Institute for In Vitro Sciences, Inc.
30 W. Watkins Mill Road, Suite 100
Gaithersburg, MD 20878

Curriculum Vitae

Huang (Grace) Huang

Education

2017 **Ph.D.**, Physiology, University of Missouri-Columbia
Dissertation: Integrin adhesion response to chemical and mechanical stimulation
Advisor: Dr. Gerald A. Meininger

2011 **M.S.**, Physiology, Nanjing University, China
Thesis: The protective effect of PTS2 on oleic acid-induced acute lung injury
Advisor: Dr. Lan Luo

2008 **B.S.**, Biological Sciences, Nanjing University, China

Experience

2022 - Present Toxicologist I/ Study Director, Institute for In Vitro Sciences
Expertise: Skin and Eye irritation using three dimensional reconstructed tissues.

As study director, responsible for one or more *in vitro* toxicology assays using three dimensional reconstructed tissues such as EpiDerm™ and EpiOcular™ (MatTek Corporation) for Skin and Eye irriation, compliance both GLP and non-GLP requirement for regulation guidance. Responsible to assist commercial clients to develop an appropriate in vitro toxicology program for their products. Organizing and/or participating in other IIVS programs as assigned.

2020 – 2022 Postdoc Fellow, University of Maryland, Baltimore
Expertise: Lung inflammation, Sepsis, Acute lung injury.

As Postdoc Fellow, conducted research project covering sepsis induced lung injury and innate immune response of extracellular RNA and extracellular vesicles in sepsis and trauma. Drove hypothesis, literature reviewing and experiment design various *in vivo/in vitro* model for mechanism of target action, resulted in first authored 1 original research manuscript and coauthored 3 manuscripts. Presented research on multiple national conference, and received Travel award form Shock Society in 2021.

2018 – 2019 Postdoc Fellow, Johns Hopkins Medical Institution
Expertise: Pulmonary hypertension, lung vascular biology.

As Postdoc Fellow, conducted research project about the role of IRS2 in pulmonary hypertension. Utilizing both in vivo animal model and various in vitro assay validate the hypothesis of targeted mechanism. Presented research in domestic and national conference

2011 – 2017 Graduate Researcher, Dalton Cardiovascular Research Center

Expertise: vascular biology, integrin, extracellular matrix, vascular smooth muscle cells.

Conducted 2 research projects in the areas of cellular stiffness related with cardiovascular disease by utilizing stat-of-art confocal microscopy and atomic force microscope. Drove hypothesis, literature reviewing, experimental design, troubleshooting and data interpretation, resulted in first authored 1 manuscript and co-authored 1 original research manuscript and 1 book chapter. Recipient of Trainee scholarship from North American Vascular Biology Organization.

2008 – 2011 Research Assistant, Nanjing University, China
Expertise: lung inflammation, acute lung injury.

Conducted 2 research projects and preformed an array of studies in infectious disease induced lung injury. Published 1 first-author manuscript and co-authored 7 manuscripts.

Honors and Awards

2021 Travel Award, 44th Annual Conference on Shock, Shock Society
2011 Outstanding Graduate Award, Nanjing University
2008 Renmin Scholarship, Nanjing University

Professional Affiliations

2016-2017 Student Member, The microcirculation Society
2019-2020 Trainee Member, North American Vascular Biology Organization
2020-2022 Trainee Member, American Heart Association
2020-2022 Trainee Member, Shock Society

Publications and Presentations

Selected Peer-reviewed journal articles

1. **Huang, H**., Zhu, J., Gu, L., Hu, J., Feng, X., Huang, W., Wang, S., Yang, Y., Cui, P., Lin, S. H., Suen, A., Shimada, B. K., Williams, B., Kane, M. A., Ke, Y., Zhang, C. O., Birukova, A. A., Birukov, K. G., Chao, W., & Zou, L. TLR7 Mediates Acute Respiratory Distress Syndrome in Sepsis by Sensing Extracellular miR-146a. *American journal of respiratory cell and molecular biology*, **2022**. *67*(3), 375–388.
2. Zou L, He J, Gu L, Shahror RA, Li Y, Cao T, Wang S, Zhu J, **Huang H**, Chen F, Fan X, Wu J, Chao W, Brain innate immune response via miRNA-TLR7 sensing in polymicrobial sepsis. Behavior and Immunity, **2021.** Nov19; 100:10-24
3. Irons L., **Huang H.,** Owen M., O'Dea R., Meininger G., Brook B. Switching behavior in vascular muscle cell-matrix adhesion during oscillatory loading-irons. **2020**. *J Theor Biol* 18
4. **Huang H.,** Sun Z., Hill M.A., and Meininger G.A. A calcium mediated mechanism coordinating vascular smooth muscle cell adhesion during KCl activation. **2018**. *Front. Physiol*. 18 Dec.

5. **Huang H.**, Pan Y., Ye Y., Gao M., Yin Z., Luo . Dipyrithione attenuate oleic acid-induced acute lung injury. *Pulm Pharmacol Ther*. **2011**, Feb; 24(1): 74-80.
6. Zhang X., **Huang H.**, Yang T., Shan J., Yin Z., Luo L. Chlorogenic acid protects mice against lipopolysaccharide-induced acute lung injury. *Injury*. **2010**. *41*(7): 934 - 9.
7. Gao Y., Han C., **Huang H.**, Xin Y., Xu Y., Luo L., Yin Z. Heat shock protein 70 together with its co-chaperone CHIP inhibits TNF-alpha induced apoptosis by promoting proteasomal degradation of apoptosis signal-regulating kinase 1. *Apoptosis*, **2010**, *15* (7): 822 – 33

Book Chapters

Trache A, X. Leike**, H. Huang**, V.V. Glinsky, and G.A. Meininger. Applications of Atomic Force Microscopy for adhesion force measurements in mechanotransduction. Methods in Molecular Biology, Springer Nature, 2017.