

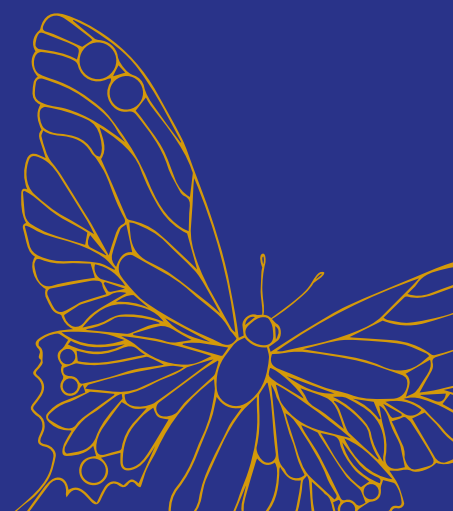
# A celebration of physics

*Where brilliant physics takes flight*



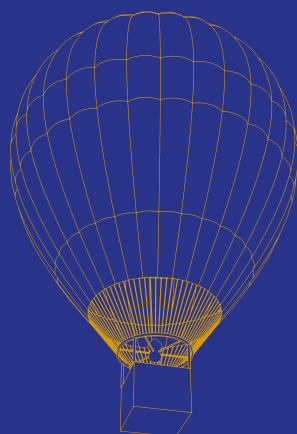
<b>9:30 AM - 11:30 AM</b>	Session for schools		
<b>11:30 AM - 12:10 PM</b>	Talk by Dr Elizabeth Cunningham MInstP on Planets		
<b>12:10 PM - 12:35 PM</b>	Wing Commander Gemma Lonsdale IEng MIET Forged by physics to thrive in its application		
<b>12:15 PM - 1:00 PM</b>	Reception for Award Winners		
<b>1:00 PM - 3:00 PM</b>	Afternoon tea for 2020 - 2022 Award Winners and IOP dignitaries		
<b>1:00 PM - 1:30 PM</b>	Festival opens		
<b>Talks from the IOP's Groups, Nations and Branches (part 1)</b>		<b>Institute of Physics Publishing Sessions</b>	
<b>1:15 PM - 1:30 PM</b>	Aerospace depends on physics Professor Simon Weeks		
<b>1:35 PM - 1:50PM</b>	Forged by physics to thrive in its application Wing Commander Gemma Lonsdale IEng MIET		<b>1:45 PM - 2:30 PM</b> Laura Feetham and Kim Eggleton, IOP Publishing Research Integrity session: 'Clamping down on research misconduct'
<b>1:50 PM - 2:00 PM</b>	Welcome Mr Phil Cooper CPhys MInstP Chair of IOP South West Branch		

<p><b>2:00 PM - 2:15 PM</b></p>	<p>Breaking the Sound Barrier: Improving British Sign Language Support in Undergraduate Physics Teaching</p> <p>Dr Rebecca Dewey CPhys MInstP</p>		
<p><b>2:20 PM - 2:35 PM</b></p>	<p>Communicating Physics: Don't Sweat the Details</p> <p>Dr James Lees MInstP</p>		
<p><b>2:40 PM - 2:55 PM</b></p>	<p>A Decade of Wonder!</p> <p>Dr Mark Telling CPhys FInstP</p>		
<p><b>3:00 PM - 3:25 PM</b></p>	<p>Connecting Communities through Physics: IOP Scotland's Outreach Experiences</p> <p>Mrs Laura Thomas MInstP supported by Mikey Jarrell</p>	<p><b>3:00 PM - 4:00 PM</b></p> <p>Dennis Sherwood, IOP Publishing</p> <p>ebook author Dennis Sherwood on Creativity for Scientists and Engineers</p>	
<p><b>3:35 PM - 3:50 PM</b></p>	<p>Retire to Inspire: Maximizing IOP Benefits for Retired Members</p> <p>Dr Hugh Deighton CSci CPhys FInstP</p>		
<p><b>4:00 PM - 4:30 PM</b></p>		<p>An address by the IOP President, Professor Sheila Rowan CBE FRS FRSE Hon.FInstP</p>	





<b>Talks from the IOP's Groups, Nations and Branches (part 2)</b>		<b>Institute of Physics Publishing Sessions</b>	
<b>4:35 PM – 4:50 PM</b>	Reaching Families and influencers with physics Dr Olivia Keenan MInstP	<b>4:30 PM - 6:00 PM</b>	Careers Session sponsored by Physics World Jobs Matin Durrani
<b>4:55 PM - 5:10 PM</b>	Celebrating 30,000 Girls: The Success of the 'I Am a Physicist' Girlguiding Badge Dr Rebecca Dewey CPhys MInstP		
<b>5:15 PM - 5:40 PM</b>	Join the Mission: Creating a Special Interest Group for the Space Science Domain Mrs Ada Elliott MInstP		
<b>5:45 PM - 6:00 PM</b>	The pathway to delivering fusion energy Dr Ian Chapman FInstP		
<b>6:00 PM - 6:10 PM</b>	Close Dr Elizabeth Cunningham MInstP		



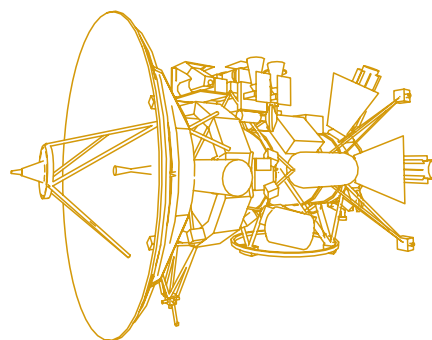
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## Talk by Dr Elizabeth Cunningham MInstP

### On Planets

**11:30 AM - 12:10 PM**

Elizabeth will take you on a personal journey through her career in physics, sharing her experiences, and those of her physics community, to show how different people can make a life out of physics. As a subject, physics can open the doors to many wonderful and amazing worlds and while you never know where a career in physics will take you, Elizabeth will show that whatever path you chose, making a life out of physics can be fascinating, rewarding and extremely fun! Dr Elizabeth Cunningham is a nuclear physicist working at the University of Surrey for the Science and Technology Facilities Council. In a varied career studying astronomy, astrophysics and nuclear physics she has examined the exotic nuclear matter created in stars at Canada's National Nuclear Physics Laboratory, completed her doctorate in theoretical Nuclear Astrophysics at the University of Surrey and worked as a Planetarium Astronomer at the Royal Observatory Greenwich. She has also carried out research into the atmosphere of Saturn's largest moon Titan at Imperial College London. She currently enjoys the privilege of serving as the Vice-President for Membership at the Institute of Physics.



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## Talks from the IOP's expert Groups, Nations and Branches

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### **Professor Simon Weeks** **Chief Technology Officer** **Aerospace Technology Institute**

Aerospace depends on physics

**1:15 PM - 1:30 PM**

Professor Simon Weeks is Chief Technology Officer for the Aerospace Technology Institute (ATI), accountable for technical direction of the UK's national aerospace technology strategy and £5Bn+ programme. Previously, Simon held senior engineering & technology roles with Rolls-Royce, including Global Head of Aerospace Research & Technology, Director of Engineering Operations for Aero Engine Controls and Technical Director for Eurojet, where he led the development of the EJ200 engine for the Eurofighter Typhoon. Simon is a Visiting Professor in Engineering Science at Oxford University, a chartered engineer and a Fellow of the RAeS and Cambridge Institute for Sustainability Leadership.



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### **Wing Commander Gemma Lonsdale IEng MIET**

Forged by physics to thrive in its application

**1:35 PM - 1:50 PM**

A career in aviation.



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### **Mr Phil Cooper CPhys MInstP from South West branch**

Welcome

**1:50 PM - 2:00 PM**

Setting the scene, celebrating the member networks.



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## Dr Rebecca Dewey MInstP

### Breaking the Sound Barrier: Improving British Sign Language Support in Undergraduate Physics Teaching

**2:00 PM - 2:15 PM**

Are you aware of the need for better British Sign Language (BSL) support in undergraduate physics teaching? Join us for a talk on breaking down barriers and improving access to physics education for the deaf and hard-of-hearing community.

Discover the challenges faced by BSL users in understanding complex physics concepts and learn about potential solutions for enhancing BSL support in teaching. Don't miss this opportunity to be a part of creating a more inclusive physics community for all.



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## Dr James Lees MInstP

### Communicating Physics: Don't Sweat the Details

**2:20 PM - 2:35 PM**

Science Communication isn't always easy and it can be easy to get lost in the weeds of the topic you're discussing.

Here however we'll discuss just how much detail is really needed, or even useful, in our outreach activities and how we can use the principle of narrative design and science capital to simply improve the impact of activities.



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## Dr Mark Telling CPhys FInstP

### A Decade of Wonder!

**2:40 PM - 2:55 PM**

Join us to hear about the IoP's "3 Minute Wonder" science communication competition; a UK and Ireland-wide initiative which challenges researchers or project team members in academia, business and/or industry, and working in a physics-related field, to explain their work to the general public in just three minutes. Now entering its second decade of competition, this talk will consider the history of the competition, the benefits of cross Nation and Branch collaboration, the success of the event and the challenges and lessons learned running such a wide reaching activity!



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**Mrs Laura Feetham from IOPP  
supported by Mikey Jarrell**

Connecting Communities through Physics:  
IOP Scotland's Outreach Experiences

**3:00 PM - 3:25 PM**

The IOP Scotland committee would like to share examples of their experiences working together to bring physics to a range of difference audiences. This is achieved through a range of different public engagement and schools outreach activities.

Hear examples of the projects and details of how committee members and IOP staff collaborate to bring them about. IOP Scotland committee members come from a range of different backgrounds and experiences and this breadth benefits the work of the committee and the talk will share stories of different committee members and their motivations for being involved with the IOP.



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**Dr Hugh Deighton CSci CPhys FInstP**

Retire to Inspire: Maximizing IOP Benefits  
for Retired Members

**3:35 PM - 3:50 PM**

Join us for a talk on the available services and events catered to retired members of IOP. Discover the benefits of REMNet and its various resources, including a description of CPD for retired members.

Learn how to make the most out of your membership and continue to inspire others with your physics knowledge and experience. Don't miss this chance to connect with other retired members and stay involved in the physics community.



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**Professor Sheila Rowan CBE FRS FRSE Hon.FInstP**

**4:00 PM - 4:30 PM**

An address by the IOP President.



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## Dr Olivia Keenan MInstP

### Reaching Families and influencers with physics

**4:35 PM - 4:50 PM**

To engage young people with physics it's essential that we reach their families and key influencers.

Science festivals and science themed events are a fantastic way to reach public audiences but are most likely to be attended by families with high science capital who will encourage their young people's science aspirations without any input from us.

The South Central branch were keen to reach families who don't visit science spaces and create a programme which can support their science confidence when engaging with their children. To do this we partnered with Surrey libraries and introduced science stories into their regular early years story telling sessions. These were great fun to run and we measurably improved the accompanying adults self-reported science confidence.



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## Dr Rebecca Dewey CPhys MInstP

### Celebrating 30,000 Girls: The Success of the 'I Am a Physicist' Girlguiding Badge

**4:55 PM - 5:10 PM**

Join us for a celebratory talk on the success of the 'I Am a Physicist' Girlguiding badge, which has now reached over 30,000 girls! Discover the impact of the badge and how it's promoting girls' interest and participation in physics. Hear inspiring stories

from those who have completed the badge, and learn about the different activities and resources available to help you deliver the programme. Celebrate the positive impact of this initiative on young girls' perceptions of physics and STEM, and be inspired to continue empowering the next generation of female physicists.





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## **Mrs Ada Elliott MInstP**

### Join the Mission: Creating a Special Interest Group for the Space Science Domain

**5:15 PM - 5:40 PM**

Join us for a talk on creating a special interest group for the space science domain. Discover the benefits of collaborating with like-minded individuals and forming a community centred around the latest advancements and innovations.

Learn about the potential goals and initiatives of the group and how you can get involved in shaping its direction. Don't miss this opportunity to connect with fellow space science enthusiasts and make a difference in the future of space understanding and exploration.



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## **Dr Ian Chapman FInstP**

### The pathway to delivering fusion energy

**5:45 PM - 6:00 PM**

Fusion offers the potential of sustainable, low-carbon, abundant energy. This talk will outline some breakthrough achievements from the past two years, describe the technical challenges which still lie ahead and outline some exciting plans for delivering fusion energy.



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## **Dr Elizabeth Cunningham MInstP**

### Summary of session and close

**6:00 PM - 6:10 PM**

Bringing it all together for the benefit of member networks.

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# Institute of Physics Publishing Sessions

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## Laura Feetham and Kim Eggleton, IOP Publishing

Research Integrity session:  
'Clamping down on research misconduct'

**1:45 PM - 2:30 PM**

Global research output has increased drastically in recent years, and while this has meant an acceleration in scientific development, it has also led to an increase in research misconduct.

In this session, Kim Eggleton and Laura Feetham (Reviewer Engagement Manager, IOP Publishing) will discuss the various forms of research misconduct that we are seeing in scientific publishing, including emerging threats such as paper mills and AI chatbots. The talk will highlight the hallmarks of misconduct in submitted manuscripts, how to spot them during peer review, and what we as publishers are doing to weed out misconduct and maintain the integrity of the scientific record.



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## Dennis Sherwood, IOP Publishing

ebook author Dennis Sherwood on  
Creativity for Scientists and Engineers

**3:00 PM - 4:00 PM**

Dennis Sherwood, author of the recently published and Business Book Award winning *Creativity for Scientists and Engineers: A practical guide*, is one of the UK's leading experts on creativity and innovation. As well as being a prolific journal and book author, Dennis has for the last 20 years been running his own consulting firm, The Silver Bullet Machine Manufacturing Company Limited, working with organisations to generate great ideas, to evaluate them wisely, and to build a sustainable culture in which safe creativity and effective innovation flourish.



Dennis believes all scientists and engineers are creative. You wouldn't be a scientist or engineer if you weren't. But can you be even more creative? Do you know how to develop creativity in those less confident? And how to build a team culture in which creativity flourishes?

In this 60-minute session Dennis will give you an overview on some of the key processes for generating ideas, distinguishing good ideas from weak ones, how to have good ideas on demand, and how to build a sustainable innovation culture. There will be 15-minutes for Q&A at the end.

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## Matin Durrani, Editor-in-chief, Physics World

Careers Session sponsored by Physics World Jobs

**4:30 PM - 6:00 PM**

1. 'Tales of the Unexpected' – Physics World talks about moments of serendipity that were key in shaping the lives and careers of a number of physicists across the globe.
2. Careers in Scientific Publishing – hear from a number of people who work at IOP Publishing followed by a panel session for Q&A about working in publishing.

