Dr Raquel González Fariña

Employment

Feb – Jun 2021 Cardiff University, Postdoctoral researcher, modelling airborne Covid-19 transmission.

Qualifications

2016–2021 DPhil, University of Oxford, doctorate in industrially focused mathematical modelling.
2015–2016 MSc, University of Bath, master of science and distinction in modern applications of mathematics.
2011–2015 BSc, University of La Laguna, 1st class bachelors in mathematics.

Computing

Proficient MATLAB, Mathematica, COMSOL, and LaTeX.
Intermediate Python, Git, FEniCS, Unix (OSX), GNU/Linux, and Microsoft Office.

Research

2021–Present Mathematical modelling and smart coatings for fighting the Covid-19 pandemic. (SSL).
2017–2020 Modelling the mechanisms of microsilica particle formation and growth. (Elkem).
2017 Improving the accuracy of optical measurements. (Lein Applied Diagnostics).
2017 Modelling microsilica production inside furnaces. (Elkem).
2016 Non-linear least squares approximations for seismic data representation. (Schlumberger).
2015 Characterising images of dense star fields. (Astrophysical Institute of the Canary Islands).
2015 Lebesgue measures and Fourier transforms.

Publications

2021 *Predicting lift-off time when deep-frying potato dough snacks*,
Babb, Benham, Bows, González-Fariña, Kiradjiev, Lee, and Tibos, SIAM Journal on Applied Mathematics.
2021 *Modelling the mechanisms of microsilica particle formation and growth*,
González-Fariña, DPhil thesis, Oxford University Research Archive (ORA).
2020 *Microsilica particle formation and growth due to the combustion reaction of silicon monoxide with oxygen*,
González-Fariña, Münch, Oliver, and Van Gorder, SIAM Journal on Applied Mathematics.
2018 *System Performance of networks of NFM*,
Hankin, Lamb, Hewitt, Sander, Cabaneros, Danieli, Formetta, González-Fariña, Grinfield, Kamilova, and Kovács, EGU General Assembly Conference Abstracts.

Awards

2016–2020 EPSRC InFoMM CDT fully-funded research scholarship.
2019 SIAM student award.
2016 Tenerife Council postgraduate study scholarship.
2014–2015 University of La Laguna research scholarship.
2011 University of La Laguna extraordinary award for outstanding results.

Teaching

Fourier series and partial differential equations
Waves and compressible flow
Introductory calculus
Applied partial differential equations
Further mathematical biology

Professional activities

Talks

2021 Society for Mathematical Biology Annual Meeting (Virtual)
2020 InFoMM Annual Meeting, University of Oxford (Virtual)
2020 Australian and New Zealand Industrial and Applied Mathematics Conference, Hunter Valley
2019 International Congress on Industrial and Applied Mathematics, Valencia
2019 SIAM Conference on Applications of Dynamical Systems, Utah
2019 InFoMM Annual Meeting, St Catherine's College, University of Oxford
2018/19 InFoMM Group Meeting, Mathematical Institute, University of Oxford
2017/19 Young Researchers in Mathematics Meeting (PEJIM), University of La Laguna, Spain

Minisymposium organiser

2021 *Modelling the transmission of COVID-19 in indoor spaces*, SMB Annual Meeting (Virtual)
2019 *Mathematical Modelling in the Metallurgical Industry*, ICIAM, Valencia

Poster presentations

2018 British Applied Mathematical Colloquium, St Andrews
2018 InFoMM Annual Meeting, St Catherine's College, University of Oxford

Study Groups

2020 Mathematics in Industry Study Group, Newcastle, Australia
Optimising furnace heat transfer (Lovells Springs)
2018 European Study Group with Industry, Nicosia, Cyprus
Optimizing the performance of a conical ceramic membrane (SSL)
2018 European Study Group with Industry, Bath, UK
Robustness of Fabricated Snack Take-off (PepsiCo)
2017 Environmental Modelling in Industry Study Group, Cambridge, UK
System Performance of networks of NFM (JBA Trust)
2017 UK Graduate Modelling Camp, Oxford, UK
Using FRAP to determine the diffusivity of molecules in the eye