

JAMES D THOMAS

Washington Research Foundation Fellow
Robert K. Bradley Lab
Fred Hutchinson Cancer Research Center
jdthomas@fredhutch.org

EDUCATION

2017 University of Florida
Ph.D., Medical Sciences – concentration in genetics

2012 University of Florida
B.S., Biology with Highest Honors

RESEARCH POSITIONS

Postdoctoral Fellow	Fred Hutchinson Cancer Research Center Computational Biology Program Robert K. Bradley, PhD <i>Functional transcriptomics in cancer</i>	2017-
Graduate Student	University of Florida Center for NeuroGenetics Maurice S. Swanson, PhD <i>RNA processing in repeat expansion disease</i>	2012-2017

HONORS & AWARDS

2018-2021 Washington Research Foundation Postdoctoral Fellowship

2017 Promise to Kate Trainee Award

2017 International Myotonic Dystrophy Consortium Trainee Award

2017 Silver Medal, University of Florida Medical Guild Research Competition

2017 Top Abstract, Advances in Skeletal Muscle Biology in Health & Disease Conference

2012 Highest Honors, University of Florida

2008-2012 Bright Futures Florida Academic Scholar, University of Florida

PUBLICATIONS

First author

1. **Thomas JD**, Polaski JT, Feng Q, De Neef EJ, Hoppe ER, McSharry MV, Pangallo J, Gabel AM, Belleville AE, Watson J, Nkinsi NT, Berger AH, and Bradley RK (2020) RNA isoform screens uncover the essentiality and tumor suppressor activity of ultraconserved poison exons. *Nature Genetics* doi:10.1038/s41588-019-0555-z
2. Sznajder ŁJ*, **Thomas JD***, Carrell E, Reid T, McFarland K, Cleary J, Oliveira RS, Nutter C, Bhatt K, Sobczak K, Ashizawa T, Thornton C, Ranum LW, and Swanson MS (2018) Intron retention induced by microsatellite expansions as a disease biomarker. *PNAS* 115:4234-4239
*co-first authors

3. **Thomas JD**, Oliveira RS, Sznajder ŁJ, and Swanson MS (2018) Myotonic dystrophy and developmental regulation of RNA processing. *Comprehensive Physiology* 8:509-553. doi: 10.1002/cphy.c170002
4. Iradi MCG*, Triplett JC*, **Thomas JD***, Davila R., Crown AM, Brown H, Lewis J, Swanson MS, Xu G, Rodríguez-Lebrón E, and Borchelt DR (2018) Characterization of gene regulation and protein interaction networks for Matrin 3 encoding mutations linked to amyotrophic lateral sclerosis and myopathy. *Scientific Reports* 8:4092 *co-first authors
5. **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 & Development* 31:1122-133

Contributing author

1. Skruber K, Warp PV, Shklyarov R, **Thomas JD**, Swanson MS, Henty-Ridilla JL, Read TA, Vitriol EA (2020) Arp2/3 and Mena/VASP require Profilin 1 for Actin Network Assembly at the Leading Edge. *Current Biology* <http://dx.doi.org/10.2139/ssrn.3509908>
2. Li M, Zhuang Yan, Batra R, **Thomas JD**, Li M, Nutter CA, Scotti MM, Carter HA, Wang ZJ, Huang X-S, Pu CQ, Swanson MS, and Xie W (2020) HNRNPA1-induced spliceopathy in a transgenic mouse model of myotonic dystrophy. *PNAS* 117:5472-5477
3. Taylor K, Sznajder ŁJ, Cywoniuk P, **Thomas JD**, Swanson MS, and Sobczak K (2018) MBNL splicing activity depends on RNA binding site structural context. *Nucleic Acids Research* 46:9119-9133
4. Li J, Deng S, Vieira J, **Thomas JD**, Costa V, Tseng C, Ivanković F, Ciccodicola A, and Peng Y (2018) RBPMetaDB: A comprehensive annotation of mouse RNA-Seq datasets with perturbations of RNA-binding proteins. *Database* doi: 10.1093/database/bay054
5. Nakamori M, Hamanaka K, **Thomas JD**, Wang ET, Hayashi YK, Takahashi MP, Swanson MS, Nishino I, and Mochizuki H (2017) Aberrant CpG methylation and myokine signaling in congenital myotonic dystrophy. *Cell Reports* 21:1240-1252
6. Batra R, Nelles DA, Krach F, **Thomas JD**, Sznajder ŁJ, Blue SM, Aigner S, Swanson MS, and Yeo GW (2017) Reversal of molecular pathology by RNA-targeting Cas9 in a myotonic dystrophy mouse model. *bioRxiv* <https://doi.org/10.1101/184408>
7. 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) Elimination of toxic microsatellite expansion RNA by RNA-targeting Cas9. *Cell* 170:899-912
8. 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:e73394

TALKS

Functional genomics at RNA isoform resolution

eLife Community Early-Career Researcher Online Research Talks (2020)

4th International Brainstorm Symposium – Invited Speaker; Gainesville, Florida (2020)
ENCODE Users Meeting – Invited Speaker; Seattle, Washington (2019)
Fred Hutch Developmental Oncology Group – Short Talk; Seattle, Washington (2019)
Fred Hutch Computational Biology Retreat; Seattle, Washington (2019)
Fred Hutch Friday Night Seminar Series; Seattle, Washington (2018)

Intron retention induced by microsatellite expansions as a disease biomarker

Computational Biology Postdoc & Grad Student Group; Seattle, Washington (2018)

Disrupted prenatal RNA processing and myogenesis in congenital myotonic dystrophy

International Myotonic Dystrophy Consortium 11 – Short Talk; San Francisco, California (2017)

Molecular Genetics and Microbiology Research Seminar; Gainesville, Florida (2017)

Advances in Skeletal Muscle Biology in Health & Disease; Gainesville, Florida (2017)

Fred Hutchinson Cancer Research Center; Seattle, Washington (2017)

University of Colorado; Boulder, Colorado (2016)

TEACHING & MENTORING

- 2015-2017 Co-coordinator and primary instructor of “Computational Biology” – a course for undergraduate students that provided training in computational methods and transitioned students into full-time research positions. Faculty advisors: Dr. Eric Wang, Dr. Andy Berglund
- 2013-2017 Coordinator and primary instructor of “Introduction to Computational Biology” – a lecture series for graduate students. Each year, I taught four two-hour workshops introducing students to Unix command line and Python. Faculty advisors: Dr. Arthur Edison, Dr. Jörg Bungert
- 2013-2017 Mentored undergraduate students: Faaiq Aslaam (CNG research scholar), Zacharias Anastasiadis (CNG research scholar), Olgerd Bardhi (honors thesis scholar), Catherine Llera, Nadine Hamed
- 2014-2015 Mentored graduate students: 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 (PCB3063). Instructor: Dr. Michael Miyamoto

ADDITIONAL TRAINING

- 2019-2020 Reviewer, Fred Hutch K99 mock study section

- 2018-2020 Attended Fred Hutch faculty led mentoring session: “Grants”, “Getting and Giving Feedback”, “Running a Lab”, “Applying for the K99”, “Negotiating a Job Offer”, “Collaborations”
- 2014 3rd Annual Myology Training Course, Ohio State University
- 2013 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