

J. Matthew Taliaferro

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Education

University of California, Berkeley 2007-2012
Department of Molecular and Cell Biology
Ph.D. in Molecular and Cell Biology

University of Texas at Austin 2003-2007
Department of Chemistry and Biochemistry
B.S. in Biochemistry with High Honors

Research Experience

Postdoctoral Fellow, Laboratory of Christopher B. Burge 2013-Present
Department of Biology
Massachusetts Institute of Technology
Genomic and mechanistic studies of mRNA localization in neurons and protein/RNA interactions

Graduate Student, Laboratory of Donald C. Rio 2007-2012
Department of Molecular and Cell Biology
University of California, Berkeley
Biochemical, genetic and genomic characterization of several factors involved in the regulation of alternative splicing in *Drosophila melanogaster* and their mechanisms

Undergraduate Research Fellow, Laboratory of K. Sathasivan 2003-2007
Department of Chemistry and Biochemistry
University of Texas at Austin
Characterization of expressed mRNA sequences in the jute (*Corchorus olitorius*) plant

Publications

Taliaferro JM*, Lambert NJ*, Sudmant PH, Dominguez D, Merkin JP, Alexis MS, Bazile C, Burge CB. RNA sequence context effects measured *in vitro* predict *in vivo* binding and regulation. *Molecular Cell*. (2016) <http://dx.doi.org/10.1016/j.molcel.2016.08.035>

Wang ET, **Taliaferro JM**, Lee JA, Sudhakaran IP, Rossoll W, Gross C, Williams KR, Bassell GJ. Dysregulation of mRNA localization and translation in genetic disease. *J Neuroscience*. (2016) **36** (45) 11418-11426.

Vidaki M, Drees F, Saxena T, **Taliaferro JM**, Tadros J, Burge CB, Wang ET, Gertler FB. An unexpected role for the actin regulatory protein Mena in local mRNA translation in axons. (2016) In review.

Taliaferro JM, Vidaki M, Oliveira R, Olson S, Zhan L, Saxena T, Wang ET, Graveley BR, Gertler FB, Swanson MS, Burge CB. Distal alternative last exons localize mRNAs to neural projections. *Molecular Cell*. (2016) **62**: 821-833.

Wang Q, **Taliaferro JM**, Klibaite U, Hilgers V, Shaevez JW, Rio DC. The PSI-U1 snRNP interaction regulates male mating behavior in *Drosophila*. *PNAS*. (2016) **113**: 5269-5274.

Taliaferro JM, Wang ET, Burge CB. Genomic analysis of RNA localization. *RNA Biology*. (2014) **11**(8): 1040-1050.

Taliaferro JM, Aspden JL, Bradley T, Marwha DM, Blanchette M, and Rio DC. Two new and distinct roles for *Drosophila* Argonaute-2 in the nucleus: alternative pre-mRNA splicing and transcriptional repression. *Genes and Development*. (2013) **27**: 378-89.

Taliaferro JM, Marwha D, Aspden JL, Mavrici D, Cheng NE, Kohlstaedt LA, Rio DC. The *Drosophila* splicing factor PSI is phosphorylated by Casein Kinase II and Tousled-like kinase. (2013) PLOS ONE.

Taliaferro JM, Alvarez N, Green RE, Blanchette M, and Rio DC. Evolution of a tissue-specific splicing network. *Genes and Development*. (2011) **6**: 608-20.

Stolfi A, Wagner E, **Taliaferro JM**, Chou S, Shi W, and Levine M. Neural tube patterning by Ephrin, FGF and Notch signaling. *Development*. (2011) **138**: 5429-39.

Wazni MW, Islam AS, **Taliaferro JM**, Anwar N, Sathasivan K. Novel ESTs from a Jute (*Corchorus olitorius* L.) cDNA library. *Plant Tissue Culture and Biotechnology* (2007) **17**(2):173-182.

Taliaferro JM, Islam AS, and Sathasivan K. Expressed sequence tags from a jute (*Corchorus olitorius*) cDNA library. *Plant Tissue Culture and Biotechnology*. (2006) **16**(2): 95-104.

Islam AS, **Taliaferro JM**, Lee CT, Ingram C, Montalvo RJ, van der Ende G, Alam S, Siddiqui J, and Sathasivan K. Preliminary progress in Jute (*Corchorus* species) genome analysis. *Plant Tissue Culture and Biotechnology*. (2005) **15**(2): 145-56.

Fellowships and Awards

Biogen Sponsored Research Agreement	2017
Ruth L. Kirschstein NIH-NRSA Postdoctoral Fellowship	2013-2016
Top Poster Award, Meeting of the American Society of Biochemistry and Molecular Biology	2015
Session Chair, 2014 Gordon Research Seminar on Post-transcriptional regulation	2014
UC Cancer Research Committee Predoctoral Fellowship	2011-2012
Central Texas American Chemical Society Outstanding Student of the Year	2007
University of Texas Undergraduate Research Fellowship Award	2006
University Honors for Academic Achievement (<i>Univ of Texas at Austin</i>)	2003-2007

Selected Presentations and Posters

Presentation: Society for Neuroscience Annual Meeting, San Diego, CA FMRP binds G-quadruplex motifs in 3' UTRs to direct neuronal RNA localization	2016
Presentation: MIT Biology Departmental Retreat, Falmouth, MA RNA context effects measured <i>in vitro</i> predict <i>in vivo</i> binding and regulation	2016
Poster: Post-transcriptional Gene Regulation Gordon Conference RNA context effects measured <i>in vitro</i> predict <i>in vivo</i> binding and regulation	2016
Presentation: Brainstorming Microsatellite Expansion Diseases, Gainesville, FL Distal alternative last exons localize mRNAs to neural projections	2015

Presentation: MIT Biology Departmental Retreat, Falmouth, MA Distal alternative last exons localize mRNAs to neural projections	2015
Poster: EMBO RNA localization and local translation, Hersonissos, Greece Distal alternative last exons localize mRNAs to neural projections	2015
Presentation: Broad Institute seminar series, Cambridge, MA Distal alternative last exons localize mRNAs to neural projections.	2015
Presentation: UC Berkeley Departmental Retreat, Pacific Grove, CA Two new and distinct roles for Drosophila Argonaute-2 in the nucleus: alternative pre-mRNA splicing and transcriptional repression	2012
Presentation: UC Santa Cruz RNA Club, Santa Cruz, CA Two new and distinct roles for Drosophila Argonaute-2 in the nucleus: alternative pre-mRNA splicing and transcriptional repression	2012
Presentation: Eukaryotic mRNA Processing Meeting, Cold Spring Harbor, NY Evolution of a tissue-specific splicing network	2011
Presentation: UC Berkeley Departmental Retreat, Pacific Grove, CA Evolution of a tissue-specific splicing network	2011
Presentation: Bay Area RNA Symposium, San Francisco, CA Evolution of tissue-specific splicing network	2010
Presentation: Annual Meeting of the RNA Society, Seattle, WA Evolution of tissue-specific splicing network	2010
Presentation: Eukaryotic mRNA Processing Meeting, Cold Spring Harbor, NY The protein architecture of the P element third intron splicing silencer complex	2009

Teaching and Mentoring Experience

Guest lecture for MIT course 7.09: Quantitative and Computational Biology	Spring 2017
Instructor for MIT course 7.343: Exploring the surprising diversity of mammalian transcriptomes	Spring 2016
Mentor to several rotation and graduate students	2014-2017
Mentor to undergraduate researcher Dhruv Marwha University of California, Berkeley	2010-2012
Teaching assistant for upper level biochemistry course University of California, Berkeley	Fall 2008, Spring 2010