

USC Roski Eye Institute

Keck Medicine of USC



USC Department of Ophthalmology – Ranked in the Top 10 by U.S. News & World Report for 21 Years

USC ROSKI EYE INSTITUTE - ARVO 2016 SNEAK PEEK

The 2016 Association for Research in Vision and Ophthalmology (ARVO) annual conference will be held in Seattle on May 1-5. USC Gayle and Edward Roski Eye Institute experts will share their latest breakthroughs in their relentless pursuit to protect, preserve and restore sight. Recent advances include large scale multiethnic eye studies that will transform eye health care policy in America, a comparative study of the world's first patient with two artificial retinal prostheses and novel diagnostic methods using USC-pioneered optical coherence tomography (OCT) technology.



Preventive Care: Influencing vision health care policy in America

Over the past 21 years, USC Roski Eye Institute physician-scientists, led by Rohit Varma, MD, MPH, have conducted the nation's largest studies in ocular epidemiology. This research continues to uncover the prevalence of eye diseases and identify key risk factors among minorities and vulnerable populations. Such studies can help physicians create guidelines for screening and intervention, leading to preventive eye care and early treatment, which is crucial to ensuring healthy vision.



Sight Restoration: World's first patient with retinal prosthesis in each eye

Visual function has been restored by Argus I and Argus II in the same patient. Researchers working with Mark S. Humayun, MD, PhD, and James Weiland, PhD, will present a comparative study of a patient previously implanted with Argus I in one eye who recently received surgical implantation of Argus II in the other eye. This world's first study offers a unique opportunity to compare patient perceptions from the two retinal prostheses.



Pioneering the field of Imaging Technology in Vision Science-OCT

The USC Roski Eye Institute was one of only two research sites chosen to conduct preclinical pilot studies using prototype OCT angiography (OCT-A) devices. OCT-A was recently FDA-approved for clinical use as a result of this study. USC Roski Eye Institute

experts are developing groundbreaking imaging techniques and quantifying the microvascular mechanisms in diseases such as glaucoma, uveitis and optic neuropathies, which may lead to early diagnosis and treatment interventions.

USC ROSKI EYE INSTITUTE SNEAK PEEK AT ARVO 2016

SUNDAY, MAY 1, 2016

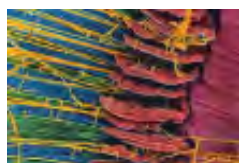
8:30am - 10:15am <i>Poster # B0255</i> RC	Danhong Zhu, MD, PhD, David R. Hinton, MD <i>Scientific Poster. RPE: Optimization of Culture Conditions for Human Retinal Progenitor Cells</i>
8:30am - 10:15am <i>Poster # A0283</i> PH, AP, RC	Juan Carlos Martinez, MD, Amir H. Kashani, MD, PhD, Mark S. Humayun, MD, PhD <i>Scientific Poster. Retina: Physiology Pharmacology: Modification of preretinal oxygen tension related to intraocular pressure</i>
8:30am - 10:15am <i>Poster # A0283</i> CL	Bruce Burkemper, PhD, MPH, Rohit Varma, MD, MPH <i>Scientific Poster. Epidemiological aspects of AMD: Risk factors for prevalent early AMD and associated retinal lesions: The Chinese American Study</i>
8:30am - 10:15am <i>Poster # A0015</i> CL	Farzana Choudhury, MBBS, MPH, PhD, Rohit Varma, MD, MPH <i>Scientific Poster. Epidemiological aspects of AMD: Impact of Longitudinal Changes in Age-related Macular Degeneration on Visual Functioning and Quality of Life in Latinos: The Los Angeles Latino Eye Study (LALES)</i>
8:30am - 10:15am <i>Poster # D0101</i> CO	Austin K. Mircheff, PhD <i>Scientific Poster. Dry Eye 1: Multiplicities of Lacrimal Gland Disease Phenotypes</i>
8:30am - 10:15am <i>Poster # D0009</i> GL	Xinbo Zhang, PhD, Rohit Varma, MD, MPH <i>Scientific Poster. Glaucoma Structure and Function: Detect Glaucoma Progression Using Data-Driven Resampling Method on Repeated Longitudinal Measurements</i>
8:30am - 10:15am <i>Poster # D0134</i> CO	Paula Katagiri, MD, M. Elizabeth Fini, PhD, Shinwu Jeong, PhD <i>Scientific Poster. Dry Eye 1: Galectin-1 ameliorates dry eye disease</i>
1:30pm - 3:15pm <i>Poster # B0003</i> RC, VN, MOI	Hardeep P. Singh, PhD, David Cobrinik, MD, PhD <i>Scientific Poster. Photoreceptor development and physiology, Human Cone Precursor Program Underlying a Proliferative Response to pRB Loss</i>
1:30pm - 3:15pm <i>Poster # A0082</i> MOI	Anoush Shahidzadeh, MPH, Carmen A. Puliafito, MD, MBA, Amir H. Kashani, MD, PhD <i>Scientific Poster. Advancement in OCT: Widefield Swept-Source Optical Coherence Tomography Angiography</i>
2:45pm - 3pm <i>Room 606/607</i>	J. Martin Heur, MD, PhD <i>Workshop/Presentation. Diverse animal models on retinal and corneal degenerative diseases: Zebrafish Model of Corneal Endothelial Disease</i>

3:15pm - 5pm
Poster # B0358
RC

Li Zhang, PhD , Biju Thomas, PhD, Mark S. Humayun, MD, PhD
Scientific Poster. Stem Cell Engineering and Fundamental Mechanisms: Expression of phagocytosis-related receptors of subretinal implantated hESC-RPE cells in RCS rats

3:15pm - 5pm
Poster # C0019
BI

Cheryl Craft, PhD
Scientific Poster. Gene editing and therapies: Tissue Inhibitor of Metalloproteinase 1 Enhances Cell Survival in a Matrix Metalloproteinase Dependent Mechanism in the Rhodopsin S334ter-line 3 Retinitis Pigmentosa Model



USC ROSKI EYE INSTITUTE ARVO RECEPTION
Sunday, May 1, 2016 | 7:30 pm - 10:30 pm
W Hotel Seattle | Great Room
 1112 Fourth Avenue
 Seattle, Washington 98101

MONDAY, MAY 2, 2016

11am - 12:45pm
Poster # A0176
CO

Grace Shih, MD, Bibiana J. Reiser, MD, MS
Scientific Poster. Corneal Imaging: Corneal Endothelium and Iridocorneal Angle Biometrics in Pediatric Glaucomatous Eyes

11am - 12:45pm
Poster # A0212
CO

Dagny Zhu, MD, J. Martin Heur, MD, PhD
Scientific Poster. Cornea Imaging: Functional Imaging of Ex Vivo Human Corneal Endothelium Using Two-Photon Fluorescence Lifetime Imaging Microscopy

11am - 12:45pm
Poster # B0083
LE

Mina Torres, MS, Rohit Varma, MD, MPH
Scientific Poster. Cataract Surgery: epidemiology: Prevalence of Visually Significant Cataracts and Unmet Need for Cataract Surgery among Adult Chinese Americans: The Chinese American Eye Study

3:45pm - 5:30pm
Poster #B0010
CL, AP

Arman Zaman, MD, Julie M. Schallhorn, MD, MS
Scientific Poster. Myopia: Perinatal Light Exposure and the Development of Myopia and Hyperopia

3:45pm - 5:30pm
Poster # A0235
AP

Lilangi S. Ediriwickrema, MD, MS, Michael Burnstine, MD, Narsing A. Rao, MD
Scientific Poster. Adnexal and Orbital Pathology: Malignant Solitary Fibrous Tumor of the Orbit: Revamping the Immunophenotypic and Histopathological Gold Standard for Diagnosis

3:45pm - 5:30pm
Abstract # 2313
Room Tahoma 3, TCC

Scott Whitcup, MD, Pravin Dugel, MD
Presentation. Diabetic Macular Edema Treatment: Consistency of visual acuity response to anti-VEGF therapy in diabetic macular edema patients: An analysis of DRCRnet Protocol I data

TUESDAY, MAY 3, 2016

8:30am - 10:15am
Abstract # 2818
Room Tahoma 1/2, TCC

Andrew Browne, MD, PhD, Bibiana J. Reiser, MD, MS, Thomas Lee, MD, David Cobrinik, MD, PhD
Presentation. Stem Cells: Disease Models and Therapeutics I: Human Stem Cell Derived Retinal

Spheroids Characterized Non-Invasively for Structure and Function by Multimodal Imaging

8:30am - 10:15am

Poster # B0082
EY

Xuejuan Jiang, PhD, Rohit Varma, MD, MPH

Scientific Poster. Amblyopia: Dilated Eye Examination among Multi-ethnic Preschool Children

8:30am - 10:15am

Poster # A0157
CO

Sabine Kling, Farhad Hafezi, MD, PhD

Scientific Poster. Keratoconus and Collagen Crosslinking: Determining the Efficacy of Corneal Crosslinking (CXL) Protocols for Different Corneal Thicknesses: Theoretical Model and Experimental Validation

8:30am - 10:15am

Poster # C0077
RE

Stavros N. Moysidis, MD, Lisa C. Olmos de Koo, MD, MBA, Andrew A. Moshfeghi, MD, MBA, Narsing A. Rao, MD, Mark S. Humayun, MD, PhD, Damien C. Rodger, MD, PhD

Scientific Poster. Diabetic retinopathy and steroids: Does the Vitreous Protect the Retina, Vasculature, and Optic Nerve from Impact During Intravitreal Injection of Dexamethasone Implants?

11am - 12:45pm

Poster # C0143
AP

Jesse L. Berry, MD, Jonathan W. Kim, MD

Scientific Poster. What is New in Retinoblastoma? Analysis of Nucleic Acid content in the Aqueous Humor of Retinoblastoma Eyes

11am - 12:45pm

Poster # C0160
AP

Hassan A. Aziz, MD, Jesse L. Berry, MD, Jonathan W. Kim, MD

Scientific Poster. What is New in Retinoblastoma? Acute Vaso-occlusion and Chorioretinal Toxicity following Intravitreal Melphalan Injection

11am - 12:45pm

Poster # C0148
AP

Ananth Sastry, MD, Jesse L. Berry, MD, Jonathan W. Kim, MD

Scientific Poster. What is New in Retinoblastoma? Retrograde Differentiation of Retinoblastoma in Infants

11am - 12:45pm

Poster # D0179
RE

Kiran Nimmagadda, PhD, James D. Weiland, PhD

Scientific Poster. Retinal Prosthesis and Stem Cells: Relative power consumption at the electrode-retina interface during retinal stimulation with voltage versus current controlled stimulus pulses

11am - 12:45pm

Poster # D0175
RE

Andrew C. Weitz, PhD, Mark S. Humayun, MD, PhD, James D. Weiland, PhD

Scientific Poster. Retinal Prosthesis and Stem Cells: Focal electrical stimulation of the retina

11am - 12:45pm

Poster # D0174
RE

Alejandra Gonzalez Calle, MS, James D. Weiland, PhD

Scientific Poster. Retinal Prosthesis and Stem Cells: Evaluation of electrical stimulation of the retina with optical coherence tomography

11am - 12:45pm

Poster # D0196
RE

Biju Thomas, PhD, David R. Hinton, MD, Mark S. Humayun, MD, PhD

Scientific Poster. Retinal Prosthesis and Stem Cells: A New Immunodeficient Dystrophic RCS Rat Model for Transplantation Studies Using Human Derived Cells

11am - 12:45pm

Poster # C0142
AP

Jonathan W. Kim, MD

Scientific Poster. What is new in Retinoblastoma?: Rabbit model of ocular photodynamic therapy using an indirect ophthalmoscope delivery

system.

3:45pm - 5:30pm <i>Poster # D0016</i> <i>IM, CL</i>	On-Tat Lee, MD, Jesse L. Berry, MD, Damien C. Rodger, MD, PhD, Narsing A. Rao, MD <i>Scientific Poster. Uveitis Epidemiology: Chronic manifestations of Vogt-Koyanagi-Harada disease</i>
3:45pm - 5:30pm <i>Poster # D0297</i> <i>MOI, AP</i>	Kelly Rue, MD, Lisa C. Olmos de Koo, MD, MBA <i>Scientific Poster. Clinical and Other Applications of OCT: Swept Source OCT Imaging of Retinal Colobomas</i>
3:45pm - 5:30pm <i>Poster # D0092</i> <i>RE</i>	Kam Vaziri, Andrew A. Moshfeghi, MD, MBA <i>Scientific Poster. Macular Edema Clinical and Translational: Relationship Between Prostaglandin Analog Use and Cystoid Macular Edema</i>
3:45pm - 5:30pm <i>Poster # D0305</i> <i>MOI, AP</i>	Ana Martynova, Amir Kashani, MD, PhD, David Hinton, MD, Mark S. Humayun, MD, PhD <i>Scientific Poster. Clinical and Other Applications of OCT: SD-OCT Assessment of Retinal Structure After Subretinal Implantation of a Substrate- Adherent Monolayer of Human Embryonic Stem Cell-Derived Retinal Pigment Epithelium</i>
3:45pm - 5:30pm <i>Poster # C0108</i> <i>RE</i>	Brian C. Joondeph, MD, David S. Boyer, MD <i>Scientific Poster. Vitreoretinal Interface Disease: ORBIT: A phase IV clinical study - lessons learned from patient selection criteria for ocriplasmin intravitreal injection</i>
3:45pm - 5:30pm <i>Poster # A0038</i> <i>CO</i>	Billy X. Pan, MD, Gloria B. Chiu, OD, FAAO, J. Martin Heur, MD, PhD <i>Scientific Poster. Ocular Surface Health and Disease: Prosthetic Replacement of the Ocular Surface Ecosystem Therapy for Sjögren's Syndrome Patients</i>

WEDNESDAY, MAY 4, 2016

8:30am - 10:15am <i>Poster # B0099</i> <i>RE</i>	Kaitlin Kogachi, Amir H. Kashani, MD, PhD <i>Scientific Poster. Vitreoretinal Surgery 2: Retinal Thickness Analysis following Subretinal Tissue Plasminogen Activator for Displacement of Subretinal Hemorrhage</i>
11am - 12:45pm <i>Poster # C0139</i> <i>GL</i>	Benjamin Xu, MD, PhD, Rohit Varma, MD, MPH <i>Scientific Poster. Glaucoma Imaging II: The Relationship Between Intraocular Pressure and Sectoral Angle Narrowing As Measured With Anterior Segment Optical Coherence Tomography: The Chinese American Eye Study</i>
11am - 12:45pm <i>Poster # C0147</i> <i>GL</i>	Natasha Naik, MD, Rohit Varma, MD, MPH <i>Scientific Poster. Glaucoma Imaging II: A New Definition of Narrow Angles Based on Anterior Segment Optical Coherence Tomography Measurements: The Chinese American Eye Study</i>
11am - 12:45pm <i>Poster # A0046</i> <i>GEN, AP, CL</i>	Drew Nannini, MS, Rohit Varma, MD, MPH <i>Scientific Poster. Corneal Genetics and Myopia: A genome-wide association study of central corneal thickness in Latinos</i>
11am -12:45pm <i>Poster # B0224</i> <i>PH, LV, MOI, RC, VN</i>	Pravin Dugel, MD <i>Scientific Poster. Anti-VEGF: A 2-year study comparing the efficacy and safety of brolucizumab vs aflibercept in</i>

subjects with neovascular age-related macular degeneration: testing an alternative treatment regimen

11am - 12:45pm

Poster # A0064
RE

Julie M. Schallhorn, MD, MS

Scientific Poster. Corneal Refractive Surgery II: Laser vision correction in the setting of systemic collagen vascular disorders

3:45pm - 5:30pm

Abstract # 5204
Room 6C,
RE

Lan Yue, PhD, Lisa C. Olmos de Koo, MD, MBA, James D. Weiland, PhD, Mark S. Humayun, MD, PhD

Presentation. Retinal Prosthetics and Novel Therapies: Visual function restored by Argus I and Argus II in the same subject

3:45pm - 5:30pm

Poster # C0069
MOI, RC

Brandon J. Wong, MD, Rohit Varma, MD, MPH, Vivek Patel, MD, Dara West, MD, Carmen A. Puliafito, MD, MBA, Amir H. Kashani, MD, PhD, Grace Richter, MD, MPH

Scientific Poster. Clinical Applications of OCT Angiography: Anatomic correlations between optical coherence tomography angiography microvasculature defects and ganglion cell analysis thinning in glaucomatous and non-glaucomatous optic neuropathy

3:45pm - 5:30pm

Poster # C0112
MOI, RC

Damien C. Rodger, MD, PhD, Carmen A. Puliafito, MD, MBA, Narsing A. Rao, MD, Amir H. Kashani, MD, PhD

Scientific Poster. Clinical Applications of OCT Angiography: Quantitative analysis of changes in the retinal microvasculature in uveitis using spectral domain optical coherence tomography angiography (SD-OCTA)

3:45pm - 5:30pm

Poster # D0065
CL

Roberta McKean-Cowdin, PhD, Rohit Varma, MD, MPH, Mina Torres, MS, Chunyi Hsu, MPH, Xuejuan Jiang, PhD

Scientific Poster. Clinical Potpourri: Risk Indicators and Prevalence of Undetected Eye Disease in Chinese Americans: The Chinese American Eye Study (CHES)

3:45pm - 5:30pm

Poster # D0068
CL

Chunyi Hsu, MPH, Xuejuan Jiang, PhD, Mina Torres, MS, Rohit Varma, MD, MPH

Scientific Poster. Clinical Potpourri: Noncompliance with Vision Care Guidelines in Chinese Americans with Type 2 Diabetes Mellitus

3:45pm - 5:30pm

Poster # C0109
MOI, RC

Nicole Koulisis, Carmen A. Puliafito, MD, MBA, Amir H. Kashani, MD, MPH

Scientific Poster. Clinical Applications of OCT Angiography: Quantitative Microvascular Analysis of Retinal Venous Occlusion by Optical Coherence Tomography Angiography

3:45pm - 5:30pm

Poster # C0088
MOI, RC

Alice Y. Kim, Carmen A. Puliafito, MD, MBA, Amir H. Kashani, MD, PhD

Scientific Poster. Clinical Applications of OCT Angiography: Quantification of retinal microvascular changes in diabetic retinopathy using spectral domain optical coherence tomography angiography (SD-OCTA)

THURSDAY, MAY 5, 2016**8:30am - 9:45am**

Walid F. Abdallah MD, PhD, Mark S. Humayun, MD,

Poster # C0062
RE

PhD

Scientific Poster. Vitreoretinal Surgery Novel Approaches: Experimental Induction of Posterior Vitreous Detachment

8:30am - 9:45am
Poster # A0003
CO

Zhen Meng, Sarah F. Hamm-Alvarez, PhD

Scientific Poster. Lacrimal glands, meibomian glands and others: Altered expression of Rab3D, Cathepsin S and other effectors of antigen presentation is triggered by interferon-gamma in lacrimal gland acinar cells

11am - 12:45pm
Poster # C0184
RE

Sun Young Lee, MD, PhD, Dagny Zhu, MD, Jesse L. Berry, MD

Scientific Poster. Endophthalmitis and Trauma: Outcomes of Open Globe Injury Repair in an Underserved Population at a Level I Trauma Center: The Los Angeles County + University of Southern California (LAC+USC) Experience

11am - 12:45pm
Poster # D0208
GL

Jiun L. Do, MD, PhD, Jesse L. Berry, MD, Grace Richter, MD, MPH

Scientific Poster. Glaucoma Surgery II: Comparison of Ahmed versus Baerveldt Implants in Managing Neovascular Glaucoma

11am - 12:45pm
Poster # A0141
CL

Wafa Al-Otaibi, Farhad Hafezi, MD, PhD

Scientific Poster. Cornea and Anterior Segment: Preliminary data on the prevalence of Keratoconus among Children and Adolescents in Riyadh, Saudi Arabia

Joy V. Roque

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