

# Yasir H. Ahmed-Braimah

## Curriculum Vitae

### Professional Experience

- 2019 **Assistant Professor,**  
*Syracuse University, Department of Biology.*
- 2015-2019 **Postdoctoral Research Associate,**  
*Cornell University.*  
Supervisor: Andrew G. Clark

### Educational Background

- 2008-2015 **PhD Biology,**  
*University of Rochester.*  
Thesis: The Genetics of Species Differences in the *Drosophila virilis* group  
Advisor: H. Allen Orr
- 2006-2008 **MSc Biology,**  
*University of Iowa.*  
Thesis: Positive assortative fertilization as a result of allopatry between *Drosophila americana* and *D. novamexicana*  
Advisor: Bryant F. McAllister
- 2000-2004 **BSc Biology,**  
*University of Iowa.*

### Teaching Experience

- 2020 **Applied Genomics,** *Syracuse University.*
- 2010 **Introductory Biology Laboratory,** *University of Rochester.*
- 2009 **Principles of Genetics Laboratory,** *University of Rochester.*
- 2008 **Principles of Biology,** *University of Iowa.*
- 2007 **Evolution,** *University of Iowa.*
- 2005-2006 **Introduction to Biology I, II,** *Ahfad University, Omdurman, Sudan.*

### Selected Oral Presentations

- 2019 **The female postmating response and innate immunity,** *Invited Symposium presentation, Biolog of Spermatozoa Meeting, Stockholm, Sweden.*
- 2015 **The genetic basis of species differences in *Drosophila*,** *Invited Symposium presentation, International Congress of Entomology, Orlando, FL.*

2013

**Multiple genes cause postmating, prezygotic reproductive isolation between *Drosophila americana* and *D. virilis***, oral presentation, Biology of Spermatozoa Meeting, Sheffield, UK.

2011

**The genetic basis of postmating, prezygotic reproductive isolation between *Drosophila americana* and *D. virilis***, Abstract, Society for the Study of Evolution Meeting, Norman, OK.

2008

**Assortative fertilization as a consequence of allopatry between *Drosophila americana* and *D. novamexicana***, Abstract, Society for the Study of Evolution Meeting, Minneapolis, MN.

## Publications

### Peer reviewed

2018

**1, E. C. Degner<sup>†</sup>, Y. H. Ahmed-Braimah<sup>†</sup>, K. Borziak, M. F. Wolfner, L. C. Harrington, and S. Dorus**, "Reproductive Functions and Genetic Architecture of the Seminal Fluid and Sperm Proteomes of the Mosquito *Aedes aegypti*". *Molecular and Cellular Proteomics*, mcp.RA118.001067, Dec 2018.

<sup>†</sup> equal contribution

2018

**2, Z. Zhang, Y. H. Ahmed-Braimah, M. L. Goldberg, and M. F. Wolfner**, "Calcineurin Dependent protein Phosphorylation Changes During Egg Activation in *Drosophila melanogaster*". *Molecular and Cellular Proteomics*, mcp.RA118.001076, Nov 2018.

2017

**3, Y. H. Ahmed-Braimah, R. L. Unckless, and A. G. Clark**, "Evolutionary Dynamics of Male Reproductive Genes in the *Drosophila virilis* Subgroup". *G3*, vol. 7, pp. 3145-3155, Sep. 2017.

2016

**4, Y. H. Ahmed-Braimah**, "Multiple Genes Cause Postmating Prezygotic Reproductive Isolation in the *Drosophila virilis* Group". *G3*, vol. 6, pp. 4067-4076, Dec. 2016.

2016

**5, C. Alfonso-Parra<sup>†</sup>, Y. H. Ahmed-Braimah<sup>†</sup>, E. C. Degner, F. W. Avila, S. M. Villarreal, J. A. Pleiss, M. F. Wolfner, and L. C. Harrington**, "Mating-Induced Transcriptome Changes in the Reproductive Tract of female *Aedes aegypti*". *PLoS Neglected Tropical Diseases*, vol. 10, p. e0004451, Feb. 2016.

<sup>†</sup> equal contribution

2015

**6, Y. H. Ahmed-Braimah and A. L. Sweigart**, "A Single Genes Causes an Interspecific Difference in Pigmentation in *Drosophila*". *Genetics*, vol. 200, pp. 331-342, May. 2015.

2012

**7, Y. H. Ahmed-Braimah and B. F. McAllister**, "Rapid Evolution of Assortative Fertilization between Recently Allopatric Species of of *Drosophila*". *International Journal of Evolutionary Biology*, vol. 2012, pp. 1-9, Jan. 2012.

### Pre-print

2019

**8, N. B. Stewart, Y. H. Ahmed-Braimah, D. Cerne, and B. F. McAllister**, "Female Meiotic Drive Preferentially Segregates Derived Metacentric Chromosomes in *Drosophila*". (*target journal: Genetics*).

### In preparation

**9, Y. H. Ahmed-Braimah and A. G. Clark**, "Interspecific Mating Elicits an Abnormal Immune Response in Female *Drosophila*". (*target journal: Proceedings of the Royal Society - B*).

**10, Y. H. Ahmed-Braimah<sup>†</sup>, S. Y. Delbare<sup>†</sup>, M. F. Wolfner, and A. G. Clark**, "Impacts of the gut microbiota on the female postmating response in *Drosophila melanogaster*". (*target journal: Proceedings of the Royal Society - B*).

<sup>†</sup> equal contribution

**12, Y. H. Ahmed-Braimah, K. M. Dunworth, E. L. Gonzalez, and A. G. Clark**, "Rapid Evolution of Seminal Fluid Proteins in the *Drosophila virilis* group". (*target journal: Ecology and Evolution*).

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**13, Y. H. Ahmed-Braimah, J. M. Flynn, J. Zhang, M. Long, R. A. Wing, and A. G. Clark,** "Platinum-quality *Drosophila* genomes reveal complex evolution of the Y chromosome". (target journal: *Genome Biology and Evolution*).

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## Society Affiliations

- Genetics Society of America (GSA)
- Society for Molecular Biology and Evolution (SMBE)
- Society for the Study of Evolution (SSE)

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## Research Interests

- EVOLUTIONARY GENETICS**
- Speciation
  - Adaptation
  - Comparative genomics
- REPRODUCTION**
- Postcopulatory sexual selection
  - Molecular evolution of reproductive genes

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## Skill sets

### Bioinformatics

Perl/Python/R programming  
Linux/Unix computing  
\*seq analyses

### Molecular Biology

Bacterial cloning  
\*PCR  
Illumina/Lexogen library prep

### *Drosophila* biology

Classical genetics  
Fine-scale dissections  
Tissue/fluorescent microscopy  
Embryo microinjection/transformation

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## References

### Andrew G. Clark

Jacob Gould Schurman Professor  
Cornell University  
Ithaca, NY 14853  
✉ ac347@cornell.edu  
☎ 607-255-0527

### H. Allen Orr

University Professor/Shirley Cox Kearns Professor  
University of Rochester  
Rochester, NY 14627  
✉ allen.orr@rochester.edu  
☎ 585-275-3838

### Mariana F. Wolfner

Goldwin Smith Professor/Stephen H. Weiss  
Presidential Fellow  
Cornell University  
Ithaca, NY 14853  
✉ mfw5@cornell.edu  
☎ 607-254-4801

### Bryant F. McAllister

Associate Professor  
University of Iowa  
Iowa City, IA 52242  
✉ bryant-mcallister@uiowa.edu  
☎ 319-335-2604