

Abigail Lynn Davidson Tadenev

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Education and Training

- 2011-present **Postdoctoral Fellow**, The Jackson Laboratory, Bar Harbor, ME
Advisor: Dr. Robert W. Burgess
- 2003-2011 **Ph.D.**, Program in Cellular and Molecular Medicine,
The Johns Hopkins University School of Medicine, Baltimore, MD
Advisor: Dr. Randall R. Reed
- 2003 **B.A.**, Williams College, Williamstown, MA
Biology Major, Neuroscience concentration
Graduated *Magna Cum Laude* with Honors in Neuroscience.

Research Experience

- 2011-present **Postdoctoral research** with Dr. Robert Burgess, The Jackson Laboratory.
- Examining the role of *Down Syndrome Cell Adhesion Molecule (Dscam)* and related genes in retinal development.
- 2003-2011 **Graduate thesis research** with Dr. Randall Reed, Department of Neuroscience & Department of Molecular Biology and Genetics, The Johns Hopkins University School of Medicine.
- Studied the molecular and cellular basis of Bardet-Biedl Syndrome (BBS) phenotypes in olfaction.
 - Investigated pathways for protein trafficking and localization within specialized subcellular compartments.
 - Created and analyzed genetically modified mice to reveal novel phenotypes in a *Bbs8* knockout and to visualize protein trafficking *in vivo*.
- 2001-2003 **Undergraduate thesis research** with Dr. Betty Zimmerberg, Williams College. Thesis title: The Role of Allopregnanolone in Differentiating Lines Selectively Bred for Infantile Vocalizations.

Awards and Honors

- 2013-present Recipient of an F32 National Institutes of Health National Research Service Award (NRSA)
- 2012-present Recipient of National Institutes of Health Pediatric Loan Repayment Program award
- 2003 Recipient of Turock Award, The Johns Hopkins School of Medicine
- 2002 Phi Beta Kappa

Publications

- Tadenev ALD**, Garrett AM, Burgess, RW. (2013) The role of Dscams in the neural development of the retina and visual system. **The New Visual Neurosciences**. Werner JS & Chalupa LM (Eds). MIT Press.
- Garrett AM, **Tadenev ALD**, Burgess RW. (2012) DSCAMs: restoring balance to developmental forces. *Front Mol Neurosci* 5:86. doi: 10.3389/fnmol.2012.00086.
- Burgess RW, Garrett AM, **Tadenev ALD**. (2012) Contact is repulsive, but please note the "enclosed". *Dev Cell*. 22(1):5-6. doi: 10.1016/j.devcel.2011.12.017.
- Davisson MT, Bronson RT, **Tadenev ALD**, Motley WW, Krishnaswamy A, Seburn KL, Burgess RW. (2011) A Spontaneous Mutation in Contactin 1 in the Mouse. *PLoS ONE* 6(12): e29538. doi:10.1371/journal.pone.0029538.
- Tadenev ALD**, Kulaga HM, Katsanis N, Reed RR. (2011) Loss of Bardet-Biedl syndrome protein-8 (BBS8) perturbs olfactory function, protein localization, and axon targeting. *PNAS*. 108(25):10320-5. doi: 10.1073/pnas.1016531108.
- Gary DS, **Davidson A**, Milhavet O, Slunt H, Borchelt DR. (2007) Investigation of RNA interference to suppress expression of full-length and fragment human huntingtin. *Neuromolecular Med*. 9(2):145-55. doi: 10.1007/BF02685888.
- Zimmerberg B, Kim JH, **Davidson AN**, Rosenthal AJ. (2003) Early deprivation alters the vocalization behavior of neonates directing maternal attention in a rat model of child neglect. *Ann N Y Acad Sci*. 1008:308-13. doi: 10.1196/annals.1301.039.

Conference Presentations

- Tadenev ALD**, Lopez GC, Wray A, Fuerst PG, Burgess RW. The role of DSCAMs in neurodevelopment and visual function in the mouse. Development, Functions and Disorders of the Nervous System: Joint Meeting of NeuroDevNet and the International Society for Developmental Neuroscience, Montreal, Canada, July 2014.
- Tadenev ALD**, Fuerst PG, Lopez GC, Burgess RW. The role of DSCAMs in visual function in the mouse. FASEB SRC: Retinal Neurobiology and Visual Processing, Steamboat Springs, CO, July 2012 (Abstract selected for "data blitz" presentation).
- Tadenev AL** & Reed RR. Olfactory phenotypes of *Bbs8*-null mice. Keystone Symposium: Cilia, Signaling and Human Disease, Monterey, CA, February 2010 (Abstract selected for platform presentation).
- Davidson AL** & Reed RR. Olfactory phenotypes of *Bbs8*-null mice. International Symposium on Olfaction and Taste, San Francisco, CA, July 2008.

Teaching Experience

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| January 2013 | Taught a section of Bard College's <i>Citizen Science</i> course to a group of 20 first-year undergraduates. This entailed selecting materials, designing the curriculum, and over 60 hours of instruction time. |
| Summer 2014 | Developed materials for and educated local children during a Science Outreach event at the Jesup Memorial Library in Bar Harbor, Maine |
| Spring 2014 | Teaching Assistant for Genetics II course at The Jackson Laboratory. |

2005-10	Developed materials for and taught inner-city elementary school students during annual Johns Hopkins Basic Sciences Community Science Day Program.
Fall 2004	Tutored peers in Molecular Biology as part of the Pollard Scholars program, The Johns Hopkins University School of Medicine.
2001	Teaching Assistant in Physiology, Williams College.
2000-2001	Peer Tutor in Multivariable Calculus, Williams College.

Mentoring Experience

Summer 2014	Mentored a Bowdoin College freshman, Allyson Fulton, during The Jackson Laboratory's Summer Student Program. Miss Fulton performed behavioral phenotyping to explore whether <i>Dscam</i> mutant mice model human autism.
2013-2014	Mentored a Mount Desert Island high school junior, Anita Wray, in her internship. Miss Wray performed behavioral experiments to assess vision and social behavior in mutant mouse strains.
2012-2013	Mentored a Mount Desert Island high school junior, Luke Krebs, in his internship. Mister Krebs used histological techniques to examine peripheral nerves in a mouse model of Charcot-Marie-Tooth disease.
Summer 2012	Mentored a Connecticut College freshman, Gabriela Lopez, during The Jackson Laboratory's Summer Student Program. Miss Lopez studied the effects of mutations in <i>Dscam</i> on vision in mice.
2011-2012	Mentored a Mount Desert Island high school senior, Mia Musetti, in her internship. Miss Musetti studied the retinal phenotypes of High Stepper, a spontaneous mouse mutant discovered at The Jackson Laboratory.
Summer 2011	Mentored a Colby-Sawyer College freshman, Courtany Hanley, during The Jackson Laboratory's Summer Student Program. Miss Hanley sequenced candidate genes in an attempt to identify the causative mutation in the High Stepper mouse, a spontaneous mutant mouse.

Other Service

April 2012-present	F1000Prime Associate Faculty Member. Provided regular reviews of current literature to the F1000Prime website.
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