

# Nan-Hung Hsieh

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Postdoctoral Research Associate, Texas A&M University

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## EXPERIENCE

Department of Veterinary Integrative Biosciences, Texas A&M University  
Postdoctoral Research Associate

08/2016 –

Supervisor: Prof. [Weihsueh A. Chiu](#)

Division of Occupational Hazards Assessment, Institute of Labor, Occupational Safety and Health  
Research Associate

08/2013 – 07/2016

## EDUCATION

Ph.D. Bioenvironmental Systems Engineering, National Taiwan University, 2013

Dissertation: *Dynamic modeling and analysis of air pollution-associated lung function exacerbations risk*

Advisor: Prof. [Chung-Min Liao](#)

M.Sc. Bioenvironmental Systems Engineering, National Taiwan University, 2010

B.Sc. Safety, Health and Environmental Engineering, National United University, 2007

## RESEARCH PROJECT

**Postdoctoral Research Associate**

09/2016–

U.S. Food and Drug Administration. *Enhancing the reliability, efficiency, and usability of Bayesian population PBPK modeling - Create, implement, and evaluate a robust Global Sensitivity Analysis algorithm to reduce PBPK model parameter dimensionality.* 1U01FD005838-01.

**Principle Investigator**

03/2015–12/2015

Institute of Labor, Occupational Safety and Health. *Assessing the Fine Particles-Associated Exposure Hazards for Workers in Workplace.* ILOSH104-A310.

**Principle Investigator**

03/2014–12/2014

Institute of Labor, Occupational Safety and Health. *Assessing Health Risks for Workers in High Lead Exposed Factories.* ILOSH103-A307.

## AWARDS

- Outstanding R&D alternative military award, Taiwan Ministry of the Interior, 2016
- Outstanding Alumni, National United University, 2015
- Best PhD Academic Research Paper, National Taiwan University, 2012

## SERVICES TO THE PROFESSION

### *Peer review for scientific journals*

- Computational and Mathematical Methods in Medicine (7)
- Computational Toxicology (1)
- Environmental Research (1)
- International Journal of Environmental Research and Public Health (5)
- International Journal of Molecular Sciences (1)
- International Journal of Occupational and Environmental Health (1)
- Journal of Open Source Software (1)
- European Journal of Pharmaceutical Sciences (1)
- Science of the Total Environment (1)
- Stochastic Environmental Research and Risk Assessment (1)
- Sustainability (1)
- Toxicological Sciences (1)

## COMPUTER INTERESTS

- Operating System: GNU/Linux, MacOS, Windows
- Scientific computing: C, R, Python, MATLAB
- Other: GNU MCSim, Git, High-Performance Computer

## OTHER

- Membership: Society of Toxicology (USA)
- Language: Mandarin (Native), English
- Personal Interests: Computer & Information Technology

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## PUBLICATIONS

### *Software Product*

**Hsieh NH**, Reisfeld B, Chiu WA. pksensi: Global Sensitivity Analysis in Pharmacokinetic Modeling. R package. [[CRAN](#)] [[GitHub](#)]

### *Journal Article*

2018

Luo YS, **Hsieh NH**, Chiu WA, Rusyn I\*. Comparative analysis of metabolism of trichloroethylene and tetrachloroethylene among tissues and mouse strains. *Toxicology* 2018 Nov; 409(1): 33-43.

Blanchette AD, Grimm FA, Dalaijamts C, **Hsieh NH**, Ferguson K, Luo YS, Rusyn I, Chiu WA. Thorough QT/QTc in a dish: an in vitro human model that accurately predicts clinical concentration-QTc relationships. *Clinical Pharmacology & Therapeutics* 2018 Oct; doi: 10.1002/cpt.1259.

Grimm FA, Blanchette A, House JS, Ferguson K, **Hsieh NH**, Dalaijamts C, Wright AA, Anson B, Wright FA, Chiu WA, Rusyn I\*. A human population-based organotypic *in vitro* model for cardiotoxicity screening. *ALTEX* 2018 Oct; 35(4): 441-52.

Cheng YH, Lin YJ, Chen SC\*, You SH, Chen WY, **Hsieh NH**, Yang YF, Liao CM\*. Assessing health burden risk and control effect on dengue fever infection in southern region of Taiwan. *Infection and Drug Resistance* 2018 Sep; 11: 1423-35.

**Hsieh NH**, Reisfeld B, Bois FY, Chiu WA\*. Applying a global sensitivity analysis workflow to improve the computational efficiencies in physiologically-based pharmacokinetic modeling. *Frontiers in Pharmacology* 2018 Jun; 9:588.

Cheng YH, Chou WC, Yang YF, Huang CW, How CM, Chen SC, Chen WY, **Hsieh NH**, Lin YJ, You SH, Liao CM\*. PBPK/PD assessment for Parkinson's disease risk posed by airborne pesticide parquat exposure. *Environmental Science and Pollution Research* 2018 Feb; 25(6):5359-68.

2017

**Hsieh NH**, Lin YJ, Yang YF, Liao CM\*. Assessing the oseltamivir-induced resistance risk and implications for influenza infection control strategies. *Infection and Drug Resistance* 2017 Jul; 10: 215-26.

Cheng YH, You SH, Lin YJ, Chen SC, Chen WY, Chou WC, **Hsieh NH**, Liao CM\*. Mathematical modeling of postcoinfection with influenza A virus and *Streptococcus pneumoniae*, with implications for pneumonia and COPD-risk assessment. *International Journal of Chronic Obstructive Pulmonary Disease* 2017 Jul; 12:1973-88.

Lin YJ, Ling MP\*, Chen SC, Chen WY, **Hsieh NH**, Cheng YH, You SH, Chou WC, Lin MC, Liao CM\*. Mixture risk assessment due to ingestion of arsenic, copper, and zinc from milkfish farmed in contaminated coastal areas. *Environmental Science and Pollution Research*: 2017 Jun; 24(17):14616-26.

**Hsieh NH**, Chung SH, Chen SC, Chen WY, Cheng YH, Lin YJ, You SH, Liao CM\*. Anemia risk in relation to lead exposure in lead-related manufacturing. *BMC Public Health* 2017 May; 17:389.

2016

Chen WY\*, Chen ZY, **Hsieh NH**, Ju YT. Site-specific water quality criteria for lethal/sublethal protections of freshwater fish exposed to zinc in southern Taiwan. *Chemosphere* 2016 Sep; 159:412-9.

Cheng YH, Wang CH, You SH, **Hsieh NH**, Chen WY, Chio CP, Liao CM\*. Assessing coughing-induced influenza droplet transmission and implications for infection risk control. *Epidemiology and Infection* 2016 Jan; 144(2):333-45.

2015

Chen WY, Cheng YH, **Hsieh NH**, Wu BC, Chou WC, Ho CC, Chen JK, Liao CM\*, Lin P\*. Physiologically-based pharmacokinetic modeling of zinc oxide nanoparticles and zinc nitrate in mice. *International Journal of Nanomedicine* 2015 Oct; 10:6277-6292.

Liao CM\*, Wu BC, Cheng YH, You SH, Lin YJ, **Hsieh NH**. Ceramics manufacturing contributes to ambient silica air pollution and burden of lung disease. *Environmental Science and Pollution Research* 2015 Oct; 22(19):15067-79.

Chen SC, **Hsieh NH**, You SH, Wang CH, Liao CM\*. Behavioural response in educated young adults towards influenza A(H1N1)pdm09. *Epidemiology and Infection* 2015 Jul; 143(9):1846-57.

Liao CM\*, Huang TL, Cheng YH, Chen WY, **Hsieh NH**, Chen SC, Chio CP. Assessing dengue infection risk in southern region of Taiwan and implications for control. *Epidemiology and Infection* 2015 Apr; 143(5):1059-72.

Liao CM\*, Huang TL, Lin YJ, You SH, Cheng YH, **Hsieh NH**, Chen WY. Regional response of dengue fever epidemics to interannual variation and related climate variability. *Stochastic Environmental Research and Risk Assessment* 2015 Mar; 29(3):947-58.

2014

**Hsieh NH**, Cheng YH, Liao CM\*. Changing variance and skewness as leading indicators for detecting ozone exposure-associated lung function decrement. *Stochastic Environmental Research and Risk Assessment* 2014 Dec; 28(8):2205-16.

**Hsieh NH**, Liao CM\*. In vitro measurement and dynamic modeling-based approaches for deposition risk assessment of inhaled aerosols in human respiratory system. *Atmospheric Environment* 2014 Oct; 95:268-76.

2013

**Hsieh NH**, Liao CM\*. Fluctuations in air pollution give risk warning signals of asthma hospitalization. *Atmospheric Environment* 2013 Aug; 75:206-16.

**Hsieh NH**, Liao CM\*. Assessing exposure risk for dust storm events-associated lung function decrement in asthmatics and implications for control. *Atmospheric Environment* 2013 Apr; 68:256-64.

2012

Liao CM\*, Cheng YH, Lin YJ, **Hsieh NH**, Huang TL, Chio CP, Chen SC, Ling MP. A Probabilistic transmission and population dynamic model to assess tuberculosis infection risk. *Risk Analysis* 2012 Aug; 32(8): 1420-32.

Chio CP, Chen WY, Chou WC, **Hsieh NH**, Ling MP, Liao CM\*. Assessing the potential risk to zebrafish posed by environmentally copper and silver nanoparticles. *Science of the Total Environment* 2012 Mar; 420: 111-8.

Liao CM\*, **Hsieh NH**, Huang TL, Cheng YH, Lin YJ, Chio CP, Chen SC, Ling MP. Assessing trends and predictors of tuberculosis in Taiwan. *BMC Public Health* 2012 Jan; 12:29.

2011

Liao CM\*, **Hsieh NH**, Chio CP. Fluctuation analysis-based risk assessment for respiratory virus activity and air pollution associated asthma incidence. *Science of the Total Environment* 2011 Aug; 409: 3325-33.

Liao CM\*, Chio CP, Cheng YH, **Hsieh NH**, Chen WY, Chen SC. Quantitative links between arsenic exposure and influenza A (H1N1) infection-associated lung function exacerbations risk. *Risk Analysis* 2011 Aug; 31(8): 1281-94.

Ling MP, Chio CP, Chou WC, Chen WY, **Hsieh NH**, Lin YJ, Liao CM\*. Assessing the potential exposure risk and control for airborne titanium dioxide and carbon black nanoparticles in the workplace. *Environmental Science and Pollution Research* 2011 Jul; 18(6): 877-89.

2010

Liao CM\*, **Hsieh NH**, Chio CP, Chen SC. Assessing the exacerbations risk of influenza-associated chronic occupational asthma. *Risk Analysis* 2010 Jul; 30(7): 1062-75.

Liao CM\*, Lin TL, **Hsieh NH**, Chen WY. Assessing the arsenic-contaminated rice (*Oryza sativa*) associated children skin lesions. *Journal of Hazardous Materials* 2010 Apr; 176(1-3): 239-51.

#### *Conference Paper*

**Hsieh NH**, Reisfeld B, Chiu WA. pksensi: an R package to apply sensitivity analysis in pharmacokinetic modeling. 58th SOT Annual Meeting, Baltimore, USA, March 10-14, 2019.

**Hsieh NH**, Reisfeld B, Bois FY, Chiu WA. Applying a global sensitivity analysis workflow to improve computational efficiencies in physiologically-based pharmacokinetic model. 57th SOT Annual Meeting, San Antonio, USA, March 11-15, 2018.

**Hsieh NH**, Reisfeld B, Bois FY, Chiu WA. Applying A Global Sensitivity Analysis Workflow to Improve Computational Efficiency in Physiologically-Based Pharmacokinetic Modeling. 2017 SRA Annual Meeting, Arlington, USA, December 10-14, 2017.

**Hsieh NH**, Chung SH. Meta-Analysis of the Fine Particulate Matters-Associated Occupational Health Risks. SOT 56th Annual Meeting, Baltimore, USA, March 12-16, 2017.

**Hsieh NH**, Liao CM. Modeling honey bee extinction risk by neonicotinoid insecticide (imidacloprid) exposure. SETAC Europe 26th Annual Meeting, Nantes, France, May 22-26, 2016.

**Hsieh NH**, Liao CM. Fluctuating air pollution-associated asthma incidence in Taiwan. SETAC Europe 23rd Annual Meeting, Glasgow, UK, May 12-16, 2013.

**Hsieh NH**, Chio CP, Liao CM. Assessing the risks for aquatic organisms posed by waterborne copper and silver nanoparticles. SETAC Europe 21st Annual Meeting Milan, Italy, May 15-19, 2011.