

# e-meeting i<sup>2</sup>Eye 2021

## Innovative Imaging of Eye Disease

### Day 1 – October 13

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9:00 Welcome and introduction – Ethan Rossi & Kate Grieve

#### Session 1: Photoreceptors (moderator: Jessica Morgan)

- 9:10 Correlation between photoreceptor density in adaptive optics imaging with retinal structure and sensitivity in autoimmune retinopathy – Wataru Matsumiya, Kobe University Japan
- 9:30 Utilizing adaptive optics imaging for early detection of disease progression in retinitis pigmentosa – Danial Roshandel, University of Western Australia
- 9:50 Drusen visualization using flood adaptive optics – Nathaniel Norberg, Quinze-Vingts Hospital Paris
- 10:10 Adaptive optics retinal imaging in patients with Stargardt disease – Melanie Kempf, University of Tübingen, Germany
- 10:30 Multimodal clinical imaging with MERLIN – Kiyoko Gocho, Quinze-Vingts Hospital Paris
- 10:50 Evaluating rod photoreceptor mosaic topography using AOSLO – Heather Heitkotter, Medical College of Wisconsin
- 11:10 Understanding photoreceptor structure, function, and short-term response to gene therapy in choroideremia using adaptive optics ophthalmoscopy – Jessica Morgan, University of Pennsylvania

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11:30 Discussion + Pause (30 mins)

#### Session 2: Anterior Segment and Glaucoma (moderator: Ian Sigal)

- 12:00 3D quantitative ocular anterior segment imaging – Susana Marcos, University of Rochester
- 12:20 A high-accuracy digital volume correlation method and its application to acute lamina cribrosa deformations measurement – Fuqiang Zhong, University of Pittsburgh
- 12:40 Imaging the anterior segment with laser Doppler holography for blood flow imaging, eye tracking, and transparency assessment – Léo Puyo, University of Lübeck, Germany
- 13:00 FFOCT : first clinical cases – Yao Cai, Institut de la Vision Paris
- 13:20 Longitudinal measurement of lamina cribrosa deformation induced by chronically elevated intraocular pressure in non-human primates – Ian Sigal, University of Pittsburgh

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13:50 Discussion (20 mins)

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14:10 End of day 1

Note: All times listed are US Eastern Time Zone

Revision 2021.09.30

## Day 2 – October 14

### Session 3: Eye Movements (moderator: Christy Sheehy)

- 9:00 Distance between the preferred retinal locus and the foveal pit center and its impact on cone mosaic analysis in healthy and diseased retina – Daniel Roshandel, Lions Eye Institute, Perth Australia
- 9:20 Retinal imaging and stimulation for functional, oculomotor, and structural assessment using a high-speed DMD-based AOFIO – Josselin Gautier, Quinze-Vingts Hospital, Paris
- 9:40 Understanding subclinical square wave jerks in multiple sclerosis – Luigi S. Pesce Ibarra, C. Light Technologies & University of California, San Francisco
- 10:00 Automatic microsaccade segmentation using a 1D artificial neural network – Daniel Lee, University of Pittsburgh

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10:20 Discussion + Pause (30 mins)

### Session 4: Artificial Intelligence and Modelling (moderator: Wei Chen)

- 10:50 Understanding Age-related Macular Degeneration in the Era of Big Data – Wei Chen, University of Pittsburgh
- 11:10 Assessing AOSLO image analysis accuracy using ERICA – Laura Young, Newcastle University, UK
- 11:30 Deep learning for automated identification of biomarkers for AMD progression – Srinivas Sadda, Doheny Eye Institute

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11:50 Discussion + Pause (30 mins)

### Session 5: Histology and Animal Models (moderator: Anna Verschueren)

- 12:20 Visible light OCT retinal imaging in optic nerve transection rat – Shaohua Pi, OHSU Casey Eye Institute
- 12:40 Quantitative imaging of optic nerve head collagen microstructure and micromechanics using instant polarized light microscopy – Po-Yi Lee, University of Pittsburgh
- 13:00 3D histology of ocular vessels: optic nerve, choroid, retina and anterior segment – Marie Darche, Quinze Vingts Hospital, Paris
- 13:20 Mitochondrial distribution as potential correlates of OCT reflectivity in the outer plexiform layer of human retina – Deepayan Kar, University of Alabama at Birmingham
- 13:40 Histology of aging human photoreceptors in their microenvironment – Anna Verschueren, Quinze-Vingts Hospital, Paris

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14:00 Discussion (20 mins)

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14:20 End of day 2



## Day 3 – October 15

### Session 6: Novel Technology (moderator: Egidijus Auksorius)

- 9:00 Fourier-Domain Full-Field Optical Coherence Tomography for Eye Imaging – Egidijus Auksorius, Center for Physical Sciences and Technology, Vilnius, Lithuania
- 9:20 Multi-aperture AOSLO imaging of human retinal ganglion cell layer structures in health and disease using a custom designed optical fiber bundle for light collection – Yuhua Rui, University of Pittsburgh
- 9:40 Multi-modal and multi-scale clinical retinal imaging system with angiography – Faizan Shirazi, Medical University Vienna Austria
- 10:00 Comparison of retinal pigment epithelium (RPE) imaging using a transscleral illumination adaptive optics (AO) camera and Autofluorescence AO Scanning Laser Ophthalmoscope – Elena Gofas Salas, Quinze-Vingts Hospital, Paris
- 10:20 The future of clinical AO-OCT – Robert Zawadski, University of California, Davis
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- 10:40 Discussion + Pause (30 mins)

### Session 7: Blood Flow and Vasculature (moderator: Michel Paques)

- 11:10 High bitrate digital holography for ophthalmology – Michael Atlan, Institut Langevin, Paris
- 11:30 Exploration of Preferential Site Vulnerability of Capillary Occlusion in Sickle Cell Retinopathy Using OCT Angiography – Richard B. Rosen, New York Eye and Ear Infirmary of Mount Sinai
- 11:50 Adaptive optics ophthalmoscopy in malignant arterial hypertension – Rana Saad, Quinze-Vingts Hospital, Paris
- 12:10 Vascular biomarkers in adaptive optics ophthalmoscopy – Roan van Bakel, Erasmus University, Rotterdam
- 12:30 Laser Doppler flowmetry - revisited – Mircea Mujat, Physical Sciences Inc., Andover, MA
- 12:50 Cone distribution and retinal vascular changes in diabetic subjects without retinal thickening – Ann E. Elsner, Indiana University School of Optometry
- 13:10 Multimodal imaging in diabetic retinopathy – Michel Paques, Quinze-Vingts Hospital, Paris
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- 13:30 Discussion (20 mins)
- 13:50 Closing Remarks - Ethan Rossi & Kate Grieve (10 mins)
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- 14:00 End of day 3

