

# Ethics in Engineering

**Thursday 5<sup>th</sup> July (16.30 – 19.30)**

**London** (venue details overleaf)

We are living in an age when increasing automation means that ethical decisions are being incorporated into complex systems using algorithms and rules. We are having to think about how we want machines to behave in scenarios that engineers have not had to consider before.



Nowhere is this more true than in the field of transport. Autonomy in road vehicles is challenging engineers, lawyers, insurers and others to re-think previously accepted principles and ideas. On railways, principles about the safe movement of trains that were once regarded as inviolable are being

questioned, bringing benefits but also causing us to think afresh about “how safe is safe enough”.

This is not just about safety, however. In transport and many other fields of engineering and design, we are constantly encountering fresh issues that demand urgent, ethically-based answers. Respect for our planet, the environment and natural resources are topics for engineers must incorporate into their work, whether it is in the context of a major project such as Crossrail or HS2, or in finding practicable alternatives to the use of plastics for consumables.

This Seminar is the first undertaken jointly by the IEEE Systems Council Chapter in the UK & Ireland and the Institution of Railway Signal Engineers (IRSE). In it, we are seeking to explore the underpinning principles associated with these ethical issues from various perspectives, raise awareness and foster collaboration between stakeholders. Our goal is to instigate an Ethical Value based approach to the design and delivery of products, systems and services that will become entrenched as safety is today.

We have a strong line-up of speakers, and there will be a panel discussion at the end of the evening in order that all attendees can participate in the debate.

## Speakers:

**Hon Mr Justice Haddon-Cave**

**Prof. George Bearfield (RSSB/ University of Huddersfield)**

**Paul Campion (CEO, Transport Systems Catapult)**

**Prof. Ali Hessami (Vega Systems)**

For more information about this event, please see overleaf.

Register to attend at:  
<https://bit.ly/2G1b2yd>



*Photos: Shutterstock*

<https://www.ieee-ukandireland.org/chapters/systems-council-chapter/>

Institution of Railway Signal Engineers  
4th Floor  
1 Birdcage Walk  
Westminster  
London, SW1H 9JJ

[www.irse.org](http://www.irse.org)

A company limited by guarantee  
Registered in England No. 125685  
Registered Charity No. 1046999  
Vat No. 86387219

## Programme

1. Welcome and Introduction (Francis How, IRSE CEO; Ali Hessami, Chair Systems Council UK & Ireland Chapter, IEEE)
2. Ethics in engineering (keynote speaker, Hon. Mr Justice Haddon-Cave)
3. Taking safe and ethical decisions in a business-led world (Prof. George Bearfield)
4. Ethics from a technologist's perspective (Paul Campion)
5. The development of the IEEE P7000 standard on "Model Process for Addressing Ethical Concerns during System Design" (Ali Hessami)
6. Panel Discussion

## Venue

EEF, Broadway House, Tothill Street, London SW1H 9NQ.

Please note although this event is free to attend, you will need to register in advance, at <https://bit.ly/2G1b2yd>.

## Our speakers

### Hon. Mr Justice Haddon-Cave



The Hon. Mr Justice Haddon-Cave is a judge serving in the Queen's Bench Division of the High Court of England and Wales. During the 1980s and thereafter he moved progressively into the fields of aviation, insurance, travel law and arbitration. He appeared in many of the aviation route-licensing hearings before the UK Civil Aviation Authority and was involved in law cases that followed major aviation and marine disasters including the Manchester Air Disaster and the Herald of Free Enterprise capsizing.

### Prof. George Bearfield



George Bearfield, a Visiting Professor of Railway System Safety at the University of Huddersfield, is Director of System Safety and Health at the Rail Safety and Standards Board (RSSB) and is responsible for RSSB's work to support the rail industry in all aspects of its health and safety management and assurance processes and capabilities. He has a PhD in Computer Science, specialising in railway risk modelling. He is a Chartered Engineer and an independent expert advisor to National Air Traffic Services.

### Paul Campion



Paul Campion became the Chief Executive of the Transport Systems Catapult in July 2017. His previous experience spans not only leadership roles in IBM's travel and transport on consumer products businesses but also in the IBM software business, financing business and other executive roles. Whilst at IBM he had management roles in the European and worldwide business as well as the UK, and lived and worked in the USA, France and Switzerland.

### Prof. Ali Hessami



Ali Hessami is the Director of R&D and Innovation at Vega Systems. He is an expert in systems assurance and safety, security and sustainability, and has a background in design and development of advanced control systems for business and safety critical industrial applications. He represents the UK on CENELEC and IEC safety systems, hardware and software standards committees and is a group leader for a pan European Cyber Security standard. He is also the Technical Editor for the IEEE P7000 process standard on addressing ethical concerns during system design.