



Dr Valentina Noacco

Senior Research Associate

Area of research

Improving the understanding and consideration of uncertainty in the (re)insurance industry

Queen's Building,
University Walk, Clifton BS8 1TR

[\(See a map\)](#)

valentina.noacco@bristol.ac.uk

Summary

My main research interest is the development of tools and workflows to transfer sensitivity analysis methods and knowledge to industrial practitioners. This knowledge transfer aims at improving the consideration of uncertainty in mathematical models used in industry.

My current project aims to transfer global sensitivity analysis methods, tools (i.e. the [SAFE](#) software toolbox) and knowledge to the (re)insurance industry and to tailor them in such a way as to facilitate their uptake in the (re)insurance sector. I am currently a NERC Knowledge Exchange Fellow based in the department of Civil Engineering at the University of Bristol. The aim of the project is to enable the (re)insurance sector to more efficiently capture the uncertainties and sensitivities embedded in their mathematical models, with structured approaches to validate these models and to test the impact of assumptions on the model predictions.

More info here: www.safe-insurance.uk

Biography

Valentina Noacco received her MSc in Water and Environmental Management in 2012 and her PhD in Civil Engineering in 2017 ("Investigation of long-term drivers and controls on fluvial dissolved organic carbon and nitrate in the UK") from the University of Bristol. In 2017 she held a 7-month research project at the University of Bristol on Applied Sensitivity Analysis.

Keywords

- Uncertainty and sensitivity analysis
- (Re)insurance industry
- Environmental modelling
- Knowledge Exchange

Memberships

Organisations

[Department of Civil Engineering](#)

Other sites

- [Engineering](#)

Recent publications

- Noacco, V, Sarrazin, F, Pianosi, F & Wagener, T, 2019, ['Matlab/R workflows to assess critical choices in Global Sensitivity Analysis using the SAFE toolbox'](#). *MethodsX*, vol 6., pp. 2258-2280
- Noacco, V, Duffy, C, Wagener, T, Worrall, F, Fasiolo, M & Howden, N, 2019, ['Drivers of interannual and intra-annual variability of dissolved organic carbon concentration in the River Thames between 1884 and 2013'](#). *Hydrological Processes*, vol 33., pp. 994-1012
- Noacco, V, Wagener, T, Worrall, F, Burt, TP & Howden, NJ, 2017, ['Human impact on long-term organic carbon export to rivers'](#). *Journal of Geophysical Research: Biogeosciences*, vol 122., pp. 947-965
- Harris, P, Howden, NJK, Peukert, S, Noacco, V, Ramezani, K, Tuominen, E, Eludoyin, B, Brazier, R, Shepherd, A, Griffith, B, Orr, R & Murray, P, 2014, ['Contextualized geographically weighted principal components analysis for investigating baseline soils data on the North Wyke Farm Platform'](#). in: *Proceedings of the 16th International Association for Mathematical Geosciences - Geostatistical and Geospatial Approaches for the Characterization of Natural Resources in the Environment: Challenges, Processes and Strategies, IAMG 2014*. Capital Publishing Company, pp. 376-378

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