

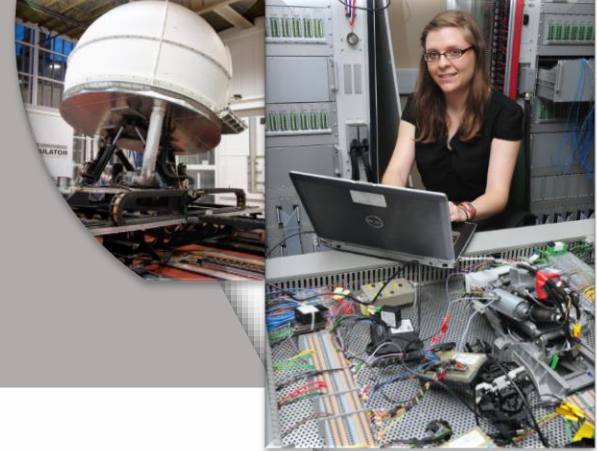
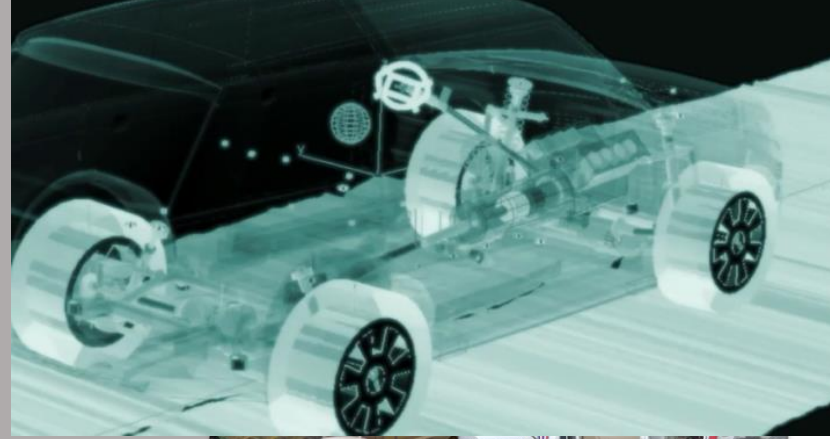
Dr Claire Lucas

- MEng Engineering Science (University of Oxford)
- PhD Biomedical Engineering (University of Oxford)
- Mathematical Modelling Specialist (Jaguar Land Rover Ltd)
- Associate Professor & Director of Studies (University of Warwick)
- *Fellow IMechE, Senior Fellow HEA*
- *QAA Engineering Subject Specialist*



Industrial Experience: Jaguar Land Rover Ltd. 2012-2015

- Capability improvement for virtual engineering
- 'Virtual Hub' of modellers and simulation engineers creating tools for the rest of the business
- Industrial supervisor for Programme for Simulation Innovation Theme 3: University of Leeds – Driver Simulator
- STEM Outreach, T-level and Degree Apprenticeship activity
- 2019 IMechE Simulation & Modelling Conference Panel Chair



Since 2015: Director of Studies, University of Warwick

- Curriculum and Quality
 - Industry relationships
 - Process and policy
 - Accreditation
 - Assessment
 - Staff workload, management & mentoring
- Teaching Delivery
 - Systems Modelling, Simulation, Systems Engineering Principles, Design of Experiment, Vehicle Dynamics
- Research
 - Active systems for vehicle dynamics
 - Student experience of group work and peer review
 - Student survey analysis and actions
 - Gender, systems thinking and curriculum



Belonging and Diversity



women felt that job adverts with masculine-coded language were less appealing and that they **belonged less in those occupations.**

[Evidence That Gendered Wording in Job Advertisements Exists and Sustains Gender Inequality](#) (Journal of Personality and Social Psychology, July 2011, Vol 101(1), p109-28).

Gender, Curriculum and Pedagogy



CONNECTIONS AND DEPENDENCIES
(WITHIN AND AROUND THE CURRICULUM)



CO-OPERATIVE AND COLLABORATIVE
ASSIGNMENTS



ASSESSMENT WHICH
REWARDS
ACCOUNTABILITY AND SHARED OWNERSHIP



KNOWLEDGE
SHARING AND
SUPPORT



COMPASSIONATE AND RESPONSIBLE
ENGINEERING



ENTHUSIASTIC AND COMMITTED
ROLE MODELS



World Challenges

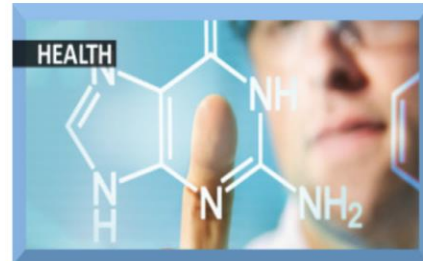


NAE ENGINEERING GRAND CHALLENGES

- 1 Make solar energy economical
- 2 Provide energy from fusion
- 3 Develop carbon sequestration methods
- 4 Manage the nitrogen cycle
- 5 Provide access to clean water
- 6 Restore and improve urban infrastructure
- 7 Advance health informatics
- 8 Engineer better medicines
- 9 Reverse-engineer the brain
- 10 Prevent nuclear terror
- 11 Secure cyberspace
- 12 Enhance virtual reality
- 13 Advance personalized learning
- 14 Engineer the tools of scientific discovery



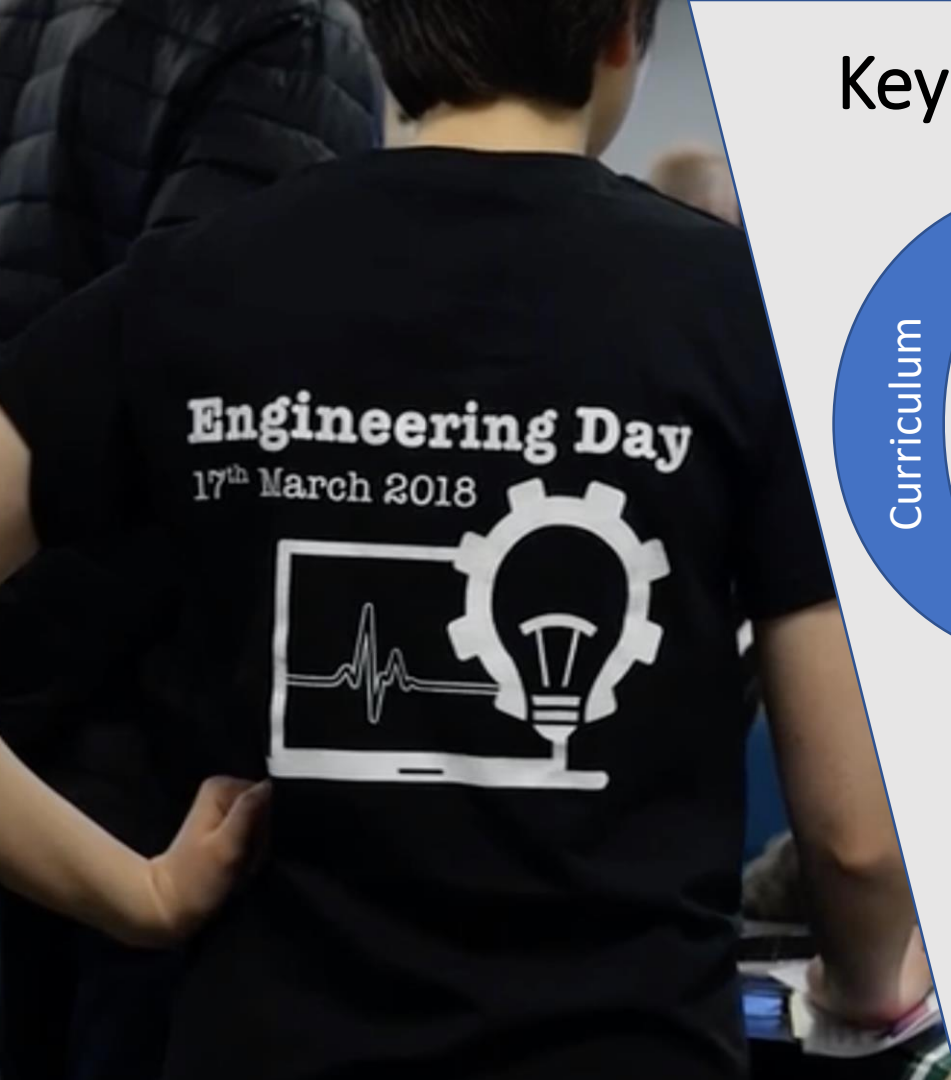
Systems Engineering Degree Re-Launch



A holistic, end-to-end approach to solving complex, ill-defined problems arising from interactions within and around dynamic systems.

- **Modelling and understanding** of complex systems which interact with and impact the user and surrounding systems in order to predict behavior and prevent unintended outcomes
- Design of systems which meet **poorly expressed and often conflicting needs** seeking a balanced solution to a problem
- Development of **intelligent and autonomous** systems which adapt dynamically to information

This advert is **neutral**



Key outcomes

