

British Council Virtual UK Masterclass Series

1 - 5 February 2021

ENGINEERING



Professor Christoph Bruecker

BAE SYSTEMS Sir Richard
Olver Chair on Aeronautical
Engineering

City, University of
London



Professor Danielle George

Associate Vice President
for Teaching and Learning
and Professor of Radio
Frequency Engineering

The University of
Manchester

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Webinar #1: What Aeronautical Engineering can learn from Nature

Date: Thursday 4 February 2021

Time 15.00 – 16.00

Presenter: Professor Christoph Bruecker, BAE SYSTEMS Sir Richard Olver Chair on Aeronautical Engineering, City, University of London

Presentation content:

- History and background of Aeronautics, from Leonardo da Vinci to Lilienthal and the Wright Brothers
- The Airfoil and its function as a lifting device / secrets form bird flight
- Propellers and Propulsion, key features for future zero-emission concepts
- Engineering the future: low weight, low drag and low noise Aircrafts
- Towards new concepts and realization in the Aerospace sector
- Surfing with the flow: The prospects of Aeronautical Engineers

Presenter profile:

Professor Christoph Bruecker is the BAE SYSTEMS Sir Richard Olver Chair on Aeronautical Engineering at City, University of London. Since 2017 he holds a Co-Chair endorsed by the Royal Academy of Engineering Research Chair in Nature-Inspired Sensing and Flow Control for Sustainable Transport. Supported by the Royal Academy of Engineering and BAE SYSTEMS, Professor Bruecker's research aims to develop an aerodynamic 'skin' that can be evaluated for use on future aircraft. The award reflects the interdisciplinary work of his team including Biofluid Mechanics, Bio-Engineering, Micro-Fluidics, Aeroacoustics, natural flows, environmental flows and more.

[Why study Aeronautical Engineering at City, University of London](#)
[Teaching and learning updates in this current situation](#)

Webinar #2: Engineering Difference Makers: past present and future

Date: Friday 5 February 2021

Time: 17.00 – 18.00

Presenter: Professor Danielle George, Associate Vice President for Teaching and Learning and Professor of Radio Frequency Engineering, The University of Manchester

Presentation content:

As children we all probably drove our parents and teachers mad by asking 'why' and 'how'. These are the fundamental questions to any scientist or engineer including the difference makers that changed our world forever. Professor Danielle George will show us that we are all born scientists and talk about why it is the duty of every scientist and engineer to inspire the next generation.

Presenter profile:

Danielle George is a Professor Radio Frequency Engineering and Associate Vice President at the University of Manchester. She is currently President of the Institution of Engineering and Technology (IET). She was appointed Member of the Order of the British Empire in the 2016 Queen's honours list for services to engineering through public engagement. In 2016 she received the Royal Academy of Engineering Rooke Medal for services to engineering and in 2017 received the Harold Hartley Medal for outstanding contribution to the field of Measurement and Control. Danielle research is dedicated to solving one of the 14-world engineering grand challenges of the 21st century; engineering the tools for scientific discovery. Her research is delivering class-leading ultra-low noise receivers for Space and Aerospace applications. She is involved in the \$1B astronomical instrument, the Square Kilometer Array (SKA), is the UK lead for amplifiers for the \$1B Atacama Large Millimeter Array (ALMA) telescope and has worked with NASA and ESA on the development of instrumentation for researchers exploring the Big Bang. Her passion for raising public awareness of the positive impact engineering and science has on all aspects of our everyday lives, as well as highlighting to young people the immense depth and breadth of opportunities a career in science and engineering can offer, has led to Danielle's numerous current high-profile Ambassadorial roles. She presented the 2014 Royal Institution Christmas Lectures

and has delivered a number of TED and TEDx talks. Her hometown of Newcastle recognised her as a 'Great North Contemporary Great' in the 2015 Great North Culture Exhibition.

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