

 **BASc Global Challenges**  
A new degree for a new generation of graduates

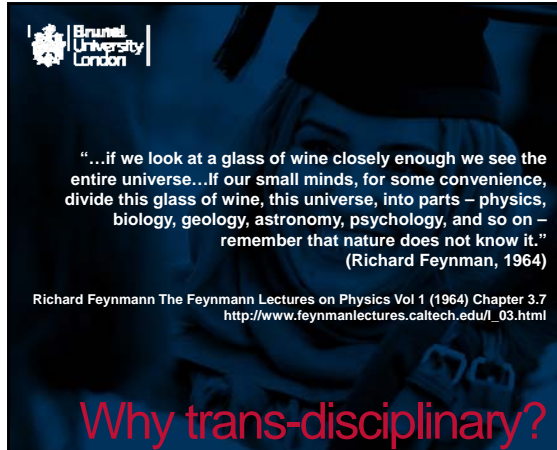
Dr Mary E Richards  
Programme Lead  
BASc Global Challenges  
Reader and Vice Dean (Education)  
College of Business, Arts and Social Sciences



 “...if we look at a glass of wine closely enough we see the entire universe...If our small minds, for some convenience, divide this glass of wine, this universe, into parts – physics, biology, geology, astronomy, psychology, and so on – remember that nature does not know it.”  
(Richard Feynman, 1964)

Richard Feynmann The Feynmann Lectures on Physics Vol 1 (1964) Chapter 3.7  
[http://www.feynmanlectures.caltech.edu/I\\_03.html](http://www.feynmanlectures.caltech.edu/I_03.html)

**Why trans-disciplinary?**



 “...going *beyond* disciplines - “transdisciplinarity identifies with a new knowledge about *what is between, across, and beyond disciplines* (the meaning of *trans*)” (McGregor, 2015)


**Trans-disciplinary**



 **Why Global Challenges?**



**Global Challenges**



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**Global Challenges** 6 June 2017



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## Global Challenges

6 June 2017



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## Study Blocks

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### Level One

- Core Spine (50 credits)
- Strand Pathway (70 credits)
- [Short summer internship]

### Level Two

- Core Spine (50 credits)
- Strand Pathway (70 credits)
- \*[Placement preparation module 0 credits]

### Level Three

- Core Spine (70 credits – including FYP)
- Strand Pathway (50 credits)

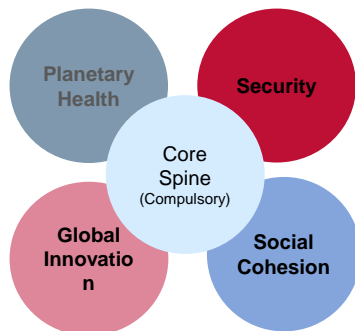
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## Strand Pathways

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Students will choose one of four pathways



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## Core Spine: Global Challenges

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The strand will introduce students to the concept of Global Challenges, and to introduce ideas of knowledge construction and deconstruction and develop students' understanding of key disciplinary thinkers and texts in the natural sciences, humanities and social sciences.

Students will develop critical skills by challenging the received canon of knowledge through exploring and critically assessing alternative contemporary thinkers and texts.

In addition, students will study theories of natural and social scientific method, and what constitutes appropriate evidence and logical, persuasive argument so they have a solid grounding in the theory and practice of quantitative research methods and how they can be applied to real world problems.

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## Planetary Health

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This strand addresses the connectedness between environmental change and human health outcomes.

The scope of the strand includes environmental, health and social sciences.

The strand will give students the ability to examine ecological determinants of human health and to predict the likely health consequences of certain types of environmental change at both geographical and temporal scales, and within different socio-cultural and economic contexts.

On completion of the strand, students will understand that the way that humanity manages Earth's natural systems is a primary determinant of future global health.

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## Social Cohesion

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This strand addresses the causes and consequences of social inequalities and the processes and approaches by which they might be confronted. The scope of the strand is ambitious, tied to both contemporary concerns and historical precedents. The trans-disciplinary nature of the BASc is uniquely placed to allow students to consider the most pressing issues of our age including, migration, social inclusion, and freedom of expression.

Social Cohesion is a foundational idea in the study of societies and what binds them together. It is not easily or singly defined but rather remains an evolving concept, responding to the pluralities of economic and political environments. Indeed, in many cases it will be the impossibility of defining Social Cohesion, and its all too frequent absence, that will be the source of student scrutiny.

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## Security

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The aim of this strand is to develop students' understanding of the trans-disciplinary study of security and to develop their ability to integrate and apply their understanding to range of themes.

Including Security Concepts and Applications: Threats; Security Analysis: Simulation; and Security Communication: Government

In addition, the strand promotes critical understanding and the ability to examine the analytical implications of Threats, Simulations and Government beyond disciplinary boundaries, bringing together the contributions from various disciplines into an integrated trans - disciplinary approach. Students will be expected to reflect on;

- Threats: Biochemistry, Computer Security, and Military Studies.
- Simulation: Programming, Computer modeling, and Military Studies.
- Government: Public Policies, Management, Politics, Military, and Policing.

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## Global Innovation

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This strand will develop an understanding of the nature and history of innovation in a global context. This will assist students in understanding how engineers have designed systems and solved problems.

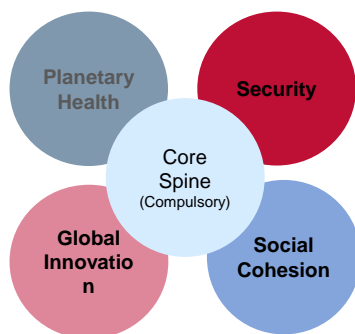
To achieve this, students will gain knowledge and understanding of the fundamentals of computing, electronics, materials and manufacturing as well as an understanding of how issues in the political economy and social context impact on global innovation and design solutions.

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## Why Brunel?

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## What skills and experience will our students be able to offer?

### Outcomes

## Our BASc Graduates

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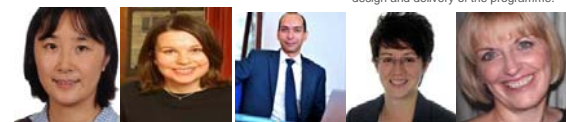
- > Nuanced understanding of complex social, political environmental and economic issues and the ability to reflect upon the evidence/data base in order to communicate with, problem solve and develop strategies with appropriate specialists and/or other stakeholders in ways that generate potential solutions and/ or ways forward.
- > Project management skills developed through experience of team working in a range of contexts
- > Experience of a wide range of approaches to research and data analysis
- > Well developed written, visual and verbal communication skills honed through practice in presentations, blogging and vlogging, group working, liaising with external stakeholders, responding to briefs, and writing mock policy documents.
- > Resilient, open minded, dynamic listeners who are eager to learn and to use their knowledge and skills to make a difference in the world.

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## The Team

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**Dr Fang Wang**

Dr Fang Wang is a Senior Lecturer in the Department of Computer Science at Brunel University London. She received a PhD in artificial intelligence from the University of Edinburgh and worked as a senior researcher in the research centre of British Telecom (BT) Group, before she joined Brunel University London in 2010

**Dr Claire Donovan**

Claire Donovan is a Reader in Science and Technology Studies, and joined Brunel University in 2010. She has pioneered cross-disciplinary research on research evaluation and policy, including assessing the wider impacts of research on society, and the governance of the humanities, arts, and social sciences within science systems.

**Mohamed Gaballa**

Mohamed Gaballa joined Brunel in 2014, as the leader of the department's new Distance Learning programme delivered alongside the current MA in Intelligence and Security Studies (which started in Autumn 2015).

**Dr Claire Lynch**

Claire Lynch is programme leader for the English BA at Brunel University London. A graduate of the University of Oxford, Claire is a Senior Lecturer specialising in autobiography and contemporary Irish literature.

**Professor Sue Jobling**

Susan Jobling is Head of the Institute of Environment, Health and Societies and a Professor of Environmental Toxicology, with a team comprising two postdoctoral researchers, and two current PhD students. Sue is interested in how environmental contaminants affect the health of wildlife and humans.

While staff from across the university will contribute to the programme, there are five key strand leaders co-ordinating the design and delivery of the programme.

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