

ARVO Annual Meeting, April 28 – May 2, 2019
Vancouver, British Columbia

Saturday, April 27, 2019

Diabetic Retinopathy: What's New

West 212 - 214

1:25pm – 1:50pm

Maria Grant. "The Gut Microbiome in Diabetic Retinopathy."

Sunday, April 28, 2019

Low Vision Group/Cross-Sectional Group Session

West 223/224

1:36pm – 1:54pm

Cynthia Owsley. "Patient Reported Outcome Measures Targeted at Low Luminance Activities."

Animal Imaging

West Exhibition Hall

8:00am – 9:45am

Posterboard Number: A0617

Abstract Author Block: *Preston Fuchs, Mustapha El Hamdaoui, Johanna Henry, **Rafael Grytz, Brian Samuels.** "OCT Camera Position Affects Apparent Eye Morphometry in Tree Shrews (*Tupaia belangeri*)."

Novel Pathogenic Mechanisms in Diabetic Retinopathy

East 11/12

3:00pm – 3:15pm

Presentation Number: 977

Abstract Author Block: *Ram Prasad, Yaqian Duan, Gopalkrishna Sreejit, Jason Floyd, Baskaran Athmanathan, Prabhakara Nagareddy, **Maria Grant.** "Gut Microbiota Intensifies Retinal Vascular Defects by Targeting Adherens Junction Protein p120-catenin in Angiotensin Converting Enzyme 2 (ACE2) Deficient Type 1 Diabetes (T1D)."

Monday, April 29, 2019

Glaucoma Genetics

West Exhibition Hall

8:15am – 10:00am

Posterboard Number: A0500

Abstract Author Block: *Argus Athanas-Crannell, Mark Christopher, Yongwook Choi, Agnes Chan, Linda Zangwill, Jeffrey Liebmann, **Christopher Girkin,** Robert Feldman, Kent Taylor,

Jerome Rotter, Harvey DuBiner, Radha Ayyagari, Nicholas Schork, Robert Weinreb. "Mixed Effects Models Indicate Several SNPs within the CNTNAP2 Gene Increase Rate of Glaucoma Related Visual Field Loss."

Retinal Vascular Biology

West Exhibition Hall

8:15am – 10:00am

Posterboard Number: B0265

Abstract Author Block: *Brahim Chaqour, **Maria Grant**, Sohyun Moon, Michele Luu, Sangmi Lee. "The Ccn1-YAP Regulatory Pathway is a Novel Angiomodulatory Circuit that Controls Vascular Growth and Expansion in the Retina."

Imaging: Posterior Segment, Clinical

West Exhibition Hall

8:15am – 10:00am

Posterboard Number: A0334

Abstract Author Block: *Andreas Pollreisz, Martina Neschi, Kenneth Sloan, Tamara Mittermüller, Dennis Dacey, **Christine Curcio**, Ursula Schmidt-Erfurth. "Deciphering Subcellular Signal Sources for Optical Coherence Tomography (OCT) and Autofluorescence (AF) Imaging of the Human Retinal Pigment Epithelium (RPE)."

AMD Pathobiology and New Models

East 11/12

8:45am – 9:00am

Paper Session

Presentation Number: 1341

Abstract Author Block: *Amol Sura, **Gerald McGwin**, **Christine Curcio**. "Components of RPE-Basal Lamina-Bruch's Membrane (BrM) Complex: Histologic Thickness at Different Stages of Age-Related Macular Degeneration (AMD)."

Lipids in Diverse Functions and Pathologies of the Eye

West 220

1:15pm – 2:45pm

Special Interest Group

Abstract Author Block: *Gurkaran Sarohia, *Sanjoy Bhattacharya, *Nicolas Bazan, *Nicolas Bazan, ***Christine Curcio**, *Irina Pikuleva, *Michael Elliott, *Kevin Schey, *Natalia Surzenko.

Idiopathic Intracranial Hypertension, Dementia and Neurodegenerative Disorders

West Exhibition Hall

4:00pm – 5:45pm

Posterboard Number: A0049

Abstract Author Block: *Michael Dattilo, **Brian Samuels**, C Ethier. "Tree Shrew Spontaneous Retinal Venous Pulsation Changes Due to Changes in the Translaminar Pressure Difference."

Visual Impairment and Multi-Morbidity

West 221/222

4:00pm – 5:45pm

Moderators: **Dawn K DeCarlo** (University of Alabama at Birmingham), Ava K Bittner (Nova Southeastern University, College of Optometry), Sharon Ann Bentley (Queensland University of Technology), Walter Wittich (University of Montreal).

Biochemistry and Molecular Mechanisms of Diabetic Retinopathy

West Exhibition Hall

4:00pm – 5:45pm

Posterboard Number: B0203

Abstract Author Block: *Samantha Prabakaran, Eleni Beli, Yaqian Duan, Sergio Li Calzi, **Maria Grant**. “Altered Circadian Metabolites in Type 2 Diabetic Mice with Diabetic Retinopathy.”

Visual Fields, Psychophysics, and Electrophysiology

West Exhibition Hall

4:00pm – 5:45pm

Posterboard Number: A0627

Abstract Author Block: *Cyril Nyankerh, Sampson Abu, **Lyne Racette**. “No Racial Differences Exist in Visual Field Test-Retest Variability in Healthy Eyes.”

Diabetic Retinopathy: Pathogenic Mechanisms

West Exhibition Hall

4:00pm – 5:45pm

Posterboard Number: B0219

Abstract Author Block: *Bright Asare-Bediako, Sunil Nooti, Sergio Li Calzi, Baskaran Athmanathan, Cristiano Pedrozo Vieira, Ana Leda Longhini, Mariana Dupont, Dibyendu Chakraborty, Prabhakara Nagareddy, **Maria Grant**. “In Vivo Retinal Structural Lesions, Functional Deficits and Peripheral Blood Cell Phenotype in Mice with High-Fat Diet-Induced Retinopathy.”

Diabetic Retinopathy: Pathogenic Mechanisms

West Exhibition Hall

4:00pm – 5:45pm

Posterboard Number: B0235

Abstract Author Block: *Delaney McFarland, Sandra Hammer, **Maria Grant**, Julia Busik “Control of Retinal Cholesterol Levels by Fasting-Induced Activation of SIRT1-LXR Pathway in Diabetic Retinopathy.”

New Therapeutic Avenues in Diabetic Retinopathy

West Exhibition Hall

4:00pm – 5:45pm

Posterboard Number: B0250

Abstract Author Block: *Dibyendu Chakraborty, Cristiano Pedrozo Vieira, Sergio Calzi, Ana L. Longhini, **Michael Boulton, Maria Grant**. "Human Induced Pluripotent Stem Cell (hiPSC)-Derived Mesoderm Promotes Retinal Function in a Type 2 Diabetes (db/db) Model."

New Therapeutic Avenues in Diabetic Retinopathy

West Exhibition Hall

4:00pm – 5:45pm

Posterboard Number: B0259

Abstract Author Block: *Sandra Hammer, Julia Busik, **Maria Grant**. "The Role of the Sirt1/Lxr Signaling Axis in Retinal Endothelial Cell Inflammation and Metabolism."

Tuesday, April 30, 2019

Hyperreflective Intraretinal Spots in Macular Diseases: From Bench to Bedside

West 223/224

7:00am – 8:30am

Special Interest Group

Abstract Author Block: *Elisabetta Pilotto, *David Sarraf, ***Christine Curcio**, *Ursula Schmidt-Erfurth, *Edoardo Midena.

AMD Translational Studies

West Exhibition Hall

8:45am – 10:30am

Posterboard Number: A0269

Abstract Author Block: *Ankita Kotnala, David Anderson, Nathan Patterson, Jeffery Messinger, **Christine Curcio**, Kevin Schey. "Sample Preparation Effects on Retina Lipid Analysis by MALDI Imaging and LC-MS Technologies."

Diabetic Retinopathy

East 2/3

10:00am – 10:15am

Presentation Number: 2788

Abstract Author Block: *Cristiano Pedrozo Vieira, Ana Leda Longhini, Sergio Calzi, Bright Asare-Bediako, Mariana Dupont, Julia Busik, **Maria Grant**. "Targeting LXR Using N, N-dimethyl-3 β -hydroxycholeamide (DMHCA) Provides Protection from Development of Diabetic Retinopathy in db/db Mice."

AMD Imaging

West Exhibition Hall

11:45am – 1:30pm

Posterboard Number: A0291

Abstract Author Block: *Serena Fragiotta, Pedro Fernandez Avellaneda, Belinda Leong, Kenneth Kato, Yoichi Sakurada, Lawrence A. Yannuzzi, **Christine Curcio**, K Bailey Freund. "Genesis of

Cholesterol Crystals in Eyes with Drusenoid Pigment Epithelial Detachment Secondary to Non-Neovascular Age-Related Macular Degeneration.”

AMD Imaging

West Exhibition Hall

11:45am – 1:30pm

Posterboard Number: A0296

Abstract Author Block: *Belinda Leong, Kenneth Sloan, Jeffrey Messinger, K Bailey Freund, **Christine Curcio**. “Migration Patterns of Intraretinal Retinal Pigment Epithelium (RPE) in Non-Neovascular Age-Related Macular Degeneration.”

AMD Imaging

West Exhibition Hall

11:45am – 1:30pm

Posterboard Number: A0306

Abstract Author Block: *Taariq Mohammed, Yuehong Tong, Arshed Al-Obeidi, Nayanika Challa, Thomas Ach, **Christine Curcio**, R Theodore Smith. “Characterizing Spectra from Hyperspectral Autofluorescence (AF) of Human Eyes with and Without Age-related Macular Degeneration (AMD).”

AMD Imaging

West Exhibition Hall

11:45am – 1:30pm

Posterboard Number: A0307

Abstract Author Block: *Arshed Al-Obeidi, Taariq Mohammed, Yuehong Tong, Nayanika Challa, Tom Ach, **Christine Curcio**, R Theodore Smith. “Association Between Spectral Profile from Hyperspectral Autofluorescence (AF) with Localization of Melanin-Containing Organelles in Human RPE in Eyes With and Without AMD.”

AMD Imaging

West Exhibition Hall

11:45am – 1:30pm

Posterboard Number: A0331

Abstract Author Block: ***Christine Curcio**, Miaoling Li, Rosa Dolz-Marco, Carrie Huisinigh, Jeffrey Messinger, **Richard Feist**, Daniela Ferrara, K. Freund. “Histologic Correlates of Optical Coherence Tomography Signatures in Geographic Atrophy (GA) Secondary to Age-Related Macular Degeneration (AMD).”

AMD Imaging

West Exhibition Hall

11:45am – 1:30pm

Posterboard Number: A0335

Abstract Author Block: *Miaoling Li, Rosa Dolz-Marco, Jeffrey Messinger, Kenneth Sloan, Daniela Ferrara, **Christine Curcio**, K Bailey Freund. "Clinicopathologic Correlation of Aneurysmal Type 1 Neovascularization (AT1-NV) Secondary to Age-Related Macular Degeneration (AMD)."

Pharmacologic Interventions and Cellular Mechanisms

West Exhibition Hall

11:45am – 1:30pm

Posterboard Number: B0332

Abstract Author Block: *Arthur DeCarlo, Johanna Henry, Izabela Caliman, **Rafael Grytz**, Philip Johnson, **Brian Samuels**. "Differential Effects of Orexin Receptors-1 and 2 on IOP and ICP Responses to Hypothalamic Activation."

Clinical Studies

ARVO Ballroom

2:45pm – 3:00pm

Paper Session

Presentation Number: 3913

Abstract Author Block: *Jessica Jasien, **Brian Samuels**, James Johnston, **J Crawford Downs**. "Effect of Body Position on IOP, Intracranial Pressure and the Translaminar Pressure Difference Measured with Continuous Wireless Telemetry in Nonhuman Primates."

Vision Assessment and Modeling in Health and with Impairment

West 223/224

2:45pm – 4:30pm

Paper Session

Presentation Number: 3909

Moderators: Andrew Carkeet (QUT), **MiYoung Kwon** (University of Alabama at Birmingham), Gareth D Hastings, Christopher Anderson Clark (Indiana University).

Vision Assessment and Modeling in Health and with Impairment

West 223/224

2:45pm – 4:30pm

Paper Session

Presentation Number: 3909

Author Block: MiYoung Kwon¹, Rong Liu¹

"Contribution of Retinal Ganglion Cell Density to the Non-Uniform Spatial Integration Across the Visual Field."

RPE Biology in Health and Disease

East 11/12

3:15 – 3:30pm

Paper Session

Presentation Number: 3848

Abstract Author Block: *Thomas Ach, Christina Wobbe, Rainer Heintzmann, Jost Hillenkamp, **Christine Curcio**, Kenneth Sloan, Katharina Bermond. "Organelles of the Human Retinal Pigment Epithelium (RPE): Morphological Subtypes, Regional Differences, and Total 488 Nm Autofluorescence (AF)."

Wednesday, May 1, 2019

Adaptive Optics

West Exhibition Hall

8:15am – 10:00am

Posterboard Number: A0579

Abstract Author Block: *Xiaolin Wang, Mark Clark, Boyu Gu, **C. Douglas Witherspoon**, **Cynthia Owsley**, **Christine Curcio**, Yuhua Zhang. "Natural History and Impact on Photoreceptors of Subretinal Drusenoid Deposits in Age-Related Macular Degeneration."

Peripheral Vision, Perimetry and Cortical Function

West Exhibition Hall

8:15am – 10:00am

Posterboard Number: A0107

Abstract Author Block: *Guido Maiello, Marguerite Devereux, Rong Liu, **MiYoung Kwon**. "Near-Optimal Combination of Disparity Across the Visual Field in Glaucoma."

Muller Cells in Health and Disease

West Exhibition Hall

8:15am – 10:00am

Posterboard Number: A0291

Abstract Author Block: *Deepayan Kar, Ramya Singireddy, Jeff Lichtman, Dennis Dacey, **Christine Curcio**. "Morphology of a Human Central Bouquet Müller Cell Explored Using 3-Dimensional Volume Reconstruction via Connectomics."

Visual Impairment and Patient Reported Outcomes

West Exhibition Hall

10:15am – 12:00pm

Posterboard Number: A0375

Abstract Author Block: ***Dawn DeCarlo**, Elizabeth Forte, Liyan Gao, **Gerald McGwin**, **Cynthia Owsley**. "Quality of Life in Pediatric Vision Impairment: Use of the PedsQL."

How Do I Tell My Story?

West 212 - 214

12:50pm – 1:00pm

Workshop

Abstract Author Block: ***Maria Grant**. "Every Story Has a Beginning, Middle, and End. Not Necessarily in that Order."

AMD and Antiangiogenic Agents

West Exhibition Hall

3:00pm – 4:45pm

Posterboard Number: B0095

Abstract Author Block: *Isabel Franklin, Sergio Li Calzi, **Maria Grant**, Derek Cunningham, Alan Franklin. “Topical Lifitegrast Inhibits Pathological Ocular Neovascularization.”

AMD and Antiangiogenic Agents

West Exhibition Hall

3:00pm – 4:45pm

Posterboard Number: B0107

Abstract Author Block: *Sergio Li Calzi, Dibyendu Chakraborty, Bright Asare-Bediako, Isabel Franklin, Srikanth Kakumanu, Laurent Balenci, **Maria Grant**, Alan Frank. “A PLGA-Carboxyamidotriazole (CAI) Polymeric Suspension Suppresses Pathological Ocular Angiogenesis in Rodent CNV Model.”

Imaging II

West Exhibition Hall

3:00pm – 4:45pm

Posterboard Number: B0491

Abstract Author Block: *Mark Christopher, Akram Belghith, Christopher Bowd, **Massimo Fazio**, Michael Goldbaum, Robert Weinreb, **Christopher Girkin**, Jeffrey Liebmann, Linda Zangwill. “Deep Learning Models Predict Visual Function from Macula Thickness Map.”

Ocular Blood Flow

ARVO Ballroom

8:15am – 10:00am

Paper Session

Moderators: Leopold Schmetterer (Singapore Eye Research Institute), Louis R Pasquale (Harvard Medical School), **Christopher A Girkin** (University of Alabama at Birmingham).

Adaptive Optics

West Exhibition Hall

8:15am – 10:00am

Posterboard Number: A0597

Abstract Author Block: *Yuhua Zhang, Boyu Gu, Xiaolin Wang, Michael Twa, Johnny Tam, **Christopher Girkin**, Srinivas Sadda. “In Vivo Characterization of the Acceleration Process of Erythrocytes within Human Retinal Capillaries.”

Advanced Imaging Technologies

East 1

10:15am – 10:30am

Paper Session

Presentation Number: 4740

Abstract Author Block: *Seung Woo Hong, Hongli Yang, Stuart Gardiner, Haomin Luo, Christy Hardin, Glen Sharpe, Joseph Caprioli, Shaban Demirel, **Christopher Girkin**, Jeffrey Liebmann, Christian Mardin, Harry Quigley, Alexander Scheuerle, Brad Fortune, Balwantray Chauhan, Claude Burgoyne. "Anterior Scleral Canal Opening (ASCO) Offset Relative to Bruch's Membrane Opening (BMO) Influences the Angular Location of Peak Retinal Nerve Fiber Layer Thickness (RNFLT) in Healthy Human Eyes."

Imaging I

West Exhibition Hall

3:00pm – 4:45pm

Posterboard Number: B0407

Abstract Author Block: Abstract Author Block: *Ya Xing Wang, Hongli Yang, Haomin Luo, Seung Woo Hong, Stuart Gardiner, Jin Wook Jeoung, Joseph Caprioli, Shaban Demirel, **Christopher Girkin**, Jeffrey Liebmann, Christian Mardin, Harry Quigley, Alexander Scheuerle, Balwantray Chauhan, Claude Burgoyne. "Optical Coherence Tomography (OCT) Anterior Scleral Canal Opening (ASCO) Tilt and Rotation Relative to Bruch's Membrane Opening (BMO) and Peripapillary Scleral Bowing (PSB) in Healthy Eyes."

Imaging I

West Exhibition Hall

3:00pm – 4:45pm

Posterboard Number: B0441

Abstract Author Block: Abstract Author Block: *Rohith Voora, Mohamad Moghadam, Jason Lee, Christopher Bowd, James Proudfoot, Sasan Moghimi, Patricia Isabel Manalastas, Mark Christopher, Jeffrey Liebmann, **Christopher Girkin**, Robert Weinreb, Akram Belghith, Linda Zangwill. "Beta and Gamma Parapapillary Atrophy (PPA) Zone Areas in Myopic Eyes With and Without Glaucoma."

Imaging II

West Exhibition Hall

3:00pm – 4:45pm

Posterboard Number: B0491

Abstract Author Block: *Mark Christopher, Akram Belghith, Christopher Bowd, **Massimo Fazio**, Michael Goldbaum, Robert Weinreb, **Christopher Girkin**, Jeffrey Liebmann, Linda Zangwill. "Deep Learning Models Predict Visual Function from Macula Thickness Map."

Thursday, May 2, 2019

Molecular Mechanisms and Anatomical Changes in Experimental Myopia

West Exhibition Hall

8:00am – 9:45am

Posterboard Number: A0359

Abstract Author Block: *Mustapha El Hamdaoui, Mokshad Gaonkar, **Christopher Girkin, Brian Samuels, Rafael Grytz**. "Scleral Crosslinking Using Genipin Can Affect Normal Eye Development in Tree Shrews."

Structure/Function Relationships

West Exhibition Hall

8:00am – 9:45am

Posterboard Number: B0002

Abstract Author Block: *Ivan Marin-Franch, Paul Artes, **Lyne Racette**. "Joint Analysis of Pointwise Linear Regression with Structure and Function May Not Increase Sensitivity to Glaucoma Progression."

Structure/Function Relationships

West Exhibition Hall

8:00am – 9:45am

Posterboard Number: B0023

Abstract Author Block: *Sampson Abu, Ivan Marin-Franch, **Lyne Racette**. "Predicting Glaucoma Progression in One Eye Based on the Progression Status of the Fellow Eye."

Molecular Mechanisms and Anatomical Changes in Experimental Myopia

West Exhibition Hall

8:00am – 9:45am

Posterboard Number: A0376

Abstract Author Block: *Timothy Gawne, **Rafael Grytz**, Thomas Norton. "Combining Narrow-Band Red and Blue Ambient Light Causes Moderate Myopia in Tree Shrews."

Molecular Mechanisms and Anatomical Changes in Experimental Myopia

West Exhibition Hall

8:00am – 9:45am

Posterboard Number: A0359

Abstract Author Block: *Mustapha El Hamdaoui, Mokshad Gaonkar, **Christopher Girkin, Brian Samuels, Rafael Grytz**. "Scleral Crosslinking Using Genipin Can Affect Normal Eye Development in Tree Shrews."

Functional Genomics Characterization and Animal Models

West Exhibition Hall

8:00am – 9:45am

Posterboard Number: A0567

Abstract Author Block: *Jr-Jiun Liou, Shenghuo Tien, Michael Yee, Paul Kinchington, **Christopher Girkin**, Jonathan Vande Geest. "Manipulating Gene Expression of Human Lamina Cribrosa Cells and Astrocytes."

Biomechanics

West Exhibition Hall

8:00am – 9:45am

Posterboard Number: B0055

Abstract Author Block: *Jonathan Vande Geest, Hirut Kollech, Reza Behkam, Anirban Jana, Urs Utzinger, **Christopher Girkin**. “Biomechanical Response of the Lamina Cribrosa in Glaucomatous and Non-Glaucomatous Samples.”

The Gut-Eye Axis

West 212 - 214

9:38am - 9:58am

Presentation Number: 5635

Abstract Author Block: ***Maria Grant**. “Reconstructing the Microbiome for Treatment of Diabetic Retinopathy.”

Corneal Biomechanics

West Exhibition Hall

10:15am – 12:00pm

Posterboard Number: B0413

Abstract Author Block: *Ibrahim Seven, **Rafael Grytz**, William Dupps. “3D Patient-Specific Finite Element Model (FEM) of Intracorneal Ring Segment (ICRS) Implantation.”

AMD and Antiangiogenic Agents

East 2/3

10:15am – 12:00pm

Moderators: Jeong-Hyeon Sohn (University of Texas Health Science Center), **Christine A Curcio** (University of Alabama at Birmingham)

Biochemistry and Molecular Biology of Diabetic Retinopathy

East Ballroom C

11:15am – 11:30am

Presentation Number: 6428

Abstract Author Block: *Priyamvada Pitale, Yvonne Adu-Agyeiwaah, Sergio Li Calzi, Takashi Satoh, Shizuo Akira, **Maria Grant**, Marina Gorbatyuk. “TRIB3 Ablation Attenuates Hypoxia-Induced Angiogenesis in Mouse Retinas.”

