# Engineering Ethics Reference Group: members' biographies

### Professor David Bogle CEng FREng (Chair)

David Bogle is Professor of Chemical Engineering and Pro-Vice-Provost of the Doctoral School at University College London, overseeing early career researchers across all disciplines. His expertise is in Process Systems Engineering. While on the Engineering Council Board he chaired groups developing guidance on Sustainability and on Risk and contributed to the Statement of Ethical Principles. He was elected a Fellow of the Royal Academy of Engineering in 2005.

### Emma Crichton MEng CEng MICE

Emma is Head of Engineering at Engineers Without Borders UK. In this role she is responsible for driving forward and leading their work to embed globally responsible engineering into how engineering is taught and practiced. She is a chartered engineer with the Institution of Civil Engineers and has six years of experience in the water industry in Scotland. She also holds a position on the Joint Board of Moderators for the ICE, IStructE, IHE and CIHT.

Emma has worked on a variety of projects and has consistently believed in the importance of collaboration; impactful partnerships and the role engineering has to play in bettering our society. Engineers Without Borders UK has had programmes within the curriculum of over 43 universities (each year) and reaching over 50,000 students since 2011. Since joining in 2019, Emma has helped to expand this programme through to reach students in South Africa and the USA.

Emma is passionate about the role of ethics within engineering to ensure the profession is linked to achieving social and environmental justice. As a part of the EERG, she helped to facilitate a workshop with 40 CEOs of the Professional Engineering Institutions in November 2020 and has been interviewed by a number of publications on this topic including on a podcast with Engineering Matters [1] in June 2020 and the New Civil Engineer [2] in March 2021.

### Professor Kevin Jones CEng CITP CSci FIET FBCS

Nominated by BCS, The Chartered Institute for IT

Professor Kevin Jones is the Executive Dean of the Faculty of Science and Engineering at Plymouth University. Prior to this he was Head of Computer Science at City University London, having spent a number of years in the Silicon Valley in California holding executive, managerial, technical and research positions in successful start-up companies and major corporations.

Kevin was keen to join the Engineering Council Board in 2015 because engineering is one of the key disciplines for the advancement of society and must hold itself to the highest standards. He represents one of the newer engineering disciplines on the Board and has undertaken various roles on behalf of the Chartered Institute for IT (BCS).

### Natasha McCarthy

Natasha McCarthy leads the Royal Society's Data theme, within the Science Policy Section. The Society's Data Theme carries out a range of policy activities to promote the development and use of data and digital technologies for the benefit of humanity. The team has delivered work on machine learning and AI, data governance, digital skills and privacy technologies. Natasha has a background in philosophy of science and engineering, including professional ethics in engineering. She previously led the policy teams at the British Academy and the Royal Academy of Engineering, was part of the founding team at UCL's Department for Science, Technology, Engineering and Public Policy, and held an academic post in philosophy at the

University of St Andrews. She is author of a number of papers and editor of collected volumes on philosophy of engineering and engineering in policymaking, and author of Engineering: A Beginner's Guide, an introduction to the social and historical impacts of engineering.

**Richard Maudslay CBE FREng**

Richard Maudslay is an engineer with a wide-ranging business career which started in capital goods manufacturing then broadened into a variety of private and public sector roles. Following time with NEI Parsons Peebles Power Transformers in Edinburgh, he established then ran NEI's joint venture power transformer facility in Mexico. Returning to the UK he become MD of NEI Parsons Turbine Generators. In 1992, he became MD of Rolls-Royce's £1.3Bn Industrial Power Group, covering all Rolls' non-aero interests, and joined the Rolls-Royce plc main Board. He remained in this role until Rolls' major structural reorganisation in 1997 led to its exit from most of its land-based power interests. Since then he has had a varied non-executive career including chairing Dstl (MoD's Defence Science and Technology Lab) and the National Nuclear Laboratory. He has also been a member of many public and private sector boards.

A fellow of the Royal Academy of Engineering (elected 1994) he chaired their Ethics Working Group until it was merged into the joint EngC/RAEng Engineering Ethics Reference Working Group.

**Raffaella Ocone**

Raffaella Ocone obtained her first degree in Chemical Engineering from the Università di Napoli, Italy and her MA and PhD in Chemical Engineering from Princeton University, USA. She holds the Chair of Chemical Engineering in the School of Engineering and Physical Sciences at Heriot-Watt University (HWU) since 1999. She is a Fellow of the Royal Academy of Engineering (RAEng), the Royal Society of Edinburgh (RSE), the Institution of Chemical Engineers (IChemE), and the Royal Society of Chemistry. In 2007 she was appointed Cavaliere (Knight) of the Order of the Star of Italian Solidarity by the President of the Italian Republic for scientific merits. In The Queen's 2019 New Year Honours she was appointed Officer of the British Empire (OBE) for services to engineering. Raffaella was named as one of the top 100 Most Influential Women in the Engineering Sector in 2019 in the list produced by board appointments firm Inclusive Boards in partnership with the Financial Times.

At HWU, Raffaella is the Head of the Multiphase Multiscale Engineering Modelling (MMEM) research group. Raffaella has worked in a number of highly recognised international Institutions such as the Università di Napoli (Italy); Claude Bérnard Université, Lyon (France); Louisiana State University (USA); Princeton University (USA). She was the first "Caroline Herschel Visiting Professor" in Engineering at RUHR Universität, Bochum, Germany (July-November 2017) and the recipient of a Visiting Research Fellowship from the Institute for Advanced Studies, Università di Bologna, Italy (March-April 2018).

Raffaella's main area of research is in the field of modelling complex (multi-phase) reactive systems with emphasis to the development of responsible technologies in the energy arena. She has taken the lead in the teaching of engineering ethics, a field where she has contributed invited lectures and publications. Currently she is the EPSRC Established Career Fellow in Particle Technology.

**Jo Parker**

Jo Parker is a Chartered Civil Engineer and has worked in the water industry for over 40 years. She currently works as an independent consultant specialising in the management of water mains and is recognised internationally as an expert in the field.

She is a fellow of the Institution of Civil Engineers (ICE), The Institute of Water and the Chartered Institute of Water and Environmental Management (CIWEM) and is Vice President, Engineering of the Institute of Water and an honorary life member of the Pipeline Industries Guild. She is on the steering committee for the specialist pro-poor consultancy WSUP (Water & Sanitation for the Urban Poor) Advisory.

When not engineering she may be found playing the double bass in jazz bands, tending her herd of pedigree alpacas or leaping into freezing cold lakes as part of her triathlon training!

**David Short**

Dave was appointed as BAE Systems Technology Director as part of the Chief Technology Officer organisation, covering the BAE Systems broader Group activities in 2018. This role involves ensuring the effective planning & utilisation of technology across the company, looking at how we can collaborate further both internally and externally. The role is tasked with encouraging an entrepreneurial spirit and applying technology effectively into the BAE engineering products. To help develop ongoing and future competitive business opportunities. The application of Science and Technology in support of the current business performance working closely with engineering, project management and manufacturing is also an important part of the CTO construct.

Previously he has been Engineering Director Combat Air in Military Air & Information based at Warton, as the Engineering Authority for the Typhoon and Tornado products. Before that he was the BAE Systems Engineering Director and Chief Engineer for F-35 based at Samlesbury. He started in the industry as a software and electronics development engineer, progressing over the years to take on various systems engineering-based responsibilities including delivery roles within the projects and the wider engineering function. He has spent time on most of the major BAE Systems air sector programmes as well as various concept and technology-related activities

Dave is a Chartered Engineer and has an MSc in Systems Engineering from University College London. He is a Fellow of the Royal Aeronautical Society, a Fellow of the Institute of Engineering and Technology of and is a member of the UK Engineering Council as a trustee.