

# Nan-Hung Hsieh

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## EXPERIENCE

Department of Veterinary Integrative Biosciences, Texas A&M University  
Postdoctoral Research Associate 08/2016 –  
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.Eng. 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 - 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

- Postgraduate Research Abroad Program, Taiwan Ministry of Science and Technology, 2016
- 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, Environmental Chemistry Letters, Environmental Research, International Journal of Environmental Research and Public Health, International Journal of Occupational and Environmental Health, Stochastic Environmental Research and Risk Assessment, Science of the Total Environment*

## COMPUTER INTERESTS

- Operating System: GNU/Linux, Mac OS
- Languages: R
- Other: Git, GNU MCSim, High-Performance Computer

## OTHER

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

### *Journal Article*

2018

Cheng YH, Chou WC, Yang YF, Huang CW, How CM, Chen SC, Chen WY, **Hsieh NH**, Lin YJ, You SH, Liao CM\*. 2018. Environmental Science and Pollution Research: 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\*. 2017. Mixture risk assessment due to ingestion of arsenic, copper, and zinc from milkfish farmed in contaminated coastal areas. Environmental Science and Pollution Research: 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&ast, Lin P&ast. 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\*. 2015. 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 Papers*

**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.