

Oxford Hotel

Denver, CO
February 23-24, 2018



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PROGRAM AGENDA

Friday, February 23, 2018

SESSION I: FUNDAMENTALS OF OPHTHALMIC OPTICS **Moderator: Ray Applegate, OD, PhD**

8:00 – 9:00 AM **Fundamentals of Ophthalmic Optics**
Austin Roorda, PhD

SESSION II: VIRTUAL REALITY AND BINOCULAR VISION **Moderator: Geunyoung Yoon, PhD**

9:00 – 9:15 AM **The Inseparable Link Between Vision and Eye Movements**
Michele Rucci, PhD

9:15 – 9:30 AM **Rendering Natural Eye Aberrations Drives Accommodation Effectively**
Marty Banks, PhD

9:30 – 9:45 AM **Extended Depth of Focus and Convergence Accommodation Conflict**
Geunyoung Yoon, PhD

9:45 – 10:00 AM **Understanding Natural Statistics of the Visual World to Support Immersive Experiences in AR/VR**
Marina Zannoli, PhD

10:00 - 10:15 AM Open Discussion

10:15 – 10:35 AM Coffee Break

10:35 – 11:50 AM

SESSION III: OCULAR ANTERIOR SEGMENT IMAGING MODALITIES FOR ACCOMMODATION RESTORATION **Moderator: Adrian Glasser, PhD**

10:35 – 10:50 AM **Anterior Segment Imaging for Accommodation Restoration**
Adrian Glasser, PhD

10:50 – 11:05 AM **The ArcScan Insight 100 Anterior Segment Imaging System**
Andy Levien

11:05 – 11:20 AM **The Sonomed Escalon VuMAX HD Ophthalmic Ultrasound**
Enrique Pfeiffer, MD

11:20 – 11:35 AM **The Leica Optical Coherence Tomography (OCT) System**
Joe Vance

11:35 – 11:50 AM Open Discussion

SESSION IV: ADVANCES IN RESEARCH IN VISION AND OPHTHALMOLOGY WITH ADAPTIVE OPTIC

Moderator: Austin Roorda, PhD

- 11:50 – 12:05 PM **Innovation in Adaptive Optics Imaging**
Jennifer Hunter, PhD
- 12:05 – 12:20 PM **AOSLO for Vision Testing**
William Tuten, OD, PhD
- 12:20 – 12:35 PM **Relationship Between Foveal Cone Density and Axial Length – CAL Study**
Sowmya Ravikuma, PhD
- 12:35 – 12:50 PM Open Discussion
- 12:50 – 2:15 PM LUNCHEON

SESSION V: ADVANCES IN CORNEAL COLLAGEN CROSSLINKING

Moderator: Michael Mrochen, PhD

- 2:15 – 2:30 PM **Advances in Corneal Collagen Crosslinking**
Michael Mrochen, PhD
- 2:30 – 2:45 PM **Depth Dependent Evidence of CXL with Compression OCT Elastography**
Vinicius De Stefano, MD
- 2:45 – 3:00 PM **Photochemical Reactions During Ophthalmic Cross-linking**
Sabine Kling, PhD
- 3:00 – 3:15 PM **Keratoconus Identification Using Wavefront and Corneal Topography Measurements**
Daniel Neal, PhD
- 3:15 – 3:30 PM Open Discussion

SESSION VI: EMERGING REFRACTIVE AND PRESBYOPIA TECHNOLOGY

Moderator: Geunyoung Yoon, PhD

- 3:30 – 3:45 PM **Correcting Corneal Refractive Error with fs-Laser Refractive Indexing**
Scott MacRae, MD
- 3:45 – 4:00 PM **A Two-component Intraocular Lens as a Platform for Customized Treatments**
Harilaos Ginis, PhD

- 4:00 – 4:15 PM **Hyperopia Correction with SMILE Lenticules – A Comparison Between Clinical Data and Biomechanical Simulations**
Michael Mrochen, PhD
- 4:15 – 4:30 PM **Challenges and Clinical Value of Intraocular Straylight Measurements**
Harilaos Ginis, PhD
- 4:30 – 4:40 PM **VisAbility Micro Insert Surgery for Presbyopia Results, Improving Near Vision Without Distance Compromise**
Barrie Soloway, MD
- 4:40 – 4:55 PM Open Discussion

PROGRAM AGENDA

Saturday, February 24, 2018

SESSION VII: **EXTENDED DEPTH OF FOCUS TECHNOLOGY** Moderator: **Ronald Krueger, MD, Geunyoung Yoon, PhD**

- 8:30 – 8:45 AM **Optical Properties of Presbyopic Solutions**
Pablo De Gracia, OD, PhD
- 8:45 – 9:00 AM **Overview of the Mechanism and Utility of EDOF Lenses in Clinical Practice**
Karolline Rocha, MD, PhD
- 9:00 – 9:15 AM **The SMARRT IOL for Monitoring, Multifocality and Magnification**
David Smadj, MD
- 9:15 – 9:30 AM **Trifocal vs. EDOF IOL Technologies, and How to Maximize Efficacy, While Minimizing Symptoms**
Damien Gatinel, MD, PhD
- 9:30 – 9:40 AM **A New Approach to Contact Lens Presbyopia Correction with fs-Laser Refractive Indexing**
Len Zheleznyak, PhD
- 9:40 – 9:50 AM **Comparison of Ray-tracing, Hartmann- Shack, Autorefraction and Manifest Refraction in Echelette's Achromatic Intraocular Lenses**
Joseana Lopes Ferreira, MD
- 9:50 – 10:05 AM Open Discussion

SESSION VIII: **Moderator: William Dupps, MD, PhD**

- 10:05 – 10:20 AM **Clinical Assessment of Corneal Biomechanics**
Cynthia Roberts, PhD

- 10:20 – 10:35 AM **Finite Element Modeling Applications in Ectasia Detection and Treatment**
Ibrahim Seven, PhD
- 10:35 – 10:45 AM **Non-contact Technique for Direct Corneal Strength Measurement**
Dimitri Chernyak, PhD
- 10:45 – 11:00 AM **New Clinical Metrics of Corneal Biomechanics with Dynamic Scheimpflug Videography (Corvis)**
Sven Reisdorf, PhD
- 11:00 – 11:15 AM Open discussion
- 11:15 – 11:30 AM Coffee Break

SESSION IX: CONTACT LENS TECHNOLOGY FOR MYOPIA PREVENTION
Moderator **Jason Marsack, PhD**

- 11:30 – 11:45 AM **Establishing an Academic Myopia Control Clinic**
Eric Ritchey, OD, PhD
- 11:45 – 12:00 PM **Myopia Control - An Industry Perspective**
Arthur Back, B Optom, PhD
- 12:00 – 12:15 PM **Eye's Response to Simultaneous Dual-focus Lenses**
Baskar Arumugam, BS Optom, PhD
- 12:15 – 12:30 PM **Peripheral Retinal Image Quality with Bifocal Contact Lenses**
Geunyoung Yoon, PhD
- 12:30 – 12:45 PM Open Discussion
- 12:45 – 2:00 PM Luncheon

SESSION X: NEW TECHNOLOGIES -DIAGNOSIS AND TREATMENT
Moderator: **Ronald Krueger, MD**

- 2:00 – 2:15 PM **A New Aberration Basis for Better Ocular Wavefront Analysis**
Damien Gatinel, MD, PhD
- 2:15 – 2:30 PM **Important Refractive Surgery Lessons from Big Data**
Steven Schallhorn, MD
- 2:30 – 2:40 PM **IOL Power Calculations Using a Two-Stage, Adaptive, Machine Learning Algorithm and Big Data**
Edwin Sarver, PhD
- 2:40 – 2:50 PM **A New, Low Cost Measure of Centration and Tilt**
Craig See, MD

2:50 – 3:00 PM **Evaluating Optical Corrections Across Modalities Using Visual Image Quality Metrics**
Gareth Hastings Mphil, B. Optom

3:00 – 3:15 PM Open Discussion

SESSION XI: REFRACTIVE PLANNING
Moderator: Ronald Krueger, MD

3:00 – 3:15 PM **Custom Planning Cataract Surgery Outcomes Based on Objectively Measured Refraction Needs with a Wearable Device**
Michael Mrochen, PhD

3:15 – 3:30 PM **Planning Topographic Guided LASIK for Irregular Astigmatism and Astigmatism Disparity**
Ronald Krueger, MD

3:30 – 3:45 PM **Worldwide SMILE Outcomes**
Steven Schallhorn, MD

SESSION XII: FREE PAPERS
Moderator: Raymond Applegate, OD, PhD

3:45 – 3:55 PM **SMILE Complications**
Caio Meister, MD

3:55 – 4:05 PM **Simulated Effect of Posterior Corneal Astigmatism on Limbal Relaxing Incision Treatment Outcomes**
Huawei Zhao, PhD

4:05: 4:20 PM Voting and Awards

4:20 PM END