

JAMES D. THOMAS

Fred Hutchinson Cancer Research Center, Bradley Lab
1100 Fairview Ave N, A3-105, Seattle, WA 98109
Tel: (504) 784-0368 • E-mail: jdthomas@fredhutch.org
jamesdthomas.org

Education

- 2012-2017 Ph.D., Medical Sciences - Genetics
University of Florida, Gainesville, FL
- 2008-2012 B.S., Biology with Highest Honors
University of Florida, Gainesville, FL

Training

- 2017- Postdoctoral Fellow, Robert K. Bradley Ph.D. Lab, Fred Hutchinson Cancer Research Center, Basic Sciences Division, Seattle, WA (Research area: RNA processing and quality control in development and disease).
- 2012-2017 Ph.D. Candidate, Maurice S. Swanson Ph.D. Lab, Center for NeuroGenetics, University of Florida, Gainesville, FL (Research area: myotonic dystrophy disease mechanisms and regulation of RNA processing during development).
- 2010-2012 Honors Thesis Scholar, Eric A. Schmelz Ph.D. Lab, US Department of Agriculture, Gainesville, FL (Research area: plant defense mechanisms and regulation of gene expression).
- 2009-2010 Undergraduate Lab Technician, Louis J. Guillette Ph.D. Lab, HHMI Professor, University of Florida, Gainesville, FL (Research area: environmental toxicology and morphological defects in *Alligator mississippiensis*).

Manuscripts

1. Batra R, Nelles DA, Pirie E, Blue S, Marina RJ, Wang H, Chaim AI, **Thomas JD**, Zhang Nigel, Ngyuen V, Aigner S, Xia G, Swanson MS, and Yeo GW (2017) Visualization and elimination of toxic microsatellite expansion RNA by RNA-targeting Cas9. *Cell*
2. **Thomas JD**, Sznajder ŁJ, Bardhi O, Aslam FN, Anastasiadis ZP, Scotti MM, Nishino I, Nakamori M, Wang ET, and Swanson MS (2017) Disrupted prenatal RNA processing and myogenesis in congenital myotonic dystrophy. *Genes Dev*
Outlook article: Jagannathan S and Bradley RK (2017) Congenital myotonic dystrophy – an RNA-mediated disease across a developmental continuum. *Genes Dev*
3. **Thomas JD**, Oliveira RS, Sznajder ŁJ, and Swanson MS (2017) Myotonic dystrophy and developmental regulation of RNA processing. *Comp Physiol* (in press)
4. Dafoe NJ, **Thomas JD**, Shirk PD, Legaspi ME, Vaughan MM, Huffaker A, Teal PE, and Schmelz EA (2013) European Corn Borer (*Ostrinia nubilalis*) Induced Responses Enhance Susceptibility in Maize. *PLoS One* 8(9):e73394.

Presentations & Posters

1. **Thomas JD**, Sznajder ŁJ, Bardhi O, Aslam F, Anastasiadis Z, Scotti MM, Nishino I, Nakamori M, Wang ET, and Swanson MS (2017) Disrupted prenatal RNA processing and altered myogenesis in congenital myotonic dystrophy. International Myotonic Dystrophy Consortium 11, San Francisco, California. *Invited talk*
2. Sznajder ŁJ, **Thomas JD**, Reid T, Oliveira RS, Ranum LPW, and Swanson MS (2017) Intron retention induced by microsatellite expansions as a disease biomarker. International Myotonic Dystrophy Consortium 11, San Francisco, California. *Poster*
3. Nakamori M, Hamanaka K, **Thomas JD**, Wang ET, Hayashi YK, Takahashi MP, Swanson MS, Nishino I, and Mochizuki H (2017) Phenotype-genotype/epigenotype correlation and aberrant inflammatory signaling in congenital myotonic dystrophy. International Myotonic Dystrophy Consortium 11, San Francisco, California. *Invited talk*
4. Oliveira RS, **Thomas JD**, Ivanković F, and Swanson MS (2017) CRISPR/Cas9 overcomes the Challenges of Dmpk knockin development. International Myotonic Dystrophy Consortium 11, San Francisco, California. *Poster*
5. **Thomas JD** (2017) Disrupted molecular transitions in congenital myotonic dystrophy. University of Florida, Molecular Genetics and Microbiology Research Seminar. Gainesville, Florida. *Invited talk*
6. **Thomas JD**, Sznajder ŁJ, Bardhi O, Aslam F, Anastasiadis Z, Scotti MM, Nishino I, Nakamori M, Wang ET, and Swanson MS (2017) Disruption of prenatal RNA splicing patterns and altered myogenesis in congenital myotonic dystrophy. Advances in Skeletal Muscle Biology in Health and Disease Conference, Gainesville, Florida. *Invited talk*
7. **Thomas JD** (2017) Disruption of prenatal RNA splicing patterns and impaired myogenesis in congenital myotonic dystrophy. Fred Hutchinson Cancer Research Center, Seattle, Washington. *Invited talk*
8. **Thomas JD** (2016) Disruption of prenatal RNA splicing patterns and impaired myogenesis in congenital myotonic dystrophy. University of Colorado, Boulder. *Invited talk*
9. Oliveira RS, **Thomas JD**, and Swanson MS (2016) CRISPR/Cas9 enables the development of microsatellite knock-in models for myotonic dystrophy. International Society for Stem Cell Research Conference, San Francisco, California. *Poster*
10. Coomes A, **Thomas JD**, Otero B, Swanson MS, and Rodríguez-Lebrón E (2016) Mapping Matrin-3 binding sites in the human brain using iCLIP. UF Celebration of Research Symposium, Gainesville, Florida. *Poster*
11. **Thomas JD**, Batra R, Scotti M, Llera C, Bardhi O, and Swanson MS (2016) Regulation of myogenesis by MBNL proteins. Advances in Skeletal Muscle Biology in Health and Disease Conference, Gainesville, Florida. *Poster*
12. Bardhi O, **Thomas JD**, and Swanson MS (2015) Exploration of RNA-mediated pathogenesis in a myotonic dystrophy cell model. Second Brainstorming Microsatellite Expansion Disease Symposium, Gainesville, Florida. *Poster*
13. Oliveira RS, **Thomas JD**, Mahon A, and Swanson MS (2015) Generation of Dmpk knock-in mice with large CTG repeat expansions to model Myotonic dystrophy. Genome Engineering: The CRISPR/Cas Revolution, Cold Spring Harbor, NY. *Poster*
14. Lee KY, Fernandez-Gomez FJ, Eddarkaoui S, Li M, **Thomas JD**, Finn D, Hamed N, Buee L, Sergeant N, and Swanson MS (2015) Muscleblind compound knockout mice recapitulate Tau mis-splicing in DM brain. IDMC-10, Paris, France. *Poster*

15. **Thomas JD**, Dafoe NJ, and Schmelz EA (2011) Differential gene regulation in *Zea mays* stem in response to *Ostrinia nubilalis* feeding. Sigma Xi Student Research Conference, Raleigh, NC.
Poster

Honors & Awards

- 2017 IDMC-11 Travel Award
2017 Second Place, University of Florida Medical Guild Graduate Student Research Competition
2017 Short Talk, Advances in Skeletal Muscle Biology in Health & Disease Conference
2015 Second Place, Best Poster, University of Florida Genetics Symposium
2013 Scholarship, 18th Summer Institute in Statistical Genetics, Seattle, WA
2012 Highest Honors, University of Florida
2008-2012 Bright Futures Florida Academic Scholar, University of Florida

Professional Development

- 2014 Attended 3rd Annual Myology Training Course, Ohio State University
2013 Attended 18th Summer Institute in Statistical Genetics, University of Washington
2009-2012 Rock Climbing Director and Associate Director of the University of Florida Travel and Recreation Program (TRiP.com)

Teaching & Mentoring

- 2015-2017 Co-coordinator and instructor of “Computational Biology” course for undergraduate students. This course provides training in fundamental aspects of computational research and transitions students into full-time research positions. Faculty advisors: Dr. Eric Wang, Dr. Andy Berglund.
2013-2017 Coordinator and instructor of “Introduction to Computational Biology” lecture series for graduate students. Three-part lecture series introducing students to command line and Python. Faculty advisors: Dr. Arthur Edison, Dr. Jörg Bungert.
2013-2017 Mentored research students: Faaq Aslaam (CNG research scholar), Zacharias Anastasiadis (CNG research scholar), Olgert Bardhi (honors thesis scholar), Catherine Llera, Nadine Hamed, Lance Denes, Aishwarya Gurumurthy, William Ruddick
2013-2015 Organizer and instructor of biology workshops at the Cade Museum, Gainesville, FL
2014 Journal club discussion leader for graduate student first-year course (GMS6001)
2012 Teaching assistant for Genetics (PBC3063). Instructor: Dr. Michael Miyamoto.

Major Research Expertise

Wet lab: RNA-/PolyA-/CLIP-seq, mouse models, primary cell lines, molecular biology
Dry lab: Bash, Python, Adobe Illustrator

Major Research Interests

Neuromuscular disease, skeletal muscle (development, function, and maintenance), RNA biology, cell biology, and computational biology