Department of Ophthalmology and Vision Sciences
University of Toronto

Sixty-First Annual Research Day
and
Thirty-Eighth Clement McCulloch Lecture

Friday, May 24th, 2019
7:30 AM – 5:00 PM

Li Ka Shing Knowledge Institute Auditorium
2nd Floor
209 Victoria Street
Toronto, Ontario

Meeting Chairperson

Matthew Schlenker, MD, MSc, FRCSC
Assistant Professor
Department of Ophthalmology and Vision Sciences
University of Toronto

Kensington Eye Institute
Toronto Western Hospital
Trillium Health Partners
61st Annual Ophthalmology Research Day  
and  
38th Clement McCulloch Lecture  
Department of Ophthalmology and Vision Sciences  
Li Ka Shing Knowledge Institute  

Friday, May 24th, 2019 (7:30 AM – 5:00 PM)

PROGRAM

7:30-8:00 Continental Breakfast

8:00-8:05 Annual Ophthalmology Research Day Chair Welcome  
Dr. Matthew Schlenker

8:05-8:10 Department Chair’s Welcome  
Dr. Sherif El-Defrawy

R=Resident, S=Student (undergraduate, medical, graduate),  
VS=VSRP (Vision Science Research Program) student, F= Fellow, RF= Research Fellow

8:10 -9:29 AM Session moderator: Dr. Sherif El-Defrawy  
Format: 9 min. Presentation + 3 min. Discussion

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<thead>
<tr>
<th>Time</th>
<th>Presentation</th>
<th>Presenter</th>
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<tr>
<td>8:10</td>
<td>Generation and characterization of an animal model of Pten hamartoma tumour syndrome in the retina</td>
<td>Carol Schuurmans</td>
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<td>8:28</td>
<td>Clinical predictors at diagnosis of low risk histopathology in unilateral advanced retinoblastoma</td>
<td>Sameh Soliman</td>
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<td>8:40</td>
<td>Radiation Treatment of Extraocular Lymphoma</td>
<td>Maria Valeria da Silva</td>
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<td>8:52</td>
<td>Discordance between prognostication algorithms in uveal melanoma: the value of cytogenetic information</td>
<td>Mostafa S. Hanout</td>
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<td>9:04</td>
<td>Outcomes and Complications of Immediate versus Delayed Sequential Bilateral Cataract Surgery (ISBCS vs. DSBCS) in Children</td>
<td>Sina Khalili</td>
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<tr>
<td>9:16</td>
<td>Comparison Of Patient Outcomes Between Scleral Tunnel-Fixated, Iris-Sutured, And Anterior Chamber Intraocular Lens Implantation</td>
<td>Saba Samet</td>
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<tr>
<td>Time</td>
<td>Session moderator: Dr. Peter Kertes</td>
<td>Format: 9 min. Presentation + 3 min. Discussion</td>
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<td>10:30 – 10:39</td>
<td>Modelling intracellular material exchange in photoreceptors using a novel in vitro assay</td>
<td>Nicole Yan</td>
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<td>10:42 – 10:51</td>
<td>Lineage specification and molecular characterization of photoreceptor-specific progenitors</td>
<td>Brian Ballios</td>
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<td>10:54 – 11:03</td>
<td>Ranibizumab and aflibercept levels and its impact on vascular endothelial growth factor in human breast milk following intravitreal injection</td>
<td>Verena Juncal</td>
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<td>11:06 – 11:21</td>
<td>Incorporating Research into Clinical Practice: From Randomized Trials to Imaging and Molecular Biomarkers</td>
<td>Rajeev Muni</td>
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<td>11:24 – 11:33</td>
<td>A Multicenter Study Using Multimodal Imaging to Assess Retinal Displacement following Retinal Detachment Repair with Pneumatic Retinopexy vs Pars Plana Vitrectomy (Integrity Study)</td>
<td>Koby Brosh</td>
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<td>11:36 – 11:45</td>
<td>Natural history of corneal haze using Scheimpflug-derived corneal densitometry after cross-linking with simultaneous intrastromal corneal ring segment and cross-linking with simultaneous topography-guided photorefractive keratectomy.</td>
<td>Rebecca Stein</td>
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12:00 - 1:00 PM

LUNCH

POSTER SESSION

Odd numbered posters are judged

1:00 – 1:10  Introduction to Dr. Balwantray Chauhan, BSc, Ph.D.
The 38th Clement McCulloch Lecturer: Dr. Matthew Schlenker

1:10 – 2:10  The 38th Clement McCulloch Lecture:
Imaging in Glaucoma: Current Possibilities and Future Expectations

Dr. Balwantray Chauhan, BSc, Ph.D., PDF
Mathers Professor and Research Director
Department of Ophthalmology & Visual Sciences,
Department of Physiology and Biophysics, Glaucoma Research Group,
Department of Medical Neuroscience
Dalhousie University

2:10 – 3:00 PM

COFFEE BREAK

POSTER SESSION

All remaining posters are judged

3:00 – 4:00 PM  Session moderator:  Dr. Graham Trope
Format:  9 min. Presentation + 3 min. Discussion

3:00 – 3:09  Brimonidine Stimulates Lymphatic Drainage from the Eye
Joseph Hanna

3:12 – 3:21  Novel Ab-Externo Implantation Technique for Xen Gel Stent in Eyes with Previous Filtering Surgery
Angela Zhang

3:24 – 3:33  Can optic nerve head parameters help us predict retinal nerve fiber thickness and macular ganglion cell complex thickness in primary angle closure suspect patients?
Alfred Basilious
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<tr>
<td>3:36 – 3:45</td>
<td>Using Deep Learning Models for Ophthalmic Image Segmentation and Classification (Nehad Hirmiz)</td>
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<tr>
<td>3:48 – 4:00</td>
<td>Vision rescue by photoreceptor transplantation and the exchange of body parts between cells (Valerie Wallace)</td>
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<tr>
<td>4:00 PM</td>
<td>Closing Remarks Dr. Matthew Schlenker</td>
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4:00 PM – 5:00 PM

Wine and Cheese

+ 

POSTER SESSION

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<td>5:00</td>
<td>Meeting Adjourned</td>
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* The Alumni Award for Best Resident Paper, John Gaby Prize for Best Fellow Paper, The Best Student Paper Award and Dr. Martin J. Steinbach Research Award will be announced at the Ophthalmology Graduation Dinner. *
POSTERS (Total of 66)

1. Michael T. Kryshtalskyj (S)
   Drs. Walter Wright and Alexander E. MacDonald: The First World War and its influence on ophthalmology in Canada

2. Michael T. Kryshtalskyj (S)
   An Extended Validation Study of the Iris Glare, Appearance and Photophobia (Iris GAP) Questionnaire for patients with iris defects

3. Anna Kabanovski (S)
   Catquest-9SF: Validation and Application in Various Populations

4. Anna Kabanovski (S)
   Catquest-9SF Questionnaire and eCAPS: Validation in a Canadian Population

5. Anna Kabanovski (S)
   A prospective study of disease modifying therapy and retinal atrophy in multiple sclerosis: update

6. Austin Pereira (S)
   A comparative analysis of intraocular lens power formula accuracy

7. Austin Pereira (S)
   Comparison of surgically induced astigmatism and corneal morphological features between femtosecond laser and manual clear corneal incisions

8. Matthew-Mina Reyad (S)
   Prolonged nitrate administration exacerbates ocular disease in a transgenic rat model of chronic hypertension

9. Jaime C. Sklar (S)
   Endothelial dysfunction with scleral contact lens use in patients with past herpes simplex or zoster keratitis

10. Jaime C. Sklar (S)
    Management of Neuropathic Corneal Pain

11. Prem Nichani (S)
    Frequency and source of eyeglass insurance coverage in Ontario: Ten-year data

12. Rini Saha (F)
    Complaints Against Ophthalmologists in the Province of Ontario, Canada: A Five year Review
POSTERS (Cont’d)

13. Afua Oteng Asare (VSRP)
   Economic Evaluations of Vision Screening Interventions for Children: A Systematic Review

14. Anning Chao (F)
   Is ciliary body involvement an absolute metastatic risk in uveal melanoma? The cytogenetic findings

15. Ana Janic (VSRP)
   Patient-Derived Patient-Reported Outcome Measures for Retinoblastoma: A Scoping Review

16. Jessica Cao (S)
   Applying a Population-based Approach to Diabetic Retinopathy Screening

17. Lily Adhiambo Nyamai (F)
   The Cost of Publishing in an Indexed Ophthalmology Journal in 2019; What you get for your Money

18. Keean Nanji (S)
   A Review Evaluating Retinal Detachments Post Endophthalmitis

19. Keean Nanji (S)
   Health-State-Measurement-of-Glaucoma-Patients

20. Tony Schicheng Jin (S)
    More Glaucoma Surgery, Fewer Surgeons: A Decade of Glaucoma Trends in Ontario

21. Tony Schicheng Jin (S)
   Real-World Evidence for Pneumatic Retinopexy in Patients with Primary Rhegmatogenous Retinal Detachment Meeting PIVOT Trial Criteria

22. David Mathew (F)
   Establishing a rodent circumlimbal suture model of chronic ocular hypertension

23. David Mathew (F)
   Adherence to World Glaucoma Association Guidelines for Surgical Trials in the Era of Microinvasive Glaucoma Surgeries

24. Amaka Eneh (F)
   Intraocular pressure lowering with Xen Versus iStent in open angle glaucoma patients undergoing combined phacoemulsification and MIGS surgery: 6 month results.
POSTERS (Cont’d)

25. Evan Michaelov (RF)
   Intermediate Term Outcomes of SIBS Microshunt Alone or in Combination with Phacoemulsification

26. Fady Sedarous (RF)
   Intermediate term outcomes of ab-interno gelatin microstent implantation alone or in combination with phacoemulsification: Canadian multicentre review

27. Mansoureh Bagheri (F)
   Clinical outcomes of combined phacoemulsification and Xen Gel Stent implantation as a minimally invasive glaucoma surgery

28. Nick Andrew (RF)
   Medium Term Outcomes of Multiple Trabecular Microbypass Stents in combination with Phacoemulsification

29. Taylor Lukasik (RF)
   Intermediate Term Outcomes of First Generation Trabecular Microbypass Stents and Second Generation Stents in Combination with Phacoemulsification

30. Yulia Pyatova (F)
   Long term outcomes in dry age-related macular degeneration following low vision rehabilitation interventions.

31. Saba Samet (S)
   Optical Coherence Tomography as a biomarker for disease severity in ALS

32. Carmen Balian (S)
   Association of peripheral retinal nerve fiber layer and evidence of stroke in patients with vascular cognitive impairment

33. Paul Freund (F)
   Dialysis-associated Non-arteritic Anterior Ischemic Optic Neuropathy

34. Mark K. Lukewich (S)
   Factors associated with poor visual outcome in myelin oligodendrocyte glycoprotein (MOG)-positive optic neuritis

35. Monica Daibert Nido (F)
   Nystagmus treatment with microperimeter biofeedback training
### POSTERS (Cont’d)

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<td>36.</td>
<td>Seunggi Lee (VSRP)</td>
<td>Investigating the role of RGMa on Multiple Sclerosis and retinal axons through Experimental Autoimmune Encephalomyelitis</td>
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<td>37.</td>
<td>Benjamin Jastrzembski (F)</td>
<td>Clinical Implications and Cost of ERG Monitoring for Vigabatrin Toxicity</td>
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<td>38.</td>
<td>Stefan J. Langenegger (F)</td>
<td>Retinal Mapping of Heritable Retinoblastoma</td>
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<td>39.</td>
<td>Anjali Vig (S)</td>
<td>Deciphering human sequences to better understand inherited retinal degeneration</td>
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<td>40.</td>
<td>Jenna Ashley (VRSP)</td>
<td>Exploiting an Unexpected Tumour Suppression Function of YAP to Devise New Therapies for Retinoblastoma</td>
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<td>41.</td>
<td>Brian Ballios (R)</td>
<td>Oguchi Disease: widefield imaging and clinical characterization of a novel GRK1 mutation</td>
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<td>42.</td>
<td>Imran Jivraj (F)</td>
<td>Dimensions of the Pediatric Conjunctival Fornix</td>
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<td>43.</td>
<td>Yelin Yang (R)</td>
<td>Impact of Obstructive Sleep Apnea on the expression of inflammatory mediators in Diabetic Macular Edema: Preliminary Results</td>
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<td>44.</td>
<td>Tina Felfeli (S)</td>
<td>Association of Baseline Morphological Features with Visual Outcomes Following Macula-Off Retinal Detachment Repair: Post-Hoc Analysis of the PIVOT Trial</td>
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<td>45.</td>
<td>Samuel A. Minaker (R)</td>
<td>Changes in Aqueous and Vitreous Inflammatory Cytokine Levels in Retinal Vein Occlusion: A Systematic Review and Meta-Analysis</td>
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<td>46.</td>
<td>Arunan Selvarajah (S)</td>
<td>Clinically Preventable Causes of Unfavourable Retinoblastoma Treatment Outcomes at the Hospital for Sick Children</td>
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<td>47.</td>
<td>Faryan Tayyari (RF)</td>
<td>Association between retinal thickness parameters and cognitive function in patients with cognitive impairment following stroke</td>
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48. Iris Chiu (VSRP)
   Investigating the effects of proteins involved in visual transduction on retinitis pigmentosa mutations in human rhodopsin

49. Jeffrey Stulberg (VSRP)
   Molecular and cellular changes that define Müller glial cell dedifferentiation in the regenerating retina

50. Justin Belair-Hickey (VSRP)
   Uncovering the molecular identity of cone photoreceptor restricted progenitors in the developing retina

51. Koichiro Yamashita (S)
   Development of retinal prosthesis using photoelectric dyes coupled to a polyethylene film (OUReP)

52. Lisia Barros Ferreira (F)
   Anatomical vascular changes in eyes with macular edema secondary to retinal vein occlusion assessed by optical coherence tomography angiography before and during treatment with intravitreal anti-VEGF

53. Luke Ajay David (S)
   The Imprinted Gene Network acts to maintain Müller glial latency preventing natural retinal regeneration

54. Margaret Ho (VSRP)
   Promoting photoreceptor survival through delivery of neuroprotective factors and retinal pigment epithelial cells to the retina

55. Mohammadreza Amirzadeh (VSRP)
   Modelling Leber Congenital Amaurosis Using Patient Derived Retinal Organoids

56. Ryan H. Mason (S)
   Changes in Aqueous and Vitreous Inflammatory Cytokine Levels in Neovascular Age-Related Macular Degeneration (nAMD): A Systematic Review and Meta-Analysis

57. Sisu Han (VSRP)
   Deciphering the role of Neurog2-Ascl1 co-expression in the retina

58. Avner Hostovsky (F)
   Orbital MRI in different postures to evaluate Intraocular Gas behaver in different head positions
59. Avner Hostovsky (F)
   Prognostic value of Spectral-Domain Optical Coherence Tomography of the Fovea in
   Macula-Off Rhegmatogenous Retinal Detachment

60. Yacine Touahri (S)
   The role of Wnt signalling in the regulation of Müller glia proliferation/quiescence in the retina

61. David Ta Kim (F)
   Foveal Avascular Zone Area Analysis Using OCT Angiography after Pneumatic Retinopexy for Macula-off Rhegmatogenous Retinal Detachment Repair

62. Changmo Kim (VSRP)
   Elucidating the binding partners and mechanism of LXB4

63. Khyati Walia (VSRP)
   Elucidating the role of Astrocyte-derived exosomes in axonal regeneration

64. Lyla El-Fayomi (VSRP)
   Purification and Molecular Characterization of Mouse Retinal Stem Cells

65. Prathima Sundaram (VSRP)
   Response of retinal ganglion cells to electrical stimulation: from prosthesis to “seeing”

66. Maryam Ibrahim (F)
   Pediatric intermediate uveitis associated with progressive CNS demyelinating lesions