

Giulia I.M. Pasquesi, PH.D.

Curriculum Vitae

Department of Molecular, Cellular, and Developmental Biology

The University of Colorado Boulder
3415 Colorado Ave. JSC Biotech Bldg
Boulder, CO 80303-1904

Dept. Fax: 303-492-8425
Email: giulia.pasquesi@colorado.edu
Chuong Laboratory Website: <https://chuonglab.colorado.edu/>

PROFESSIONAL POSITIONS

Postdoctoral Research Fellow

University of Colorado Boulder, Boulder, CO
Advisor: Dr. Edward B. Chuong

01/2020 – Current

Assistant to the Curator of Herpetology, Amphibian & Reptile Div. Res. Ctr.

University of Texas at Arlington, Arlington, TX

Summer 2019

EDUCATION

Doctor of Philosophy (Ph.D.) in Quantitative Biology

University of Texas at Arlington, Arlington, TX
Advisor: Dr. Todd A. Castoe

12/2019

Master's Degree (M.S.) in Conservation and Evolution

Universita di Pisa, Pisa, Italy
Advisor: Dr. Stefano Landi and Sergio Tofanelli

12/2013

Bachelor's Degree (B.S.) in Ecology and Biodiversity

Universita di Pisa, Pisa, Italy
Advisor: Dr. Natale E. Baldaccini and Claudio Ciofi

11/2011

RESEARCH INTERESTS AND BACKGROUND

Transposable element (TE) evolution in vertebrate genomes – Regulation of TE activity – Impacts of TE activity and functional co-option of TE – Computational and evolutionary genomics – Reptile and amphibian biology – TE involvement in the innate immune system

PUBLICATION AND CITATION STATISTICS

Publications: 16 total

Total citations: Google Scholar = 593

H-index (*h papers, cited a minimum of h times*): Google Scholar = 12

Papers published (15):

1. **Pasquesi, G.I.M.**, C.J. Kelly, A.D. Ordonez, and E.B. Chuong. 2022. Transcriptional dynamics of transposable elements in the type I IFN response in *Myotis lucifugus* cells. *Mobile DNA* 13(1), 1-17.
2. Schield, D.R., B.W. Perry, D.C. Card, **G.I.M. Pasquesi**, A.K. Westfall, S.P. Mackessy, and T.A. Castoe. 2022. The Rattlesnake W Chromosome: A GC-Rich Retroelement Refugium with Retained Gene Function Across Ancient Evolutionary Strata. *Genome Biology and Evolution* 14(9), evac116
3. Perry, B.W., S.S. Gopalan, **G.I.M. Pasquesi**, D.R. Schield, A.K. Westfall, C.F. Smith, I. Koludarov, P.T. Chippindale, M.W. Pellegrino, E.B. Chuong, S.P. Mackessy, and T.A. Castoe. 2022. Snake venom gene expression is coordinated by novel regulatory architecture and the integration of multiple co-opted vertebrate pathways. *Genome Research* 32(6), 1058-1073
4. Schield, D.R., B.W. Perry, **G.I.M. Pasquesi**, R.W. Orton, Z.L. Nikolakis, A.K. Westfall, and T.A. Castoe. 2021. Applications of Genomics and Related Technologies for Studying Reptile Venoms. *Handbook of Venoms and Toxins of Reptiles* 29-42
5. **Pasquesi, G.I.M.**, R.P. Ruggiero, B.W. Perry, M.W. Vandewedge, D.R. Schield, and T.A. Castoe. 2020. Vertebrate lineages exhibit diverse patterns of transposable element regulation and expression across tissues. *Genome Biology and Evolution* 12:506-521
6. Schield, D.R., **G.I.M. Pasquesi**, B.W. Perry, R.H. Adams, Z.L. Nikolakis, R.W. Orton, J.M. Meik, S.P. Mackessy, and T.A. Castoe. 2020. Snake recombination landscapes are concentrated in functional regions despite PRDM9. *Molecular Biology and Evolution* 37:1272-1294
7. Card, D.C., R.H. Adams, D.R. Schield, B.W. Perry, A.B. Corbin, **G.I.M. Pasquesi**, K. Row, J.M. Daza, W. Booth, C.E. Montgomery, S.M. Boback, and T.A. Castoe. 2019. Genomic basis of convergent island dwarf phenotypes in boa constrictors. *Genome Biology and Evolution* 11:3123-3143.
8. Perry, B.W., A.L. Andrew, A.H.M. Kamal, D.C. Card, D.R. Schield, **G.I.M. Pasquesi**, M. Pelligrino, S.P. Mackessy, S. Chowdhury, S.M. Secor, and **T.A. Castoe**. 2019. Multi-species comparisons of snakes identify coordinated signaling networks underlying post-feeding intestinal regeneration. *Proceedings of the Royal Society B*. doi.org/10.1098/rspb.2019.0910
9. Schield, D.R.*, B.W. Perry*, R.H. Adams, D.C. Card, T. Jezkova, **G.I.M. Pasquesi**, Z.L. Nikolakis, K. Row, J.M. Meik, C.F. Smith, S.P. Mackessy, and T.A. Castoe. 2019. Allopatric divergence and secondary contact with gene flow – a recurring theme in rattlesnake speciation. *Biological Journal of the Linnean Society*. doi.org/10.1093/biolinnean/blz077
10. Schield, D.R., D.C. Card, N.M. Hales, B.W. Perry, **G.I.M. Pasquesi**, H. Blackmon, R.H. Adams, A.B. Corbin, C.F. Smith, B. Ramesh, J.P. Demuth, E. Betran, M. Tollis, J.M. Meik, S.P. Mackessy and T.A.

Castoe. 2019. The origins and evolution of chromosomes, dosage compensation, and mechanisms underlying venom regulation in snakes. *Genome Research*. Doi.org/10.1101/gr.240952.118.

11. Card, D.C., B.W. Perry, R.H. Adams, D.R. Schield, A.S. Young, A.L. Andrew, T. Jezkova, **G.I.M. Pasquesi**, N.R. Hales, M.R. Walsh, M.R. Rockford, F.J. Mazzotti, K.M. Hart, M.E. Hunter, and T.A. Castoe. 2018. Novel ecological and climatic conditions drive rapid adaptation in invasive Florida Burmese pythons. *Molecular Ecology* 27:4744-4757.
12. **Pasquesi, G.I.M.**, Adams, R.H., D.C. Card, D.R. Schield, B.W. Perry, A.B. Corbin, J. Reyes-Velasco, R.P. Ruggiero, M.W. Vandewege, J.A. Shortt, and T.A. Castoe. 2018. Squamate reptiles challenge paradigms of genomic repeat element evolution set by birds and mammals. *Nature Communications* 9: 2774.
13. Perry, B.W, Card, D.C., **Pasquesi, G.I.M.**, Adams, R.H., Schield, D.R., N.R. Hales, A.B. Corbin, J.P. Demuth, F.G. Hoffmann, M.W. Vandewege, R. Schott, N. Bhattacharyya, B.S.W. Chang, N.R. Casewell, G. Whiteley, J. Reyes-Velasco, S.P. Mackessy, K.B. Storey, Gamble, T., K.K. Biggar, C.N. Passow, C. Kuo, S.E. McGaugh, A.M. Bronikowski, J. de Koning, S.V. Edwards, M.E. Pfrender, P. Minx, E.D. Brodie III, E.D. Brodie, Jr., W.C. Warren, and T.A. Castoe. 2018. Molecular adaptations for sensing and securing prey, and insight into amniote genome diversity, from the garter snake genome. *Genome Biology and Evolution* 10:2110-2129.
14. Schield, D.R., R.H. Adams, D.C. Card, B.W. Perry, **G.I.M. Pasquesi**, T. Jezkova, D.M. Portik, A.L. Andrew, C.L. Spencer, E.E. Sanchez, M.K. Fujita, S.P. Mackessy, and T.A. Castoe. 2017. Insight into the roles of selection in speciation from genomic patterns of divergence and introgression in secondary contact in venomous rattlesnakes. *Ecology and Evolution* 7: 3951-3966.
15. Card, D.C., D.R. Schield, R.H. Adams, A.B. Corbin, B.W. Perry, A.L. Andrew, **G.I.M. Pasquesi**, E.N. Smith, T. Jezkova, S.M. Boback, W. Booth, and T.A. Castoe. 2016. Phylogeographic and population genetic analyses reveal multiple species of *Boa* and independent origins of insular dwarfism. *Molecular Phylogenetics and Evolution* 102:104-116.
16. Sacchi, R., M. Ghitti, S. Scali, M. Mangiacotti, M. Zuffi, M. Sannolo, A. Coladonato, **G.I.M. Pasquesi**, M. Bovo, D. Pellitteri-Rosa. 2015. Common wall lizard females (*Podarcis muralis*) do not actively choose males based on their colour morph. *Ethology* 121:1145-1153.

Manuscripts In Review (1)

Pasquesi, G.I.M., H. Allen, A. Ivancevic, A. Barbachano-Guerrero, O. Joyner, K. Guo, D.M. Simpson, K. Gapin, I. Horton, L. Nguyen, Q. Yang, C.J. Warren, L.D. Florea, B.G. Bitler, M.L. Santiago, S.L. Sawyer¹, and E.B. Chuong. Regulation of human interferon signaling by transposon exonization. In revision at *Cell*.
BioRxiv: 10.1101/2023.09.11.557241

Manuscripts In Preparation (0)

Grants And Awards

- 2022 SIE fellowship (Linda Crnic Institute for Down Syndrome, Boulder branch)
- 2019 William F. Pyburn Fellowship (UTA Biology Department)
- 2018 Large research grant (Phi Sigma Honor Society, UTA)
- 2017 Rosemary's grant award (Society for the Study of Evolution)
- 2017 Large research grant (Phi Sigma Honor Society, UTA)

Invited Lectures (3)

- 2019 Evolutionary dynamics of transposable element landscapes in squamate reptiles. Department of Genetics and Center for Genome Sciences and Systems Biology. Washington University in St. Louis - School of Medicine. St. Louis, MO.
- 2012 Snake venoms and their potentials. Animal Ecophysiology and Neurobiology Course. Department of Biology, Università di Pisa, Pisa, Italy.
- 2012 Evidence of parthenogenesis in squamate reptiles. Reproductive Biology of Vertebrates Course. Department of Biology, Università di Pisa, Pisa, Italy.

Presentations And Published Abstracts in the Last Three Years

- 2023 **Pasquesi, G.I.M.**, and E.B. Chuong. One gene to rule them “all”: Regulation of human interferon signaling by transposon exonization. Mostly Molecular Biology. University of Colorado Boulder
- 2022 **Pasquesi, G.I.M.**, C.J. Warren, L. Nguen, A. Barbachano-Guerrero, and E.B. Chuong. A retrotransposon-derived IFNAR2 splice variant functions as an interferon decoy receptor. Cold Spring Harbor Laboratory "Transposable Elements".
- 2022 **Pasquesi, G.I.M.**, and E.B. Chuong. Frenemy at the gates: Evolution of a primate-specific IFN decoy receptor. Host-Pathogen Supergroup. University of Colorado Boulder
- 2020 **Pasquesi, G.I.M.**, and E.B. Chuong. Transposable elements and immunity - New perspective from bat epigenomics. Cold Spring Harbor Laboratory "Transposable Elements" – online.

PROFESSIONAL SOCIETIES

Society for the Study of Evolution, Society for Integrative and Comparative Biology

TEACHING EXPERIENCE

Graduate Teaching Assistant Spring/2016, Fall/2016, Spring/2017, Fall/2017, Spring/2018, Fall/2018, Spring/2019

University of Texas at Arlington, Arlington, TX
2188-BIOL-1442 Evolution and Ecology

Graduate Teaching Assistant Summer/2017, Summer/2018, Summer/2019, Fall/2019

University of Texas at Arlington, Arlington, TX
BIOL-3454 Zoology

Graduate Teaching Assistant Summer/2015

University of Texas at Arlington, Arlington, TX

“**Genomics**”; cross-listed as an undergraduate (BIOL3317) and a graduate (BIOL5335 – “**Essentials of Genomics**”) course

Graduate Teaching Assistant Spring/2015, Fall/2015, Summer/2016

University of Texas at Arlington, Arlington, TX
1406-BIOL-1441 Cell and Molecular Biology

Service

Ad-hoc manuscript reviewer for: Genome Biology and Evolution, Evolution, Molecular Biology and Evolution, Genomics, Cell, BMC Biology, Biology Letters, Nature Ecology and Evolution

Professional References

Todd A. Castoe, Ph.D. [PhD Advisor]
Associate Professor – Biology Department
University of Texas at Arlington
701 South Nedderman Drive, Box 19498
Arlington, TX 76019-0498
Office: 817-272-2426
Email: todd.castoe@uta.edu

Esther Betran, Ph.D. [PhD Committee member]
Professor – Biology Department
University of Texas at Arlington
701 South Nedderman Drive, Box 19498
Arlington, TX 76019-0498
Office: 817- 272-7178
Email: betran@uta.edu

Marc Tollis, Ph.D. [Collaborator]
Associate Professor – School of Informatics, Computing and Cyber Systems,
Northern Arizona University,
1295 S. Knoles Dr.
Flagstaff, AZ 86011
Email: marc.tollis@nau.edu

Stefano Landi, Ph.D. [Master Thesis Degree Advisor]
Professor – Genetics – Department of Biology
Universita di Pisa
Via Derna 1. 56126
Pisa, Italy
Office: (+39) 0502211528
Email: Stefano.landi@unipi.it