15TH INTERNATIONAL CONGRESS ON WAVEFRONT & PRESBYOPIC REFRACTIVE CORRECTIONS

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FEBRUARY 21-22, 2014
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**Len Zheleznyak, MS**  
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University of Rochester  
Flaum Eye Institute  
Rochester, NY
SESSION I: BASIC COURSE IN VISUAL OPTICS
Moderator: Raymond Applegate, OD, PhD

9:00 - 10:00 am  Review of Optical Principles
Austin Roorda, PhD

10:00 - 10:30 am  Methods and Treatment of Corneal and Ocular Aberrations
James Schwiegerling, PhD

10:30 - 11:00 am  Clinical Outcomes of Topography and Wavefront Guided Corrections
Ronald Krueger, MD

11:00 - 11:30 am  Measuring and Modeling Ectasia and Its Correction
BJ Dupps, MD, PhD

11:30 - 12:00 pm  Metrics of Retinal Image Quality
Raymond Applegate, OD, PhD

12:00 - 12:30 pm  Open Discussion Session

12:30 - 2:00 pm  Luncheon
Laguna Terrace

2:00 - 2:30 pm  Non-accommodative Strategies for Expanding the Depth of Field of Presbyopes
Larry Thibos, PhD

2:30 - 3:00 pm  Accommodative Technologies for the Treatment of Presbyopia
James Schwiegerling, PhD

3:00 - 3:30 pm  Presbyopic Corrections in the Clinic - Do they Work? Are Patients Satisfied?
Scott MacRae, MD

3:30 - 4:00 pm  Open Discussion Session

4:00 - 5:00 pm  Opening Reception
Laguna Terrace

FRIDAY, FEBRUARY 21, 2014

SESSION II: FREE PAPERS
Moderator: Jason Marsack, PhD

5:00- 5:10 pm  The Impact of Higher-order Aberrations on the Strength of Directional Signals Produced by Accommodative Microfluctuations
Sangeetha Metapally, PhD

5:10 - 5:20 pm  One-year Post-operative Wavefront and Refractive Map Changes Following Scleral Implant Surgery
Larry Baitch, PhD

5:20 - 5:30 pm  Generalization and Application of Analytical Coddington and Propagation Equations for Higher Order Aberrations
Wolfgang Becken, PhD

5:30 - 5:40 pm  Significantly Aberrated Ocular Condition (SAOC): Higher Order Aberrations in Patients with Visual Symptoms in Native Eyes
Jens Buehren, MD

5:40 - 5:50 pm  Expanding Depth of Focus and Improving Intermediate Distance Vision by Combining Monovision Principles with Diffractive Bifocals
Sowmya Ravikumar, PhD

5:50 - 6:00 pm  Uniform Clustering and RanSAC Regression
Thomas Padrick, PhD

6:00 - 6:10 pm  Wavelight Fs-200 Flap Lifts: A Lesson Learned
John Au, MD

6:10 - 6:20 pm  The Effect of Pupil Size and Decentration From Pupil Center on Visual Outcomes After Corneal Inlay Surgery for Presbyopia
Adam Roy, PhD

6:20 - 6:30 pm  Implantation of Hydrogel Corneal Inlay in Pseudophakic Subjects
Dan Tran, MD
### SESSION III: VISION VS. OPTICS - HOW TO UNDERSTAND ONE VS. THE OTHER

**Moderator:** Raymond Applegate, OD, PhD

<table>
<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>8:30 - 8:45 am</td>
<td>Limitations of Metrics in Predicting Visual Performance</td>
<td>Larry Thibos, PhD</td>
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<tr>
<td>8:45 - 9:00 am</td>
<td>Vision vs. Optics: The Keratoconic Patient's Perspective</td>
<td>Jason Marsack, PhD</td>
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<tr>
<td>9:00 - 9:10 am</td>
<td>An Objective Metric for Evaluating the Dysphotopsia of IOLs</td>
<td>Huawei Zhao, PhD</td>
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<tr>
<td>9:10 - 9:25 am</td>
<td>Open Discussion Session</td>
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### SESSION IV: MEASURING AND MANIPULATING OCULAR BIOMECHANICS

**Moderator:** BJ Dupps, MD, PhD

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<thead>
<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>9:25 - 9:40 am</td>
<td>Small Incision Lenticule Extraction: Clinical Outcomes, Pros and Cons</td>
<td>Rex Hamilton, MD</td>
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<tr>
<td>9:40 - 9:55 am</td>
<td>Comparing the Biomechanical Impact of Refractive Procedures: Simulation-based Approaches</td>
<td>BJ Dupps, MD, PhD</td>
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<tr>
<td>9:55 - 10:05 am</td>
<td>Corneal Changes Due to Presbyopic and Hyperopic Photochemical Intrastromal Cross-linking (PIXL™) Patterns</td>
<td>Satish Herekar</td>
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<tr>
<td>10:05 - 10:15 am</td>
<td>Corneal Steepening Procedures to Treat Presbyopia</td>
<td>Mike Holzer, MD</td>
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<tr>
<td>10:15 - 10:30 am</td>
<td>Open Discussion Session</td>
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<tr>
<td>10:30 - 10:50 am</td>
<td>Coffee Break</td>
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### SESSION V: DEBATE: PREOPERATIVE VS. INTRAOPERATIVE TORIC IOL ALIGNMENT

**Moderator:** Ronald Krueger, MD

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<th>Time</th>
<th>Session Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>10:50 - 11:05 am</td>
<td>Methods of Toric IOL Alignment: The Preoperative Evaluation</td>
<td>Viral Juthani, MD</td>
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<tr>
<td>11:05 - 11:20 am</td>
<td>Intraoperative Aberrometry for Toric IOL Alignment (ORA and VerifEye)</td>
<td>Dan Tran, MD</td>
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<tr>
<td>11:20 - 11:35 am</td>
<td>Intraoperative Aberrometry for Toric IOL Alignment</td>
<td>Ronald Krueger, MD</td>
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<tr>
<td>11:35 - 11:50 am</td>
<td>Open Discussion Session</td>
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### SESSION VI: TOPOGRAPHY AND ABERROMETRY DEVICES, PRINCIPLES AND CLINICAL APPLICATIONS

**Moderator:** Jason Marsack, PhD

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<tr>
<th>Time</th>
<th>Session Title</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>11:50 - 12:05 pm</td>
<td>Wide Angle Eye Model for Assessing Corneal Topography and On and Off Axis Wavefront Aberrometry</td>
<td>Jim Schweigerling, PhD</td>
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<tr>
<td>12:05 - 12:20 pm</td>
<td>The New EyeMapper: A Global Aberrometer: Concept, Instrument Design and Clinical Data</td>
<td>Ravi C Bakaraju, BOptom, PhD</td>
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<tr>
<td>12:20 - 12:30 pm</td>
<td>Comparison of Wavefront Sensor Lenslet Position as Determined by ROC Calibration and Direct Measurement Via Optical Coherence Tomography</td>
<td>Devon Reid</td>
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<tr>
<td>12:30 - 12:45 pm</td>
<td>Combined Topography and Wavefront Sensing: Design and Application Consideration</td>
<td>Dan Neal, PhD</td>
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<td>12:45 - 1:00 pm</td>
<td>Open Panel Discussion</td>
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<td>1:00 - 2:00 pm</td>
<td>Luncheon</td>
<td>Laguna Terrace</td>
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### SESSION VII: FROM LAB TO LAUNCH
Moderator: Geunyoung Yoon, PhD

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>2:00 - 2:15 pm</td>
<td>Seeing Cells in the Living Eye</td>
<td>Jennifer Hunter, PhD</td>
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<tr>
<td>2:15 - 2:30 pm</td>
<td>Current Approaches in Dry Eye Management</td>
<td>Jerry R. Paugh, OD, PhD</td>
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<tr>
<td>2:30 - 2:40 pm</td>
<td>Correction of Low to Moderate Hyperopia by Thulium Laser Application: 2 Year Update on Clinical U.S. Trial</td>
<td>James Salz, MD</td>
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<tr>
<td>2:40 - 2:55 pm</td>
<td>Open Discussion Session</td>
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### SESSION VIII: COMPARATIVE DEBATE: ARE CORNEAL INLAYS THE FUTURE OF PRESBYOPIA CORRECTION?
Moderator: Ronald Krueger, MD

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter(s)</th>
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</thead>
<tbody>
<tr>
<td>2:55 - 3:05 pm</td>
<td>Comparison of Corneal Inlay Techniques</td>
<td>Ronald Krueger, MD</td>
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<tr>
<td>3:05 - 3:15 pm</td>
<td>Raindrop® Near Vision Inlay</td>
<td>ReVision Optics</td>
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<td>Dan Tran, MD</td>
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<td>3:15 - 3:25 pm</td>
<td>Flexivue Microlens™</td>
<td>Presbia</td>
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<td>Kerry Assil, MD</td>
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<tr>
<td>3:25 - 3:35 pm</td>
<td>KAMRA™ Inlay</td>
<td>AcuFocus</td>
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<td>Tom Tooma, MD</td>
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<tr>
<td>3:35 - 3:55 pm</td>
<td>Open Discussion Session</td>
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<tr>
<td>3:55 - 4:15 pm</td>
<td>Coffee Break</td>
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### SESSION IX: EMERGING APPLICATIONS OF ADAPTIVE OPTICS
Moderator: Geunyoung Yoon, PhD

<table>
<thead>
<tr>
<th>Time</th>
<th>Topic</th>
<th>Presenter(s)</th>
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<tbody>
<tr>
<td>4:15 - 4:30 pm</td>
<td>Past Visual Experience and Its Implications for Vision Correction</td>
<td>Michael Webster, PhD</td>
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<tr>
<td>4:30 - 4:45 pm</td>
<td>Binocular Interpretation of Optical Blur and Vision Correction</td>
<td>Geunyoung Yoon, PhD</td>
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<tr>
<td>4:45 - 4:55 pm</td>
<td>Neural Factors Impacting Through-focus Visual Performance in Modified Monovision Presbyopic Corrections</td>
<td>Len Zheleznyak, PhD</td>
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<tr>
<td>4:55 - 5:10 pm</td>
<td>Open Discussion Session</td>
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<tr>
<td>5:10 - 5:30 pm</td>
<td>Awards</td>
<td>Best Invited Paper, Best Free Papers</td>
</tr>
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SATURDAY, FEBRUARY 21, 2014