

Biographical Sketch

Shau-Ku Huang, Ph.D.

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Education

1981 BS, Medical Technology, Taipei Medical University, Taiwan
1985 MS, Medical Technology, University of Vermont, U.S.A.
1988 PhD, Immunology, University of Vermont, U.S.A.
1990 Postdoctoral Fellow, Johns Hopkins University School of Medicine, USA

Position held:

1992/10 – present Instructor/Assistant Professor/Associate Professor/Professor of Medicine, Department of Medicine, School of Medicine, Johns Hopkins University
2001/10 – present Adjunct Professor, Institute of Medical Biotechnology, Taipei Medical University, Taiwan
2010/07 – present Distinguished Investigator, National Health Research Institutes, Taiwan
2015/12 – present Adjunct Chair Professor, Kaohsiung Medical University, Taiwan

Recent Editorial Activities

Editorial Board: Clin Mol Allergy; Clin Dev Immunol; Kaohsiung J Med Sci (Advisory Editorial Board); Journal Peer Reviewer: Nat Immunol, J Clin Invest, Blood, J Allergy Clin Immunol, J Biol Chem, J Immunol, Allergy, Am J Physiol, Am J Respir Cell Mol Biol, Biochem Pharmacol, Clin Exp Allergy, Eur J Immunol, Eur Respir J, J Immunological Met, J Mol Med, J Pharmacol Exp Therapeutics, Ped Allergy and Immunol, PLoS ONE, Tox Sci, Environmental Sci & Technol, Canadian Respiratory J, Frontiers in Public Health, Clin Immunol, J Invest Dermatol

Scientific Production

- Author of over 200 original and review articles in international journals, including Nat Med (3), Blood, J Exp Med, J Immunol, Hum Mol Genet, Am J Respir Crit Care Med, J Allergy Clin Immunol, Environ Health Perspect.
- Citations: Sum of the Times Cited: 10,653; H-index: 52.
- Discovery of novel mucosal dendritic cell subset in regulating oral tolerance (Nat Med, 2010).
- Pioneering work on genetic immunization in regulating allergic diseases [Nat Med, 1996; J Immunol, Cutting Edge, 1996; Nat Med, 1999; Curr Opin Immunol (Review), 1997].
- Defining the structure-function correlates of allergen glycan structures in regulating innate immunity (J Allergy and Clin Immunol, 2007; J Biol Chem, 2010).
- Discovery of IL-13 expression in asthma, which is now recognized as a key cytokine and a therapeutic target (J Immunol, 1995); Discovery of IL-17F, its signalling pathway and in vivo function [J Immunol, 2001; J Biol Chem, 2002; Am J Respir Crit Care Med, 171:12-18, 2005; J Allergy Clin Immunol, 117:795-807, 2006; J Allergy Clin Immunol (Review), 2004)], setting the stage for uncovering “Th17” cells and their role in diseases.
- Discovery of a regulatory role of lung Clara cell secretory protein, CC10, in airway diseases (J Immunol, Cutting Edge, 267: 3025-8, 2001; J Allergy and Clin Immunol, 2004; Am J Respir Crit Care Med, 2010).
- Discovery of susceptibility genes for asthma and allergic diseases (J Allergy Clin Immunol, 1999; Hum Genet, 2003; Hum Mol Genet, 2004).
- Pioneering work on the aryl hydrocarbon receptor (AhR)-ligand axis in regulating mast cell differentiation and response (Blood, 2013).
- Discovery of a self-perpetuating regulatory in cancer immunity (Cancer Res, 2017)
- Over 170 invited lectures, including keynotes and plenaries, in US, Europe, Japan, Korea, Taiwan, China.

Training and Mentoring

- Trained over 45 MD and/or PhD postdoctoral fellows, many of whom are currently full professors at academic institutions in the US, Europe, Japan, Taiwan and China.

Selected recent publications (2013 – present; relevant to Environmental Medicine)

1. Zhou YF, Tung HY, Tsai YM, Hsu SC, Chang HW, Kawasaki H, Tseng HC, Plunkett B, Vonakis BM, **Huang SK***. Aryl hydrocarbon receptor controls mast cell homeostasis. *Blood*. 2013;121:3195-204.
2. Suen JL, Hsu SH, Hung CH, Chao YS, Lee CL, Lin CY, Weng TH, Yu HS, **Huang SK***. A common environmental pollutant, 4-nonylphenol, promotes allergic lung inflammation in a murine model of asthma. *Allergy*. 2013;68:780-7.
3. Kuo CH, Hsieh CC, Kuo HF, Huang MY, Yang SN, Chen LC, **Huang SK**, Hung CH. Phthalates suppress type I interferon in human plasmacytoid dendritic cells via epigenetic regulation. *Allergy*. 2013;68:870-9.
4. Kawasaki H, Chang HW, Tseng HC, Hsu SC, Yang SJ, Hung CH, Zhou Y, **Huang SK***. A tryptophan metabolite, kynurenine, promotes mast cell activation through aryl hydrocarbon receptor. *Allergy*, 2014;69:445-52.
5. Lee CL, Huang HC, Wang CC, Sheu CC, Wu CC, Leung SY, Lai RS, Lin CC, Wei YF, Lai IC, Jiang H, Chou WL, Chung WY, Huang MS, **Huang SK***. A new grid-scale model simulating the spatiotemporal distribution of PM2.5-PAHs for exposure assessment, *J Hazard Mater*, 2016;314:286-294.
6. Wang LT, Chiou SS, Chai CY, Hsi E, Wang SN, **Huang SK**, Hsu SH. Aryl hydrocarbon receptor regulates histone deacetylase 8 expression to repress tumor suppressive activity in hepatocellular carcinoma. 2016. *Oncotarget*.9841.
7. Su HH, Lin HT, Suen JL, Sheu CC, Yokoyama KK, **Huang SK***, Cheng CM. Aryl hydrocarbon receptor-ligand axis mediates pulmonary fibroblast migration and differentiation through increased arachidonic acid metabolism. *Toxicology*. 2016;370:116-126.
8. Hong CH, Lee CH, Yu HS, **Huang SK***. Benzopyrene, a major polyaromatic hydrocarbon in smoke fume, mobilizes Langerhans cells and polarizes Th2/17 responses in epicutaneous protein sensitization through the aryl hydrocarbon receptor. *Int Immunopharmacol*. 2016;36:111-7.
9. Wang HC, Zhou YF, **Huang SK***. SHP-2 phosphatase controls aryl hydrocarbon receptor-mediated stress response in mast cells. *Arch Toxicol*, 2017;91:1739-1748.
10. Liao WT, Wang WT, Hung CH, Sheu CC, **Huang SK***. Aryl hydrocarbon receptor in concert with IL-4-mediated epigenetic mechanism selectively regulates CCL1 chemokine expression in human, but not murine, macrophage subset. *J Mol Med*, 2017;95:395-404.
11. Zhou Y, Do DC, Ishmael FT, Squadrito ML, Tang HM, Tang HL, Hsu MH, Qiu L, Li C, Zhang Y, Becker KG, Wan M, **Huang SK***, Gao P. Mannose receptor modulates macrophage polarization and allergic inflammation through miR-511-3p. *J Allergy Clin Immunol*. 2017 S0091-6749(17)30990-9.
12. Wang LT, Chiou SS, Chai CY, Hsi E, Yokoyama KK, Wang SN, **Huang SK***, Hsu SH. Intestine-Specific Homeobox Gene ISX Integrates IL6 Signaling, Tryptophan Catabolism, and Immune Suppression. *Cancer Res*. 2017;77:4065-4077.
13. Chang JH, Hsu SC, Bai KJ, **Huang SK**, Hsu CW. Association of time-serial changes in ambient particulate matters (PMs) with respiratory emergency cases in Taipei's Wenshan District. *PLoS One*. 2017;12(7):e0181106.
14. Chen LC, Tseng HM, Kuo ML, Chiu CY, Liao SL, Su KW, Tsai MH, Hua MC, Lai SH, Yao TC, Yeh KW, Wu AH, Huang JL, **Huang SK***. A composite of exhaled LTB4, LXA4, FeNO and FEV1 as an “asthma classification ratio” characterizes childhood asthma. *Allergy*, in press, 2017.

Review Articles

1. Fang F, Wuptra K, Chen D, Li H, **Huang SK**, Jin C, Yokoyama KK. Environmental stress-induced chromatin regulation and its heritability. *J Carcinog Mutagen*. 2014;5(1).
2. **Huang SK***, Zhang Q, Qiu Z, Chung KF. Mechanistic impact of outdoor air pollution on asthma and allergic diseases. *Journal of Thoracic Dis*, 2015;7:23-33.
3. Zhang Q, Qiu Z, Chung KF, **Huang SK**. Link between environmental air pollution and allergic asthma: East meets West. *Journal of Thoracic Dis*, 2015;7:14-22.

Book Chapter

1. Kawasaki H, **Huang SK***. Role of Kynurenine Pathway in Allergy, in “Targeting the Broadly Pathogenic Kynurenine Pathway”, Ed. S. Mittal, pp 109-119, 2015, Springer International Publishing