

## Aaron B. Steiner

Pace University  
Dyson Hall, Room 221  
861 Bedford Road  
Pleasantville, NY 10570

Office: (914) 773-3587  
Email: [asteiner@pace.edu](mailto:asteiner@pace.edu)

### Education:

<b>University of Pennsylvania</b>	<b>September 1, 2000- October 5, 2006</b>	<b>Ph.D, Cell and Molecular Biology</b>
<b>Brandeis University</b>	<b>1996-2000</b>	<b>B.S, Biology, <i>cum laude</i>, with High Honors</b>
<b>Phillips Academy Andover</b>	<b>1992-1996</b>	<b>High School Diploma</b>

### Research Experience:

**9/2014-present: Assistant Professor of Biology, Pace University, Pleasantville, NY**  
Continuing research into molecular mechanisms regulating the regeneration of sensory hair cells. Set up and maintaining a research laboratory, conducting independent research and training undergraduate students in molecular biology, microscopy, and other research techniques.

**10/2006-9/2014: Post-Doctoral Associate/Research Associate, The Rockefeller University and Howard Hughes Medical Institute, New York, NY Laboratory of A. James Hudspeth, M.D., Ph.D.**  
Studied the molecular mechanisms of regeneration in sensory hair cells of the zebrafish lateral line. Genetic and pharmacological manipulations, whole-transcriptome analysis, and advanced microscopy techniques were used to identify molecular mechanisms affecting the rate of hair cell proliferation and differentiation.

**9/2000-9/2006: Dissertation Research, University of Pennsylvania School of Medicine, Philadelphia, PA Laboratory of Daniel S. Kessler, Ph.D.**  
Studied the roles of two Fox family transcription factors in mesoderm induction in the frog *Xenopus laevis*. Biochemical and molecular techniques were used to identify physical and functional interactions between Fox proteins and Groucho cofactors, and the importance of these interactions in gene regulation and germ layer formation.

**10/1997-5/2000: Undergraduate Researcher, Brandeis University, Waltham, MA  
Laboratory of John M. Lowenstein, Ph.D.**

Conducted independent study and wrote and defended an undergraduate thesis. Research focused on the biochemical and physiological function of Histidine Triad Nucleotide Binding Protein (HINT), a highly evolutionarily conserved protein, in *E. coli*.

**Teaching and Mentoring Experience:**

**2014 - present: Assistant Professor of Biology, Pace University, Pleasantville, NY**  
**Courses taught:** Genetics lecture and laboratory, Introduction to Research in the Biological Sciences, Molecular and Cellular Biology laboratory, Genomics lecture and laboratory, General Biology II laboratory, Developmental Biology lecture

**2007-8, 2011-12: Mentor, Bard-Rockefeller Semester in Science Program, Bard College Summer Undergraduate Research Fellowship, and Senior Thesis Advisor**

Mentored two Bard College undergraduates while they performed semi-independent research in the Hudspeth laboratory for over a year each. Trained students in numerous techniques, assigned readings and reviewed journal articles, provided career guidance and letters of recommendation. One student is now a Ph.D. candidate at the University of Wisconsin.

**2010-12: Mentor, Rockefeller Summer High School Science Outreach Program**

Mentored four high school students over several summers. Trained students in hands-on laboratory work as well as preparation of poster presentations.

**2004: Teaching Assistant, University of Pennsylvania, BIOM 555 Eukaryotic Gene Expression**

**Professors M. Celeste Simon and Marisa S. Bartolomei**  
Directed a weekly presentation and discussion group based on primary literature related to course material. Organized and led review sessions for exams. Graded exams and aided in final grading for students.

**2000: Teaching Assistant, Brandeis University, HIP20b Imagining How We Are: East and West II**

**Professors Maurice Stein and Luis Yglesias**

Led small group discussions in a multi-disciplinary course comparing Eastern and Western philosophies, as well as teaching meditation and communication techniques. Reviewed, corrected, and graded weekly

writing assignments in a writing-intensive course. Corrected and graded final exams.

### **Outreach Experience:**

- 2012-Present**      **Co-founder and Ambassador, Neurodome**  
Selected to participate in developing a planetarium show that will take viewers on a tour through the brain, seeking to answer the question, “Why do we explore?” Responsibilities include obtaining, organizing, and processing biological imaging data for three-dimensional rendering; Presenting neuro-imaging content to the public; Working with outreach coordinators at the Rockefeller University and Columbia University. Gained experience in crowd-sourced funding mechanisms, film production, image rendering.
- May 2016**      **Outreach Program Volunteer, Rockefeller University**  
Served as a volunteer presenter at Rockefeller University’s Science Saturday program, demonstrating confocal microscopy and zebrafish imaging
- July 2016**      **Panelist, Rockefeller University**  
Served as a panelist on a careers panel for the Rockefeller Outreach Program, discussed my position at Pace University

### **Professional Memberships:**

**2002-2006 and 2009-2012:** Member, Society for Developmental Biology

### **Grants and Awards:**

**NIH ARRA Grant**, number 5-RC1DC010609-02. Principal Investigator, A. James Hudspeth, M.D., Ph.D. I co-wrote the proposal and wrote all quarterly and year-end reports on this NIH Grant issued under the American Recovery and Reinvestment Act of 2009. The Rockefeller University, Laboratory of Sensory Neuroscience, funding period September 17, 2009-August 31, 2011.

**Appointed to the NIH Institutional Research Training Grant in Developmental Biology**, grant number 5-T32-HD007516, University of Pennsylvania School of Medicine, Department of Cell and Molecular Biology, May 1, 2003-June 30, 2005

**Awarded “Best Oral Presentation” Prize**, 3<sup>rd</sup> Annual Biomedical Graduate Student Research Symposium, University of Pennsylvania School of Medicine, April 5, 2006

**Awarded Honorable Mention** in “Best Graduate Student Poster” competition, Society for Developmental Biology 64<sup>th</sup> Annual Meeting, San Francisco, CA, July, 2005

**Awarded High Honors** for Independent Research Thesis “Construction of a knockout of the Histidine Triad Nucleotide Binding Protein in *E. coli*”, Brandeis University, May, 2000

## **Presentations:**

Steiner, A.B. (July 17, 2015) Session Chair, Mid-Atlantic Regional Zebrafish Meeting, Albert Einstein College of Medicine, New York, NY.

Fisher, J.A., **Steiner, A.B.**, et al. (May 31, 2015) Neurodome: An immersive film journey through the brain. The Ultimate Science Street Fair, World Science Festival, New York University, New York, NY.

**Steiner, A.B.** (2014) Hair cell progenitors in the zebrafish lateral line. 2014 Science Seminar Series, Pace University, New York City. **Invited seminar.**

**Steiner, A.B.** (2012) The mantle cell transcriptome: A gateway to hair-cell regeneration. 2012 Rockefeller Postdoctoral Association Retreat. Lakeville, CT.

**Steiner, A.B.** (2011) The Zebrafish Lateral Line as a Model for Hair Cell Regeneration. 2011 Rockefeller University Neuroscience Retreat. New York, NY. **Invited seminar.**

**Steiner, A.B.** (2008) Regeneration of sensory hair cells in the zebrafish lateral line. Bard College, Annandale-on-Hudson, NY. **Invited seminar.**

**Steiner, A.B.** and D.S. Kessler. (2005) Groucho regulation of Nodal signaling in the *Xenopus* embryo. Center for Research on Reproduction and Women's Health Annual Research Retreat. Bryn Mawr, PA. **Invited seminar.**

**Steiner, A.B.** and D.S. Kessler. (2005) Groucho regulation of Nodal signaling in the *Xenopus* embryo. Society for Developmental Biology Mid-Atlantic Regional Meeting, Washington, D.C. **Invited seminar.**

## **Publications:**

\*Reid C.D., \***Steiner, A.B.**, Yaklichkin S., Lu Q., Wang S., Hennessy M., and Kessler D.S. (2016) FoxH1 mediates a Grg4 and Smad2 dependent transcriptional switch in Nodal signaling during *Xenopus* mesoderm development. *Developmental Biology* **414**, 34-44

\* = These authors contributed equally to this work.

**Steiner, A.B.**, Kim, T., Cabot, V., and Hudspeth, A.J. (2014) Dynamic gene expression by putative hair-cell progenitors during regeneration in the zebrafish lateral line. *PNAS* **111**, E1393-E1401

Yaklichkin S., **Steiner A.B.**, Lu Q. and Kessler D.S. (2006). FoxD3 and Groucho-4 physically interact to repress transcription and induce mesoderm in *Xenopus*. *J. Biol. Chem.* **282**, 2548-57

**Steiner A.B.**, Engleka M.J., Lu Q., Craig E.J., Yaklichkin S., Lefebvre J.L., Walters J.W., Labosky P.A. and Kessler D.S. (2006). FoxD3 maintenance of Nodal in the Spemann organizer is essential for Xenopus dorsal mesoderm development. *Development* **133**, 4827-38

Yaklichkin S., **Steiner A.B.**, and Kessler D.S. Transcriptional Repression in Spemann's Organizer and the Formation of Dorsal Mesoderm. In *The Vertebrate Organizer*, Grunz H. (Ed.), Springer 2004