



SU2P [ěs ū tōō pē]: an innovative bridging project connecting Scottish and Stanford Universities;  
an industry-academic interaction; entrepreneurial activity in photonics

### **Sixth Annual SU2P Symposium**

Monday 23<sup>rd</sup> and Tuesday 24<sup>th</sup> March 2015

**Medical and Biological Science Building**, University of St. Andrews



Building on the last five highly successful Annual SU2P Symposia, we are pleased to announce the opening of registration for the Sixth Annual SU2P Symposium which will be held on the 23<sup>rd</sup> and 24<sup>th</sup> March 2015 at The University of St. Andrews. The Symposium again includes a list of exceptional speakers from around the world who will present leading edge research and industrial exploitation over a wide range of photonics and related topics. Attendees will enjoy the very best in new photonics and have excellent opportunities for international networking.

**Places are strictly limited, so reserve your place today using this link:**

[http://onlineshop.strath.ac.uk/browse/extra\\_info.asp?compid=1&modid=2&deptid=153&catid=22&prodid=381&searchresults=1](http://onlineshop.strath.ac.uk/browse/extra_info.asp?compid=1&modid=2&deptid=153&catid=22&prodid=381&searchresults=1)

SU2P is a collaboration of five universities that delivers a disruptive new approach to business engagement, with facilitated, flexible interactions between UK industry and university researchers in Scotland and the US.

The Universities of Strathclyde, St Andrews, Heriot-Watt, Glasgow and Stanford, are collaborating in SU2P in the self-funded continuation of the programme initially funded by RCUK. This groundbreaking, commercially-oriented collaboration commenced in September 2009 and builds on Scottish universities' world-class research outputs in photonics and strong links to Stanford.

### **Programme Outline**

Each day will have theme focussed sessions, each having a mixture of international and leading academic speakers and presentations from the SU2P Industrial Partners, with student presentations also featuring along with a lunchtime poster session.

#### *Monday 23<sup>rd</sup> March*

The opening day will focus on the "Health" and "ICT" themes from SU2P and on Industry,

- 9.00am Registration opens and refreshments; 9.30 am Welcome and Keynote; 6.00 pm close
- 7.30pm Symposium Banquet in Lower College Hall, University of St Andrews

#### *Tuesday 24<sup>th</sup> March*

The second day will focus on the "Photonics for Security and Dual Use Technologies", "Solid State Lasers and Non-Linear Optics" and "Photonics for Energy and Environment" themes from SU2P.

- 8.30 am refreshments; 9.00am sessions commence; 5.00pm Close



The SU2P Symposium list of speakers includes:

- Univ.-Prof. Dr. Wolfgang DREXLER , Medical University of Vienna
- Prof. Baljean Dhillon, Professor of Clinical Ophthalmology at University of Edinburgh and Hon. Professor at Heriot Watt University
- Prof. Olav Solgaard, Stanford University
- Prof. Leo Hollberg, Stanford University
- Dr. Michael Toney, Stanford Synchrotron Radiation Lightsource
- Prof. Alexander (Sasha) Sher, University of California Santa Cruz
- Prof Adrian Podoleanu, University of Kent
- Prof. Henry Snaith, University of Oxford
- Prof. Dominic O'Brien MA PhD, University of Oxford
- Prof. Sven Höfling, University of St Andrews
- Alastair Sinclair, National Physical Laboratory
- Prof. Andrea Ferrari, University of Cambridge
- Prof James Wilkinson, ORC, University of Southampton
- Prof. Dr. Thomas Südmeyer, Université de Neuchâtel
- Prof. Bill MacDonald, Business Research Associate, DuPont Teijin Films
- Prof Miles Padgett, University of Glasgow and QT Hub
- Dr. Alireza Marandi, Stanford University
- Dr. Antonio Hurtado, Institute of Photonics
- Dr. Stefan Pulver, University of St Andrews
- Dr. Eli Zysman-Colman, University of St Andrews
- Ian Redmond, Ceres Imaging Ltd.



## SYMPOSIUM AGENDA

Monday 23 <sup>rd</sup> March 2015		
09.00	Breakfast & registration	
09.45	Welcome	Professor Garry Taylor Master of the United College, University of St Andrews
10.00	Keynote talk	Univ.-Prof. Dr. Wolfgang DREXLER , Medical University of Vienna
10.45	Poster Summaries 1	1 minute poster summaries
11.00	Refreshments, Exhibition and Poster Session	
11.30	Session 1: Health Chair: Prof. Frank Gunn-Moore	11.30 Prof. Alexander (Sasha) Sher, University of California Santa Cruz: <i>Retinal restructuring following selective ablation of photoreceptors</i>
		12.00 Prof Adrian Podoleanu, University of Kent: <i>A new optical coherence tomography method, Master/Slave</i>
		12.30 Prof. Baljean Dhillon, Professor of Clinical Ophthalmology at University of Edinburgh and Hon. Professor at Heriot Watt University: <i>What's new in eyes?</i>
		13.00 Dr Stefan Pulver, University of St Andrews: <i>Neural control of directed locomotion in Drosophila larvae</i>
		13.15 Session 1 close
13.20	Lunch, Exhibition and Poster Session	
14.30	Poster Summaries 2	1 minute poster summaries
14.45	Industry Session	14.45 Converge Challenge: Alexander Ward, Razorbill Instruments Ltd
		15.05 SE/RSE Enterprise Fellowship: Michael Gilroy, Chief Engineer, Silent Herdsman
		15.30 Industry Session Close
15.30	Refreshments, Exhibition and Poster Session	
16.00	Session 2: ICT Chair: Dr. Marc Sorel	16.00 Prof. Olav Solgaard, Stanford University: <i>Implantable sensors for longitudinal in-vivo studies</i>
		16.40 Prof. Dominic O'Brien MA PhD, University of Oxford: <i>Optical Wireless Communications: Status and Challenges</i>
		17.10 Prof James Wilkinson, ORC, University of Southampton: <i>Integrated Photonic Devices</i>
		17.30 Prof. Sven Höfling, University of St Andrews: <i>Exciton Polariton Lasers</i>
		17.50 Session 2 Close
18.00	CLOSE	
19.30 for 20.00	Banquet	After dinner speaker: Dr Miles Oglethorpe, Historic Scotland Lower College Hall, University of St Andrews



Tuesday 24 <sup>th</sup> March		
08.30	Breakfast	
09.00	<b>Session 3: Security and Dual Use Technologies</b> Chair: Prof Douglas Paul	09.00 Prof. Leo Hollberg, Stanford University: <i>Atoms and Lasers for Space Time</i> 09.35 Alastair Sinclair, National Physical Laboratory 10.10 Prof Miles Padgett, University of Glasgow and QT Hub: <i>Quantum Inspired Imaging</i> 10.30 Ian Redmond, Ceres Imaging 10.50 Session 3 Close
10.50	Refreshments, Exhibition and Poster Session	
11.30	<b>Session 4: Solid State Lasers and NLO</b> Chair: Prof. Alan Kemp	11.30 Prof. Dr. Thomas Sdmeyer, Universit de Neuchtel 12.05 Dr. Alireza Marandi, Stanford University: <i>Half-Harmonic Generation: From Broadband Molecular Spectroscopy to Non-Classical Optical Computing</i> 12.25 Prof. Andrea Ferrari, University of Cambridge: <i>Graphene Photonics and Optoelectronics</i> 13.00 Dr. Antonio Hurtado, Institute of Photonics: <i>Semiconductor lasers for neuromorphic photonic systems</i> 13.20 Session 4 Close
13.20	Lunch, Exhibition and Poster Session	
14.10	<b>Session 5: Energy and Environment</b> Chair: Prof. Ifor Samuel	14.10 Dr. Michael Toney, Stanford Synchrotron Radiation Lightsource: <i>Relationship between Morphology and Photophysics in Organic Photovoltaics</i> 14.50 Prof. Henry Snaith, University of Oxford 15.30 Prof. Bill MacDonald, Business Research Associate, DuPont Teijin Films: <i>The Challenges Associated With Designing Films for PV Applications</i> 15.50 Dr. Eli Zysman-Colman, University of St Andrews: <i>Blue-Emitting Materials for Solid State Lighting</i> 16.10 Session 5 Close
16.15	Refreshments & Close Closing Remarks: Iain Ross	

### Registration

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#### Registration notes:

- Attendance at the SU2P Symposium (and banquet) is £100 for academic and research staff from the collaborating universities (Glasgow, Heriot-Watt, Strathclyde, St Andrews, Stanford) and includes lunch and refreshments both days and the banquet on the Monday evening.
- Attendance at the SU2P Symposium is FREE to students from the collaborating universities (Glasgow, Heriot-Watt, Strathclyde, St Andrews, Stanford) and includes lunch and refreshments both days.
- A charge of £50 will be made for students wishing to attend the Banquet on the Monday evening.
- Attendance at the SU2P Symposium (and banquet) is an included benefit for SU2P Industrial Partners and includes lunch and refreshments both days and dinner on the Monday evening.
- Speakers do NOT require to register as they will be registered automatically.
- There is a nominal cost of £250 for all other registrants at the SU2P Symposium covering both days of the Symposium and the Banquet.
- ONLY if there is sufficient interest, will we run buses from both Heriot Watt and Glasgow to St Andrews on the 23<sup>rd</sup> March returning on the 24<sup>th</sup> March (There will be no evening bus on the 23<sup>rd</sup> nor a morning bus on the 24<sup>th</sup>). Please note your interest on the registration form.



## VISITOR INFORMATION

### Travel to the University of St Andrews

Courtesy buses will run from Glasgow/Strathclyde Universities and Heriot Watt University to St Andrews University on Monday 23<sup>rd</sup> March and return on Tuesday 24<sup>th</sup> March. To book a place on the bus please indicate this when you use the on-line registration form. (There is no return bus on the evening of the 23<sup>rd</sup> and there is no bus on the morning of the 24<sup>th</sup>)

For full information on how to get to the University of St Andrews by air, rail, bus and car please use the link below:

<http://www.st-andrews.ac.uk/visiting/GettingtoStAndrews/>

### Map

<https://www.st-andrews.ac.uk/media/university/maps/wwwmap.pdf>

Building 17

### Nearby Hotels

An online hotel booking service is available through <http://www.visitscotland.com>



## St Andrews Accommodation

With thanks to The University of St Andrews the accommodation marked with "SU2P Delegate" have agreed too offer the University discounted rates, so only for those marked, the guest needs to state that they are SU2P.

Greyfriars Hotel 129 North Street St Andrews KY16 9AG	Telephone: 01334 474906 e-mail: <a href="mailto:stay@greyfriarshotel.com">stay@greyfriarshotel.com</a> Web: <a href="http://www.greyfriarshotel.com/">http://www.greyfriarshotel.com/</a>	<b>SU2P Delegate</b> £68 per person per night
Deveron house 64 North Street St Andrews KY16 9AH	Telephone: 01334 473513 e-mail: <a href="mailto:bookings@deveronhouse.com">bookings@deveronhouse.com</a> Web: <a href="http://www.deveronhouse.com/Deveron/Home.html">http://www.deveronhouse.com/Deveron/Home.html</a>	<b>SU2P Delegate</b> £60 for each of the single rooms, £72 for single occupancy of the double rooms and £89 for double occupancy.
The Albany St Andrews 56 North Street St Andrews KY16 9AH	Telephone: 01334 477737 e-mail: <a href="mailto:info@thealbanystandrews.co.uk">info@thealbanystandrews.co.uk</a>	<b>SU2P Delegate</b> Single £72.00 Single Occupancy Double or Twin £96.00 We do also have rates for 2 sharing Dbl/Twin and 2 suites that sleep 3 and 4 people, if any delegates are interested in using these rooms.
Bell Craig Guest House 8 Murray Park St Andrews KY16 9AW	Telephone: 01334 472962 e-mail: <a href="mailto:enquiries@bellcraig.com">enquiries@bellcraig.com</a>	<b>SU2P Delegate</b> 6 double/twin ensuite rooms available @ £80.00 single occupancy
Ardgowan Hotel 2 Playfair Terrace North Street St Andrews KY16 9HX	Telephone: 01334 472970 e-mail: <a href="mailto:info@ardgowanhotel.co.uk">info@ardgowanhotel.co.uk</a>	<b>SU2P Delegate</b> From £81 upwards per night
Montague Guest House 21 Murray Park St Andrews KY16 9AW	Telephone: 01334 479287 e-mail: <a href="mailto:info@montaguehouse.com">info@montaguehouse.com</a>	<b>SU2P Delegate</b> £70 for a single room
Brownlees Guest House 7 Murray Place St Andrews KY16 9AP	Telephone: 01334 473868 e-mail: <a href="mailto:enquiries@brownlees.co.uk">enquiries@brownlees.co.uk</a>	<b>SU2P Delegate</b> Between £40 and £80 for single occupancy



Beveridge House 25 North Street St Andrews KY16 9PW	Telephone: 01334 477453 e-mail: <a href="mailto:ann@berveridgehouse.co.uk">ann@berveridgehouse.co.uk</a> Web: <a href="http://www.beveridgehouse.co.uk/">http://www.beveridgehouse.co.uk/</a>	<b>SU2P Delegate</b> £55 for single occupancy
Six Murray Park 6 Murray Park St Andrews KY16 9AW	Telephone: 01334 473319 e-mail: <a href="mailto:info@sixmurraypark.co.uk">info@sixmurraypark.co.uk</a> Web: <a href="http://www.sixmurraypark.co.uk/">http://www.sixmurraypark.co.uk/</a>	
Rusacks Hotel PilmourLinks St Andrews KY16 9JQ	Tel: 01334 474321 Web: <a href="http://www.macdonaldhotels.co.uk/rusacks">www.macdonaldhotels.co.uk/rusacks</a> e-mail: <a href="mailto:rusacks@macdonald-hotels.co.uk">rusacks@macdonald-hotels.co.uk</a>	
Aslar Guest House 120 North Street St Andrews KY16 9AF	Telephone: 01334 473460 e-mail: <a href="mailto:enquiries@aslar.com">enquiries@aslar.com</a>  online booking available	
Braeside House 25 Nelson Street St Andrews KY16 8AJ	Telephone: 01334 473375 e-mail: <a href="mailto:info@braeside-standrews.co.uk">info@braeside-standrews.co.uk</a>	
Burness House 1 Murray Park St Andrews KY16 9AW	Telephone: 01334 4734314 e-mail: <a href="mailto:info@burnesshouse.com">info@burnesshouse.com</a>	
Charlesworth House Guest House 9 Murray Place, St Andrews, KY16 9AP	Tel: 01334 476528 Web: <a href="http://www.charlesworthhouse.co.uk">www.charlesworthhouse.co.uk</a>	
Craigmore Guest House 3 Murray Park St Andrews KY16 9AW	Telephone: 01334 474212 e-mail: <a href="mailto:jim.williamson@virgin.net">jim.williamson@virgin.net</a>	
Doune House 5 Murray Place St Andrews KY16 9AP	Telephone: 01334 475195 e-mail: <a href="mailto:info@dounehouse.com">info@dounehouse.com</a>	





Fairnie House (2 nights min) 10 Abbey Street St Andrews KY10 9LA	Telephone: 01334 474094 e-mail: <a href="mailto:pat-sean1@tinyonline.co.uk">pat-sean1@tinyonline.co.uk</a>	
Five Pilmour Place St Andrews KY16 9HZ	Telephone: 01334 478655 e-mail: <a href="mailto:info@5pilmourplace.com">info@5pilmourplace.com</a>	
Glenderran 9 Murray Park St Andrews KY16 9AW	Telephone: 01334 477951 Web: <a href="http://www.glenderran.com">www.glenderran.com</a>	
St Andrews Golf Hotel 40 The Scores St Andrews KY16 9AS	Telephone: 01334 472611 Web: <a href="http://www.standrews-golf.co.uk">www.standrews-golf.co.uk</a>	
Hoppity House 4 Murray Park St Andrews Fife KY16 9AW	Telephone: 01334 461116 Email: <a href="mailto:enquiries@hoppityhouse.co.uk">enquiries@hoppityhouse.co.uk</a>	
Old Fishergate House 35 North Castle Street St Andrews KY16 9BG	Telephone: 01334 470874 e-mail: <a href="mailto:stay@oldfishergatehouse.co.uk">stay@oldfishergatehouse.co.uk</a>	
18 Queen's Terrace St Andrews KY16 9QF	Telephone: 01334 478849 e-mail: <a href="mailto:stay@18queenterrace.com">stay@18queenterrace.com</a>	
Russell Hotel 26 The Scores, St Andrews, KY16 9AS	Tel: 01334 373447 Web: <a href="http://www.russellhotelstandrews.co.uk">www.russellhotelstandrews.co.uk</a>	
Scores Hotel 76 The Scores St Andrews KY16 9BB	Tel: 01334 472451 Web:	