

ARVO Annual Meeting
April 28 – May 2
Vancouver Convention Centre
Vancouver, B.C.



from
BENCH

to
BEDSIDE

and
BACK

Three circular icons are arranged vertically. The top icon is a microscope, the middle icon is a person's head profile with a brain and a device, and the bottom icon is three test tubes. The icons are yellow with white outlines. The background of the central section is dark blue with glowing blue light trails.

Program Summary



ARVO.org/AM

Program Overview

Sunday, April 28

Registration/Badge Printing	Main Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
Basic Clinical Lecture	East Ballroom B	8–10am
Symposia	See program listing	8–10am
Posters	See program listing	8–9:45am 1–2:45pm 3–4:45pm 5–6pm*
Exhibits	Exhibit Hall	8:30am–5pm
ARVO/Alcon Keynote Session	ARVO Ballroom	10:15–11:45am
Proctor Award Lecture	ARVO Ballroom	12noon–12:45pm
China-ARVO Networking Forum	West 301	1–2:30pm
SIGs/Workshops	See program listing	1–2:30pm
Low Vision Cross-sectional Group	West 223/224	1–2:30pm
Papers	See program listing	3–4:45pm
Sunday Social †	Vancouver Aquarium	7–10pm

Monday, April 29

Registration/Badge Printing	Main Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
NAEVR Defense Briefing	West 109/110	7–8am
Posters	See program listing	8:15–10am 11:15am–1pm 4–5:45pm 6–7pm*
Papers/Minisymposia	See program listing	8:15–10am 11:15am–1pm 3:30–5:15pm
Exhibits	Exhibit Hall	8:30am–5pm
Section Business Meetings	See program listing	10:15–11am
Workshops	See program listing	1:15–2:45pm
SIGs	See program listing	1:15–2:45pm 7:30–9pm
Multi-Disciplinary Ophthalmic Imaging Cross-sectional Group	East Ballroom B	1:15–2:45pm
WEAVR Luncheon †	Harbour Ballroom	1:15–2:45pm
Friedenwald Award Lecture	ARVO Ballroom	3–3:45pm
Special Sessions	See program listing	7:30–9pm
Student/Trainee Social	West Ballroom Foyer	7:30–9pm

Tuesday, April 30

Registration/Badge Printing	Main Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
Breakfast with the Experts †	Harbour Ballroom	7–8:30am
Exhibits	Exhibit Hall	8:30am–5pm
Posters	See program listing	8:45–10:30am 11:45–1:30pm 2:45–4:15pm 4:30–5:30pm*
Papers/Minisymposia	See program listing	8:45–10:30am 11:45–1:30pm 2:45–4:15pm
General Business Meeting	West 211	10:45–11:30am
Weisenfeld Award Lecture	ARVO Ballroom	1:45–2:30pm
MIT Outstanding Poster Award Competition	Exhibit Hall	4:15–6:30pm
ARVO/Champalimaud Award Lecture	ARVO Ballroom	5:45–6:45pm

Wednesday, May 1

Registration/Badge Printing	Main Lobby	7am–6pm
ARVO Central	Exhibit Hall	7am–6pm
Posters	See program listing	8:15–10am 10:15–12noon 3–4:45pm 5–6pm*
Papers/Minisymposia	See program listing	8:15–10am 10:15–12noon 3–4:45pm
Exhibits	Exhibit Hall	8:30am–5pm
Genetics Cross-sectional Group	East Ballroom B	12:15–1:45pm
Workshops	See program listing	12:15–1:45pm
SIGs	See program listing	12:15–1:45pm 6:15–7:45pm
Cogan Award Lecture	ARVO Ballroom	2–2:45pm
Special Sessions	See program listing	6:15–7:45pm
Classical Concert	West 301	8–10pm
Karaoke Night †	Blackbird Public House	9pm–12midnight

Thursday, May 2

Registration	Main Lobby	7am–4:30pm
ARVO Central	Exhibit Hall	7am–3pm
Symposia	See program listing	8–10am
Posters	See program listing	8–9:45am 10:15am–12noon 2–3pm*
Papers	See program listing	10:15am–12noon
SIGs/Workshops	See program listing	12:15–1:45pm
ARVO 2020 Kickoff Reception	Exhibit Hall	2–3pm
Beckman Argyros Award Lecture	ARVO Ballroom	3:15–4:15pm
ARVO/Alcon Keynote Session	ARVO Ballroom	4:30–6pm

* All Poster Session (all first authors must be present at their poster)

† Separate registration required

ARVO 2019

APRIL 28 – MAY 2 | VANCOUVER, B.C.

Important Policies

Use of recording/photography/audiotape/video equipment: Recording by any means (photographing, audiotaping, videotaping) of any presentations or sessions at any ARVO Meeting is prohibited, except by an ARVO-authorized agent for official purposes or by First Authors who want to photograph their own poster presentations. Violators risk confiscation of their equipment and/or dismissal from the Annual Meeting as deemed appropriate by ARVO.

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Program Summary

Program Summary: Online at arvo.org/program-summary. Abstracts are referred to in the *Program Summary* by program number (not page number) and session number.

Online Planner: Abstracts may be viewed and printed from the online planner at arvo.org/annual-meeting/program/online-planner/.

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ARVO designates this live activity for a maximum of 23.75 AMA PRA Category 1 Credits™. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

Please refer to the *Pocket Guide* for the complete CME information.

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Daily Program Schedules

(Scientific sessions in program number order)

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See arvo.org/program-summary for:

- ARVO Commercial Relationships Policy
- Commercial Relationships Index
- Statement on Registering Clinical Trials
- Clinical Trials Index
- Moderator Index

Children in the Convention Center

Children under 18 years old must be accompanied by a parent or guardian at all times. Parents/guardians who bring children into paper sessions must remove them immediately if they become disruptive. Children are not allowed to accompany parents/guardians in sessions/events where tickets are required or food is provided, except events for which children's tickets are available for purchase. Under no circumstances are children permitted in the exhibit hall during set-up or dismantle times.

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East 11/12

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Retinal Cell Biology

313 Microglia and Innate Immunity

Moderators: Malia M. Edwards and Margaret M. DeAngelis

2796 — 8:45 Age-dependent development of retinal microgliopathy in LysM^{Cre/+}SOCS3^{fl/fl}CX3CR1^{tdp/tdp} mice. Xuan Du, M. Chen, H. Xu. Centre for Experimental Medicine, Queen's University Belfast

2797 — 9:00 Microglia Repopulation Ameliorates Aging Phenotypes in Retinal Microglia and Neurons. Lian Zhao, J. Cueva Vargas, J. Liao, W. T. Wong. National Eye Institute

2798 — 9:15 Inhibition of NLRP3 does not protect against photo-oxidative damage-induced retinal degeneration. Yvette Wooff^{1,2}, N. Fernando¹, J. Wong¹, C. Dietrich¹, R. Aggio-Bruce¹, J. A. Chu-Tan¹, S. Doyle³, A. Robertson⁴, S. Man⁵, R. C. Natoli^{1,2}. ¹Neuroscience, The Australian National University; ²The ANU Medical School; ³Trinity College Dublin; ⁴University of Queensland; ⁵Immunology, Australian National University

2799 — 9:30 Peripheral monocyte are involved in permanent retinal neuroglia remodeling after injury. Eleftherios I. Paschalis, F. Lei, C. Zhou, C. H. Dohlman, R. Dana, J. Chodosh, D. Vavvas. Ophthalmology, Harvard Medical School-MEEI

2800 — 9:45 RNA-Seq Reveals Alterations in Homeostatic Microglial Function during Inflammation and Resolution. Oliver H. Bell¹, D. Copland¹, A. Ward¹, C. J. Chu¹, C. Lange², A. D. Dick^{1,3}. ¹Translational Health Sciences, University of Bristol; ²Eye Center, Medical Center, Faculty of Medicine, University of Freiburg; ³UCL Institute of Ophthalmology & NIHR Biomedical Research Centre for Ophthalmology at Moorfields Eye Hospital

2801 — 10:00 Complement targets newborn retinal ganglion cells for phagocytic elimination by microglia. Monica L. Vetter^{1,2}, S. R. Anderson¹, J. Zhang¹, M. R. Steele¹, C. O. Romero¹, A. Kautzman³, D. Schafer³. ¹Neurobiology & Anatomy, University of Utah; ²Ophthalmology and Visual Sciences, University of Utah; ³Neurobiology, University of Massachusetts Medical School

2802 — 10:15 Complement is required for retinal ganglion cell axon regeneration following mouse optic nerve injury. Sheri Peterson^{1,2}, Y. Li^{1,2}, K. A. Wong^{1,2}, L. Benowitz^{1,2}. ¹Neurosurgery, Boston Childrens Hospital; ²F. M. Kirby Neurobiology Center, Harvard Medical School

East Ballroom B

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Retina

314 Diabetic Retinopathy: Clinical Imaging

Moderators: Barbara A. Blodi, Richard B. Rosen and Amani A. Fawzi

2803 — 8:45 Diabetic Retinopathy Severity Level Assessment in Ultrawide-field Imaging. Nancy Barrett, K. Dohm, K. McDaniel, B. Blodi, A. Domalpally. Fundus Photo Reading Center University of WI

2804 — 9:00 Evaluation of Quantitative Ultrawidefield Fluorescein Angiography Metrics and Diabetic Macular Edema Features. Alice C. Jiang^{1,2}, S. K. Srivastava², J. Boss², S. Sharma², J. L. Reese², J. P. Ehlers². ¹Case Western Reserve University School of Medicine; ²Cleveland Clinic *CR

2805 — 9:15 Classification of Regions of Nonperfusion on Ultra-widefield Fluorescein Angiography in patients with Diabetic Macular Edema. Mengyuan Fang^{1,2}, w. fan¹, Y. Shi¹, M. S. Ip^{1,2}, C. C. Wykoff³, K. Wang¹, K. G. Falavarjani¹, D. M. Brown³, J. v. Hemert⁴, S. R. Sadda^{1,2}. ¹Doheny Eye Institute; ²Ophthalmology, University of California, Los Angeles; ³Retina Consultants of Houston; ⁴Optos PLC *CR

2806 — 9:30 Deep learning algorithm for patient-level prediction of diabetic retinopathy (DR) response to vascular endothelial growth factor (VEGF) inhibition. Filippo Arcadu^{1,2}, F. Benmansour^{1,2}, A. Maunz^{1,2}, J. R. Willis^{3,4}, M. Prunotto^{5,2}, Z. Haskova^{3,4}. ¹Roche Informatics, Roche; ²Roche Personalized Healthcare, Roche; ³Clinical Science Ophthalmology, Genentech, Inc; ⁴Roche Personalized Healthcare, Genentech, Inc; ⁵Immunology, Infectious Disease & Ophthalmology, Roche *CR, ✗

2807 — 9:45 Quantifying Spatial and Temporal Vascular Perfusion Changes Before and After Intravitreal Anti-VEGF Injections in Proliferative Diabetic Retinopathy(PDR). Richard B. Rosen^{1,2}, J. Andrade^{1,2}, D. B. Zhou^{1,2}, M. V. Castanos^{1,2}, R. Weitz¹, T. Y. Chui^{1,2}. ¹Ophthalmology, New York Eye & Ear Infirmary; ²Ophthalmology, Icahn School of Medicine at Mount Sinai *CR

2808 — 10:00 Changes of individual Diabetic Retinal Neovascularizations under Treatment with intravitreal Anti-VEGF or Laser using Optical Coherence Tomography Angiography. Katrin Fasler, C. Haensli, S. A. Zweifel. Ophthalmology, University Hospital Zurich

East Ballroom C

Tuesday, April 30, 2019 8:45 AM-10:30 AM

Biochemistry/Molecular Biology

315 Gene variants in major ocular diseases

Moderators: Alison J. Hardcastle, Dror Sharon and Elfride De Baere

2809 — 8:45 Allele Frequency Analysis of Variants Reported to cause Autosomal Dominant Retinal Diseases Revealed that 17% of Genes and 9% of Mutations are Unlikely Pathogenic. Dror Sharon, M. Hanany. Department of Ophthalmology, Hadassah-Hebrew Univ Medical Ctr

2810 — 9:00 Biallelic loss-of-function alleles of the SCLT1 gene cause a variable phenotypic spectrum of retinal ciliopathies. Kristof Van Schil¹, R. L. Taylor^{2,4}, G. Ascari¹, B. Guillemyn¹, L. Lambrechts¹, F. Depasse², B. P. Leroy^{6,5}, G. Black^{2,4}, E. De Baere¹. ¹Center for Medical Genetics, Ghent University and Ghent University Hospital; ²Manchester Centre for Genomic Medicine, Manchester Academic Health Sciences Centre, Manchester University NHS Foundation Trust, St Mary's Hospital; ³Department of Ophthalmology, Centre Hospitalier Universitaire de Charleroi; ⁴Division of Evolution and Genomic Sciences, Neuroscience and Mental Health Domain, School of Biological Sciences, Faculty of Biology, Medicine and Health, University of Manchester; ⁵Division of Ophthalmology, The Children's Hospital of Philadelphia; ⁶Department of Ophthalmology, Ghent University Hospital

2811 — 9:15 CPH1, a new gene for Dominant Optic Atrophy. Cecile Delettre Cribaillet^{1,2}, C. Mégy^{1,2}, X. Zanlonghi⁶, I. A. Meunier^{4,1}, M. O. Pequignot^{1,2}, M. Quiles^{1,2}, C. Hamel^{1,2}, A. Roubertie^{4,1}, N. Weisschuh⁵, B. Bocquet^{4,1}, G. Lenaers^{8,9}, G. Manes^{1,2}, B. Wissinger⁵, M. Vilarrubias⁷, H. Spelbrink³, E. Sarzi^{1,2}. ¹INSERM U1051; ²University of Montpellier; ³Radboud Center for Mitochondrial Medicine; ⁴Centre of Reference for Genetic Sensory Diseases, CHU; ⁵Centre for Ophthalmology; ⁶Clinique Jules Verne; ⁷Molecular Biology Institute Barcelona; ⁸Institut MitoVasc; ⁹Université d'Angers

2812 — 9:30 Target 5000: Target Capture Genotyping of Retinal Degenerations in Ireland. Adrian Dockery¹, N. C. Wynne³, K. Stephenson², L. Whelan¹, P. Humphries¹, G. Silvestri⁴, M. Carrigan¹, D. J. Keegan², P. F. Kenna^{3,1}, G. Farrar¹. ¹Trinity College Dublin; ²Ophthalmology, The Mater Misericordiae Hospital; ³Ophthalmology, Royal Victoria Eye and Ear Hospital; ⁴Centre for Experimental Medicine, Queen's University Belfast

Tuesday Papers/
Minisymposia
8:45 am – 10:30 am



The Association for Research
in Vision and Ophthalmology

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