

LIANG HAN
ASSISTANT PROFESSOR
SCHOOL OF BIOLOGICAL SCIENCES

EDUCATION

- **09/2004-08/2009** Ph.D. in Joint Neuroscience Program, Univ. of Medicine and Dentistry of New Jersey/Rutgers Univ., USA
- **09/2001-07/2004** M.S. in Developmental Biology, Tsinghua Univ., China
- **09/1997-07/2001** B.S. in Biological Sciences, Tsinghua Univ., China

POSITIONS AND EMPLOYMENT

- **01/2016-** Assistant Professor, School of Biological Sciences, Georgia Institute of Technology
- **09/2014-12/2015** Research Associate, Dept. of Neuroscience, Johns Hopkins Univ. School of Medicine
- **09/2009-08/2014** Postdoctoral Fellow, Dept. of Neuroscience, Johns Hopkins Univ. School of Medicine

AWARDS AND HONORS

- 2018 Pfizer Aspire Dermatology Award
- 2014 K99/R00 Pathway to Independence Award (NINDS)
- 2014 Albert Lehninger Young Investigator Award (Johns Hopkins Univ. School of Medicine)
- 2010 Best Poster Award (Johns Hopkins Univ. Neuroscience Department Retreat)
- 1997 Scholarship for Excellent Freshman (Tsinghua Univ., China)

RECENT PUBLICATIONS

- **Han L***, Limjunyawong N, Ru F, Li Z, Hall OJ, Steele H, Zhu Y, Wilson J, Mitzner W, Kollarik M, Udem BJ, Canning BJ, Dong X* (2018). Mrgprs on vagal sensory neurons contribute to bronchoconstriction and airway hyperresponsiveness. *Nature Neuroscience* 2018 Mar;21(3):324-328. ***corresponding authors. (Reported by ScienceDaily, Hopkins Medicine, Sciencenewline and many other websites)**
- Zhu Y, Hanson CE, Liu Q, **Han L.** (2017) Mrgprs activation is required for chronic itch conditions in mice. *Itch* 2017 Dec Vol 2;3.
- Li Z, Tseng PY, Tiwari V, Xu Q, He SQ, Wang Y, Zheng Q, **Han L**, Wu Z, Blobaum AL, Cui Y, Tiwari V, Sun S, Cheng Y, Huang-Lionnet J, Geng Y, Xiao B, Peng J, Hopkins C, Raja SN, Guan Y, Dong, X. (2017) Targeting human Mas-related G-protein-coupled receptor X1 to inhibit persistent pain. *PNAS*. Feb 27
- Zacccone EJ, Lieu T, Muroi Y, Potenzieri C, Udem BE, Gao P, **Han L**, Canning BJ, Udem BJ. (2016) Parainfluenza 3-Induced Cough Hypersensitivity in the Guinea Pig Airways. *PLoS One*. May 23;11(5)
- Chang, AY, Mann, TS, McFawn, PK, **Han, L**, Dong, X, Henry, PJ (2016). Investigating the role of MRGPC11 and capsaicin-sensitive afferent nerves in the anti-influenza effects exerted by SLIGRL-amide in murine airways. *Respiratory Research*. May 23;17(1):62.

- McNeil, B, Pundir, P, Meeker, S, **Han, L**, Udem, BJ, Kulka, M, Dong, X (2015). Identification of a mast cell specific receptor crucial for pseudo-allergic drug reactions. *Nature*. Mar 12;519(7542):237-41.
- **Han, L***, Dong, X* (2014). Itch mechanisms and circuits. *Annu Rev Biophys*. 43:331-55., *corresponding authors.
- **Han, L**, Ma, C, Liu, Q, Weng, HJ, Cui, Y, Tang, Z, Kim, Y, Nie, H, Qu, L, Patel, KN, Li Z, McNeil B, He S, Guan Y, Xiao B, Lamotte RH, Dong X (2013). A subpopulation of nociceptors specifically linked to itch. *Nature Neuroscience* 16, 174-182. (Reported by **The New York Times, The Baltimore Sun, Huffington Post, Daily Mail and many other media**)
- Kim, Y, Chu, Y, **Han, L**, Li, M, Li, Z, LaVinka, PC, Caterina, MJ, Ren, K, Dubner, R, Wei, F, Dong, X (2014). Central terminal sensitization of TRPV1 by descending 5-HT facilitation is a key determinant of chronic pain, *Neuron* 81(4):873-87.
- Li Z, He SQ, Xu Q, Yang F, Tiwari V, Liu Q, Tang Z, **Han L**, Chu YX, Wang Y, Hin N, Tsukamoto T, Slusher B, Guan X, Wei F, Raja SN, Dong X, Guan Y (2014). Activation of MrgC receptor inhibits N-type calcium channels in small-diameter primary sensory neurons in mice. *Pain*. 155(8):1613-21.
- Qu, L, Fan, N, Ma, C, Wang, T, **Han, L**, Fu, K, Wang, Y, Shimada, SG, Dong, X, and LaMotte, RH (2014). Enhanced excitability of MRGPRA3- and MRGPRD-positive nociceptors in a model of inflammatory itch and pain. *Brain* 137, 1039-1050.
- He, S, **Han L**, Li, Z, Xu, Q, Tiwari, V, Yang, F, Guan, X, Wang, Y, Raja, SN, Dong, X, Guan, Y (2014). Temporal changes in MrgC expression after spinal nerve injury, *Neuroscience* 7;261:43-51.
- He, S, Li, Z, Chu, Y, **Han, L**, Xu, Q, Li, M, Yang, F, Liu, Q, Tang, Z, Wang, Y, Hin, N, Tsukaoto, T, Slusher, B, Tiwari, V, Shechter, R, Wei, F, Raja, SN, Dong, X, Guan, Y (2013). MrgC agonism at central terminals of primary sensory neurons inhibits neuropathic pain. *Pain* 155(3):534-44.
- Liu, Q, Sikand, P, Ma, C, Tang, Z, **Han, L**, Li, Z, Sun, S, LaMotte, RH, and Dong, X (2012). Mechanisms of itch evoked by beta-alanine. *J Neurosci* 32, 14532-14537.
- **Han, L**, Wen, Z, Lynn, RC, Baudet, ML, Holt, CE, Sasaki, Y, Bassell, GJ, and Zheng, JQ (2011). Regulation of chemotropic guidance of nerve growth cones by microRNA. *Mol Brain* 4, 40.
- Lee, CW, Han, J, Bamburg, JR, **Han, L**, Lynn, R, and Zheng, JQ (2009). Regulation of acetylcholine receptor clustering by ADF/cofilin-directed vesicular trafficking. *Nat Neurosci* 12, 848-856.
- Wen, Z*, **Han, L***, Bamburg, JR, Shim, S, Ming, GL, and Zheng, JQ (2007). BMP gradients steer nerve growth cones by a balancing act of LIM kinase and Slingshot phosphatase on ADF/cofilin. *J Cell Biol* 178, 107-119. (* co-first author)
- Han, J, **Han, L**, Tiwari, P, Wen, Z, and Zheng, JQ (2007). Spatial targeting of type II protein kinase A to filopodia mediates the regulation of growth cone guidance by cAMP. *J Cell Biol* 176, 101-111.

RESEARCH SUPPORT

Current:

RO0NS08708

Han (PI)

04/01/16-03/31/19

\$150,000/year

Molecular and Cellular Mechanisms of Itch Sensation

R01HL141269	Han (PI)	04/01/18-03/31/23	\$250,000/year
<i>Functional analysis of MrgprC11⁺ vagal sensory neurons in the airway</i>			
Pfizer Dermatology Award	Han (PI)	12/01/18-11/30/20	\$57,935/year
<i>Antipruritic mechanisms of PDE4 inhibitor</i>			
<u>Completed:</u>			
K99NS087088	Han (PI)	03/01/14-12/30/15	\$94,770/year
Molecular and Cellular Mechanisms of Itch Sensation			