



# Programme of Events 2025/26

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The IET Sussex Network has arranged or planned 10 talks over the 2025/26 season, from September to June. You can register for talks by going to our web site ([engx.theiet.org/local-networks/se3](http://engx.theiet.org/local-networks/se3)) and following the link under 'Our events:'. From our home page you can also find links to the events programmes of our neighbouring IET Networks and other Professional Engineering Institutions that hold talks in our area.

This season, as for the last, our talks are all in-person events, being held either at Crawley College or at the Worthing College (see venue details on our web site). Refreshments are provided before the talks and you have a chance to chat with other members and guests.

All events advertised on these pages are also open to members of the IMechE, BCS, ICE, IMarEST, IOM, RAeS and RCEA and guests are welcome at all events. Where the speakers agrees, we will endeavour to record the talk and post the video on the Sussex Network YouTube channel. Details can be found on our home page.

Please remember that information will be added to the programme as it becomes available, so any downloaded version may be out of date.

The IET accept no responsibility for any loss, injury or inconvenience caused to members or guests in consequence of their attendance at events. Members/guests who are concerned as to the availability of disabled access to any event/visit should enquire in the first instance to the contact email on our home page. Failing this, any committee member will be willing to assist. Registration is required for all meetings, which can be done through our home page.

At the time of writing not all details had been finalised. So if details of a talk are missing then please come back to this page at a later date.

# Events 2025

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| <b>Crawley</b>                                                                                                                                                                                                                                                                                                                                           | <b>Tuesday 9th September</b> | <b>18:30 for 19:00</b> |
| <b>Innovation</b>                                                                                                                                                                                                                                                                                                                                        |                              |                        |
| Ian Lee, Innovation Project Lead - UK Power Networks                                                                                                                                                                                                                                                                                                     |                              |                        |
| Discover how innovation transforms engineering challenges into opportunities. Ian Lee shares insights from his utility and aerospace sector experience, exploring problem solving frameworks, root cause analysis, and design thinking. Learn how to approach complex issues with creativity and purpose to lead the change in a rapidly evolving world. |                              |                        |
| Immersive Space room on the ground floor of the Longely 2 building at Crawley College, College Road, Crawley, West Sussex, RH10 1NR                                                                                                                                                                                                                      |                              |                        |
| Refreshments from 18:30                                                                                                                                                                                                                                                                                                                                  |                              |                        |
| Registration required. Go to the <a href="#">IET Sussex home page</a> and follow links to events.                                                                                                                                                                                                                                                        |                              |                        |

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| <b>Worthing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <b>Tuesday 14th October</b> | <b>18:30 for 19:00</b> |
| <b>How Do machines learn?</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |                        |
| Dr David James, FIET                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |                        |
| It is becoming difficult to find industrial, commercial, and healthcare products that don't claim to incorporate some form of Artificial Intelligence (AI). Much of it might be marketing hype, but AI techniques are being used to model systems that are difficult to describe analytically. And if governments are concerned about the application and verification of such systems then we perhaps need to take them seriously. In the same breath as talking about AI, people also mention Machine Learning (ML). Certainly, any AI application needs to learn about the domain to which it is being applied, but how do you get a piece of software to learn about something in the physical world? This talk will look at one type of AI and, without using too much maths, describe some of the simpler approaches to Machine Learning. |                             |                        |
| First floor, Worthing College, 1 Sanditon Way, Worthing, BN14 9FD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             |                        |
| Refreshments from 18:30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                             |                        |
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# Sussex Network

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| <b>Crawley</b>                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Tuesday 11th November</b> | <b>18:30 for 19:00</b> |
| <b>Cyber Security</b>                                                                                                                                                                                                                                                                                                                                                                                                                                      |                              |                        |
| David Jones and Jomin Madassery Jacob, UK Power Networks                                                                                                                                                                                                                                                                                                                                                                                                   |                              |                        |
| This talk will provide an introduction to cybersecurity and explain how a cyber function operates within an organisation. I'll share insights from my role as an Incident Response Analyst at UK Power Networks, including how we detect, investigate, and respond to security incidents. The session will also include real-world examples such as Stuxnet and the 2015 Ukrainian power grid attack to illustrate the impact of cyber threats on critical |                              |                        |
| Immersive Space room on the ground floor of the Longely 2 building at Crawley College, College Road, Crawley, West Sussex, RH10 1NR                                                                                                                                                                                                                                                                                                                        |                              |                        |
| Refreshments from 18:30                                                                                                                                                                                                                                                                                                                                                                                                                                    |                              |                        |
| Registration required. Go to the <a href="#">IET Sussex home page</a> and follow links to events.                                                                                                                                                                                                                                                                                                                                                          |                              |                        |

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| <b>Worthing</b>                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Tuesday 9th December</b> | <b>18:30 for 19:00</b> |
| <b>Alternative routes to becoming a chartered engineer</b>                                                                                                                                                                                                                                                                                                                                                                                  |                             |                        |
| Jack Elliott & Jack Pettitt                                                                                                                                                                                                                                                                                                                                                                                                                 |                             |                        |
| This presentation explores alternative routes towards a successful engineering career beyond traditional university routes. It highlights vocational qualifications, apprenticeships, technical diplomas, and self-directed learning options. Attendees will discover how these different routes offer varying amounts of practical experience, industry relevance, and versatility while meeting the growing demand for skilled engineers. |                             |                        |
| First floor, Worthing College, 1 Sanditon Way, Worthing, BN14 9FD                                                                                                                                                                                                                                                                                                                                                                           |                             |                        |
| Refreshments from 18:30                                                                                                                                                                                                                                                                                                                                                                                                                     |                             |                        |
| Registration required. Go to the <a href="#">IET Sussex home page</a> and follow links to events.                                                                                                                                                                                                                                                                                                                                           |                             |                        |

## Events 2026

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| <b>Worthing</b>                                                                                                                                                                                                                                                                                                                                                                                          | <b>Tuesday 10th February</b> | <b>18:30 for 19:00</b> |
| <b>How Do Large Language Models Think?</b>                                                                                                                                                                                                                                                                                                                                                               |                              |                        |
| Dr Jeff Mitchell, Assistant Professor in Computer Science & AI (Informatics)<br>School of Engineering and Informatics                                                                                                                                                                                                                                                                                    |                              |                        |
| LLMs have demonstrated amazing abilities, but how do they work? And how does that compare to human abilities?<br>This talk will explain how LLMs are constructed and what that tells us about whether and how they think. We'll discuss how simply learning to fit a model to a huge dataset of text results in something that looks intelligent and try to understand what lies behind that appearance. |                              |                        |
| First floor, Worthing College, 1 Sanditon Way, Worthing, BN14 9FD                                                                                                                                                                                                                                                                                                                                        |                              |                        |
| Refreshments from 18:30                                                                                                                                                                                                                                                                                                                                                                                  |                              |                        |
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| <b>Crawley</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>Tuesday 3rd March</b> | <b>18:30 for 19:00</b> |
| <b>Industrial Process Automation - An Introduction</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                          |                        |
| Dr David James                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                          |                        |
| A chemical engineer might scale up the manufacture of a speciality chemical from lab scale to full production; a process engineer will design the process plant to manufacture the product, including sizing vessels, motors and pumps; a mechanical engineer might design the vessels and pipework; an instrument engineer will specify the sensors and transmitters needed to measure various physical quantities; and an electrical engineer will design the power supplies to motors, pumps and heaters. But it is the automation engineer who makes all these elements come together to manufacture the product. This talk aims to provide an overview of the automation of industrial production by briefly looking at some typical processes and examining the various parts that make up a process control system. |                          |                        |
| Meeting Room, Institute of Technology building at Crawley College, College Road, Crawley, West Sussex, RH10 1NR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                          |                        |
| Refreshments from 18:30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                          |                        |
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| <b>Worthing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Tuesday 14th April</b> | <b>18:30 for 19:00</b> |
| <b>Flight Simulation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                           |                        |
| Jeremy Hopkins                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                           |                        |
| <p>The presentation will briefly describe the use of flight simulation by commercial airlines. It will introduce the main components of the simulator and identify key differences from military aircraft simulators.</p> <p>The speaker will discuss the pros and cons of simulation versus simulation of cockpit avionics and give a brief history of technology progress in the simulation host computing engine. Jeremy intends to give an overview of the architecture of the Boeing 787 flight simulator and provide an overview of simulator use in pilot training.</p> |                           |                        |
| First floor, Worthing College, 1 Sanditon Way, Worthing, BN14 9FD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                           |                        |
| Refreshments from 18:30                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                           |                        |
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| <b>Crawley</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <b>Tuesday 12th May</b> | <b>18:30 for 19:00</b> |
| <b>Automated Vehicles Accessibility</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                         |                        |
| Rebecca Posner, Director of Inclusive Research, Research Institute for Disabled Consumers                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                         |                        |
| <p>Automated vehicles have been promised to revolutionise transport: bringing about significant improvements to road safety, improving access to and the accessibility of transport, addressing the growing issue of congestion within cities and the list goes on. But are the solutions being built today truly laying the groundwork for that future? The technology may be advancing rapidly but whose needs is it actually designed around? An automated vehicle equipped with the latest sensors and AI doesn't inherently inform an anxious passenger they are at the right bus stop. It is not inherently wheelchair accessible. It cannot guide someone to safety in an emergency. These are not edge cases but the everyday realities and real world experiences of the people automated transport is aiming to serve.</p> <p>Automated vehicles present a compelling engineering challenge. Yet without the right questions being asked at the outset, there is a real risk that the industry builds sophisticated solutions to the wrong problems creating critical barriers to trust, uptake and therefore any possibility of achieving the benefits that automation promises.</p> <p>In this talk, Rebecca presents an alternative approach: one that places human needs, experiences, and requirements at the centre of automated transport and challenges those working across engineering and technology to think differently about what genuinely inclusive effective automated transport should look like.</p> |                         |                        |
| Ground floor of the Sussex & Surrey Institute of Technology building at Crawley College, College Road, Crawley, West Sussex, RH10 1NR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |                        |
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| <b>Worthing</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Tuesday 9th June</b> | <b>18:30 for 19:00</b> |
| <b>How to control Permanent Magnet AC Motors</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                         |                        |
| Dr. David Blood - Technical Staff Research Engineer - Parker Motion Technology Centre                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                         |                        |
| <p>How do you control a modern permanent magnet AC motor in vehicle applications such as traction, and ancillary functions such as hydraulic pump control? This talk will take you through the process of motor modelling, control strategies, control loops, field-weakening operation. Possible hazards and their mitigation. These steps will give an overview of how a modern PMAC motor control system is realised.</p> <p>The talk will also try to answer the question, ""Is Electrification here to stay?"" After many false dawns, is the momentum in swapping from internal combustion to electric vehicles now too much to stop or will another era of "cheap oil" stall future developments?</p> |                         |                        |
| First floor, Worthing College, 1 Sanditon Way, Worthing, BN14 9FD                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                         |                        |
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