

**Seol Hee Im, Ph.D.**

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 Department of Biology  
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**EDUCATION**

- 2004-2010 Ph.D. in Biomedical Sciences (Developmental Biology), Division of Biology and Biomedical Sciences, Washington University in St. Louis, St. Louis, MO
- 2001-2003 M.S. in Biology, Department of Biology, College of Science, Yonsei University, Seoul, Korea
- 1997-2001 B.S. in Biology, Department of Biology, College of Science, Yonsei University, Seoul, Korea

**PROFESSIONAL EXPERIENCES**

- 2018 - Visiting Assistant Professor, Department of Biology, Haverford College, Haverford, PA
- 2017 - 2018 Instructor, Department of Genetics, University of Texas MD Anderson Cancer Center, Houston, TX
- 2017 Adjunct Faculty, Department of Natural Sciences, University of Houston-Downtown, Houston, TX

**RESEARCH EXPERIENCES**

- 2011- 2017 **Postdoctoral Fellow**, Mentor: Dr. Michael Galko  
 Department of Genetics, University of Texas MD Anderson Cancer Center, Houston, TX
- *A role of the Insulin receptor during acute to chronic pain transition in Drosophila*
  - *Evolutionarily conserved Tachykinin signaling functions in nociceptive sensitization*
  - *Non-apoptotic function of caspases and Tumor Necrosis Factor during nociceptive sensitization*
  - *Genetically tractable model of Painful Diabetic Neuropathy and chronic pain pathogenesis*
- 2010-2011 **Postdoctoral Researcher**, Mentor: Dr. Paul Taghert  
 Department of Anatomy and Neurobiology, Washington University School of Medicine, St. Louis, MO
- *Convergence between PDF signaling and Cryptochrome for the regulation of circadian rhythm behaviors in Drosophila*
- 2004-2010 **Graduate Scholar**, Mentor: Dr. Paul Taghert  
 Department of Anatomy and Neurobiology, Washington University School of Medicine, St. Louis, MO
- *Neural circuit of neuropeptide Pigment Dispersing Factor (PDF) for the regulation of circadian rhythm behaviors in Drosophila*
- 2003-2004 **Research Fellow**, Mentor: Dr. Junho Lee

Institute of Life Science and Biotechnology, College of Science, Yonsei University, Seoul, Korea

- *Function of PLP1 as a telomere binding protein in the nematode Caenorhabditis elegans*

2001-2003 **Research Associate**, Mentor: Dr. Junho Lee

Department of Biology, College of Science, Yonsei University, Seoul, Korea

- *Identification of double-stranded telomere binding proteins in the nematode Caenorhabditis elegans using a proteomic approach*

## **TEACHING EXPERIENCES**

### Teaching at College/Graduate Levels

2018 Advanced Laboratory in Biology

Department of Biology, Haverford College, Haverford, PA

2017 Introduction to Neuroscience

Department of Natural Sciences, University of Houston-Downtown, Houston, TX

2015 *Drosophila* Developmental Biology

Guest Lecture, University of Texas, Graduate School of Biomedical Sciences at Houston, Houston, TX

2006 Biological Clocks

Teaching Assistant, Department of Biology, Washington University in St. Louis, St. Louis, MO

2001-2003 Developmental Biology Laboratory

Instructor, Department of Biology, Yonsei University, Seoul, Korea

### Teaching Kindergarten Summer Camp

2002 Instructor, Children's Science Program, Yonsei University, Seoul, Korea

### Research Supervisor Experiences

2016 Undergraduate Supervisor; Philip Lee, Summer Undergraduate Research Program (SURP), MD Anderson Cancer Center, Houston, TX

2015 Graduate Supervisor; Danielle Little, University of Texas Graduate School of Biomedical Sciences at Houston, Houston, TX

2014 Graduate Supervisor; Ryan Cassidy, University of Texas Medical School, Houston, TX

2013 Graduate Supervisor; Sahily Reyes, University of Texas Medical School, Houston, TX

2013 Undergraduate Supervisor; Patrick Huang, Rice University, Houston, TX

2012-2013 Undergraduate Supervisor; Sirius Jesudasen, Rice University, Houston, TX

2009 Undergraduate Supervisor; Jing Feng Li (Peking University), Washington University, St. Louis, MO

2007-2008 Undergraduate Supervisor; Divya Srinath (Washington University), Washington University, St. Louis, MO

**PUBLICATIONS****Research Articles**

**Im S.H.\***, Patel A.A., Cox D.N., Galko M.J.\* (2018) *Drosophila* Insulin receptor regulates the persistence of injury-induced nociceptive sensitization. *Disease Models & Mechanisms* 11, dmm034231 \***Co-Correspondence** – Highlighted for press release ([https://www.eurekalert.org/pub\\_releases/2018-05/tcob-dpl050418.php](https://www.eurekalert.org/pub_releases/2018-05/tcob-dpl050418.php))

Jo J.\*, **Im S.H.\***, Babcock D.T., Iyer S.C., Gunawan F., Cox D.N., Galko M.J. (2017) *Drosophila* caspase activity is required independently of apoptosis to produce active TNF/Eiger during nociceptive sensitization. *Cell Death and Disease* 8:e2786 \***Co-first author**

**Im S.H.**, Takle K., Jo J., Babcock D.T., Ma Z., Xiang Y., Galko M.J. (2015) Tachykinin functions upstream of autocrine Hedgehog/Smoothed signaling during tissue damage-induced nociceptive sensitization in *Drosophila* larvae. *eLife* 4:e10735.

**Im S.H.**, Li W., Taghert P.H. (2011) PDFR and CRY signaling converge in a subset of clock neurons to modulate the amplitude and phase of circadian behavior in *Drosophila*. *PLoS One* 6(4):e18974.

**Im S.H.** and Taghert P.H. (2010) PDF Receptor Expression Reveals Direct Interactions between Circadian Oscillators in *Drosophila*. *J Comp Neurol* 518(11):1925-1945.

**Im S.H.** and Lee J. (2005) PLP-1 binds nematode double-stranded telomeric DNA. *Mol Cells* 20(2):297-302.

**Im S.H.** and Lee J. (2003) Identification of HMG-5 as a double-stranded telomeric DNA-binding protein in the nematode *Caenorhabditis elegans*. *FEBS Letters* 554(3): 455-461.

Shim J., **Im S.H.**, Lee J. (2003) Tissue-specific expression, heat inducibility, and biological roles of two Hsp16 genes in *Caenorhabditis elegans*. *FEBS Letters* 537(1-3): 139-145.

**Review Articles**

**Im S.H.** and Galko M.J. (2012) Pokes, sunburn, and hot sauce: *Drosophila* as an emerging model for the biology of nociception. *Dev Dyn* 241(1):16-26.

**Im S.H.** and Taghert P.H. (2011) Neuroscience: A CRY to rise. *Science* 331(6023):1394-5.

Lee J., Nam S., Hwang S.B., Hong M., Kwon J.Y., Joeng K.S., **Im S.H.**, Shim J., Park M.C. (2004) Functional genomic approaches using the nematode *Caenorhabditis elegans* as a model system. *J Biochem Mol Biol* 37(1):107-13.

**RESEARCH SUPPORT/SCHOLARSHIPS**

2013-2015	Molecular Genetics of Cancer T32 Training Fellowship from NCI
2004-2006	Award for Graduate Studies Abroad Full Scholarship and Stipend support from Korea Science and Engineering Foundation
2002	Academic Excellence Award Scholarship from the Ministry of Education and Human Resources Development of Korea
1999-2000	Academic Excellence Award Full Scholarship from the Hong-San Fund for Academic Excellence
1998-1999	Academic Excellence Award Scholarship from Yonsei University

**ACADEMIC AND PROFESSIONAL HONORS**

- 2016       Dodie Hawn Outstanding Postdoctoral Fellow Award, Department of Genetics, University of Texas MD Anderson Cancer Center, Houston, TX
- 2016       Best Trainee Talk Award, Pain Research Conference, Gulf Coast Consortium, Houston, TX
- 2014       Best Poster Presentation Award, Pain Research Conference, Gulf Coast Consortium, Houston, TX
- 2014       Best Poster Presentation Award, Genes & Development Program Retreat, University of Texas MD Anderson Cancer Center, Houston, TX
- 2013       Best Poster Presentation Award, Genes & Development Program Retreat, University of Texas MD Anderson Cancer Center, Houston, TX
- 2011       Finalist in the competition for the O'Leary Prize for excellence in neuroscience research at Washington University School of Medicine, St. Louis, MO
- 2009       Viktor Hamburger Award, Division of Biology and Biomedical Sciences at Washington University School of Medicine, St. Louis, MO
- 2008       Best Poster Presentation Award, The central complexes and motor function, Janelia Conference, Ashburn, VA
- 2002       Excellence in Poster Presentation, Autumn Conference of Zoology Society of Korea, Yangpyung, Korea

**INVITED SEMINARS**

- Apr. 2017   Invited speaker, Department of Veterinary Physiology and Pharmacology, College of Veterinary Medicine and Biomedical Sciences, Texas A&M University, College Station, TX
- Mar. 2017   Platform speaker, Wound Healing and Regeneration Workshop, The 58<sup>th</sup> Annual *Drosophila* Research Conference, Genetics Society of America, San Diego, CA
- Jan. 2017   Invited speaker, Pain Research Forum, University of Texas Medical Branch, Galveston, TX
- Jul. 2016   Platform speaker, The Allied Genetics Conference 2016, Genetics Society of America, Orlando, FL
- May 2016   Platform speaker, the First Regional Conference of Korean Women in Science and Engineering, Houston, TX
- Apr. 2016   Distinguished Trainee Talk, Pain Research Conference, Gulf Coast Consortium, Houston, TX
- Sep. 2015   Platform speaker, the Genes & Development Program Retreat, University of Texas MD Anderson Cancer Center, Houston, TX
- Aug. 2015   Platform speaker, Neuroscience Research Conference, Advancing Pain Neuroscience Discovery Toward Therapeutics, University of Texas Dallas, Dallas, TX
- Oct. 2014   Invited speaker, Department of LifeScience, Hanyang University, Seoul, Korea
- Feb. 2003   The Korean Annual Worm Meeting, Seoul, Korea

**CONFERENCE POSTER PRESENTATIONS**

- 2017 **Im S.H.**, Galko M.J. A genetically tractable platform for identifying regulators of acute to chronic pain transition. Pain Research Conference, Gulf Coast Consortium, Houston, TX
- 2015 **Im S.H.**, Takle K., Jo J., Babcock D.T., Ma Z., Xiang Y., Galko M.J. Tachykinin functions upstream of autocrine Hedgehog/Smoothed signaling during tissue damage-induced nociceptive sensitization in *Drosophila* larvae. Neurobiology of *Drosophila*, Cold Spring Harbor Laboratory, NY
- 2014 **Im S.H.**, Galko M.J. A genetically tractable platform for identifying regulators of acute to chronic pain transition. The Brain: Adaptation and Maladaptation in Chronic Pain, Keystone Research Conference, Keystone, CL
- 2014 **Im S.H.**, Galko M.J. A genetically tractable platform for identifying regulators of acute to chronic pain transition. Pain Research Conference, Gulf Coast Consortium, Houston, TX
- 2013 **Im S.H.**, Babcock D., Gunawan F., Galko M.J. Neuropeptide signaling is required for tissue damage-induced nociceptive sensitization in *Drosophila* larvae. The 54<sup>th</sup> Annual *Drosophila* Research Conference, Washington D.C
- 2009 **Im S.H.**, Li W., Taghert P.H. Neuropeptide Signaling and sensory signaling converge to drive the circadian control of behavior in *Drosophila*. Neurobiology of *Drosophila*, Cold Spring Harbor Laboratory, NY
- 2009 **Im S.H.**, Li W., Taghert P.H. Cell specific interaction between neuropeptide and sensory signaling modulates circadian rhythms in *Drosophila*. The 50<sup>th</sup> Annual *Drosophila* Research Conference, Chicago, IL
- 2008 **Im S.H.**, Taghert P.H. Transcriptional reporter analysis to understand PDF Receptor expression underlying the generation of behavioral circadian rhythms. Society for Research on Biological Rhythms, Destin, FL
- 2008 **Im S.H.**, Taghert P.H. PDFR is expressed in the central complexes and directs the behavioral output of circadian rhythm. The Central Complexes and Motor Function, Janelia Research Campus, Ashburn, VA
- 2002 Joeng K.S., **Im S.H.**, Lee J. Proteomic approaches identify telomere binding proteins in the nematode *Ceanorhabditis elegans*. Conferences of the Zoological Society of Korea, Seoul, Korea
- 2001 Shim J.G., **Im S.H.**, Lee J. HSP-1, a small heat shock protein with chaperone activity in *C. elegans*, is strongly induced by hypoxia stress. International Worm Meeting, UCLA, Los Angelis, CA

**PROFESSIONAL EXPERIENCE**

- 2016 Research Mentor Training Workshop, Gulf Coast Consortia, Houston, TX
- 2016 Poster Judge, The Allied Genetics Conference 2016, Genetics Society of America, Orlando, FL
- 2016 Poster Judge, GSBS Student Research Day, University of Texas MD Anderson Cancer Center, Houston, TX
- 2016 Member, Mentoring Program, Texas Chapter, Korean Women in Science and Engineering, Houston, TX
- 2016 Member, Organizing Committee for the First Regional Conference of Korean Women in Science and Engineering, Houston, TX

- 2015- Member, Genetics Society of America
- 2014 Member, Organizing Committee for the Joint Retreat of the Genes and Development and Molecular Carcinogenesis Programs, The University of Texas MD Anderson Cancer Center
- 2007 Neurobiology of *Drosophila* Course at Cold Spring Harbor Laboratory, Cold Spring Harbor, NY
- 2000 Organizer, Symposium of the Bio-Major Club, Yonsei University, Seoul, Korea  
Title of the Symposium 2000, 'Axis Development in Mice'
- 1999-2000 President, the Bio-Major Club, Yonsei University, Seoul, Korea
- 1999-2000 Chair, Student Council, Department of Biology, Yonsei University, Seoul, Korea
- 1998 Presentation, Symposium of the Bio-Major Club, Yonsei University, Seoul, Korea  
Title of the Symposium 1998, 'Biological Clocks'