

Baihuiqian (Vera) He

Research Interests

- High-resolution modelling of atmospheric chemistry, with particular focus on traffic-related emissions in urban environment using uEMEP, ADMS-Urban (dispersion model), land-use regression, and EMEP/MSC-W (chemical transport model) to produce new scientific findings and develop mitigation strategies
- Using low-cost sensors and data science tools for high resolution air quality data acquisition and modelling

Computer/Technology Skills		Models	
R	GIS	ADMS-Urban	EMEP
Python	Shell	Land-use Regression	uEMEP

Professional Experience

Atmospheric Model Data Analyst	Oct 2019 to present
<ul style="list-style-type: none">• Running the atmospheric chemistry transport model EMEP4UK and its local scale model uEMEP for cities in the UK• Analysing model outputs and validating the results with measurements• Documenting uEMEP running processes• Preparing relevant reports and papers (Secondary Organic Aerosols modelling report for DEFRA)	

Education

PhD Atmospheric Chemistry	University of Edinburgh	Sep.2016–present
MSc Environmental Protection and Management	University of Edinburgh	Sep.2014–Sep.2015
BSc Environmental and Sustainable Chemistry	University of Edinburgh	Sep.2012–May 2014
Chemical Engineering	Dalian University of Technology	Sep.2010–Jul.2012

Publications

He, B.; Vieno, M; Heal, M.R.; Reis, S. Application of urban-scale EMEP (uEMEP) for UK [in prep] GMD

He, B.; Heal, M.R.; Reis, S. The effect of railway electrification on railway emissions of Ultrafine Particles in an urban area [in prep]

He, B.; Heal, M.R.; Reis, S. Modelling public health benefits of various emission control options to reduce NO₂ concentrations in Guangzhou Environmental Research Communications 2020

He, B.; Heal, M.R.; Reis, S. A hybrid model approach for estimating health burden from NO₂ in megacities in China: a case study in Guangzhou Environmental Research Letter 2019, 14, 12

He, B.; Heal, M.R.; Reis, S. Land-Use Regression Modelling of Intra-Urban Air Pollution Variation in China: Current Status and Future Needs. Atmosphere 2018, 9, 134

Paper reviewing

Environmental Modelling & Software	Jun. 2018
Atmospheric Environment	Nov. 2018
IEEE access	May 2020

Teaching Experience

MSc projects supervisor	University of Edinburgh	Apr.2018–present
Environmental Lab Demonstrator	University of Edinburgh	Feb.2018–Jun.2020
Physical Chemistry Demonstrator	University of Edinburgh	Feb.2017–Jun.2020