

## Ginger L. Hunter, Ph.D.

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### EDUCATION

- 2006-2012    **Doctor of Philosophy**, Biology  
Department of Biology, Program for Developmental and Stem Cell Biology  
Duke University, Durham, NC
- 2000-2004    **Bachelor of Science**, Biology  
University of Virginia, Charlottesville, VA

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### POSITIONS HELD

- 2024-        **Assistant Professor**  
Department of Biology, Howard University, Washington, D.C.
- 2018-2024   **Assistant Professor**  
Department of Biology, Clarkson University, Potsdam, New York
- 2016-2018   **Postdoctoral Research Associate**  
National Institute of Neurological Disorders and Stroke  
National Institutes of Health, Bethesda, Maryland
- 2013-2015   **Postdoctoral Research Associate**  
Medical Research Council - Laboratory of Molecular and Cell Biology  
Institute for the Physics of Living Systems  
University College London, London, United Kingdom
- 2004-2006   **Post-Baccalaureate Research Fellow**  
National Institute of Diabetes, Digestive and Kidney Diseases  
National Institutes of Health, Bethesda, Maryland
- 2003-2004   **Undergraduate Research Assistant**  
Department of Biomedical Engineering  
University of Virginia, Charlottesville, Virginia

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### GRANTS & FUNDING

#### CURRENT

##### As PI

2024        NIH Administrative Supplement to R35GM150782. \$250,000

2023-2028 NIH R35 ESI MIRA (R35GM150782) “Mechanisms of cellular morphogenesis that coordinate signaling during tissue patterning” \$1,782,480

### **Other roles**

2023-2026 DMS/NIGMS Initiative for Biological and Mathematical Sciences (R01GM152810) “DMS/NIGMS 1: Multiscale modeling of Notch signaling during long-distance lateral inhibition”; PI: Dr. Emmanuel Asante-Asamani (Clarkson University, Department of Mathematics) \$588,706 (as co-I)

### **COMPLETED**

2022-2024 NIH R03 Small research grant (R03NS130395) “Genetics of neural precursor communication during development of the Drosophila peripheral nervous system”

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### **AWARDS** (post-undergraduate)

2024 John W Graham, Jr. Faculty Research Award, Clarkson University  
2017 Fellows Award for Research Excellence, NIH  
2016 Poster Prize, NINDS Departmental Retreat, NIH  
2015 Company of Biologists/EMBO conference award  
2014 Biochemical Society Travel Grant  
2014 American Society for Cell Biology Travel Grant  
2010 Sigma Xi Grant-in-Aid  
2010 Grant-in-Aid, Department of Biology, Duke University  
2009 Conference Travel Scholarship, Duke University

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### **PUBLICATIONS**

# corresponding author

#### **IN PREPARATION:**

1. **Kundu S, Cunningham C, and GL Hunter**. E-cadherin mediates cytoneme interactions during patterning of the Drosophila peripheral nervous system.
2. **Valerie H, Dukes A, Freund O, Nuesi C, Ahn K, and GL Hunter**. RNAi screen for molecular regulators of neural precursor cell-cell interactions during pattern formation.
3. **Smith T, Shannon K, Hamilton D, Friot G, Clements R, Zhumi J, and GL Hunter**. CRISPR-mediated knockout of Myosin XV.

#### **SUBMITTED**

3. **Attipoe WK, Neighmond A, Waters O, De Silva SHD, Hunter GL, and E Asante-Asamani.** Quantifying bristle cell organization in *Drosophila Melanogaster* using spatial clustering features. *Preprint on BioRxiv, in revisions at Open Biology* DOI: 10.1101/2025.07.29.667315
4. **Sobitan A, Jalal Md S, Yao Q, Xu J, Hunter G, Duttaroy A, and Teng S.** Integrative Computational and Experimental Analysis of Curly Su Mutations in *Drosophila melanogaster*. *Preprint on BioRxiv, submitted to PLoS One* DOI: 10.1101/2025.09.15.676221

**PEER REVIEWED:**

5. **Clements R, Smith, T, Cowart L, Zhumi J, Sherrod A, Cahill A, and GL Hunter<sup>#</sup>.** (2024) Myosin XV is a negative regulator of signaling filopodia during long-range lateral inhibition. *Developmental Biology* 505: 110-121 DOI: 10.1016/j.ydbio.2023.11.002
6. **Presser A, Freund O, Hassapelis T, and GL Hunter<sup>#</sup>.** (2023) Scabrous modulates Notch response via signaling filopodia during bristle pattern formation in *Drosophila*. *PLoS One* 18(9): e0291409.
7. **Frederick R. Adler; Alexander R. A. Anderson; Abhinav Bhushan; Paul Bogdan; Jose Javier Bravo-Cordero; Amy Brock; Yun Chen; Edna Cukierman; Kathleen E. DelGiorno; Gerald V. Denis; Meghan C. Ferrall-Fairbanks; Zev J. Gartner; Ronald N. Germain; Deborah M. Gordon; Ginger Hunter; Mohit Kumar Jolly; Loukia Georgiou Karacosta; Karthikeyan Mythreye; Parag Katira; Rajan P. Kulkarni; Matthew L. Kutys; Arthur D. Lander; Ashley M. Laughney; Herbert Levine; Emil Lou; Pedro R. Lowenstein; Kristyn S. Masters; Dana Pe'er; Shelly R. Peyton; Manu O. Platt; Jeremy E. Purvis; Gerald Quon; Jennifer K. Richer; Nicole C. Riddle; Analiz Rodriguez; Joshua C. Snyder; Gregory L. Szeto; Claire J. Tomlin; Itai Yanai; Ioannis K Zervantonakis; Hannah Ruth Dueck<sup>#</sup>.** (2023) Modeling collective cell behavior in cancer: perspectives from an interdisciplinary conversation. *Cell Systems* 14(4):252-257.
8. **Lam MSY, Lisica A, Ramkumar N, Hunter GL, Mao Y, Charras G, and B Baum.** (2020) Isotropic myosin-generated tissue tension is required for the dynamic orientation of the mitotic spindle. *Molecular Biology of the Cell* 31(13):1370-1379.
9. **Hunter GL<sup>#</sup>, He L, Perrimon N, Charras G, Giniger E, and B Baum.** (2019) A role for actomyosin contractility in Notch signaling. *BMC Biology* 17:12.
10. **Hadjivasiliou Z, Hunter GL, and B Baum.** (2016) A new mechanism for spatial pattern formation via lateral and protrusion-mediated lateral signalling. *J R Soc Interface* 13: 20160484
11. **Hunter GL<sup>#</sup>, Hadjivasiliou Z, Bonin H, He L, Perrimon N, Charras G, and B Baum.** (2016) Coordinated control of Notch-Delta signalling and cell division aids lateral inhibition mediated tissue patterning. *Development* 143: 2305-2310.

12. **Protonotarios E, Baum B, Johnston A, Hunter GL, and LD Griffin.** (2014) An absolute interval scale of order for point patterns. *J R Soc Interface* 11: 20140342.
13. **Hunter GL, Crawford JC, Jenkins JZ, and DP Kiehart.** (2014) Ion channels contribute to the regulation of cell sheet forces during *Drosophila* dorsal closure. *Development* 141: 325-334.
14. **Grimes AC, Erwin KN, Stadt HA, Hunter GL, Gefroh HA, Tsai HJ, and ML Kirby.** (2008) PCB126 exposure disrupts zebrafish ventricular and branchial but not early neural crest development. *Toxicol Sci.* 106 (1): 193-205.
15. **Kemp CA, Song MH, Addepalli MK, Hunter G, and KF O'Connell.** (2007) Suppressors of zyg-1 define regulators of centrosome duplication and nuclear association in *Caenorhabditis elegans*. *Genetics.* 176: 95-113.

#### REVIEWS:

16. **Chen Y, Germain RN, Hunter GL, Kulkarni RP, Lander AD, Lowenstein P, Purvis JE, and HS Wong.** (2025) Bridging single cells to organs: mesoscale modules as fundamental units of tissue function. *Cell.* 188 (23): 6393-6410. DOI: 10.1016/j.cell.2025.10.012
17. **Hadjivasiliou Z<sup>#</sup> and Hunter GL<sup>#</sup>.** (2022) Talking to your neighbors across scales: long-distance Notch signaling during patterning. *Current Topics in Developmental Biology.* 150:299-334.
18. **Hunter GL and E Giniger.** (2020) Phosphorylation and proteolytic cleavage of Notch in canonical and non-canonical Notch signaling. *Adv Exp Med Biol.* 1227:51-68.

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#### INVITED TALKS AND SEMINARS

- 2026** Invited seminar, *Drosophila* Neurobiology Consortium, NIH, Bethesda MD
- 2025** Invited seminar, *Drosophila* Neurobiology Consortium, NIH, Bethesda MD
- 2024** Invited seminar, Department of Biology, Howard University, Washington DC
- 2023** Invited seminar, Department of Chemistry, Clarkson University, Potsdam NY  
Invited speaker, Society of Mathematical Biology Annual Meeting, Columbus OH
- 2021** Invited seminar, Life Sciences Institute, University of Michigan, Ann Arbor, MI
- 2019** Plenary talk, Notch Meeting XI, Athens, Greece  
Invited panel speaker, NINDS Summer Internship Program, Bethesda, MD  
Invited seminar, Department of Mathematics, Clarkson University, Potsdam, NY  
Invited seminar, Department of Biology, SUNY Potsdam, Potsdam, NY
- 2018** Invited seminar, Department of Biology, University of Colorado at Denver, Denver, CO  
Invited seminar, Department of Biology, Clarkson University, Potsdam, NY

- 2017** Invited seminar, Department of Biology, Hope College, Holland, MI  
 Invited seminar, Department of Biology, University of Vermont, Burlington, VT  
 Plenary talk, NIH Developmental Biology Special Interest Group, Bethesda, MD
- 2016** Plenary talk, GRC *Notch signaling in development, regeneration, and disease*.
- 2015** Plenary talk, *EMBO Workshop: Cellular synopsis for cell-cell signalling*
- 2009** Plenary talk, *Keystone symposia: Mechanotransduction in physiology & disease*

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## RECENT CONFERENCE PRESENTATIONS

Presenting author is bold and underlined.

- 2025** Kundu S, **GL Hunter**. Cytoneme networks and pattern disruption analysis in the developing *Drosophila* peripheral nervous system. *American Society for Cell Biology Annual Meeting*. (poster)

**Kundu S**, GL Hunter. Collective filopodia dynamics contribute to sensory bristle pattern formation in *Drosophila*. *ABRCMS* (poster).

**Kundu S**, GL Hunter. Collective filopodia dynamics contribute to sensory bristle pattern formation in *Drosophila*. *Genetics Society of America Drosophila Conference* (poster).

- 2024** **Quintero-Carmona O**, et al. Teachstravaganza: a collaborative curricular development community based in open science. *American Society for Cell Biology Annual Meeting*. (poster)

**Neusi C**, Freund O, Ahn K, and GL Hunter. RNAi Analysis of Patterning Factors in the *Drosophila* Thoracic Peripheral Nervous System. *Biomedical Engineering Society Annual Meeting*. (poster)

**Freund O**, Ahn K, Neusi C, Swartz A, Inyang J, Minardo C, Greco M, Custer S, Fatcheric D, and GL Hunter. An RNAi screen to identify regulators of patterning in the *Drosophila* thoracic peripheral nervous system. *Northeast Society for Developmental Biology regional meeting* (poster; all authors are undergraduates)

**Smith T**, Clements R, Zhumi J, and GL Hunter. Effect of CRISPR-mediated Myosin XV knockout alleles on *Drosophila* development. *Northeast Society for Developmental Biology regional meeting* (poster; all authors are undergraduates).

Cho H, Schuckers G, Leader R, **Sewwandi SH**, Hunter GL, and E Asante-Asamani. On the length dynamics of cytonemes. *Biophysical Society Annual Meeting* (poster).

Neighmond A, **Attipoe W**, Hunter GL, **E Asante-Asamani**. Quantifying bristle cell organization in *Drosophila Melanogaster*. *Biophysical Society Annual Meeting* (poster and platform session).

**2023** **Kundu S**, Freund O, and GL Hunter. Collective filopodia dynamics contribute to sensory bristle pattern formation in *Drosophila*. *American Society for Cell Biology Annual Meeting* (poster).

**Smith T** and GL Hunter. Myosin XV negatively regulates filopodia during patterning in *Drosophila melanogaster* *Chemistry Meets Biology: The 13th Annual NNY-ACS Undergraduate and Graduate Chemistry & Biology Research Symposium* (oral)

**2022** Kundu S, Smith T, and **GL Hunter**. Analysis of the individual and collective behaviors of signaling filopodia during Notch-mediated patterning. *American Society for Cell Biology Annual Meeting* (poster and microsymposium)

**Clements R**, Cahill A, Cowart L, and GL Hunter. Myosin XV regulates basal filopodia formation during bristle patterning *Genetics Society of America Drosophila Conference* (virtual, poster)

**Presser A** and GL Hunter. The role of Scabrous in long distance Notch signaling during bristle patterning *Genetics Society of America Drosophila Conference* (virtual, poster)

**2019** Sherrod A, Zhumi J, and **GL Hunter**. Targeting filopodia during pattern formation. *American Society for Cell Biology Annual Meeting* (poster)

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## TEACHING

### AT HOWARD UNIVERSITY (2024- )

Biotechnology (BIOL/BIOG 462), Topics in Cell and Molecular Biology (BIOL 500), Genetics (BIOL 200), Honors Biology (BIOL217 -series)

### AT CLARKSON UNIVERSITY (2018-24)

Cell Biology (BY218), Medical Microbiology (BY448/548), Advanced Cell Biology (BY480/580), Graduate Seminar (BY622), Biology II (BY160), Genetics (BY214), Emerging Pathogens (BY370), Undergraduate research (BY405), Graduate Research (BY900).

### AT NIH (2017-18):

Introduction to Biology (co-taught), Frontiers in Cellular Neuroscience (co-taught)

### GUEST LECTURES AND SHORT COURSES

2017 NIH Summer Intern Journal Club, National Institutes of Health, Bethesda, MD

2014 LMCB skills exchange, MRC-LMCB University College London

2010 Molecular Biology and Genetics, University of North Carolina at Chapel Hill

### PEDAGOGICAL DEVELOPMENT

2024 Teachstravaganza, Allen Institute, Seattle, WA (invited participant)

2020 RISE cohort IV, Clarkson University, Potsdam, NY

- ASCB Virtual Educator Meeting
- 2019 HHMI/BioInteractive workshop, “Integrating Testing and Learning.”  
Associated Colleges of the St. Lawrence Valley 2019 Teaching Effectiveness Conference
- 2017 *Laboratory Management Bootcamp and Workplace Dynamics*, Office of Intramural  
Training and Education, NIH (invited participant)  
*Scientists Teaching Science*, Office of Intramural Training and Education, NIH
- 2012 *Preparing Future Faculty Fellow*, Duke University, Mentor: Tony Baines, Ph.D., North  
Carolina Central University, Durham, NC
- 2011 Introduction to College Teaching, Duke University, Durham, NC

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## MENTORSHIP

### GRADUATE SUMMARY

- 2022- Two PhD students (Clarkson University and Howard University)
- 2014-24 Four MSc students (University College London and Clarkson University)

### UNDERGRADUATE SUMMARY

- 2025- 11 independent research mentees
- 2019-24 (22) independent research mentees

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## PROFESSIONAL SERVICE

### DEPARTMENT AND UNIVERSITY (Howard University, 2024 - )

- 2024 Member, Graduate School NSF & NIH Grants Committee
- 2025- Member, Biology Outreach Committee
- 2024- Member, Biology Honors Committee
- 2024-25 Member, Biology Safety Committee

### EXTERNAL

- 2026 Ad hoc review, W. M. Keck Foundation
- 2026 NIH ad hoc review
- 2025 - BioRxiv affiliate
- 2025 NIH ad hoc review
- 2025 NSF review
- 2024-2027 Member, Public Policy Committee, American Society for Cell Biology
- 2024 Ad hoc review, Agence Nationale de la Recherche (France)
- 2024 NIH ad hoc review
- 2024 NSF review
- 2023 Poster Session Organizer, American Society for Cell Biology Annual meeting
- 2022 Minisymposium Co-Chair, American Society for Cell Biology Annual meeting

2022 NIH ECR review  
 2022 NSF review  
 2021 Minisymposium Co-Chair, American Society for Cell Biology Annual meeting  
 2021 Session Co-Chair, Drosophila Annual Meeting, Genetics Society of America  
 2021 NSF review  
 2020 Poster Session Organizer, American Society for Cell Biology Annual meeting  
 2018 COMPASS Associate Member, American Society for Cell Biology  
 2013 – 2015 Co-Organizer, LMCB Skills Exchange, MRC-LMCB University College London.  
 2012 - Reviewed manuscripts for: *PLoS One*, *Royal Society Interface*, *PLoS Genetics*, *Development*, *International Journal of Biochemistry and Cell Biology*, *BMC Cell and Molecular Biology*, *GEN Biotechnology*, *BMC Biology*, *Nature Communications*, *Scientific Reports*, *Fly*

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## PROFESSIONAL MEMBERSHIPS & DEVELOPMENT

2026 Junior Faculty Writing and Creative Works Summer Academy, Howard University  
 2024 - 25 Participant, MAVEN senior scientist initiative (R25GM139082)  
 2019 - 24 Society for Developmental Biology  
 2018 - 24 Genetics Society of America  
 2013 – 2014 Biochemical Society  
 2009 - American Society for Cell Biology

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## SELECTED OUTREACH

2023 TriBeta Biology Honor Society outreach sponsor & mentor  
 2021 - 23 Faculty mentor, Clarkson University Student Spaceflights Experiments Program, National Center for Earth and Space Science Education  
     - Mentor for winning groups in 2021 & 2022.  
 2019 Speaker, Science cafe “The patterns that form us”  
 2019 Speaker, SOAR North Country “What flies can tell us about how we got here”  
 2018 Fellows Award for Research Excellence Abstract Judge, National Institutes of Health