



UBC Department of Ophthalmology and Visual Sciences

39th Annual Research Day
VGH/UBC Eye Care Centre

Friday April 14, 2023

UBC Ophthalmology and Visual Sciences Speakers
“Clinically Relevant Basic Science and Clinical Research”

Special Guest Speaker

Mariya Moosajee, MBSS, BSc, PhD, FRCOphthm

Professor of Molecular Ophthalmology and Consultant Ophthalmologist, UCL Institute of Ophthalmology, The Francis Crick Institute, Moorfields Eye Hospital and Great Ormond Street Hospital for Children.

“Non-viral genetic approaches to treating inherited eye disease”

In person meeting at the UBC/VGH Eye Care Centre Auditorium

Also video conferenced via Zoom: Meeting ID: XXXXXXXXXXXX

This program lists the proposed presenters and discussants at the time of printing and is subject to change.

Program

8:00 am Opening Remarks – *video conferencing starts*.....N. Gupta

Session 1 – Retina

Moderator: K. Gregory-Evans

- 8:05 The role of mast cells and GzmB in age-related macular degenerationM.Uppal
- 8:13 Secondary acquired features represent points of intervention & diagnostic clues for inherited retinal degenerationsK. Stephenson
- 8:21 Unexpected ERG findings in CRISPR-edited *X. laevis* suggest a role for transducin in shut-off of rhodopsin signaling.....D. Skitsko
- 8:29 Similarities in localization and post-translational processing between RP-associated RHODOPSIN mutants P23H and S176F in transgenic *Xenopus laevis*A. Loewen
- 8:37 Quantification of intermittent retinal capillary perfusion in retinal vein occlusion and proliferative diabetic subjects.....M. Bhalla
- 8:45 2-Year evaluation of subretinal fluid drainage techniques in pars plana vitrectomy for primary rhegmatogenous retinal detachment (ELLIPSOID-2 Study).....B. McKay
- 8:53 *Discussion*.....TBA
- 9:09 Introduction of Dr. Moosajee.....K. Gregory-Evans
- 9:14 GUEST SPEAKER – Non-viral genetic approaches to treating inherited eye disease..M. Moosajee
- 9:59 *Discussion*.....TBA
- 10:15 *Coffee Break*

Session 2 – Cornea and Orbit

Moderator: S. Warner

- 10:39 Retrospective case series study on MSSA/MRSA infectious keratitis and its outcomes in British Columbia, CanadaA. Faggioni
- 10:47 Fungal keratitis in Canada.....J. Ling
- 10:55 Accuracy of keratoconus-specific formulae compared to standard formulae for intraocular lens power calculation in patients with keratoconus.....N.K. Lopez
- 11:03 Thyroid eye disease and sinus mucosal thickening on CT imagingD. Lee
- 11:11 Orbital lymphoma and cranial neuropathy: a case report and literature reviewC. Lim
- 11:19 *Discussion*.....TBA
- 11:32 *Lunch Break to 12:45 – Atrium of the iCORD Centre*

Session 3 – Imaging

Moderator: I. Oruc

- 12:45 *In vivo* confocal microscopy findings after descemet stripping only supplemented with topical ripasudil in fuchs endothelial dystrophy.....C. Oliver
- 12:53 Artificial intelligence as a gateway to scientific discovery: Uncovering features in retinal fundus imagesP. Delavari
- 1:01 FundAI: a fundus-expert deep convolutional neural networkM. Izadkhah
- 1:09 Ultra wide field polarization-sensitive OCT in ophthalmologyT. Tse
- 1:17 Functional *in-vivo* small animal retinal imagingJ. Song
- 1:25 *Discussion*.....TBA

Session 4 – Perception/Neuroophthalmology

Moderator: S. Bae

- 1:38 Faces, English words and Chinese characters: a study of dual-task interference in mono- and bilingual speakers.....M. Tien
- 1:46 Classification and characterization of neuroretinal Iba1-positive microglia in the eyes of Alzheimer's disease patients versus non-diseased control patientsC. Li
- 1:54 Effect of reward on manual interception.....A. Akande
- 2:02 A functional MRI study on the neural correlates of motion deficits in amblyopiaA. Asare
- 2:10 Language experience and face processing: using AI to test the hypothesis that bilingual subjects look at faces differentlyB. Tao
- 2:18 Pose-dependent face recognition in autism spectrum disorder.T. Kamensek
- 2:26 *Discussion*.....TBA

Session 5 – Epidemiology & Continued Quality Improvement

Moderator: M.J. Ju

- 2:42 Ocular adverse events with aromatase inhibitors in postmenopausal women with breast cancerR. Rezaeianzadeh
- 2:50 An update on ocular syphilis in British Columbia.....L. Hughes
- 2:58 Molecular genetic diagnostics for inherited retinal degenerations in the clinical setting..O. Kolawole
- 3:06 Sustainable operating rooms: A waste management initiative.....R. Pintwala
- 3:14 Gender disparities in ophthalmology societies of CanadaM. Parvand
- 3:22 Training ophthalmologists on novel retinal characteristics uncovered using artificial intelligenceG. Ozturan
- 3:30 *Discussion*.....TBA
- 3:43 Closing Remarks – *video conferencing ends*.....O. Moritz
- 3:45 *Reception & Announcement of Awards*

Program Objectives

The program brings together UBC Ophthalmology experts in comprehensive ophthalmology, cornea, orbit, neuroophthalmology, imaging, epidemiology, quality improvement and retina. Clinically relevant research will be emphasized in this update of the latest research in these areas. Topics to be covered include:

RETINA:

- Review the role of mast cells and GzmB in age-related macular degeneration
- Review similarities in localization and post-translational processing between RP-associated RHODOPSIN mutants P23H and S176F in transgenic *Xenopus laevis*
- Examine intermittent retinal capillary perfusion in patients with retinal vein occlusion and proliferative diabetic retinopathy
- Review outcomes of various subretinal fluid drainage techniques in pars plana vitrectomy for rhegmatogenous retinal detachments

CORNEA/ORBIT:

- Review outcomes of MSSA/MRSA infectious keratitis in British Columbia
- Review outcomes of fungal keratitis in Canada
- Compare the accuracy of intraocular lens formulae in patients with keratoconus undergoing cataract surgery
- Examine the relationship between thyroid eye disease and sinus mucosal thickening on CT

IMAGING:

- Examine *in vivo* confocal microscopy findings after Descemet stripping only supplemented with topical ripasudil in Fuchs endothelial dystrophy
- Review novel features in fundus photographs uncovered by artificial intelligence
- Examine a deep convolutional neural network for fundus imaging
- Discuss the use of ultra-wide field polarization-sensitive OCT imaging in ophthalmology

PERCEPTION/NEUROOPHTHALMOLOGY:

- Compare characteristics of neuroretinal Iba1-positive microglia in eyes of Alzheimer's disease patients versus non-diseased control patients
- Examine the neural correlates of motion deficits in amblyopia
- Examine the effect of reward on manual interception
- Review pose-dependent face recognition in autism spectrum disorder

EPIDEMIOLOGY & CQI:

- Review ocular adverse events associated with aromatase inhibitor use
- Review recent trends and impact of ocular syphilis in British Columbia
- Examine methods and efforts to reduce waste produced in ophthalmic operating rooms
- Assess and reflect on gender disparities in ophthalmologic societies in Canada

Twenty-five percent of the time will be devoted to discussions of the clinical relevance of the presentations led by designated authorities, allowing the audience to decide how this research could impact their practice. By merging basic science and clinical research, the program will be of interest to ophthalmologists, ophthalmologists-in-training, basic scientists and allied health professionals.

Course Planning Committee

Orson Moritz, PhD - Professor
Simon Warner, MD, FRCSC - Clinical Professor
Ipek Oruc, PhD – Associate Professor
Steven Bae, MD – Resident

Kevin Gregory-Evans, MD, PhD, FRCSC –
Professor
Myeong Jin Ju, PhD – Assistant Professor

Judges

TBA

