Hao Wu

Data Scientist, Ricardo Energy & Environment
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Education

Ph.D. University of Edinburgh, UK 2017
BSc (Hons) Environmental and Sustainable Chemistry (1st Class), Unversity of Edinburgh, UK 2013
BSc Applied Chemistry, South China University of Technology, China 2013

Employment

Data Science Specialist, Ricardo Energy & Environment 2017 – Present

In this role I primarily work on air quality data, which includes but not limited to dynamic reporting, data visualisation and building tools for analysing data in more efficient and reproducible way. This is achieved by utilising many powerful R packages such as Rmarkdown, Shiny and ggplot2. Bespoke R packages are built to simplify the process of data analysis and visualisation.

Technical Skills

Programming Language

Proficient: R
Intermediate: MySQL
Basic: CSS, HTML, LaTeX

Software

Adcanced: RStudio, ADMS-Urban, MS Word
Intermediate: ArcGIS, FME, MS Excel

Conferences and Training Courses

Oral presentation at International Society of Exposure Science 2016
Oral presentation at Annual UK Review Meeting on Outdoor and Indoor Air Pollution Research 2016
Poster presentations at Annual UK Review Meeting on Outdoor and Indoor Air Pollution Research 2015
FME Desktop Introductory and Advanced Training 2015
Poster presentations at Annual UK Review Meeting on Outdoor and Indoor Air Pollution Research 2014
ACCENT Plus Summer School on Drivers, Feedbacks and Impacts in Air Quality and Climate Change 2014
Trainings on ADMS-Urban and EMIT software by Cambridge Environmental Research Consultants (CERC), UK. 2014

Teaching Experience

2nd Year Physical Chemistry Lab Demonstrator	2013 – 2016
2nd Year Environmental Chemistry Lab Demonstrator	2013 – 2016

Honours and Awards

Reviewer of Environmental Pollution Journal	2016
Edinburgh Global Research Scholarship	2013 – 2016
Undergraduate Research Project Prize	2013

Publications

Kenagy, H.S., Lin, C., Wu, H., Heal, M.R., 2016. Greater nitrogen dioxide concentrations at child versus adult breathing heights close to urban main road kerbside. Air Quality, Atmosphere & Health 9, 589–595. doi:10.1007/s11869-015-0370-3

Lin, C., Masey, N., Wu, H., Jackson, M., Carruthers, D.J., Reis, S., Doherty, R.M., Beverland, I., Heal, M.R., 2017. Practical field calibration of portable monitors for mobile measurements of multiple air pollutants. Atmosphere 8. doi:10.3390/atmos8120231

Masey, N., Gillespie, J., Ezani, E., Lin, C., Wu, H., Ferguson, N.S., Hamilton, S., Heal, M.R., Beverland, I.J., 2018. Temporal changes in field calibration relationships for Aeroqual S500 O3 and NO2 sensor-based monitors. Sensors and Actuators B: Chemical 273, 1800–1806. doi:10.1016/j.snb.2018.07.087

Steinle, S., Reis, S., Sabel, C.E., Semple, S., Twigg, M.M., Braban, C.F., Leeson, S.R., Heal, M.R., Harrison, D., Lin, C., Wu, H., 2015. Personal exposure monitoring of PM2.5 in indoor and outdoor microenvironments. Science of The Total Environment 508, 383–394. doi:10.1016/j.scitotenv.2014.12.003

Wu, H., Reis, S., Lin, C., Beverland, I.J., Heal, M.R., 2015. Identifying drivers for the intra-urban spatial variability of airborne particulate matter components and their interrelationships. Atmospheric Environment 112, 306–316. doi:10.1016/j.atmosenv.2015.04.059

Wu, H., Reis, S., Lin, C., Heal, M.R., 2017. Effect of monitoring network design on land use regression models for estimating residential NO2 concentration. Atmospheric Environment 149, 24–33. doi:10.1016/j.atmosenv.2016.11.014