

## 2024 Oxford Solar Research Symposium

### Detailed Program

#### Monday, September 30

##### Welcome Session:

9:00am – Sebastian Bonilla      *University of Oxford*  
Welcome to 2024 Oxford Solar Research Symposium

9:10am – Matthew Wright      *University of Oxford*  
Overview of program + history of Queen's College

9:25am – Matthew Shaw      *Queen's College Librarian*  
Explanation of book curation

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#### Session 1: Silicon Solar Cells

9:30am – Alison Ciesla      *UNSW*  
“Hydrogen behaviour in silicon solar cells”

9:45am – Sophie Pain      *University of Warwick*

“Hafnium oxide: A thin film passivating dielectric with controllable etch resistance”

10:00am – Bruno Vicari Stefani      *CSIRO*

“Analysis of trends in the specific weight of silicon solar modules”

10:15am – Yifu Shi      *University of Oxford*

“Extracting Contact Recombination from FFT-filtered Photoluminescence Imaging of Half-Metallised Si Solar Cells”

10:30am – Yuelin Xiong      *University of Oxford*

“Investigation of Cu diffusion at the Cu/Si interface”

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10:45am – Coffee Break

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## Session 2: Perovskite Solar Cells

11:15am – Freya Leyland      *HZB*

“Encapsulation and stability testing of perovskite-based solar cells”

11:30am – Syed Nazmus Sakib      *University of Macquarie*

“Rapid Microwave Processing of Perovskite Materials for Solar Cells”

11:45am – Jae Sung Yun      *University of Surrey*

“Exploring Opportunities With Halide Perovskite Solar Cells in Emerging Space Applications”

12:00pm – Dong Kuk Kim      *National Physical Laboratory*

“Understanding the Dynamics of Nanoscale Surface Photovoltage in Wide Bandgap Perovskite Films”

12:15pm – Gregory Wilson      *CSIRO*

“Toward Tandem Devices: Lessons in Solution-less Perovskite Deposition Processes”

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12:30pm – 1:30pm – Lunch

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Punting

1:45pm – Walk to Punting

Magdalen Bridge Boathouse, High St, Oxford OX1 4AU

2:00pm – Punting



3:00pm – Walk back to Queen’s College

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### Session 3: Tandem Solar Cells

3:30pm – Meriç Firat                      *Oxford PV*  
“R&D-Enabled Product Development at Oxford PV”

3:45pm – Shona McNab                  *UNSW*  
“Singlet Fission Tandems: An Alternative Approach to >30% efficiency”

4:00pm – Darshit Trevadia              *University of Oxford*  
“Sentaurus TCAD models for silicon-perovskite tandem solar cells”

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4:15pm – Coffee Break

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### Session 4: Tandem + Silicon

4:45pm – Theo Hobson                  *University of Oxford*  
“Aluminum-doped ZnO for Tandem Applications”

5:00pm – John O’Sullivan              *University of Oxford*  
“Electrostatically doped graphene as a novel transparent conducting electrode for tandem PV cells”

5:15pm – Phillip Hamer                  *UNSW*  
“Intrinsic Recombination and the Single-Diode Model - Better off apart”

5:30pm – Jingyan Chen                  *University of Oxford*

## “Charged Oxide Inversion Layer Using Hot-Corona Method”

5:45pm – Jiali Wang

*The Australian National University*

“Inkjet-Printed Localized Poly-Si Passivating Contacts for Silicon Solar Cells”

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6:00pm – Turf Tavern



## Tuesday, October 1

### Session 5: Characterisation + Machine Learning (together at last)

9:30am – Matthew Sharpe      *Surrey Ion Beam Centre*  
“Time of Flight Elastic Recoil Detection Analysis at the Surrey Ion Beam Centre”

9:45am – Callum McAleese      *Surrey Ion Beam Centre*  
“Time-of-Flight Elastic Recoil Detection Analysis and Rutherford Backscattering Spectrometry to Characterise AlGaAsBi Avalanche Photodetectors”

10:00am – Jakub Jagiello      *Surrey Ion Beam Centre*  
“Measuring Crystal quality and defect density of amorphised Ga implanted Si using Rutherford Backscattering Spectrometry / Channelling”

10:15am – Brendan Wright      *UNSW*  
“Machine Learning Applications for PV Systems Analysis”

10:30am – Arya Thampi      *World Scientific Publishing UK*  
“Generative AI in academic publishing”

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10:45am – Coffee Break

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### Session 6: Silicon Solar Cells

11:15am – Ning Song      *UNSW*  
“Multifunctional coating on Solar module glass”

11:30am – Yiyu Zeng      *UNSW*

“Silver Coated Aluminum Powder for PV Paste”

11:45am – Xinya Niu *University of Oxford*

“Oxide-Nitride Nanolayer Stacks for Enhanced Passivation of p-Type Surfaces in Silicon Solar Cells”

12:00pm – Nicholas Grant *University of Warwick*

“Nature of Al<sub>2</sub>O<sub>3</sub> surface passivation for high efficiency silicon photovoltaics”

12:15pm – Yan Wang *University of Oxford*

“Impact of precursor purging pressure on the surface passivation of AZO/Al<sub>2</sub>O<sub>3</sub> stacks formed using atomic layer deposition”

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12:30pm – 1:30pm – Lunch

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## Session 7: Perovskite Solar Cells

1:30pm – Marília Braga *Fotovoltaica-UFSC*

“Performance of perovskite solar devices under real-world conditions and the impact of high irradiance levels on the performance of PV devices”

1:45pm – Rahul Nambiar *University of Oxford*

“Interdiffusion control in sequentially evaporated organic-inorganic fully vacuum deposited perovskite solar cells”

2:00pm – Nicola Courtier *University of Oxford*

“Modelling and simulation of perovskite solar cells”

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2:15pm – Coffee Break

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Session 8: Silicon Solar Cells

2:45pm – Hugh Gottlieb            *UNSW*

“Series resistance power loss analysis from daylight photoluminescence imaging”

3:00pm – Zhuangyi Zhou            *UNSW*

“Defect Characterisation in Silicon Using Deep Level Transient Spectroscopy (DLTS)”

3:15pm – Tarek Abdul Fattah            *University of Oxford*

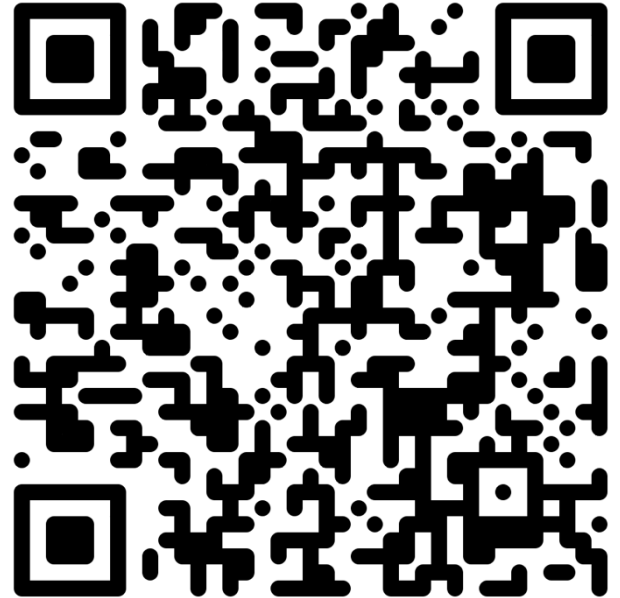
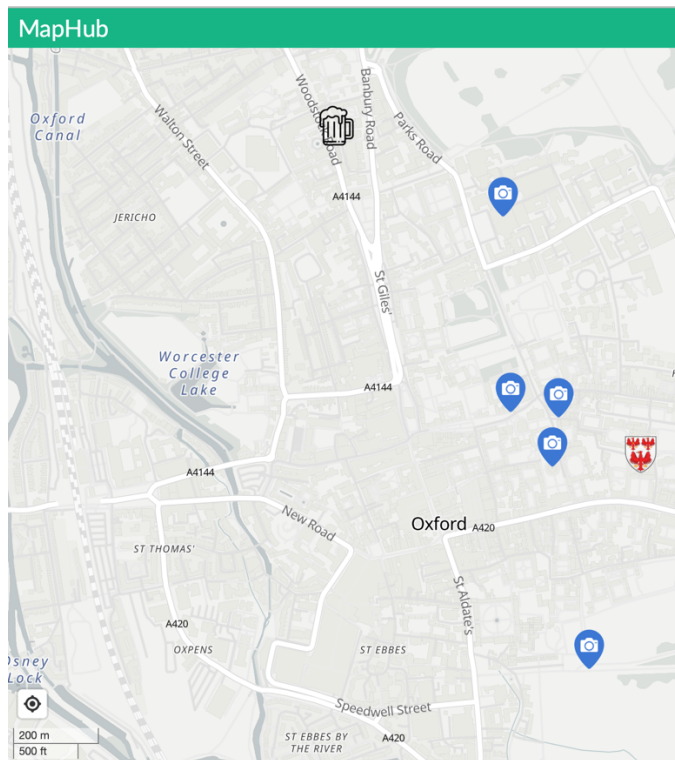
“Low temperature PL as a tool to investigate dopant characteristics in silicon”

3:30pm –

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## 3:45pm Treasure Hunt



Link to the treasure hunt map: [click here](#)