DR. JASON R. GALLANT, PH.D.

POSTDOCTORAL RESEARCH FELLOW, Department of Biology, Boston University, 5 Cummington Street Boston, MA, USA
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RESEARCH INTERESTS

Evolution of novel phenotypes, animal communication, evolutionary genetics, bioinformatics, evolution and development, physiology, mate choice, and speciation

PROFESSIONAL POSITIONS HELD

2011-12 **Postdoctoral Research Fellow, Department of Biology, Boston University**
5 Cummington Street, Boston, MA USA 02215
Supervisor: Dr. Sean P. Mullen

EDUCATION

2005-11 ***Ph.D.*** **Neurobiology and Behavior, Cornell University**
Cornell University, Ithaca, NY USA
Thesis: "Mechanisms of electric signal diversity in mormyrid electric fish"
Co-Advisors: Dr. Carl D. Hopkins and Dr. David L. Deitcher

2001-05 **Bachelor of Science, *with honors*: Biology (minor in Human Rights), Trinity College**
Trinity College, Hartford, CT USA
Honors Thesis: "Electrocommunication Driven Speciation in *Apteronotus"*
Advisor: Dr. Kent Dunlap

GRANTS AND AWARDS

GRANTS

2011 U.S. National Science Foundation Extreme Science and Engineering Discovery Environment (XSEDE) Startup Allocation, *30,000 Service Units for High Performance Bioinformatics Computing*

2009-10 U.S. National Institutes of Health Cellular and Molecular Mechanisms of Behavior Training Grant – Cornell Dept. Neurobiology and Behavior *$25,000*/yr.

2008 Cornell Center for Vertebrate Genomics Seed Grant: "Transcriptome Sequencing of the Electric Organ, a Novel Vertebrate Tissue Type." *$10,000*

2006-08 U.S. National Institutes of Mental Health Integrative Neurobiology and Behavior Training Grant – Cornell Dept. Neurobiology and Behavior *$25,000*/yr.

AWARDS

2010 International Society for Neuroethology Heiligenberg Travel Award

2006-07 Honorable Mention: NSF Predoctoral Fellowship

2005 College of Agriculture and Life Sciences Excellence Fellowship, Cornell University

2005 Thomas Hume Bissonnette Biology Achievement Award, Trinity College

2005 Citation by the Connecticut General Assembly for Academic Excellence

2003 Terwilliger Fellowship in Invertebrate Zoology, University of Oregon

2002 Trinity College Human Rights Fellowship

2001 Connecticut State Junior Sciences and Humanities Symposium National Delegate

2000 U.S. NSF-HHMI Research Institute in Biology, Computing and Mathematics, Villanova University

PUBLICATIONS

PUBLISHED

Gallant, J., Deitcher, D.L., Hopkins, C.D. (2012) Differential expression of genes and proteins between electric organ and skeletal muscle in the mormyrid electric fish *Brienomyrus brachyistius.* Journal of Experimental Biology. 215(14): 2479-94.

Gallant, J., Arnegard, M., Sullivan, J, and Hopkins, C.D. (2011) Signal variation and its morphological correlates in Paramormyrops kingsleyae provide insight into the evolution of electrogenic signal diversity in mormyrid electric fish. Journal of Comparative Physiology A 97(8):799-817.

PUBLICATIONS (CONT.) ** DENOTES THAT AUTHORS CONTRIBUTED EQUALLY TO WORK*

MANUSCRIPTS

Gallant, J., Sperling, J., Cheng, C. Carlson, B., Arnegard, M, and Hopkins, C. Variation in electric signals among *Paramormyorps kingsleyae* is due to substantial population structure imposed by geographic isolation. In prep for *Molecular Ecology*

Samanta, M*., **Gallant, J*.** Traeger, L*., Chen, H., Moffet, H., Novina, C., Anand, R. , Wells, G., Unguez, G., Albert, J. , Zakon, H., Sussman, M. Comparative Genomics of Electric Fish Reveals Unique Molecular Features of the Myogenic Origin and Function of Mature Electrocytes. In prep for *Nature*

Gallant, J*, Imhoff, V*., Savage, W., Martin, A., Reed, R., Kronforst, M. and Mullen, S. Ancient homology underlies mimetic adaptation in butterflies. In prep for *Science*

Kronforst, M., Hansen, M. Crawford, N., **Gallant, J.,** Kulathinal, R., Kaplan, D., Mullen, S. Hybridization reveals the evolving genomic architecture of speciation in *Heliconius* butterflies. Under Review, *Nature*.

Gallant, J., Kronforst, M. and Mullen, S. Comparative and population genomics of wing pattern mimicry in butterflies. In prep.

INVITED REVIEWS

Carlson, B. and **Gallant, J.** Electric signaling in species diversification: progress and prospects. In prep for *Journal of Neurogenetics*

PRESENTATIONS

RESEARCH LECTURES

Gallant, J. (2012) The Evolution of Electric Signal Diversity in African Electric Fish (Invited Talk) Boston University Dept. Biology, Boston MA.

Gallant, J., Cheng, C. Sperling, J.H., and Hopkins, C.D. (2012) Variation in electric signals among Paramormyorps kingsleyae is due to substantial population structure imposed by geographic isolation (Invited Talk) Electrosensory Systems Satellite Meeting of the 10th International Congress of Neuroethology, College Park MD, USA.

Gallant, J. From Genes to Geography: Mechanisms of Signal Diversity in Mormyrid Electric fish. Trinity College, Hartford CT USA.

Gallant, J. (2010) Progress in identifying molecular mechanisms of signal evolution in the Mormyrid weakly electric fish. Cornell Vertebrate Genomics Group (VERGE), Cornell Univ.

Gallant, J. and Hopkins, C.D. (2009) Geographically isolated populations of Paramormyrops kingsleyae undergo rapid, paedomorphic electric signal evolution. 24th Annual Meeting of the J.B. Johnston Club. Chicago, IL USA

SELECT REFEREED PRESENTATIONS

Gallant, J., Deitcher D.L., Hopkins, C.D. (2010) Evidence of differential gene transcription between electric organs and skeletal muscle in the mormyrid Brienomyrus brachyistius (Abstract & Poster) Proceedings of the 9th International Congress of Neuroethology. Salamanca, Spain.

Gallant, J. , Deitcher, D.L., Hopkins, C.D. (2009) Discovery of multiple uniquely transcribed genes in the electric organ of Brienomyrus brachyistius (Mormyridae: Teleostei) (Abstract & Poster) Society for Neuroscience Annual Meeting. Chicago, IL USA

Gallant, J. and Hopkins, C.D. (2007). Paramormyrops kingsleyae: A Microcosm of Signal Evolution in Mormyridae. (Abstract& Poster) Electrosensory Systems Satellite Meeting, International Congress of Neuroethology. Vancover, BC.

Gallant, J. and Hopkins, C.D. (2006). Electric organs and electric organ discharges (EODs) are polymorphic within populations of Brienomyrus (Mormyridae) (Abstract & Poster) Society for Neuroscience 2006 Annual Meeting. Washington DC, USA.

Gallant, J. and Dunlap, K. (2004) Electrocommunication signal diversity in *Apteronotus* may be due to varied kinetic properties of glutamate receptors. (Abstract & Poster) Proceedings of the 7th International Congress of Neuroethology. Nyborg, Denmark.

TEACHING EXPERIENCE

** DENOTES THAT CURRICULA ARE AVAILABLE UPON REQUEST.*

	COURSE NAME	INSTITUTION
INSTRUCTOR		
2008	Imagining the Brain*	Cornell University, Neurobiology and Behavior
2008,10	Introduction to Neurobiology*	Cornell University, Neurobiology and Behavior
2003-04	Introduction to Biology	Trinity College Department of Biology
ASSISTANT		
2005	Invertebrate Zoology	Trinity College Department of Biology
2002	Health and Human Rights	Trinity College Department of Human Rights
GUEST LECTURER		
2012	Animal Behavior	Northeastern University
2012	Animal Communication	Cornell University
2012	Evolution	Boston University
2012	Ichthyology	Boston University

RESEARCH ADVISING

2012-	Ms. Kristina Cohen	Ph.D. Candidate, Boston University
2012	Ms. Leida Tornaritis	Boston University, Class of 2012
2010-11	Ms. Catherine Cheng	Cornell University, Class of 2012
2008	Cornell University Hughes Scholars Program	

SERVICE AND PROFESSIONAL MEMBERSHIPS:

PROFESSIONAL SOCIETIES

International Congress of Neuroethology
Society for Neuroscience
J.B. Johnston Club for Comparative and Evolutionary Neuroscience

SCIENTIFIC OUTREACH ACTIVITIES

2010	*Guest Lecturer*	Cornell Institute for Biology Teachers
2007-08	*Guest Lecturer*	Cornell Summer College
2006-09	*Instructor*	Trumansburg Center School -Electric Fish and Forms of Energy

OTHER

Member, *Electrophorus electricus* Genome Sequencing Consortium
Reviewer for: Hormones and Behavior, Comparative Biochemistry and Physiology, Journal of Experimental Biology

PROFESSIONAL REFERENCES:

Dr. Sean P. Mullen, Assistant Professor
Department of Biology
Boston University
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Dr. Carl Hopkins, Professor
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Ithaca, NY 14853
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Dr. David L. Deitcher, Professor
Department of Neurobiology and Behavior
Cornell University
Ithaca, NY 14853
dld14@cornell.edu

Dr. Harold Zakon, Professor
Section of Neurobiology
University of Texas, Austin
Austin, TX 78713
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Additional references are available upon request.