Emerging materials for optoelectronics applications

1-3 July 2026 | Edinburgh, UK

Faraday Discussions

Wednesday 1 July 2026 (all timings are BST)

11:00	Registration and refreshments
12:00	Lunch
12:45	**Welcome and introductions** Mirjana Dimitrievska, *Chair of Scientific Committee*
12:55	**Outline of Discussion format** Names, *Royal Society of Chemistry Publishing Editors*
13:00	**Introductory lecture – Spiers Memorial lecture** (Session chair:) Anna Fontcuberta i Morral *EPFL, Switzerland*
	Session 1: Computational design and modelling of next generation optoelectronic materials (Session chair:)
14:00	**TBC** Julia Wiktor *Chalmers University of Technology, Sweden*
14:05	**Dynamic band-gap control in anharmonic Semiconductors via polar electron-phonon coupling** Claudio Cazorla *Universitat Politècnica de Catalunya, Spain*
14:10	**Hydroxylation-Driven Type-I to Type-II Band Alignment Transition in WS2/m-plane ZnO Heterostructures** Dedi Sutarma *University of Duisburg-Essen, Germany*
14:15	Discussion
15:30	Refreshments
16:00	**On the possibility of hybrid chalcogenide perovskite photovoltaics** Alexander M Ganose *Imperial College London, UK*
16:05	**A Fully Quantum Mechanical Framework for Predicting Electron Transfer and Recombination in Organic Semiconductors** Anna Leo *University of Salerno, Italy*
16:10	**Computational screening of organic crystalline materials for photocatalytic water splitting** James Green *Imperial College London, UK*
16.15	Discussion
17:30	Lightning presentations (by invitation of the Scientific Committee)
18:00	Poster session and wine reception
19:30	Close

Thursday 2 July 2026 (all timings are BST)

	Session 2: Advances in experimental design and synthesis of optoelectronic materials (Session chair:)
09:00	**Measuring the liquidus of the Ba-Zr-S system and implications for flux-assisted growth of $BaZrS_3$** Rafael Jaramillo *MIT, USA*
09:05	**Low Temperature Solution-Processing and Characterization of ABX_3 Chalcogenide Thin Films** Rakesh Agrawal *Purdue University, USA*
09:10	**The Effect of the Sulfur Source on $BaZrS_3$ Low-Temperature Crystallization: H_2S vs. Elemental Sulfur** Anat Itzhak *Technical University of Denmark, Denmark*
09:15	**Composition Dependence of Electronic Defects in $BaZrS_3$ Thin Films Sulfurized from Oxide Precursors** Adriana Röttger *Helmholtz-Zentrum Berlin, Germany*
09:20	Discussion
11:00	Refreshments
11:30	**TBC** Jannika Lauth *Universität Tübingen, Germany*
11:35	**Exploration of the (Sb, Bi)2(S, Se)3 system for photovoltaics and SWIR sensors** Jessica de Wild *IMEC, Belgium*
11:40	**Synergistic Dual-Additive Engineering of Quasi-2D/3D Phases for Efficient and Spectrally Stable Pure-Blue Perovskite Light Emitting Diodes** Byungha Shin *KAIST, South Korea*
11:45	Discussion
13:00	Lunch
	Session 3: Advanced characterization techniques of optoelectronic materials (Session chair:)
14:00	**TBC** Jessica Boland *The University of Manchester, UK*
14:05	**THz spectroscopy and deviation from Drude model of LT-GaAs thin films with sub-picosecond charge-carrier lifetime** Jasmin-Clara Buerger *University of Oxford, UK*
14:10	**Atomic structure and structural disorder vs. device efficiency in Kesterite monograin solar cells** Susan Schorr *Helmholtz-Zentrum Berlin for Materials and Energy, Germany*
14:15	Discussion
15:30	Refreshments
16:00	**Mapping the Energetic Defect Landscape of Pb-free HaPs Using Modulated and Time-resolved Surface PhotoVoltage Spectroscopy** Igal Levine *The Hebrew University of Jerusalem, Israel*

16:05	**High-efficiency hybrid halide perovskites: a complex material with a simple start in the crystallization process** Ana Palacios Saura *Helmholtz-Zentrum Berlin, Germany*
16:10	**Combining ultra-wide bandgap semiconductors and electrospun carbon nanofibers for photodriven charge-transfer-applications** Simon Hager *Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany*
16:15	Discussion
17:30	Close of sessions
19:30	Conference dinner

Friday 3 July 2026 (all timings are BST)

	Session 4: Accelerating materials design with data science (Session chair:)
09:00	**A self-driving laboratory for thin film optoelectronic materials** Jonathan Staaf Scragg *Uppsala universitet, Sweden*
09:05	**AI-guided screening of chalcogenide perovskites as solar energy materials** Diego AlejandroGarzón Castellanos *INL- International Iberian Nanotechnology Laboratory, Portugal*
09:10	**Discovering new photovoltaics using optimal transport theory** Keith Butler *University College London, UK*
09:15	Discussion
10:30	Refreshments
11:00	**TBC** Kevin Maik Jablonka *Jena Center for Soft Matter, Germany*
11:05	**Accelerating daily experimental materials research with the open NOMAD Oasis data infrastructure** Lena Angelika Mittmann *DTU, Denmark*
11:10	Discussion
12:00	**Concluding remarks lecture** (Session chair:) Andriy Zakutayev *National Renewable Energy Laboratory, USA*
12:30	**Acknowledgements and presentation of poster prizes**
12:45	**Close of meeting and lunch**

Please note that this is a draft programme and timings may change.