



The [IEEE UK and Ireland Photonics Chapter](#) is proud to announce the inaugural IEEE flagship conference on optics and photonics for the UK and Ireland reporting on disruptive advances in optics and photonics across diverse fields, including: *Communications; Laser; Photonic Integrated Circuits; Sensors; Medicine; Manufacturing; and Quantum Photonics.*

The [1st IEEE British and Irish Conference on Optics and Photonics \(BICOP 2018\)](#) will be held on the **12th – 14th December 2018** at the prestigious **Royal Society** in **London** and will include talks from industry and academia including **IBM, BT, Microsoft, BAE Systems, Toshiba, Huawei, Seagate, Senko, PureLifi, Kaiam, IQE, NPL, Cobham, mBryonics, University of Cambridge, University College Cork, University of Southampton, University of St Andrews** and the **Fraunhofer Institute.**



**Carol Monaghan MP (Member of Parliament)** will open the conference. As Chair of the All Party Parliamentary Group on Photonics, Carol has received global recognition for her public policy leadership and efforts in support of the advancement of the science of light.

**Dr Maggie Aderin-Pocock MBE** will be giving the plenary talk “**Tripping the Light Fantastic: Understanding the Universe**”. She is a well-known scientist and broadcaster, who has also fronted a number of space documentaries, and regularly appears on science and non-science programmes.



Register at <https://ieebicop.com>

## Conference Programme

### Day 1

Wednesday 12<sup>th</sup> December 2018

<b>Session 1</b>	<b>Introduction</b>		
<b>Chair</b>	Richard Pitwon (Resolute Photonics)		
<b>Time</b>	<b>Talk</b>	<b>Speaker</b>	<b>Affiliation</b>
08:45 – 09:00	Welcome	Richard Pitwon	IEEE
09:00 – 09:10	Conference opening	Carol Monaghan MP	Member of Parliament (MP)
09:10 – 09:50	<b>Tripping the Light Fantastic: Understanding the Universe</b>	Maggie Adrin-Pocock MP	Science educator and broadcaster

<b>Session 2</b>	<b>Optical Communications</b>		
<b>Chair</b>	Richard Pitwon (Resolute Photonics)		
<b>Session 2A</b>	Optical networks - Keynote talk		
10:00 – 10:40	From quantum physics to 5G - what will optical communications look like in the future?	Andrew Lord	BT
10:40 – 11:00	Coffee break / poster / networking		
<b>Session 2B</b>	Optics in the Cloud		
11:00 – 11:40	A view from the Cloud: opportunities and challenges for optics	Ben Thompson	Microsoft
11:40 – 12:00	System, board and chip level migration of optical interconnect in Cloud data centres	Richard Pitwon	Resolute Photonics
12:00 – 12:20	Heat Assisted Magnetic Recording	Mark Gubbins	Seagate
12:20 – 12:40	Development of All-Semiconductor Photonic Crystal Surface Emitting Lasers	Richard Taylor	University of Glasgow

12:40 – 13:40	Lunch / Posters / Networking		
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<b>Session 3</b>	<b>Optical Interconnect</b>		
<b>Chair</b>	Susannah Heck (Compound Semiconductor Technologies)		
<b>Session 3A</b>	Free space and wired optical connections		
13:40 – 14:20	LiFi: Status and Outlook	Harald Haas	The University of Edinburgh / LiFi Research and Development Centre
14:20 – 14:40	Bridging the Gap: A Story of Connectivity	Bernard Lee	Senko
14:40 – 15:00	Optical satellite communication	Ruth Mackey	mBryonics
15:00 – 15:10	Special Talk: Women in Photonics	Lidia Galdino	IEEE - Women in Photonics Initiative

15:10 – 15:40	Coffee break / poster / networking
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<b>Session 3B</b>	Optical devices		
15:40 – 16:20	Moore's law and photonic integration - how can photonic interconnects keep up with electronic switching?	Dr Bardia Pezeshki	<b>Kaiaam</b>
16:20 – 16:40	Mid-board Transceiver and Routing technologies for chip-to-chip optical interconnection	Theoni Alexoudi	<b>Aristotle University of Thessaloniki (AUTH)</b>
16:40 – 17:00	Enhanced Extinction Ratio in an Asymmetric Mode-Locked Laser by Modulating Two Saturable Absorbers	Lars Nielsen	<b>Aarhus University</b>

## Day 2

### Thursday 13<sup>th</sup> December 2018

<b>Session 4</b>	<b>Integrated Optics and Photonics</b>		
<b>Chair</b>	Liam O'Faolain (Cork Institute of Technology)		
08:45 – 09:00	The IEEE Photonics Society: a brief introduction to its organisation and mission	Martin Dawson	VP Conferences - IEEE Photonics Society
<b>Session 4A</b>	Photonic Integrated Circuits		
09:00 – 09:40	From wafer scale testing to programmable circuits in Silicon Photonics	Graham Reed	<b>University of Southampton</b>
09:40 – 10:20	Advances in Indium Phosphide Photonic Integrated Circuits	Mike Wale	<b>Technical University Eindhoven</b>

10:20 – 11:00	Coffee break / poster / networking
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<b>Session 4B</b>	Optical computing / Advanced materials		
11:00 – 11:40	Integrated Photonics for Acceleration of Neural Network Training	Folkert Horst	<b>IBM</b>
11:40 – 12:20	Graphene and Related Materials for Photonics and Optoelectronics	Andre Ferrari	<b>University of Cambridge</b>
12:20 – 12:40	Non-linear Metasurfaces Based on Epsilon-Near-Zero Thin Films	Sebastian Schulz	<b>University of St Andrews</b>

12:40 – 13:40	Lunch / Posters / Networking
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<b>Session 5</b>	<b>Integrated Optics and Photonics II</b>		
<b>Chair</b>	Mike Wale (Technical University of Eindhoven)		
<b>Session 5A</b>	Quantum communications		
13:40 – 14:20	Entangled light emitters for quantum communication networks	Mark Stevenson	<b>Toshiba</b>
14:20 – 14:40	Photonics for 5G. Optical network solutions, novel photonic technologies and the role of photonic devices as a cost-efficiency enabler	Spiros Mikroulis	<b>Huawei</b>
14:40 – 15:00	SEREEL2 - making laser single-event effects testing available to the many	Richard Sharp	<b>Cobham RAD Solutions</b>

15:00 – 15:40	Coffee break / poster / networking
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<b>Session 5B</b>	<b>Medical photonics and sensors</b>		
15:40 – 16:00	Recent developments in Healthcare Photonic	Tom Harvey	<b>CPI</b>
16:00 – 16:20	Progress towards a state-of-the-art miniature caesium clock	Mohsin Haji	<b>NPL</b>
16:20 – 16:40	The CAOS Camera - Unleashing the Power of Full Spectrum Extreme Linear Dynamic Range Imaging	Nabeel Riza	<b>University College Cork</b>
16:40 – 17:00	Carbon Nanotubes Deposited Optical Fibers for Continuous Refractive Index Sensing Applications	Kin Kee Chow	<b>Manchester Metropolitan University</b>

## Day 3

Friday 14<sup>th</sup> December 2018

<b>Session 6</b>	<b>Assembly and manufacture</b>		
<b>Chair</b>	Jose Pozo (EPIC)		
<b>Session 6A</b>	<b>Chip level assembly and manufacture</b>		
08:40 – 09:20	Photonic integrated circuit packaging	Peter O'Brien	<b>Tyndall Institute</b>
09:20 – 09:40	'CSConnected'- building a Compound Semiconductor technology cluster in South Wales	Wyn Meredith	<b>Compound Semiconductor Cluster</b>
09:40 – 10:00	Compound Semiconductor Manufacturing: Enabling Pervasive Photonics-based Applications	Iwan Davies	<b>IQE</b>

10:00 – 10:25	<b>Coffee break / posters / networking</b>		
10:25 – 10:30	<b>Awards</b> Best Paper, Best Poster and Best Invited Talk		

<b>Session 6B</b>	<b>Board and chip level optical circuits</b>		
10:30 – 11:00	Port count scalable InP photonic switches for data centre networks	Richard Penty	<b>University of Cambridge</b>
11:00 – 11:20	Advances in 3D optical circuit board waveguide technologies	Takaaki Ishigure	<b>Keio University (Japan)</b>
11:20 – 11:40	Thin Glass-based Photonic System Integration	Henning Schröder	<b>Fraunhofer IZM</b>
11:40 – 12:00	Towards 3D optical integration by micro-transfer printing of ultra-thin membrane devices	John McPhillimy	<b>University of Strathclyde</b>
12:00 – 12:05	<b>CLOSING REMARKS</b>	Richard Pitwon	<b>IEEE</b>