OWLS 2018 Programme

Sunday November 25

Time	
17.00 - 18.00	Registration *Karma Rottnest Reception Lobby*
18.00 - 19.30	Dinner Riva Restaurant
	Evening Session *Karma Conference Centre* *Chair: Prof David Sampson*
19.40 - 20.10	**Visualising Mechanics of Epithelial Growth and Folding** **Prof Xavier Trepat**, Institute for Bioengineering of Catalonia, Spain
20.10 - 20.40	**Wider, Faster, Deeper: New Directions for Wide Field Imaging** **Prof Kishan Dholakia**, University of St Andrews, UK

Monday November 26

Time	
	Morning Session 1 *Karma Conference Centre* *Chair: A/Prof Giuliano Scarcelli*
8.15 - 8.45	**Long-Term and Reference-Free Measurements of Cellular Forces** **Prof Malte Gather**, University of St Andrews, UK
8.45 - 9.15	**Optical Sensing of Hemostasis and Blood Coagulation** **A/Prof Seemantini Nadkarni**, Harvard Medical School, USA
9.15 - 9.45	**Probing the Mechanical Properties of Living Organisms at High-Resolution using Light** **Dr Robert Prevedel**, EMBL Heidelberg, Germany
9.45 - 10.15	**Interpretation of Brillouin Light Scattering Measurements in Biological Samples** **Dr Kareem Elsayad**, Vienna BioCenter Core Facilities, Austria
10.15 - 10.30	Morning Tea

	Morning Session 2 *Karma Conference Centre* *Chairs: Prof Kishan Dholakia & Prof Virgile Viasnoff*
10.30 - 11.00	**Image Scanning Microscopy: The New Confocal Microscope** **Prof Colin Sheppard**, University of Wollongong, Australia
11.00 - 11.30	**Novel Plasmon-Enhanced Raman Platforms for Ultra-Sensitive Recognition of Neurodegenerative Proteins** **Prof Roberto Pini**, National Research Council, Italy
11.30 - 12.00	**Laser Applications of Biomaterials in Cardiac Optogenetics** **Prof Alexander Heisterkamp**, Leibniz University Hannover, Germany
12.00 - 12.05	Group Photo
12.05 - 12.40	Lunch
12.40 -17.00	Break and Delegate Activities *(Bookings Required)* **Bayseeker Island Bus Tour** Departs: 13.45 Rottnest Island Settlement Main Bus Stop Finishes: 15.30 Rottnest Island Settlement Main Bus Stop **Rottnest Island: Ship Wrecks & Coral Viewing Tour** Departs: 13.30 Fuel Jetty (in front of the Dome Cafe) Finishes: 14.30 Fuel Jetty
17.00 - 18.00	*Poster Session* *Karma Poolside* **Application of label-free 2-photon Fluorescence Lifetime Imaging Microscopy to Measure Endogenous Melanin Profiles in Human Eye Melanoma** **Mr Ephrem Sitiwin**, UNSW Sydney, Australia **Application of Quantum Dots for Tear Film Lipids Imaging** **Dr Maitreyee Roy**, UNSW Sydney, Australia **Development of an Optical Fiber Fabry-Perot Pressure Sensor for Bio Medical Applications using Focused Ion Beam Technology** **Mrs Chalani Abeywardena**, University of Nottingham, UK

	Does the Selective Wavelength Filtering of Commercially Available Blue Blocking Lenses Affect Physiological Adaptation and the Recovery of Light Sensitivity to Changes in Ambient Illumination? **Mrs Hind Alzahrani**, UNSW Sydney, Australia **Early Caries Detection by Depolarisation Imaging Based on Polarisation-Sensitive Optical Coherence Tomography** **Mr Jonas Golde**, TU Dresden, Germany **Extended Depth of Focus in all-fiber Quasi-Bessel Beam Probes: Theory and Practice** **Mr Michael Hackmann**, The University of Western Australia, Australia **High-Resolution Fiber-Optic Probes for OCT using an Inverted Axicon** **Ms Gavrielle Untracht**, The University of Western Australia, Australia **In Search of Shear Waves in Vitreous Humour Phantoms using Frequency Analysis on Optical Coherence Elastography Data** **Ms Magdalena Urbanska**, The University of Auckland, New Zealand **In-Situ Quantification of Cellular Nuclear Mechanics with Brillouin Flow Cytometry** **Mr Jitao Zhang**, University of Maryland, USA **Label Free Imaging with Super-Resolved Ptychography** **Dr Nicholas Anthony**, Istituto Italiano Di Tecnologia, Italy **Label Free Identification of the Granulocytes Enhanced by Machine Learning** **Mr Roopam Gupta**, University of St Andrews, Scotland **Local Optic Axis Mapping in Bench-Top and Catheter-Based Polarisation-Sensitive Optical Coherence Tomography** **Mr Qingyun Li**, The University of Western Australia, Autsralia
18.15 - 19.30	Dinner *Riva Restaurant*
19.40 - 20.00	**OWLS Member Assembly** *Karma Conference Centre*

	Plenary Session *Karma Conference Centre* *Chair: Prof Alberto Diaspro*
20.00 - 21.00	**Comprehensive Correlation Analysis (CCA) for Super-Resolution Dynamic Fingerprinting of Cellular Compartments using the Zeiss Airyscan Detector** **Prof Enrico Gratton**, University of California Irvine, USA
21.00 - 21.30	**Spontaneous Fluctuations can help find Ligands for Intrinsically Disordered Proteins** **Prof Sudipta Maiti**, Tata Institute of Fundamental Research, India President of the next OWLS Meeting

Tuesday November 27

Time	
	Morning Session 3 *Karma Conference Centre* *Chairs: Prof Alexander Heisterkamp & Prof Roberto Pini*
8.15 - 8.45	**Structural and Functional Imaging of Tissues with Optical Coherence Tomography/Elastography** **Prof Kirill Larin**, University of Houston, USA
8.45 - 9.15	**Functional OCT Microscopy of the Peripheral Nerve** **A/Prof Ben Vakoc**, Harvard Medical School, USA
9.15 - 9.45	**Polarisation and Chromatic Dispersion to Detect Early Signs of Non-Communicable Diseases using Optical Coherence Tomography (OCT)** **Dr Frédérique Vanholsbeeck**, University of Auckland, New Zealand
9.45 - 10.15	**Retinal Imaging with Optical Coherence Tomography and low-loss Adaptive Optics using a 2.8-mm beam size** **A/Prof Barry Cense**, The University of Western Australia, Australia
10.15 - 10.30	Morning Tea
	Morning Session 4 *Karma Conference Centre* *Chair: Prof Katarina Gaus*

10.30 - 11.00	**Optical Tools to Understand Eye Structure and Biomechanics** **A/Prof Ian Sigal**, University of Pittsburgh, USA
11.00 - 11.30	**Computational Microscopy of Structural Order without Label** **Dr Shalin Mehta**, Chan Zuckerberg Biohub, USA
11.30 - 11.50	**Detection of Biofilm Formation on Coated Medical Devices for the Reduction and Interception of Bacterial Infections** **Prof Stephen Morgan**, University of Nottingham, UK
11.50 - 12.10	**Volumetric Time-Lapse Imaging of Cell Forces with Optical Coherence Microscopy** **A/Prof Steven Adie**, Cornell University, USA
12.10 - 12.40	Lunch
12.40 - 17.00	**Break and Delegate Activities *(Bookings Required)*** **Bayseeker Island Bus Tour** Departs: 13.45 Rottnest Island Settlement Main Bus Stop Finishes: 15.30 Rottnest Island Settlement Main Bus Stop **Rottnest Island: Ship Wrecks & Coral Viewing Tour** Departs: 13.30 Fuel Jetty (in front of the Dome Cafe) Finishes: 14.30 Fuel Jetty
17.00 - 18.00	*Poster Session* *Karma Poolside* **Long Period Grating Optical Fibre Sensors Functionalised with Molecularly Imprinted Polymers for Drugs Detection** **Dr Sergiy Korposh**, The University of Nottingham, UK **Multiplexing in Vivo Optical Imaging using Luminescence Lifetimes** **Dr Yiqing Lu**, Macquarie University, Australia **New Opportunities at the Crossroads of Photoacoustics and Plasmonics** **Dr Fulvio Ratto**, National Research Council, Italy **Nonlinear Optogenetic Stimulation of Induced Pluripotent Stem Cell Derived Cardiomyocytes** **Ms Maria Leilani Torres**, Gottfried Wilhelm Leibniz University Hannover, Germany

	Optical Coherence Tomography Angiography for Imaging Cutaneous Microvasculature **Dr Peijun Gong**, The University of Western Australia, Australia **Optical Properties of the Lens are Actively Maintained by its Microcirculation System** **Dr Ehsan Vaghefi**, University of Auckland, New Zealand **Polarisation-Sensitive OCT for Imaging Collagen Fiber Organisation in Human Oral Mucosa** **Dr Julia Walther**, TU Dresden, Germany **Structure-Function Characterisation of Cone Photoreceptor Cells in the Human Retina** **Dr Danuta Sampson**, University of Surrey, UK **Sub-Diffraction Imaging using Upconversion Nanoparticles** **Dr Martin Ploschner**, Macquarie University, Australia **Ultrasound Mediation of Light-Emitting Probes to Improve Spatial Resolution in Deep Tissue Imaging** **Mr Junaid Ahmad**, The University of Nottingham, UK **Use of Deep Learning for Automatic Detection of Cone Photoreceptors in Flood Illumination Adaptive Optics Ophthalmoscopy** **Dr David Alonso-Caneiro**, Queensland University of Technology, Australia **Versatile, Monolithic Imaging Probes for Catheter-Based OCT** **Dr Karol Karnowski**, The University of Western Australia and Polish Academy of Sciences, Poland
18.15 - 19.30	Dinner *Riva Restaurant*

	Hot Poster Talks *Karma Conference Centre* *Chair: A/Prof Giuliano Scarcelli*
19.45 - 20.00	**3D+T Spatio-Temporal Image Correlation Spectroscopy for Flow Mapping of Molecules and Organelles in Live Cells** **Dr Elvis Pandzic**, UNSW Sydney, Australia
20.00 - 20.15	**Multiplexing in Vivo Optical Imaging using Luminescence Lifetimes** **Dr Yiqing Lu**, Macquarie University, Australia
20.15 - 20.30	**Sub-diffraction Imaging using Upconversion Nanoparticles** **Dr Martin Ploschner**, Macquarie University, Australia
20.30 - 20.45	**New Opportunities at the Crossroads of Photoacoustics and Plasmonics** **Dr Fulvio Ratto**, National Research Council, Italy
20.45 - 21.00	**In-Situ Quantification of Cellular Nuclear Mechanics with Brillouin Flow Cytometry** **Mr Jitao Zhang**, University of Maryland, USA

Wednesday November 28

Time	
	Morning Session 5 *Karma Conference Centre* *Chairs: Prof Kirill Larin & Prof Stephen Morgan*
9.00 - 9.30	**Probing the Role of Tissue Biophysics in Metastasis** **Dr Kandice Tanner**, National Cancer Institute, NIH, USA
9.30 - 10.00	**From Microdishes to Optic Friendly-Microniches: 3D Micro-Environmental Control Around Single Hepatocytes to Induce Apico Basal Polarisation and Lumenogenesis** **Prof Virgile Viasnoff**, National University of Singapore, Singapore
10.00 - 10.15	Morning Tea

	Morning Session 6 *Karma Conference Centre* *Chairs: Prof David Sampson & A/Prof Giuliano Scarcelli*
10.15 - 10.45	**T Cell Receptor Clustering: A Mechanism of Signal Transduction** **Prof Katarina Gaus**, University of New South Wales, Australia
10.45 - 11.15	**High Content Super-Resolution Microscopy** **Dr David Baddeley**, University of Auckland, New Zealand
11.15 - 11.45	**A Multi Messenger Microscope using a Liquid and Tunable Approach to Paint Chromatin in Cells** **Prof Alberto Diaspro**, University of Genova, Italy
11.45 - 11.50	Conference Close and OWLS Poster Prize Announcement
11.45	Lunch

** Conference Programme is subject to change.*