse genomic landscape of repetitive elements across <i>Caenorhabditis</i> nematodes” | |
| International Evolution of <i>Caenorhabditis</i> and Other Nematodes Meeting. Hinxton, UK. | 2018 |
| “ <i>Caenorhabditis inopinata</i> as a system for integrative biology” | |
| EVO-WIBO Regional Evolution Meeting. Port Townsend, WA, USA. | 2018 |
| “ <i>Caenorhabditis inopinata</i> as a system for integrative biology” | |
| 21 st International <i>C. elegans</i> Meeting. Los Angeles, CA, USA. | 2017 |
| “The natural history of a fig-associated <i>Caenorhabditis</i> ” | |
| 20 th International <i>C. elegans</i> Meeting. Los Angeles, CA, USA. | 2015 |
| “Notable characteristics of <i>C. sp. 34</i> , a species associated with figs and fig wasps” | |

- International Evolution of *Caenorhabditis* and Other Nematodes Meeting. Hinxton, UK. 2014
 “Mating damages the cuticle in *C. elegans* hermaphrodites.”
- International Evolution of *Caenorhabditis* and Other Nematodes Meeting. Cold Spring Harbor, NY, USA. 2012
 “Using interspecies *Pristionchus* hybrids to understand the evolution of self-fertile hermaphroditism.”

RESEARCH INTERESTS

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| Evolutionary developmental biology | Reproductive isolation | Population genomics |
| Genetics of phenotypic diversity | Reproductive mode evolution | Comparative phylogenetics |
| Developmental genetics | Sexual conflict | Phenotypic plasticity |
| Comparative genomics | Gene family evolution | Natural history of nematodes |
| | Life history evolution | Nematode diversity |

REFERENCES

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| Patrick C. Phillips, Ph.D. Professor Institute of Ecology and Evolution University of Oregon Pacific 316 Eugene, OR, USA 97403 541-346-0916 pphil@uoregon.edu | 4094 Campus Drive College Park, MD, USA 20742 301-405-8534 ehaag@umd.edu |
| Eric S. Haag, Ph.D. Professor University of Maryland Department of Biology 0256 Biology/Psychology Building | Joseph A. Ross, Ph.D. Associate Professor Department of Biology California State University, Fresno Department of Biology 2555 E. San Ramon, M/S SB73 Fresno, CA, USA 93740 559-278-4074 jross@csufresno.edu |

Additional references can be provided upon request.