William Becker

Data scientist, policy analyst and researcher   17/11/2020

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Date of birth
3rd January 1983

Nationality
British

Location
Ispra (VA), Italy

Researchgate
researchgate.net/profile/William_Becker4

Google Scholar
tiny.cc/ptl5lz

LinkedIn
linkedin.com/in/WEBecker

I am an accomplished data scientist with extensive experience in international policy making. Originally from a technical background, I received my PhD in mechanical engineering, statistics and machine learning from the University of Sheffield in 2011. For the last nine years I have worked at the European Commission's Joint Research Centre, supporting high-level international policy making with innovative data and policy analysis; and developing composite indicators and scoreboards for monitoring global trends. In parallel, I have built a strong cross-disciplinary academic track record, with a wide range of high-impact publications, and keynote speeches in international conferences. Applications of my work include sustainable development, international connectivity, policy/performance monitoring and impact assessment, environmental science, engineering and economics. I strive to provide deep and innovative data analysis that results in clear and focused messages.

Work Experience

2020-present

Senior consultant, international data and policy analyst

Freelance: based in Ispra, Italy

As of October 2020 I am working as a freelance consultant on international indicator analysis, composite indicator development and statistics.

2011-2020

Senior researcher and policy analyst

Joint Research Centre, European Commission: Ispra, Italy

My position at the Joint Research Centre involved supporting the European Commission in international data analysis, indicator frameworks, and analysis of uncertainty and sensitivity/robustness. I was a senior researcher simultaneously in the European Commission's Competence Centre for Composite Indicators and Scoreboards, as well as the Competence Centre for Modelling. I worked extensively with many different departments of the European Commission, as well as a wide range of international organisations.

Policy support in:

- Composite indicators and scoreboards
- Policy monitoring
- Data analysis and statistics
- Impact assessment

- International connectivity/globalisation
- Sustainable development
- Performance-based budgeting
- Sensitivity and uncertainty analysis, robustness
- Model quality assurance

Research in:

- Sensitivity and uncertainty analysis
- Composite indicators
- Sustainable development
- International connectivity
- Environmental science
- Econometrics

2008-2009	**Research Associate – Airship Design**

Aerospace Engineering Department, Politecnico di Torino, Italy

I worked on a 10-month contract which involved building finite element models of a prototype airship. I also applied uncertainty and sensitivity analysis tools to the model.

2006-2011	**Doctoral Student/Researcher**

Department of Mechanical Engineering, University of Sheffield, UK

My main work was building biomechanical and structural models and researching in uncertainty/sensitivity analysis as described in the Education section of this CV. Additionally, I spent one year as a visiting researcher working on airship design in Italy (see above). Finally, in the last year of my PhD I worked on a contract from BAE Systems to model the performance of a damper for submarines.

Education

2006-2011	**PhD in Mechanical Engineering: Thesis entitled "Uncertainty Propagation Through Large Nonlinear Models"**

University of Sheffield, and Politecnico di Torino, Turin, Italy

Supervisors: Professor Keith Worden, Dr Graeme Manson, Dr Jennifer Rowson

- Bayesian sensitivity analysis of a finite element model of a human aortic heart valve and a design model of an airship prototype
- The finite element models were built in Ansys and LS-Dyna, with use of fluid-structure interaction and hyperelastic/composite material modelling
- Sensitivity analyses were performed using a Gaussian process regression technique which significantly reduces computational expense.
- Extensive use of finite element software and familiarity with advanced statistical techniques.
- One academic year spent as a visiting researcher at the Department of Aerospace Engineering, *Politecnico di Torino,* Italy.

2002-2006	**MEng Mechanical Engineering with Spanish (2:1)**

University of Sheffield

Thesis on design and FE modelling of a magneto-rheological clutch.

Modules including: Signal Processing, Condition Monitoring, Computer Modelling and Validation,

Solar and Wind Energy, Nuclear Reactor Engineering and Spanish Foreign Languages at Work (FLAW) to level 4.

2004-2005 **Erasmus year at La Universidad de Sevilla (University of Seville, Spain)**

I studied mechanical engineering for one academic year in Spain as part of the Erasmus scheme. All teaching and interaction was in Spanish. Modules included Automatic Control and Engineering History and Ethics.

1994-2001 **Bishop Wordsworth's Grammar School, Salisbury, Wiltshire**

A Levels: Maths (A), Physics (A), Geography (A)

GCSEs: Six at A*, four at A, one at B.

Publications

Published Articles

Becker, W., Norlén, H., Dijkstra, L., Athanasoglou, S., (2020) *Wrapping up the Europe 2020 Strategy: a Multidimensional Indicator Analysis*. Environmental and Sustainability Indicators, 8, 100075

Becker, W. (2020). *Metafunctions for benchmarking in sensitivity analysis*. Reliability Engineering & System Safety, 204, 107189.

Robert, N., … , Becker, W., … (2020), *Development of a bioeconomy monitoring framework for the European Union: an integrative and collaborative approach*. New Bioeconomy, 59, 10-19

Saltelli, A., Aleksankina, K., Becker, W., Fennell, P., Ferretti, F., Holst, N., Li, S. & Wu, Q. (2019). *Why so many published sensitivity analyses are false: A systematic review of sensitivity analysis practices*. Environmental Modelling & Software, 114, 29-39

Sheikholeslami, R., Razavi, S., Gupta, H. V., Becker, W., & Haghnegahdar, A. (2019). Global sensitivity analysis for high-dimensional problems: How to objectively group factors and measure robustness and convergence while reducing computational cost. Environmental modelling & software, 111, 282-299.

W. E. Becker, S. Tarantola & G. Deman, *Sensitivity analysis approaches to high-dimensional screening problems at low sample size*, Journal of Statistical Computation and Simulation, 88(11): 2089-2110, 2018, DOI: 10.1080/00949655.2018.1450876

Worden, K., Becker, W. E., Rogers, T. J., & Cross, E. J., *On the confidence bounds of Gaussian process NARX models and their higher-order frequency response functions.* Mechanical Systems and Signal Processing, 104, 188-223, 2018.

Vandecasteele, I., Marí i Rivero, I., Baranzelli, C., Becker, W., Dreoni, I., Lavalle, C., Batelaan, O., *The Water Retention Index: Using land use planning to manage water resources in Europe.* Sustainable Development: Special Issue on "How New Sustainable Development Approaches are Responding to Society Challenges", 26(2): 122-131, 2018

Becker, W., Saisana, M., Paruolo, P., Vandecasteele, I., *Weights and Importance in Composite Indicators: Closing the Gap,* Ecological Indicators, 80: 12-22, 2017

Sartor, P., Worden, K., Becker, W., Schmidt, R. K., Bond, D., *Bayesian Sensitivity Analysis of Flight Parameters in a Hard Landing Analysis Process*, Journal of Aircraft, 53(5): 1317-1331, 2016

Saltelli, A., Stark, P., Becker, W., Stano, P., 2015, *Climate Models as Economic Guides: Scientific Challenge or Quixotic Quest?* Issues in Science and Technology, Spring 2015: 79-84

Tobias Lung, Alessandro Dosio, William Becker, Carlo Lavalle and Laurens M. Bouwer*, 2013, *Assessing the influence of climate model uncertainty on EU-wide climate change impact indicators* Climatic Change, 120: 211-227

Becker W and Worden K, 2013, *Bayesian Sensitivity Analysis of Bifurcating Nonlinear Models*, Mechanical Systems and Signal Processing, 34(1-2): 57-75.

Becker, W., Oakley, J.E., Surace, C., Gili, P., Rowson, J., Worden, K., 2012. *Bayesian sensitivity analysis of a nonlinear finite element model*. Mechanical Systems and Signal Processing 32, 18–31.

Tarantola S, Becker W and Zeitz D, 2012, *A comparison of two sampling methods for global sensitivity analysis*, Computer Physics Communications, 183: 1061-1072 2012

Worden, K and Becker, W, *On the identification of hysteretic systems, Part II: Bayesian sensitivity analysis and parameter confidence*, Mechanical Systems and Signal Processing, 29: 213-227, 2012

Batterbee, DC, Sims ND, Becker, W, Worden, K. and Rowson, J. *Computational model of an infant brain subjected to periodic motion simplified modelling and Bayesian sensitivity analysis* Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine, 225(11): 1036-1049, 2011 (Winner of the 2011 Duncan Dowson Prize)

W. Becker, J. Rowson, J.E. Oakley, A. Yoxall, G. Manson, K. Worden *Bayesian sensitivity analysis of a model of the aortic valve.* Journal of Biomechanics, 44:1499–1506, 2011

Becker, W., K. Worden, M. Battipede, and C. Surace, *Uncertainty Analysis of a Dynamic Model of a Novel Remotely-Piloted Airship*. Journal of Aircraft, 48(3): 1028-1035, 2011

Worden, K., W. Becker, M. Battipede, and C. Surace, *Aspects of uncertainty analysis for large nonlinear computer models*. Applied Mechanics and Materials, 2010. 24-25: p. 24-41.

Articles Under Review

Mara, A. and Becker, W., Polynomial chaos expansion for sensitivity analysis of model output with dependent inputs (submitted to the Reliability Engineering and System Safety)

Becker, W., Paruolo, P., Saltelli, A., *Variable selection in regression models using global sensitivity analysis* (submitted to the Journal of Time Series Econometrics)

Simpson, G., Jewitt, G., Badenhorst, J., Becker, W., Neves, A., Papdimitriou, E., The Water-Energy-Food Nexus Index: A Tool for Integrated Resource Management and Sustainable Development (submitted to Global Environmental Change)

Lindén, D., Cinelli, M., Spada, M., Becker, W., Gasser, P., Burgherr, P., Information transfer in composite indicators (submitted to Ecological Indicators)

Moner-Girona, M., Bender, A., Bodis, K., Becker, W., Szabo, S., Kararach, G., Diaz Anadon, L., A multidimensional high-resolution assessment tool to boost decentralised energy investments in Sub-Saharan Africa (submitted to Nature Sustainability)

Puy, A., Lo Piano, S., Becker, W., Saltelli, A., The battle of total-order sensitivity estimators (submitted to the European Journal of Operational Research)

Book Chapters

Saisana, M., Becker, W., Dominguez-Torreiro, M., The JRC Statistical Audit of the Global Talent Competitiveness Index 2017. In *The Global Talent Competitiveness Index 2017: Talent and Technology*, Chapter: 7, Publisher: INSEAD, Adecco, and HCLI, Editors: Bruno Lanvin, Paul Evans, pp.85-98

Becker, W., Paruolo, P., Saisana, M., Saltelli, A., (2016) Weights and Importance in Composite Indicators: Mind the Gap. In *Handbook of Uncertainty Quantification,* Chapter: 4, Publisher: Springer International Publishing, Editors: Roger Ghanem, David Higdon, Houman Owhadi, pp.1-30

Tarantola, S. and Becker, W., (2016) Simlab 4.0 for Global Sensitivity Analysis. In *Handbook of Uncertainty Quantification,* Springer International Publishing, Editors: Roger Ghanem, David Higdon, Houman Owhadi, pp.1-21

Becker, W. and Saltelli, A. (2015) Design for sensitivity analysis. In *Handbook of Design and Analysis of Experiments,* Chapman & Hall/CRC, Editors: Angela Dean, Max Morris, John Stufken, Derek Bingham, pp.627 - 673

Conference proceedings

Worden, K., Surace, C., Becker, W., *Uncertainty Bounds on Higher-Order FRFs from Gaussian Process NARX Models,* in X International Conference on Structural Dynamics, EURODYN 2017, 2017, Rome, Italy

Vandecasteele, I., Marí i Rivero, I., Baranzelli, C., Becker, W., Dreoni, I., Lavalle, C., Batelaan, O., The Water Retention Index: Using land use planning to manage water resources in Europe, Conference proceedings of the 22nd International Sustainable Development Research Society Conference, School of Science and Technology, Universidade Nova de Lisboa, Lisbon, Portugal, 13 – 15 July 2016

Becker, W., Paruolo, P., Saisana, M., Saltelli, A., *Measuring the importance of variables in composite indicators*, in CLADAG 2015: 10th Scientific Meeting of the Classification and Data Analysis Group, 2015, Sardinia, Italy

Becker, W., Applications of Dynamic Trees to Sensitivity Analysis, in 12th International Conference on Applications of Statistics and Probability in Civil Engineering, ICASP12, Vancouver, Canada, 2015

Tarantola S, Becker W and Zeitz D, *A Comparison of Two Sampling Methods for Global Sensitivity Analysis,* in Eighth IMACS Seminar on Monte Carlo Methods, Borowets, Bulgaria, 2011

Becker, W. and K. Worden. *Bayesian sensitivity analysis of a bifurcating Duffing oscillator*. in Third International Conference on Uncertainty in Structural Dynamics. 2010. Leuven, Belgium

Worden, K. and W. Becker. *On the identification of hysteretic systems: Part II: Bayesian sensitivity analysis*. in IMAC-XXVIII. 2010. Jacksonville, Florida: Society for Experimental Mechanics Inc.

Sartor, P., Becker, W., Worden, K., Bond, D., Staszewski, W. *Bayesian Sensitivity Analysis of Flight Parameters in the Development of a Hard Landing Indication System* in Structural Health Monitoring: Proceedings of The 5th European Workshop on Structural Health Monitoring, 2010, Naples, Italy.

Sartor, P., R.K. Schmidt, W. Becker, K. Worden, D.A. Bond, and W.J. Staszewski. *Conceptual design of a hard landing indication system using a flight parameter sensor simulation model*. in 27th International Congress on the Aeronautical Sciences. 2010. Sorrento, Italy.

Becker, W., P. Gili, C. Surace, and K. Worden, *Bayesian uncertainty analysis of a nonlinear finite element model of an unmanned airship*, in 2nd International Conference on Uncertainty in Structural Dynamics. 2009: Sheffield, UK.

Becker, W., Rowson, J., Oakley, J., Yoxall, A., Manson, G., Worden, K. *Bayesian sensitivity analysis of a large nonlinear model*. in ISMA2008. 2008. Leuven, Belgium

Selected publicly available technical/policy reports

Becker, W.; Dominguez-Torreiro, M.; Neves, A.R.; Tacao Moura, C. J.; Saisana, M., Exploring ASEM Sustainable Connectivity – What brings Asia and Europe together?, 2018, ISBN 978-92-79-92901-4, doi:10.2760/77696

Erhart Szilárd, Becker William, Saisana Michaela, The Macroeconomic Imbalance Procedure – From the Scoreboard and Thresholds to the decisions, EUR 29588 EN, Publications Office of the European Union, Luxembourg, 2018, ISBN 978-92-79-98453-2, doi:10.2760/038148

M. Dominguez-Torreiro, W. Becker, A Proposal of Exploratory Analysis of Price Disparity in EU28, 2016, EUR 28229 EN, doi:10.2788/776140

Piculescu, V., Elia, L., Becker, W., Survey of Simulation Models of Long-Term Care Use and Expenditure, 2012, EUR 25535, doi:10.2788/52537

Editing

Sep 2020   Guest editor of a themed issue in the international journal *Research in Globalization*, entitled *Asia-Europe Sustainable Connectivity*.

Conferences

Conferences organised

Sep 2020   Lead organiser of the first International Conference on Asia-Europe Sustainable Connectivity (AESCON), Singapore www.aescon.org. Co-founder and leading member of the organising committee.

Keynote Speeches

June 2017   Second International Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCECOMP), Rhodes, Greece, (**Keynote Speaker:** *Sensitivity analysis on a shoestring: how low can we go with surrogate models?*)

Dec 2016   Eighth International Conference on Sensitivity Analysis of Model Output (SAMO), Reunion Island (**Invited Keynote Speaker:** *Weights and Measures: Exploring and Optimising Composite Indicators with Sensitivity Analysis*)

Oral Presentations

Jan 2020   International conference: "Strengthening the cooperation in an uncertain international order - Japan and the European Union as strategic partners", Sciences Po Strasbourg, Strasbourg, France (**Invited speaker:** *Sustainable Connectivity Between EU and Asia*)

Nov 2019   EU Conference on modelling for policy support, Brussels, Belgium, (**Oral presentation:** *Knowing unknowns: adapting uncertainty and sensitivity analysis for impact assessment and policy-making*)

Oct 2019   Ninth International Conference on Sensitivity Analysis of Model Output, Barcelona, Spain (**Oral presentation:** *Why the Janon Estimator is the Best Thing since Sliced Bread*)

June 2019   3rd International Conference on Uncertainty Quantification in Computational Sciences and Engineering, Crete, Greece (**Oral presentation:** *Gaussian process estimation of sensitivity indices for given data with dependent inputs and unknown joint distribution*)

Apr 2019   EGU General Assembly 2019, Vienna, Austria (**Oral presentation:** *Metamodelling approaches to sensitivity analysis with dependent inputs*)

Sep 2018   7th International Conference on Uncertainty in Structural Dynamics, Leuven, Belgium, (**Oral presentation:** *Probabilistic identification of system nonlinearities using Gaussian process NARX models*)

Sep 2017   X International Conference on Structural Dynamics, EURODYN 2017, Rome (**Oral presentation:** *Uncertainty Bounds on Higher-Order FRFs from Gaussian Process NARX Models*)

Oct 2015   10th Scientific Meeting of the Classification and Data Analysis Group, Cagliari, Italy (**Oral presentation:** *Measuring the importance of variables in composite indicators*)

Jul 2015   12th International Conference on Applications of Statistics and Probability in Civil Engineering, Vancouver, Canada (**Oral presentation:** *Applications of Dynamic Trees to Sensitivity Analysis*)

Jul 2013	Seventh International Conference on Sensitivity Analysis of Model Output, Valrose Campus, Nice, France (**Oral presentation:** *A Sensitivity Analysis of the Birth Cohort Model for Tertiary Education*)
Jul 2013	Seventh International Conference on Sensitivity Analysis of Model Output, Valrose Campus, Nice, France (**Oral presentation:** *Exploring Econometric Model Selection Using Sensitivity Analysis*)
Sep 2011	The Eighth IMACS Seminar on Monte Carlo Methods, Borowets, Bulgaria (**Oral presentation:** *A Comparison of Two Sampling Methods for Global Sensitivity Analysis*)
Sep 2008	ISMA International Conference on Noise and Vibration Engineering, Leuven, Belgium (**Oral presentation**: *Bayesian Sensitivity Analysis of a Large Nonlinear Model*)
April 2008	Data Modelling Symposium, Sheffield. (**Oral Presentation:** *Bayesian Sensitivity Analysis on a Finite Element Model of a Human Aortic Heart-Valve*)
Nov 2007	IMechE Biomaterials Modelling Seminar, London. Future directions in modelling biomaterials and prosthetic design

Poster Presentations

Sep 2020	AESCON Asia-Europe Sustainable Connectivity Conference 2020, Online, (**Poster presentation:** *The ASEM Sustainable Connectivity Portal*)
Apr 2018	European Geosciences Union General Assembly 2018, Vienna, Austria (**Poster presentation:** *Exploring the limits of metamodels for sensitivity analysis at low sample sizes*)
Apr 2015	European Geosciences Union General Assembly 2015, Vienna, Austria (**Poster presentation:** *Optimising the weighting of the water retention index using sensitivity analysis*)
Sep 2010	3rd International Conference on Uncertainty in Structural Dynamics, Leuven, Belgium (**Poster presentation:** *Bayesian Sensitivity Analysis of a Bifurcating Duffing Oscillator*)

Sessions Chaired

Apr 2018	European Geosciences Union General Assembly 2018, Vienna, Austria (**Chaired session:** *Advances in Sensitivity and Uncertainty Analysis of Earth and Environmental Systems Models*)
Nov 2016	Eighth International Conference on Sensitivity Analysis of Model Output, Reunion Island (**Chaired session:** *New approaches and applications of sensitivity analysis*)
July 2013	7th International Conference on Sensitivity Analysis of Model Output, Nice, France (**Chaired session:** *New methods for calculating Sobol indices*)

Sessions Convened

Apr 2018	European Geosciences Union General Assembly 2018, Vienna, Austria (**Convened session:** *Advances in Sensitivity and Uncertainty Analysis of Earth and Environmental Systems Models*)
Apr 2017	European Geosciences Union General Assembly 2017, Vienna, Austria (**Convened session:** *Advances in Sensitivity and Uncertainty Analysis of Earth and Environmental Systems Models*)

Membership of Scientific Committee

Sep 2020	International Conference on Asia-Europe Sustainable Connectivity, Singapore
May 2019	Ninth International Conference on Sensitivity Analysis of Model Output, Barcelona, Spain
Nov 2016	Eighth International Conference on Sensitivity Analysis of Model Output, Reunion Island

| Jul 2014 | Uncertainty in Computer Models 2014 Conference, Sheffield, UK |

Consultancy

Nov 2020	International consultant for the Global Innovation Index, World Intellectual Property Organisation.
Oct 2020	Senior lead expert on Quality Infrastructure for Sustainable Development Index, United Nations Industrial Development Organisation.
Mar 2018	Invited expert to the "Roundtable Experts Meeting on the Revised Child-friendliness Index and the theme of the African Report on Child Wellbeing 2018", Addis Ababa, Ethiopia

Teaching

International training courses

Feb 2020	Lead lecturer on European Commission Composite Indicators Training Course, Brussels, Belgium
Nov 2019	Senior lecturer at the *16th JRC Annual Training on Composite Indicators & Scoreboards*, Ispra, Italy
Oct 2018	Senior lecturer at the *15th JRC Annual Training on Composite Indicators & Scoreboards*, Ispra, Italy
Oct 2017	Lecturer at the *14th JRC Annual Training on Composite Indicators & Scoreboards*, Ispra, Italy
Jul 2016	Lecturer at the *Sensitivity Analysis of Model Output Summer School* Anacapri, Italy
Sep 2016	Lecturer at the *14th JRC Annual Training on Composite Indicators & Scoreboards*, Ispra, Italy
Nov 2015	Lecturer at the *13th JRC Annual Training on Composite Indicators & Scoreboards*, Ispra, Italy
Jul 2014	Lecturer at the *Sensitivity Analysis of Model Output Summer School*, Ranco, Italy
Jul 2012	Lecturer at the *Sensitivity Analysis of Model Output Summer School*, Ranco, Italy

Invited Training and Lectures

Feb 2020	Organiser and principle lecturer of a course entitled "The Essentials of Composite Indicators and Scoreboards: Theory and Analysis" Brussels, Belgium.
Mar 2019	Invited training course on Composite Indicators and Scoreboards, European Institute of Innovation and Technology, Budapest, Hungary
Feb 2018	Invited training course on Composite Indicators and Scoreboards, European Institute of Innovation and Technology, Budapest, Hungary
Oct 2017	Invited lecture on *Quality Assurance and Robustness in Composite Indicators*, Bocconi University, Milan, Italy
Mar 2017	Invited training on sensitivity analysis (lecturing on metamodeling) as part of the course *Sensitivity analysis, sensitivity auditing and beyond* at the Joint Research Centre, Ispra, Italy
Oct 2016	Invited lecture on *Quality Assurance and Robustness in Composite Indicators*, Bocconi University, Milan, Italy
Oct 2015	Invited lecture on *Biomechanical Modelling and Managing Uncertainty*, Politecnico di Torino, Turin, Italy

Oct 2013	Invited lecture on *Sensitivity and Uncertainty Analysis in Biomechanical Modelling*, Politecnico di Torino, Turin, Italy
Mar 2013	Invited lecture on *An overview of Sensitivity Analysis*, Politecnico di Torino, Turin, Italy
Mar 2011	Invited training on sensitivity analysis (lecturing on metamodeling) at the Institute for Prospective Technological Studies in Seville, Spain

Other

2007-2010	Lab demonstrator and teaching assistant in the Department of Mechanical Engineering at the University of Sheffield, UK. Demonstration of lab experiments to groups of undergraduate students, assistance with technical and theoretical aspects of experiments, ranging from dynamics, solid and fracture mechanics to software classes on Matlab.

Management/Supervision

2018	Supervisor of a trainee on a project entitled "Developing an indicator framework to monitor connectivity between Europe and Asia"
2018	Supporting supervisor on Masters' thesis entitled "Exploration of implicit weights in composite indicators: the case of resilience assessment of countries' electricity supply" based at Future Resilient Systems (FRS), Swiss Federal Institute of Technology (ETH) Zürich, Singapore-ETH
2015-present	I am project leader of a small team of researchers who are working on supporting the European Commission's Directorate General for Budget in developing an indicator system for measuring the performance of the EU budget.
2013-2014	Supervision of three master's students enrolled on a Biomechanical Engineering course at the Politecnico di Torino, Italy. Joint dissertation entitled "Nonlinear Dynamic Behaviour and Uncertainty of Aortic Valve Models".

Funding

Dec 2016	Co-proposer for a COST action on *Developing and mainstreaming methods and tools for sensitivity analysis of mathematical models*.

Reviewing

Sep 2018	External reviewer for PhD thesis entitled *Sensitivity Analysis for computationally challenging computer codes*, by Xuefei Lu, Bocconi PhD School. Supervisor: Emanuele Borgonovo (Full Professor, Department of Decision Sciences, Bocconi University)

I am a reviewer for the following journals:

- Applied Research in Quality of Life
- Computer Physics Communications
- Engineering Structures
- Environmental Modelling and Software
- Evaluation: The International Journal of Theory, Research and Practice
- Hydrology and Earth System Sciences
- International Journal of Information Technology & Decision Making
- Journal of Applied Ecology
- Journal of Hydrology
- Journal of Sound and Vibration

- Journal of Statistical Computation and Simulation
- Mechanical Systems and Signal Processing
- Probabilistic Engineering Mechanics
- Reliability Engineering and System Safety
- SIAM/ASA Journal on Uncertainty Quantification
- Small Business Economics
- Structural and Multidisciplinary Optimization

Professional Membership

- Board member of the Sensitivity Analysis of Model Output (SAMO) international research group
- Steering group member of Managing Uncertainty in Complex Models (MUCM) international research group

Technical Skills

- Highly experienced in **Matlab**, **R**, and **Excel**; working experience in **Python**
- Statistical web app development using **Shiny**, interactive dashboards with **HTMLWidgets**
- Web development via R using **Blogdown** and **Hugo**
- Advanced drafting in both **MS Word** and **LaTeX**
- High competence in finite element analysis packages **Ansys, LS-Dyna** and **Abaqus**, particularly in parametric and probabilistic design
- Familiarity with **Unix**
- Generally high computer literacy; very good in all **MS Office** products

Languages

- **English**: native speaker
- **Italian**: fluent
- **Spanish**: intermediate but previously fluent; could be restored to fluency with a little effort
- **French**: intermediate, previously high-intermediate
- **German**: beginner/intermediate

Interests

Sports   Swimming, climbing, hiking, skiing, surfing, calisthenics. Formerly rugby and football.

Other   Playing guitar, creative writing, singing, flamenco, construction, travel.