

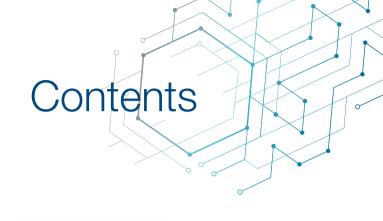


Annual Report

School of Optometry and Vision Science



Message from Head of School	02
Our Vision	06
Academic Staff	08
Adjunct Academic Staff and Visiting Fellows	10
Teaching and Learning Highlights	12
Master of Optometry Student Research Projects	16
Student Awards	18
Student Clinic Highlights	20
Research Highlights	22
Research Visitors	30
Grants	32
Peer-Reviewed Articles in Scholarly Journals	35
Books and Book Chapters	44
Reports and Guidelines	44
Presentations at Conferences	45
Presentations at Seminars	54
Higher Degree Research Completions	55
Awards and Promotions	56
Staff	60
Supporters	62





## Acknowledgement of Traditional Owners

The QUT School of Optometry and Vision Science acknowledges the Turrbal and Yugara, as the First Nations owners of the lands where QUT now stands. We pay respect to their Elders, lores, customs and creation spirits. We recognise that these lands have always been places of teaching, research and learning.





Professor Joanne Wood

In 2019 the extraordinary calibre of our staff was epitomised by Professor Joanne Wood receiving not just one, but two prestigious international awards. Professor Wood was the first woman to receive the Polytechnic University of Catalonia 'International Optometrist of the Year Award 2019', presented annually to an optometrist who has excelled in his or her academic, research and social trajectory during recent years. Indeed, Professor Wood is widely known for transformational contributions in the area of vision and driving, as well as in children's vision and Indigenous eve health. The second award received by Professor Wood was the Human Factors and Ergonomics Society Hal W. Hendrick Distinguished International Colleague Award, presented to a non-U.S. citizen who has made outstanding contributions to the human factors and ergonomics field.

In the teaching program we continued to ensure that our students receive a strong foundation in the sciences, are trained in evidence-based practice, are immersed in realworld clinical placements, and are community minded. We worked with the Optometry Council of Australia and New Zealand (OCANZ) and a wide range of generous collaborators to review, strengthen and align our program with the OCANZ 'Optometry Aboriginal and Torres Strait Island Health Curriculum Framework', putting cultural safety training at the heart of QUT optometry training. To assist us, Ms Lauren Hutchinson was appointed as our newest Visiting Fellow. Lauren is a Murrawarri-Wiradjuri woman and QUT graduate, currently practicing as an independent optometrist in rural NSW.



Ms Lauren Hutchinson

It was a record year for the QUT Optometry Clinic, with our students and clinical supervisors providing 7,045 consultations. We are grateful to the many exceptional optometrists who commit to serving as clinical supervisors, both at QUT and through hosting students on clinical placements.

Our research in the fields of myopia, contact lenses, anterior eye, optics of the eye and imaging, melanopsin photoreception, and the impact of visual impairment continues to thrive, with high publication rates in top quality journals, numerous invited presentations at high profile international conferences and substantial industry research funding.

A major highlight of this year was the development of our School 'Vision, Purpose and Values' and our new School strategic plan, (reflecting QUT's new 'Blueprint 6'). Over the next three years we are committed to growing our research outputs by focussing on technology in our core areas of research strength, as well as growing our research focus on evaluating innovative and collaborative eye care services for the community. We will expand digital learning and clinical placement opportunities in the curriculum. We are



deeply committed to going beyond closing the gap for Indigenous eye health through our exemplar training of optometrists and our research, as determined by strong partnerships with Aboriginal and Torres Strait Islander communities.

Our new vision and strategy require a concerted team effort. The School of Optometry and Vision Science has a breadth of support from remarkably talented, passionate and steadfast staff, students, colleagues, visitors, suppliers and organisations, to whom I am indebted. I acknowledge and thank them and look forward to working with them in 2020, the year of vision, in every meaning of the word.

Shara J. Bertty

Annual Report 2019 | 5



**OUR** 

PURPOSE

## **OUR VISION**

Transforming how the world sees through education & research

Known for Developing compassionate and skilled eye care professionals Delivering world-leading vision research and innovation

In order to Enhance vision

Provide quality eye care services for the community Reduce the impact of eye disease

By Delivering evidence-based education and clinical practice Nurturing a collaborative environment of scientific enquiry Upholding the highest standards of ethical behaviour

## **OUR VALUES**



## ACT WITH KINDNESS AND INTEGRITY

- We treat others with respect and compassion
- We practice with integrity and deliver on our commitments
- We are aware of our emotions and the emotions of others; we understand their impact and provide support and time to reflect

## EMBRACE COLLABORATON

- We seek out and listen to the views and needs of others
- We invest time and resources to develop and maintain the effectiveness of the team
- We hold ourselves and others accountable to the goals and priorities of the team

## FOSTER CURIOSITY AND CREATIVITY

- We challenge the status quo and are always open to new ideas
- We embrace change, complexity and the fast pace of our environment
- We value play and make time for it



## STRIVE FOR EXCELLENCE

- We set ambititious goals and take initiative to achieve them
- We participate and we deliver to the highest standards
- We work to exceed expectations in every facet of our work





Lecturer Dr Prakash Adhikari



Professor David Atchison



Professor Sharon Bentley (Head of School; Director of Academic Programs)



Lecturer Dr Alex Black



Senior Lecturer Dr Andrew Carkeet (Director of Postgraduate Research)



Professor Michael Collins



Lecturer Dr Katie Edwards (School Research Ethics Advisor)



Associate Professor Scott Read (Director of Research)



Professor Joanne Wood



Lecturer Dr Shelley Hopkins



Associate Professor Katrina Schmid (Director of International Engagement and Recruitment; Course Coordinator Bachelor of Vision Science)



Associate Professor Andrew J. Zele



Lecturer Dr Emily Pieterse



Associate Professor Stephen Vincent (Course Coordinator Master of Optometry)





Dr Julie Albeitz



Emeritus Professor Leo Carney DSc (QUT)



Emeritus Professor Nathan Efron AC



Associate **Professor Peter** Hendicott



Dr Kate Gifford



Ms Lauren Hutchinson

10 Annual Report 2019



Professor Mark Radford



Associate Professor Ann Webber





12 | Annual Report 2019

The QUT School of Optometry and Vision Science offers the only Optometry program in Queensland. Our students are some of the brightest, requiring exceptional grades to enter and undertake a challenging five-year program comprising the Bachelor of Vision Science followed by the Master of Optometry leading to registration as an Optometrist in Australia.

In 2019 we made advances in strengthening our curriculum on cultural safety and Indigenous perspectives, which included Shelley Hopkins and Rebecca Cox participating in the Optometry Council of Australia and New Zealand workshop on teaching cultural safety, and presentations from invited guest speakers (Kevin Yow Yeh, Lauren Hutchinson, Melissa Haswell, Mitchell Anjou, Sye Hodgman, Dennis Conlon, Celia McCarthy [Institute of Urban Indigenous Health] and Mandy Truong). In addition, we introduced additional online flexible learning in the unit 'Optometry and Professional Practice', embedded our highly successful student peer support program and convened a Student Advisory Group. Students had the opportunity to undertake local clinical placements in optometry practices, ophthalmology practices, at the Institute for Urban Indigenous Health and Indigenous communities, as well as international clinical placements in Canada (University of Waterloo), India (LV Prasad Eye Institute) and Mexico and Moldova (Volunteer Optometric Services to Humanity), some supported by Endeavour Leadership Program scholarships. Students also had the opportunity to participate in vision testing at various schools across the state.

Fifty-six students graduated from the Bachelor of Vision Science course and 71 graduated from the Master of Optometry course.

## Bachelor of Vision Science Graduates

Ellen Louise Carson Zhi Yu Chang Jade Chng Jamie Siew Wen Gan Abby Louise Heffernan Alix Leigh Knight Hui Qi Faith Ng An Cao Nguyen Uyen Thao Nguyen Tien Huy Pham Rachel Roderick Sholeen Sanjika Andrea Jee Wei Wan

## With Distinction

Nadine Alexander Faaizah Zahraa Ali Lauren Michelle Beecher 🖈 Cong Van Bui

**Yingxiang Cheng** Jasmine Chiem 📩 Jordan Thomas Collins Sanet Johanna De Villiers Isabella Mavan Satin Edwards-Brown Joshua Tony Fiedler Amelia May Gorle Kieran Khalil Harduwar Steven Ho Mike Hona Sindhu Javaram Megan Chaplam Ko Savo Kokubun Jeongmin Lee Sean Chuangxin Lee Hannah Emily Lightfoot Jiawen Liu Jenifer Lopez Teah Kristen Lotter Nitansha Nand

Anita An Truong Nguyen Nhi Thanh Nguyen Wendy Nguyen Kristin Leigh Parker 숚 Xiaoxue Pei Daniella Pham Stephen Duy Minh Pham Carly Jane Roderick Leilah Small Celina Maree Spena Phylicia Suhartono Daniel Tang Marco Ting Binh Thanh Tran Chau Bao Tran Johannes Gregory Van Ling David Vinh The Vu Natasha Leigh Westcott Corev Blake Whyte

## Master of Optometry Graduates

Jami Isanuliah Bashar Patrick Chan Ryan Hao-An Chiang Woo-ri Cho John Nah Le Thi My Ngoc Le Yue Ma Siti Nurhidayatul Nabilah Mohamad Thi Kim Phung Evonne Nguyen Jessie Phan Ying Woei Tiong Jennifer Tran Phillip Tran Thu Anh Tran Raymond Kwok Truong Prajna Vidyasagar Chin Song Yek

## With Distinction

Alicia Grace Bingham Samuel Yisum Cheung Benjamin James Christie Jacquelyn Helen Clow Joshua Martin Collins Annabel Cristaldi Sarah Crouther Brittany Ellen Darbyshire Liam Christophe Grouhel Chih-Ling Hsu Anna Hua Tzu-Hsiang Hung Amy Beatrice Johnson Hannah Kamgarpour Caitlin Eve Kindness Jia Lin Koh Yong Fun Annabel Kwok Colleen Co Ngoc Lam Heidi Lee



Jin Woo (James) Lee Joan Lee Fei Fei Liu Zoe Momoko Logan Clare Bridget Maher Emily Jane Major Riya Makan Thomas Raymond Mandall Jordan Robert Marr Michelle Lorraine Maynard Darcy Thomas Molloy Olivia Michelle Nahuysen Jamie Huyen Thanh Nguyen Lisa Ogi Narae Park Gemma Barbara Parmenter Bronte May Rolls Kristina Sechenova Laura Grace Sevil Preyanka Sivasuthan Sungwoo Son Lachlan Su Chia Lun Mandy Thai Anthony Tuan Kiet Than Bao Han Tran Cindy Tran Lynda Tran Ka-Man Carmen Tse Nguyen Thi Hanh Vo Henriette Mabel Warnken Ya Weng Wong Ming Wei Alger Yeo Marlin Youssef Eugenie Zhan Xinyue Sevanna Zhang

## Projects Master of Optometry Student Research

As part of the Master of Optometry program, all students undertake a 12-month research project. The following projects were led by academic staff members:

## David Atchison: Effects of Induced Anisometropia and Aniseikonia on Stereopsis

Students: Emma Haley, Sally Lee, Elisabeth Liggett, Jianing Lu, Ho Jung Moon

## Alex Black and Joanne Wood: Comparison of Esterman Visual Field Test Strategies for Visual Field Loss

Students: William Donelly, Maegan Emerick, Katherynn Villamizar Pinilla, Lauren Whittle

## Andrew Carkeet: Improving Electronic Visual Acuity Measurements

Students: Tzu-Ching Lin, Emily Mcintyre, Roderick Robertson, Yutong Yang

## Michael Collins and Alyra Shaw: Lid Wiper Epitheliopathy: Contact Lens Wear and Thermography

Students: Chien-Fu Chang, Yi-Chun Hsieh, Derek Lay, Vincent Le, Chun-Chen Shih

## Katie Edwards, Luisa Hologuin-Colorado and Katrina Schmid: Omega-3 and its Impact on Corneal Nerve Morphology

Students: Darcie Beckmann, Chantelle Chau, Dalena Do, Renata Gordon, Cassandra-Elyse Versteeg

## Shelley Hopkins and Sharon Bentley: Impact of Smartphone Activities on Binocular Vision

Students: Caitlin Kelland, Katrina Lacy, Lachlan Munro, Aaron Phan, Anna Reaburn

## Scott Read and Emily Pieterse: The Effect of Short-Term Exposure to Darkness on Choroidal Thickness

Students: Vanessa Au, An-Thien Ho, Anne Le, Chaeyoung Lee, Yu-Chieh Tsui

## Katrina Schmid, Luisa Hologuin-Colorado and Katie Edwards: Omega-3 and Ocular Surface Health in a Young, Healthy Population

Students: Tram Le, Thuy Nguyen, Celine Tran, Briana Tsang, Cleo Yip

## Stephen Vincent, Michael Collins and Davide Alonso-Caneiro: Effect of Lens Diameter on the Decentration of Scleral Contact Lenses

Students: Krystal Chen, Ji Hye Kim, Yi-Tse Kuo, Georgina Sheu, Yu-Ju Wang

## Joanne Wood and Alex Black: Effect of Eccentricity and Contrast on Biological Motion Perception

Students: Jamie Dang, Steven Le, Dinh Phan, Ahmad Ismael Sorefan, Yan Xu



Winners of the Master of Optometry Student Research Project Presentation Award (sponsored by Optometry Queensland and Northern Territory [OQNT]): 'Omega 3 and Ocular Surface Health in a Young, Healthy Population', by (left to right) Dr Luisa Colorado (co-supervisor), Associate Professor Katrina Schmid (supervisor), Tram Le, Celine Tran, Cleo Yip, Thuy Nguyen, Briana Tsang, Cathryn Baker (CEO, OQNT), Dr Katie Edwards (co-supervisor). Each student received a gift voucher from Optometry Queensland and Northern Territory.

## Ident Awards



Song Jin Loh (right) with Optometry Queensland and Northern Territory President, Melinda Toomey (left)

Presented at the Faculty of Health Awards Ceremony, Room Three Sixty, Garden Points Campus.

- Optometry Queensland and Northern Territory Academic Highest Achievement in First Year BVisSci Award - Song Jin Loh
- Optometry Queensland and Northern Territory Highest Academic and Clinical Achievement in MOptom Award - Bronte Rolls
- School of Optometry and Vision Science Brian Brown Research Award (MOptom student with the highest combined GPA in the units 'Research Methods in Optometry and Vision Science' and 'Research Project') - Maegan Emerick



Bronte Rolls (right) with Optometry Queensland and Northern Territory President, Melinda Toomey (left)



Maegan Emerick (right) with Acting Head of School, Katrina Schmid (left)



Marco Ting (right) with mivision representative Helen Venturato (left)



Renata Gordon (right) with CooperVision Australia, Business Development Manager, Deepa Gangaram (left)

- mivision Media Communication Award (BVisSci student in the unit 'Binocular Vision' who designs the most innovative and engaging media communication tool that can be used in Optometry Practice) -Marco Ting
- CooperVision Australia Contact Lens Prize (MOptom student with highest achievement in first year contact lens studies) - Renata Gordon
- Johnson & Johnson Vision Care Award (MOptom student with highest achievement in second year contact lens studies) - Riya Makin



Absent Award Winner Riya Makan. In attendance were Johnson and Johnson Vision Care, Wyn Blanco, Regional Sales Manager and Shila Roshani, Customer Development Manager



Derek Lay (far right) pictured with other students receiving the 2019 VSP Global Practice Excellence Scholarship at the American Academy of Optometry Conference





QUT students Amy Johnson (top row, fourth from left) and James Lee (top row, far right) taking part in the 2019 Optometry Australia Student Leadership Program with other students

- Institute for Urban Indigenous Health and Fred Hollows
   Foundation Workforce Initiative Scholarship - Caitlin Kindness
- Australian College of Optometry 2019 Award (outstanding achievement in BVisSci and MOptom QUT program) - Bronte Rolls
- Optometry Australia Student Leadership Program - Amy Johnson and James Lee
- 2019 VSP Global Practice
   Excellence Scholarship Derek
   Shiu Him Lay

< LEFT Caitlin Kindness

# Student Clinic Highlights

TOP LEFT- BOTTOM RIGHT Tina Huynh, Clinic Coordinator, instructing student / Students using the Essilor Visioffice 2.0 / QUT Optometry Clinic Dispensers Harry Grzes (left) and Kylie Prince (right)



2019 was a record year for the Clinic. Our students and clinical supervisors provided 7.045 consultations at the QUT Optometry Clinic, an increase in 4 percent from 2018 and 21 percent from 2017, with the service operating throughout the year. The Clinic operates dedicated primary care, therapeutics, contact lens, low vision, paediatric and myopia management clinics. In addition to providing services at the QUT Optometry Clinic, the School provides outreach services to Aboriginal and Torres Strait Islander health clinics. refugee centres, childcare centres and schools with limited access to evecare services. Staff and students also participated in 'Widening Participation' events such as Indigenous Health Check Day and Explore Uni, organised by QUT Health Clinics to raise awareness and promote careers in health.



Essilor generously gifted the latest Visioffice 2.0 (VO2) digital dispensing tower to our QUT Optometry Clinic. The state-of-the-art technology is one of the most advanced and dynamic digital dispensing machines available, enhancing both student learning and the patient experience. We also welcomed optical dispenser, Kylie Prince to the team.





C.Matter 4

Annual Report 2019 | 21

4

AND DRAWNING

## Research Highlights

22 Annual Report 2019

Our research focuses on technological advances in the treatment and management of vision problems, the diagnosis and assessment of eye and vision disorders, and the functional impacts of vision impairment.

This year 57 articles were published in scholarly journals, 85 presentations at conferences were delivered and substantial industry research funding was again secured. Our work on OCT imaging and deep learning (led by David Alonso-Caneiro) and on myopia development and control (led by Scott Read) were featured in the media. Indeed, with collaborators from the University of New South Wales, Dr Alonso-Caneiro was recently awarded an NHMRC Ideas grant for a study on, 'Predicting visual function from structural data in health and ocular disease.'

Among the numerous awards and accolades bestowed on members of the School, Professor Joanne Wood received not just one, but two prestigious international awards. Professor Wood is the first woman to receive the 'International Optometrist of the Year Award 2019', presented annually to an optometrist who has excelled in his or her academic. research and social trajectory during recent years. The scientific committee is composed of university (Polytechnic University of Catalonia), professional (Catalan Council of Optometrists and Catalan Association of Visual Therapy) and Institutional (Terrassa City Council) members. The recipient of the award gives a speech, whereby he or she is named as Graduation Sponsor of the students starting their degree in the year 2019-2020, and is then asked to record a short congratulatory note by video-conference for the graduation ceremony of those students four years later. The second award received by Professor Wood in 2019 was the Human Factors and Ergonomics Society (HFES) 2019 Hal W. Hendrick Distinguished International Colleague Award, presented at the opening Plenary Session of the HFES International Annual Meeting in Seattle. The Hal W. Hendrick Distinguished International Colleague Award was established in 1967 and recognises a non-U.S. citizen who has made outstanding contributions to the

human factors and ergonomics field. Candidates are considered based on the significance of their contributions and their worldwide recognition within and outside of the human factors and ergonomics profession



Professor Joanne Wood, 'International Optometrist of the Year 2019' and Human Factors and Ergonomics Society (HFES) 2019 Hal W. Hendrick Distinguished International Colleague Award recipient

## **Our Impact**

Field-Weighted Citation Impact (FWCI) is a measure of research impact. A FWCI of one indicates that output equals the global average of publications in the field of Optometry and Vision Science.

The FWCI for the School of Optometry and Vision Science is 1.99, which indicates that its publications are cited twice as often as the global average in the field.

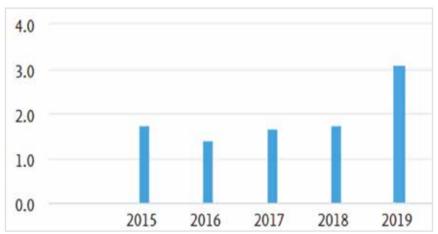
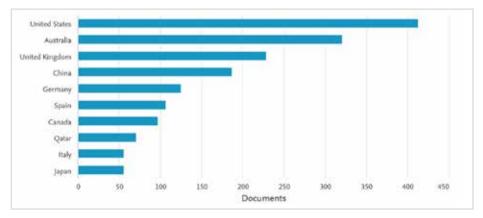


Figure: Field-weighted citation impact of School of Optometry affiliated publications, 2015-2019, as calculated in SciVal; based on Scopus data up to 15 January 2020. Overall Field-Weighted Citation Impact for the School of Optometry and Vision Science 2015-2019 is 1.99.





## **Our Collaborations**

We collaborate with researchers from across the world.

< FIGURE TOP LEFT Map of collaborating institutions, as calculated in SciVal. The map was produced in Google MyMaps based on Scopus data up to 15 January 2020.

## Our Reach: Number of Citing Countries

Using the 326 Scopus publications (2015-2019), the number of citing countries identified is 68.

< FIGURE BOTTOM LEFT Top ten citing countries 2015-2019, calculated in Scopus up to 15 January 2020.

## **Our Research Strengths**

- Myopia and its prevention and control
- Contact lenses
- Optics of the eye and imaging
- Advanced methods for imaging the eye
- Anterior eye assessment
   and treatment
- Novel methods for the early detection and management of eye disease
- Melanopsin photoreception
   and visual science
- Ocular biomarkers of systemic disease
- Vision and everyday function
- Indigenous eye health
- Children's vision



PROTICI COL



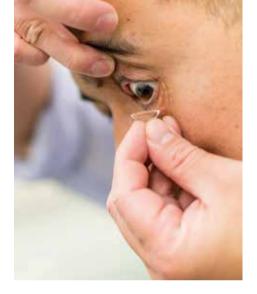
Collaborations continued with the QUT Robotics Centre, UNSW, China, India, Iran and the USA, and with ForgetSpecs on optical corrections for electronic devices. Graduate students Durgasri Jaisankar and Dinesh Kaphle (supervised by Professor David Atchison and A/Professor Katrina Schmid) were recipients of IHBI's Chronic diseases and aging themes publication award, for papers published in *Ophthalmic and Physiological Optics* and in *Survey of Ophthalmology*.

## **Optics of the Eye and Imaging**

The laboratory continued work on peripheral aberrations, the Stiles-Crawford effect and biometry changes in accommodation. Visiting Research fellow Dr Yongji Li investigated optical performance of contact lenses for the treatment of myopia. We welcomed Dr Stanislovas Zacharovas, a holography expert from Lithuania, to work on the ARC funded retinal holography project.



^ABOVE The Optical Society QUT OSA Student Chapter guest lecture by Emeritus Professor Donald Mitchell (front centre) pictured with staff and research students.



## **Contact Lenses and Visual Optics**

The Contact Lens and Visual Optics laboratory had another productive year in 2019. Associate Professor Stephen Vincent won the prestigious British Contact Lens Association 2019 Dallos Award to fund his ongoing research into the physiological effects of scleral contact lenses. Three new PhD students (Zachery Quince, Ignacio Andres Viedma Escalona and Francisco Yoel Garcia Marin) joined the lab during the year to work on a range of biomedical engineering projects related to the eye, under the principal supervision of Dr David Alonso-Caneiro. David Alonso-Caneiro was also successful as a



^ ABOVE Visiting Research Fellow, Dr Lisa Ostrin, with members of the Contact Lens and Visual Optics Laboratory



chief investigator on an NHMRC Ideas grant in collaboration with colleagues at UNSW. Industry collaboration with Johnson and Johnson on a range of projects continued to be a major source of funding for the lab. Members of the laboratory gave over thirty conference presentations and had over twenty published research papers.

The lab welcomed visiting researcher Dr Lisa Ostrin, from the University of Houston, College of Optometry, for the months of June and July. Dr Ostrin's current research focuses on myopia and circadian rhythms, and she was invited to QUT by Associate Professor Scott Read as an IHBI Visiting Research Fellow. During Dr Ostrin's visit she presented a research seminar and workshop to HDR students and was involved in various lab studies investigating how different types of light might impact upon the growth of the eye.

< LEFT Dr David Alonso-Caneiro



## **Vision and Everyday Function**

In 2019, the research team, led by Professor Joanne Wood and Dr Alex Black, completed data collection on a range of government, industry and university-funded projects, delivered 14 presentations at national and international research and clinical conferences, and published 12 papers on topics including visual impairment and driving, night-time driving and children's vision. The team also continued to develop their international profile in night-time driving and road lighting through hosting leading lighting researcher Professor Stephan Volker from Berlin for a 3-month research visit at QUT, representation on international CIE committees and presentations at the quadrennial CIE Conference in Washington, DC. The ongoing focus of the research team is in understanding the visual challenges of night driving and developing solutions to improve the safety of night-time driving, walking and cycling. Falls injury prevention also continues to be a strength, with ongoing research into the low-light difficulties of older adults with visual impairment, and the recent publication of an Australian falls prevention guideline for optometrists.

### **Anterior Eye**

2019 was another busy year for The Anterior Eye Laboratory, led by Katie Edwards, with the completion of a large industry funded grant. The lab continues research into cellular level changes at the ocular surface, in both ocular and systemic disease, using in-vivo confocal microscopy, some of which was presented by Drs Edwards and Colorado at the 2019 ARVO Annual Meeting in Vancouver. Collaborations continued with researchers from UNSW, and Griffith University, as well as a number of local collaborators. In the future, they will continue their work in the assessment of the ocular surface, as well as their new area of research investigating the neurobiology of ocular surface symptoms.

## Melanopsin Photoreception and Visual Science

Together with his team in the Visual Science Laboratories. Professor Andrew J. Zele provided the initial scientific evidence that a novel photoreceptor containing the melanopsin photopigment gives rise to conscious, image-forming visual and brightness perception; this knowledge redefines the textbook understanding of how retinal output is used for human vision. Based on their new technologies to objectively and clinically measure human melanopsin function, an international standard for pupillography was published in partnership with a consortium of experts. Professor





Zele and his collaborators in the Medical Retinal Laboratories (led by A/ Professor Beatrix Feigl, QUT School of **Biomedical Sciences and Queensland** Eve Institute) are leading studies of melanopsin dysfunction in eye diseases including age-related macular degeneration, diabetes and glaucoma as well as in neurodegenerative disease (Parkinson's disease). Together they are generating solutions to ameliorate the impact of melanopsin dysfunction on circadian rhythms, sleep and mood through development of novel optical technologies. A highlight was the award of a prestigious Australian Research Council (ARC) Future Fellowship (2018-2022) to Professor Zele.





Dr Tony Bergen, Technical Director of Photometric Solutions International Pty Ltd, Melbourne, Australia and President CIE Australia



Dr Holly Chinnery, Department of Optometry and Vision Sciences, The University of Melbourne, Australia



Dr Yongji Liu, Modern Optics, China

Dr Maria Markoulli, Senior Lecturer, School of Optometry and Vision Science, University of New South Wales, Sydney, Australia



Emeritus Professor Donald Mitchell, Dalhousie University, Halifax, Nova Scotia, Canada



Ms Sonia Ortiz, PhD candidate, Department of Optics, University of Granada, Spain



Dr Lisa Ostrin, Assistant Professor, College of Optometry, University of Houston, Texas, USA





Professor Stephan Volker, Professor Chair of Lighting Technology, School of Electrical Engineering and Computer Science, Berlin University of Technology



Dr Russell Woods, Associate Scientist, Schepens Eye Research Institute and Associate Professor, Department of Ophthalmology, Harvard Medical School, Boston, MA, USA

Ms Alexis Ceecee Zhang, PhD candidate, Department of Optometry and Vision Sciences, The University of Melbourne, Australia

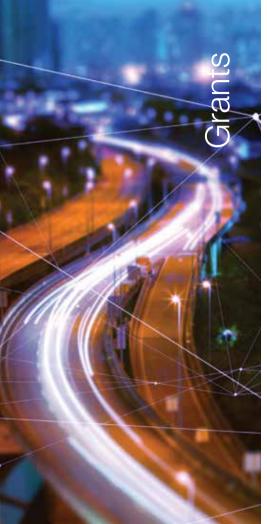


Assistant Professor Walter Wittich, School of Optometry, University of Montreal, Canada



Dr Stanislovas Zacharovas, Holography R&D Consultant, Lithuania

Annual Report 2019 31



## Name: Alonso-Caneiro D Title: Artificial intelligence for image processing in ocular imaging in health and disease

Funding Source: Rebecca Lillian Cooper Medical Research Foundation Duration of Funding: 2018-2019 Total Funds: \$100,000

## Names: Atchison DA, Lambert A, Suheimat M Title: **Relationship of retinal directionality to human retinal anatomy variations**

Funding Source: ARC Discovery Project (DP190103069) Duration of Funding: 2019-2021 Total Funds: \$425,000

Names: Ayton L, McGinley J. Petoe M, McCarthy C, Bryant A, Bentley S Title: **The Impact of SmartGlass low vision technology on mobility in people with vision impairment** 

Funding Source: Melbourne Disability Institute Duration of Funding: 2019 Total Funds: \$20,000 Names: Bentley S, Anstice N, Armitage J, Dakin S, Jaworski A, Keay L, McKendrick A

## Title: Toward a 'Leaders in Indigenous Optometry Education Network' (LIOEN)

Funding Source: Victorian Optometrists Training and Education (VOTE) Trust Duration of Funding: 2020 Total Funds: \$7,000

Name: Carkeet A Title: Influence of light and defocus on the choroid during emmetropization and myopia in children and young adults

Funding source: NIH NEI R01 EY030193 Ostin L Smith E and Patel N (\$1.2 M), sub award R-20-0007 Duration of Funding: 2019-2024 Total Funds: \$5,124

Names: Chen F, De Roach J, Hunt D, Wilton S, Alonso-Caneiro D

## Title: Establishing a centre of research excellence in juvenile macular disease

Funding Source: Telethon-Perth Children's Hospital Research Fund Duration of Funding: 2018-2019 Total budget: \$249,880 Name: Collins MJ Title: **Industry** Funding Source: Johnson & Johnson Vision Care Inc. Duration of Funding: 2019 Total Funds: \$807,000 USD

Name: Collins MJ Title: **Industrv** 

Funding Source: Johnson & Johnson Surgical Inc. Duration of Funding: 2019 Total Funds: \$108,750 USD

Name: Collins MJ Title: **IHBI Major Equipment Grant** Funding Source: IHBI Duration of Funding: 2019 Total Funds: \$50,000

Names: Colorado LH, Edwards K, Pritchard N Title: **Industry** Funding Source: Confidential Duration of Funding: 2019 Total Funds: \$20,000 Names: Edwards K, Pritchard N Title: **Industry** Funding Source: Confidential Duration of Funding: 2019 Total Funds: \$120,000

Names: Edwards K, Krishnan A, Markoulli M, Kerr G, White N, Arnold R Title: **IHBI Near-miss HERDC** 

## Category 1 Support Grant

Funding Source: IHBI Duration of Funding: 2019-2020 Total Funds: \$20,000

Names: Edwards K, Carkeet A, Colorado LH, Wearing S, Murray R, Russell A Title: **2019 School of Optometry and Vision Science, Faculty of Health Pilot Research Project Grant Scheme** 

Funding Source: School of Optometry and Vision Science Duration of Funding: 2019-2020 Total Funds: \$10,000

### Name: Hopkins S

Title: How smart are the 'smart vision charts' at detecting reduced vision in children?

Funding Source: QUT Women in Research Grant Scheme Duration of Funding: 2018-2019 Total Funds: \$9,757

## Name: Hopkins S Title: **Outreach consulting agreement**

Funding Source: VOS Duration of Funding: 2019-2020 Total Funds: \$36,126

Names: Meuleners L, Wood JM, Ng J, Morlet N, Brameld K Title: **Visual impairment and injury: A population-based study** Funding Source: ARC Discovery

(DP180102819) Duration of Funding: 2018-2020 Total Funds: \$228,000 Names: Murray R, Edwards K Title: 2019 CDA Inter Program Collaborative Scheme

Funding Source: IHBI Duration of Funding: 2019-2020 Total Funds: \$9,000

## Name: Pieterse EC Title: Effect of nightly low dose atropine on the ocular surface and binocular vision system of myopic children

Funding Source: QUT Women in Research Grant Scheme Duration of Funding: 2019-2020 Total Funds: \$9,947

Names: Read SA, Alonso-Caneiro D, Collins MJ Title: **The interaction between ON and OFF retinal cell activation and near focusing in myopia** 

Funding Source: IHBI Innovation Ideas Grant Scheme Duration of Funding: 2018-2019 Total Funds: \$10,000 Name: Vincent SJ Title: Intraocular pressure changes and recovery with sealed and fenestrated miniscleral contact lenses

Funding Source: British Contact Lens Association Duration of Funding: 2019 Total Funds: \$14,000

Names: Wood J, Black A, Atchison D, Larue G

## Title: Mitigating signal colourmisconceptions from prescription lenses worn by train drivers

Funding Source: Australasian Centre for Rail Innovation Duration of Funding: 2018-2019 Total Funds: \$108,079 Names: Wood J, Black A, King N, King M, Brough D, Fylan F Title: **"WAKE up" - making exercising in the dark safer and more appealing through innovative design of retroreflective apparel** Funding Source: 2018 IHBI and HASS Collaborative Incentive Scheme Duration of Funding: 2018-2019 Total Funds: \$21,940

Names: Wood JM, McKendrick A, Black AA, Lacherez P, Isoardi G, Owsley CO

## Title: Using visual science to reduce the dangers of night driving

Funding Source: ARC Discovery (DP190103141) Duration of Funding: 2019-2021 Total Funds: \$399,458

Names: Zele AJ, Feigl B, Cao D, Kremers J Title: **Melanopsin function in humans** Funding Source: ARC Discovery Projects Duration of Funding: 2017-2019

Total Funds: \$243,387

34 | Annual Report 2019

## Name: Zele AJ Title: Vision and lighting in the age of melanopsin

Funding Source: Australian Research Council (ARC) Future Fellowship Duration of Funding: 2018-2021 Total Funds: \$1,107,541

Name: Zele AJ Title: **Method, device and system for biologically balanced artificial light** Funding Source: QUT Blue Box

Articles <sup>D</sup>eer-Reviewed

- Adhikari P, Feigl B, Zele AJ. The flicker pupil light response (fPLR). Translational Vision Science and Technology. 2019; 8: 29.
- Adhikari P, Zele AJ, Cao D, Kremers J, Feigl B. The melanopsin-directed white noise electroretinogram. Vision Research. 2019; 164: 83-93.
- Alam U, Jeziorska M, Petropoulos IN, Pritchard N, Edwards K, Dehghani C, Srinivasan S, Asghar O, Ferdousi M, Ponirakis G, Marshall A, Boulton AJM, Efron N, Malik RA. Latent autoimmune diabetes of adulthood (LADA) is associated with small fibre neuropathy. Diabetic Medicine. 2019; 36: 1118-1124.
- Andrzejewski S, Murali A, Ramlogan-Steel C, Edwards K, Efron N, Steel JC, Layton CJ. Adeno-associated virus neutralising antibodies in type 1 diabetes mellitus (2019) Gene Therapy. 2019; 26: 250-263.

- 5. Atchison DA, Lu J, Yip C, Suheimat M, Schmid KL. Experimental study of refraction effects of nominally plano ophthalmic prisms and magnifying lenses. Optometry and Vision Science. 2019; 96: 111-116.
- Atchison DA, Suheimat M. Theoretical study of refraction effects of plano-ophthalmic prisms. Optometry and Vision Science. 2019; 96: 35-42.
- Bentley SA, O'Hare F, Murphy GC, Finger RP, Luu CD, Keeffe JE, Abbott CJ, Guymer RH, Ayton LN. Psychosocial assessment of potential retinal prosthesis trial participants. Clinical and Experimental Optometry. 2019; 102: 506-512.
- 8. Bhattarai D, Suheimat M, Lambert AJ, Atchison DA. Fixation stability with Bessel beams. Optometry and Vision Science. 2019; 96: 94-102.

- Black A, Wood JM, Colorado LH, Collins MJ. The impact of uncorrected astigmatism on night driving performance. Ophthalmic and Physiological Optics. 2019; 39: 350-357.
- 10. Burfield HJ, Carkeet A, Ostrin LA. Ocular and systemic diurnal rhythms in emmetropic and myopic adults. Investigative Ophthalmology and Visual Science. 2019; 60: 2237-2247.
- 11. Carkeet A, Chang YA, Chang TY, Chen PM, Gu M, Lin V, Ng JH. Simulated image doubling and visual acuity: effects of doubling magnitude, orientation, and ghost image intensity. Ophthalmic and Physiological Optics. 2019; 39: 86-93.

- 12. Charman WN, Liu Y, Atchison DA. Small-aperture optics for the presbyope: do comparable designs of corneal inlays and intraocular lenses provide similar transmittances to the retina? Journal of the Optical Society of America A. 2019; 36: B7-B14.
- 13. Colorado LH, Markoulli M, Edwards K. The relationship between corneal dendritic cells, corneal nerve morphology and tear inflammatory mediators and neuropeptides in healthy individuals. Current Eye Research. 2019; 44: 840-848.
- 14. Dain SJ, Atchison DA, Hovis JK. Limitations and precautions in the use of the Farnsworth-Munsell Dichotomous D-15 test. Optometry and Vision Science. 2019; 96: 695-705.

- Dumpala S, Zele AJ, Feigl B. Outer retinal structure and function deficits contribute to circadian disruption in patients with Type II diabetes. Investigative Ophthalmology and Visual Science. 2019; 60: 1870-1878.
- 16. Fraenkel A, Lee GA, Vincent SJ, Vincent RA, Bourne RRA, Shah P. Lessons learned from the development and implementation of a patient-reported outcome and experience measure (POEM) in an Australian glaucoma practice. BMC Ophthalmology. 2019; 19.
- Hamwood J, Alonso-Caneiro D, Sampson DM, Collins MJ and Chen FK. Automatic detection of cone photoreceptors with fully convolutional networks. Translational Vision Science and Technology. 2019; 8: 10.

- Heath Jeffrey RC, Young B, Swann PG, Lueck CJ. Unequal pupils.
   Understanding the eye's aperture.
   Australian Journal of General Practice. 2019; 48: 39-42.
- 19. Hoseini-Yazdi H, Vincent SJ, Collins MJ, Read SA, Alonso-Caneiro D. Repeatability of wide-field choroidal thickness measurements using enhanced-depth imaging optical coherence tomography. Clinical and Experimental Optometry. 2019; 102: 327-334.
- 20. Hoseini-Yazdi H, Vincent SJ, Collins MJ, Read SA, Alonso-Caneiro D. Impact of image averaging on wide-field choroidal thickness measurements using enhanced-depth imaging optical coherence tomography. Clinical and Experimental Optometry. 2019; 102: 320-326.

- 21. Hoseini-Yazdi H, Vincent SJ, Collins MJ, Read SA. Regional alterations in human choroidal thickness in response to short-term monocular hemifield defocus. Ophthalmic and Physiological Optics. 2019; 39: 172-182.
- 22. Hoseini-Yazdi H, Vincent SJ, Collins MJ, Read SA, Alonso-Caneiro D. Wide-field choroidal thickness in myopes and emmetropes. Scientific Reports. 2019; 9.
- Hopkins S, White S, Black A, Wood J. Validity of the plus lens test at detecting hyperopia. Ophthalmic and Physiological Optics. 2019; 39: 141-147.
- Hopkins S, White S, Black A, Wood J. Visual information processing skills are associated with academic performance in Grade 2 school children. Acta Ophthalmologica. 2019; 97: e1141.

- Jaisankar D, Leube A, Gifford KL, Schmid KL, Atchison DA. Effects of eye rotation and contact lens decentration on horizontal peripheral refraction. Ophthalmic and Physiological Optics. 2019; 39: 370 - 377.
- Jones L, Drobe B, González-Méijome JM, Gray L, Kratzer T, Newman S, Nichols JJ, Ohlendorf A, Ramdass S, Santodomingo-Rubido J, Schmid KL, Tan D, Tan K-O, Vera-Diaz FA, Wong Y-L, Gifford KL, Resnikoff S. IMI
   Industry guidelines and ethical considerations for myopia control report. Investigative Ophthalmology and Visual Science. 2019; 60: M161-M183.
- Kelbsch C, Strasser T, Chen Y, Feigl B, Gamlin PD, Kardon R, Peters T, Roecklein K, Steinhauer S, Szabadi E, Zele AJ, Wilhelm H, Wilhelm B. Standards in Pupillography. Frontiers in Neurology. 2019; 10: 129.

- Kirkman JM, Bentley SA, Armitage JA, Woods CA. Could adoption of the rural pipeline concept redress Australian optometry workforce issues? Clinical and Experimental Optometry. 2019; 102: 566-570.
- 29. Kugelman J, Alonso-Caneiro D, Read SA, Hamwood J, Vincent SJ, Chen FK and Collins MJ. Automatic choroidal segmentation in OCT images using supervised deep learning methods. Scientific Reports. 2019; 9: 13298.
- Kumar M, Shetty R, Dutta D, Rao HL, Jayadev C, Atchison DA.
   Effects of a semi-scleral contact lens on refraction and higher order aberrations. Contact lens and Anterior Eye. 2019; 42, 670-674.
- Lacherez P, Virupaksha S, Wood JM, Collins MJ. The effects of auditory satellite navigation instructions and visual blur on road hazard perception. Accident Analysis and Prevention. 2019; 125: 132-137.





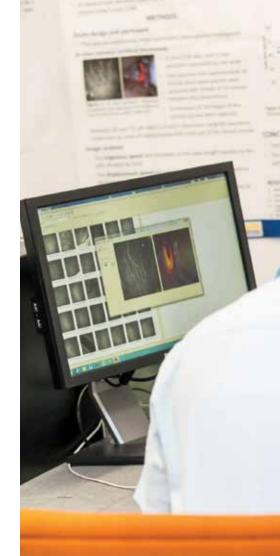
- 32. Lau JK, Collins MJ, Cheung SW, Cho P. Repeatability of choroidal thickness measurements with Spectralis OCT images. BMJ Open Ophthalmology. 2019; 4: e000237.
- Lau JK, Wan K, Cheung SW, Vincent SJ, Cho P. Weekly changes in axial length and choroidal thickness in children during and following orthokeratology treatment with different compression factors. Translational Vision Science and Technology. 2019; 8: 9.
- Larue GS, Watling C, Black A, Wood J. Getting the attention of drivers back on passive railway level crossings: Evaluation of advanced flashing lights. Transportation Research Record: Journal of the Transportation Research Board. 2019; 2673: 389-398.

> LEFT QUT Lead researcher David Alonso-Caneiro of the publication in Nature Scientific Reports on OCT imaging and deep learning methods.

- 35. Lee S, Black A, Wood J. Eye movements of drivers with glaucoma on a visual recognition slide test. Optometry and Vision Science. 2019; 96: 484-491.
- Li H, Li S-M, Liu L-R, Ji Y-Z, Kang M-T, Sun Y-Y, Wei S-F, Zhan S-Y, Mitchell P, Atchison DA, Wang N, Anyang Childhood Eye Study Group. Astigmatism and its components in 12-yearold Chinese children: the Anyang Childhood Eye Study. British Journal of Ophthalmology. 2019; 103: 768-774.
- 37. Li CG, Yang GY, Schmid KL, Huang LH, He GH, Liu L, Ruan ZL, Chen WQ. Associations between environmental tobacco smoke exposure in early life and astigmatism among Chinese preschool children. International Journal of Environmental Research and Public Health. 2019; 16: E3725.

- 38. Moderiano D, Do M, Hobbs S, Lam V, Sarin S, Alonso-Caneiro D, Chakraborty R. Influence of the time of day on axial length and choroidal thickness changes to hyperopic and myopic defocus in human eyes. Experimental Eye Research. 2019; 182: 125-136.
- Moghadas SN, Shoeibi N, Ehsaei A, Atchison DA. Structure-function correlation in high myopia using spectral-domain optical coherence tomography and standard automated perimetry. Clinical and Experimental Optometry. 2019; 102: 335-340.
- 40. Ostrin LA, Jnawali A, Carkeet A, Patel NB. Twenty-four hour ocular and systemic diurnal rhythms in children. Ophthalmic and Physiological Optics. 2019; 39: 358-369.

- Read SA, Fuss JA, Vincent SJ, Collins MJ, Alonso-Caneiro D. Invited Review: Choroidal changes in human myopia: Insights from OCT imaging. Clinical and Experimental Optometry. 2019; 102: 270-285.
- 42. Sander B, Collins MJ, Read SA. Short-term effect of low-dose atropine and hyperopic defocus on choroidal thickness and axial length in young myopic adults. Journal of Ophthalmology. 2019; ID 4782536.
- Shaw A, Collins MJ, Huang J, Phuong Nguyen HM, Kim Z, Lee G, Johnstone J, Casey A. Lid wiper epitheliopathy: The influence of multiple lid eversions and exposure time. Contact Lens and Anterior Eye. 2019; 42: 304-310.





- Thorslund B, Wood J, Nygardhs S, Black A, Malicka A, Hickson L. Exploring older adults hearing and vision and driving - the Swedish study. Transportation Research Part F: Psychology and Behaviour. 2019; 64: 274-284.
- Ulaganathan S, Read SA, Collins MJ, Vincent SJ. Influence of seasons upon personal light exposure and longitudinal axial length changes in young adults. Acta Ophthalmologica. 2019; 97: e256-265.
- 46. Vincent SJ, Alonso-Caneiro D, Collins MJ. Invited Review: Optical Coherence Tomography and scleral contact lenses: Clinical and research applications. Clinical and Experimental Optometry. 2019; 102: 224-241.

- Vincent SJ, Collins MJ. A topographical method to quantify scleral contact lens decentration. Contact Lens and Anterior Eye. 2019; 42: 462-466.
- Vincent SJ, Kowalski LP, Alonso-Caneiro D, Kricancic H, Collins MJ. The influence of centre thickness on miniscleral lens flexure. Contact Lens and Anterior Eye. 2019; 42: 63-69.
- 49. Vincent SJ, Alonso-Caneiro D, Kricancic H, Collins MJ. Scleral contact lens thickness profiles: the relationship between average and centre lens thickness. Contact Lens and Anterior Eye. 2019; 42: 55-62.

- 50. Vincent SJ, Alonso-Caneiro D, Collins MJ. The time course and nature of corneal oedema during sealed miniscleral contact lens wear. Contact Lens and Anterior Eye. 2019; 42: 49-54.
- 51. Vincent SJ, Fadel D. Optical considerations for scleral contact lenses: A review. Contact Lens and Anterior Eye. 2019; 42: 598-613.
- Webber AL, Wood JM, Thompson B, Birch EE. From suppression to stereoacuity: a composite binocular function score for clinical research. Ophthalmic and Physiological Optics. 2019; 39: 53-62.
- 53. Wildsoet CF, Chia A, Cho P, Guggenheim JA, Polling JR, Read SR, Sankaridurg P, Saw SM, Trier K, Walline JJ, Wu PC, Wolffsohn JS. IMI - Interventions myopia institute: Interventions for controlling myopia onset and progression report. Investigative Ophthalmology and Visual Science, 2019; 60: M106-M131.
- 54. Wolffsohn JS, Kollbaum PS, Berntsen DA, Atchison DA, Benavente A, Bradley A, Buckhurst H, Collins M, Fujikado T, Hiraoka T, Hirota M, Jones D, Logan NS, Lundström L, Read SA, Torii H and Naidoo K. IMI - Clinical myopia control trials and instrumentation report. Investigative Ophthalmology and Visual Science. 2019; 60: M132-M160.

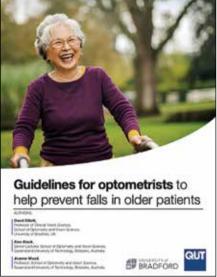


- 55. Wood JM. 2015 Glenn A. Fry Award Lecture: Driving toward a new vision: Understanding the role of vision in driving. Optometry and Vision Science. 2019; 96: 626-636.
- 56. Zele AJ, Adhikari P, Cao D, Feigl B. Melanopsin driven enhancement of cone-mediated visual processing. Vision Research. 2019; 160: 72-81.
- 57. Zele AJ, Adhikari P, Cao D, Feigl B. Melanopsin and cone photoreceptor inputs to the afferent pupil light response. Frontiers in Neurology. 2019; 10: 529.

- Chakraborty R, Read SA, Vincent SJ. Understanding myopia: Pathogenesis and Mechanisms. In Wong, TY and Ang, M (Eds.): Updates on Myopia: A Clinical Perspective. Springer, Singapore, 2020, 65-94.
- 2. Zeri F, Tavazzi S, Swann PG. A frog jumped in the pupil, a case of persistent pupil membrane. In Atlas of Anterior Segment OCT. Vol 2. Fabiano Editore, 2019, 83-86.







 Elliott D, Black A, Wood J. Guidelines for optometrists to help prevent falls in older patients. 2019.

> https://www.optometry.org. au/wp-content/uploads/ Professional\_support/Guidelines/ Falls\_Guidelines\_v8.pdf

- Alonso-Caneiro D, Kugelman J, Read SA, Hamwood J, Vincent SJ, Chen FK, Collins MJ. Patch-based and fully semantic deep learning methods for automatic choroidal segmentation in OCT images. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- Atchison DA, Jaisankar D, Gifford KL, Leube A, Schmid KL. Effects of horizontal eye movement and contact lens decentration on horizontal peripheral refraction. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- Atchison DA, Jaisankar D, Gifford KL, Schmid KL, Kollbaum PS, Jaskulski M. The measurement of peripheral refraction with contact lenses for myopia treatment. International Myopia Conference; 2019, 14 Sep: Tokyo, Japan.
- 4. Bentley SA. (Invited) Collaborative Care Symposium. The Burden



Ursula White (left) and Luisa Colorado (right) both received travel awards to attend the 2019 ARVO conference in Vancouver, Canada.

of Glaucoma: How Should We Prepare for the Future. 8th World Glaucoma Congress; 2019, 27 - 30 Mar: Melbourne, Australia.

 Bentley SA, Green C, Malesic L, Siggins T, Escott C, O'Keefe M, Clarke C, Vocale J. Establishing a collaborative model of glaucoma care in an Australian public hospital setting. (Presentation) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.

# Conferences Presentations at

- Black AA, Wood JM, Collins M, Isoardi G. Lighting levels in the modern night driving environment. CIE Australia Lighting Research Conference; 2019, 12 Feb: Sydney, Australia.
- Black AA, Wood JM, Collins M, Isoardi G. Variations in pupil size and light levels while driving at night. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- 8. Black AA. (Invited) Vision and driving. Singapore Primary Eye Care Symposium; 2019, 23 - 24 Jul: Singapore.
- Black AA. (Invited) Low luminance testing in practice and impact on everyday function. Singapore Primary Eye Care Symposium; 2019, 23 - 24 Jul: Singapore.
- Black AA. (Invited) Prescribing for falls prevention. Singapore Primary Eye Care Symposium; 2019, 23 -24 Jul: Singapore.

- Black AA. (Invited) Children's vision and academic performance. Singapore Primary Eye Care Symposium; 2019, 23 - 24 Jul: Singapore.
- Black AA, Duff R, Hutchinson M, Ng I, Phillips K, Rose K, Ussher A, Wood JM. Effects of night-time bicycling visibility aids on vehicle passing distance. International Cycling Safety Conference; 2019, 18 - 20 Nov: Brisbane, Australia.
- Carkeet A. (Invited) Computers in the optometric examination, measuring vision and refraction. North Queensland Vision; 2019, 10

   11 Aug: Townsville, Australia.
- 14. Carkeet A. (Invited) Therapeutic optometry practice, legal limits and legislation changes. North Queensland Vision; 2019, 10 - 11 Aug: Townsville, Australia.

- Carkeet A, Warnken HM, Bingham AG, Lee H, Major E, Ogi L, Sivasuthan P, Hopkins S. Symmetry of ocular biometry and refraction parameters in 4 year old children. (Presentation) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- Chakraborty R, Kricancic H, Collins M, Moderiano D, Davis B, Alonso-Caneiro D, Yi F. Association between refractive error and the intrinsically photosensitive retinal ganglion cells (ipRGC) driven pupil response in young adult humans. (Poster) 17th International Myopia Conference; 2019, 12 - 15 Sep: Tokyo, Japan.
- Collins M, Yi F, Davis B, McNeill H. Rapid change in the Stiles Crawford function in response to a decentred aperture. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.

- Colorado LH, Edwards K, Chinnery H, Bazan H. In vivo dendritic cell dynamics in the human cornea. (Poster). ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- Cox RA, Read SA, Hopkins S, Wood JM. Visual characteristics of Queensland Aboriginal and Torres Strait Islander children. Close the Gap for Vision by 2020: Strengthen and Sustain National Conference; 2019, 14 - 15 Mar: Alice Springs, Australia.
- Dain SJ, Atchison DA, Hovis J, Boon M-Y. Lighting for colour vision examination in the era of LEDs.
   5th Symposium of the International Colour Vision Society; 2019, 5 -9 Jul: Riga, Latvia.
- Davis B, McNeill H, Hamwood J, Collins M. Estimating the shape of the human foveolar. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.

- Edwards K, Cho W, Hua A, Lam C, Le J, Ma Y, Tran J, Park N, Colorado L. Influence of somatosensory function and the menstrual cycle on dry eye symptoms. (Poster). ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- 23. Fisher D, Vincent SJ, Collins MJ. The influence of B-scan averaging and anterior segment OCT scanning protocols upon corneal

thickness repeatability. (Poster) 17th International Cornea and Contact Lens Congress; 2019, 11 - 13 Oct: Noosa, Australia.

24. Fylan F, King M, Brough D, Black AA, King N, Bentley LA, Wood JM. Strategies for increasing cyclists' visibility at night-time. International Cycling Safety Conference; 2019, 18-20 Nov: Brisbane, Australia.





Luisa Colorado (second from left), Katie Edwards (centre), and Ursula White (second from right) enjoying the 2019 ARVO conference in Vancouver, Canada

- Gifford KL, Schmid KL, Collins J. Maher C, Makan R, Nguyen TKP, Parmenter G, Rolls B, Zhang XS, Atchison DA. Accommodative responses of young adult myopes wearing multifocal contact lenses. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- Gifford KL, Schmid KL Atchison D. Accommodation accuracy and stability of young adult myopes wearing multifocal contact lenses. 17th International Myopia Conference; 2019, 12 - 15 Sep: Tokyo, Japan.

- 27. Hopkins S, Bentley S. Student placements in Aboriginal and Torres Strait Islander health services
  perspectives from a tertiary institution. Close the Gap for Vision by 2020: Strengthen and Sustain National Conference; 2019, 14 - 15 Mar: Alice Springs, Australia.
- 28. Hopkins S, White SLJ, Black AA, Wood JM. Improvements in rapid automatised naming following spectacle intervention. XVII Children Vision Research Society Conference; 2019, 15-17 Jun: Pisa, Italy.
- Hoseini-Yazdi H, Vincent SJ, Collins MJ, Read SA. Regional alterations in human choroidal thickness in response to short-term monocular hemifield myopic defocus. (Presentation) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- 30. Hoseini-Yazdi H, Vincent SJ, Collins MJ, Read SA. Choroidal thickness

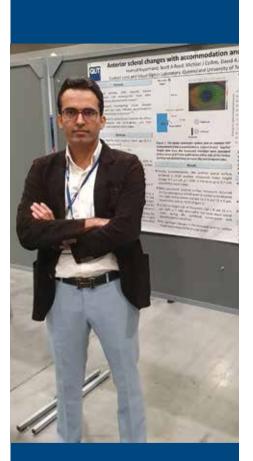
changes in response to short-term exposure to astigmatic defocus. (Poster) 17th International Myopia Conference; 2019, 12 - 15 Sep: Tokyo, Japan.

- Hughes RP, Vincent SJ, Read SA, Collins MJ. Short-term changes in ocular biometry during accommodation in children. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- Hughes RP, Vincent SJ, Read SA, Collins MJ. Short-term changes in ocular biometry during accommodation in children. (Poster) O=MEGA19; 2019, 19 - 21 Jul: Melbourne, Australia.
- Hughes RP, Vincent SJ, Read SA, Collins MJ. Changes in ocular biometry during short-term accommodation in myopic and emmetropic children: preliminary results. IHBI Inspires Annual Conference; 2019, 12 - 13 Aug: Brisbane, Australia.

- Kaphle D, Atchison DA, Schmid KL. Multifocal spectacles in childhood myopia: are treatment effects sustained? A systematic review and meta-analysis. 17th International Myopia Conference; 2019, 12 - 15 Sep: Tokyo, Japan.
- Kirkman JM, Bentley SA, Armitage JA, Woods CA. The value of extended clinical placements: Perspectives from a unique optometry program. 13th National Annual Allied Health Conference; 2019, 5 - 8 Aug: Brisbane, Australia.
- Kramer EG, Vincent SJ. Central corneal clearance during longerterm scleral contact lens wear. (Poster) British Contact Lens Association Clinical Conference and Exhibition; 2019, 8-10 May: Manchester, UK.

- Kugelman J, Alonso-Caneiro D, Read SA, Vincent SJ, Chen F, Collins MJ. Constructing synthetic chorio-retinal patches using generative adversarial networks. (Poster) International Conference on Digital Image Computing: Techniques and Applications; 2019, 2 - 4 Dec: Perth, Australia.
- Lau JK, Vincent SJ, Cheung SW, Cho P. Higher-order aberrations and axial eye growth in young myopic children undergoing orthokeratology treatment. (Poster) 22nd Asia Pacific Optometric Congress; 2019, 17 -20 Jun: Manila, Philippines.
- Lau JK, Vincent SJ, Cheung SW, Cho P. The effect of orthokeratology compression factor on ocular higher order aberrations. (Poster) 17th International Myopia Conference; 2019, 12 - 15 Sep: Tokyo, Japan.

- Lee GA, Porter A, Vincent RA, Vincent SJ. Combined phacoemulsification and microinvasive glaucoma surgery (MIGS) in comparison to phacoemulsification alone for open angle glaucoma. (Poster) 8th World Glaucoma Congress; 2019, 27 - 30 Mar: Melbourne, Australia.
- Lee GA, Vincent RA, Vincent SJ. Topical treatment of presumed Paecilomyces keratitis. (Poster) 17th International Cornea and Contact Lens Congress; 2019, 11 -13 Oct: Noosa, Australia.
- 42. Niyazmand H, Read S, Collins M, Alonso-Caneiro D. Anterior scleral changes with accommodation and convergence. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- 43. Pieterse EC. Case based examples of myopia control in the real world. Australian Vision Convention; 2019, 13 - 14 Apr, Gold Coast, Australia.



Hamed Niyazmand at his poster during the 2019 ARVO conference, Vancouver, Canada

- 44. Pieterse EC. Diagnosis and management of viral conjunctivitis. Australian Vision Convention; 2019, 13 - 14 Apr, Gold Coast, Australia.
- 45. Pieterse EC, Hughes RPJ. Patient characteristics and determinants of myopia control intervention selection in an Australian universitybased clinic. (Poster) 17th International Myopia Conference; 2019, 12 - 15 Sep: Tokyo, Japan.
- Quince Z, Alonso-Caneiro D, Read S, Collins M. Optical coherence elastography for the measurement of ocular biomechanics. IHBI Inspires Annual Conference; 2019, 12 - 13 Aug: Brisbane, Australia.
- 47. Rowland C, Lee GA, Vincent SJ, Rac K, Lee LR. Patient-reported outcome and experience measure in wet macular degeneration. 19th European VitreoRetinal Society Meeting; 2019, 27 - 30 Jun: Lisbon, Portugal.

- Rowland C, Lee GA, Vincent SJ, Rac K, Lee LR. Patient-reported outcome and experience measure in wet macular degeneration. (Poster) Maculart Meeting; 2019, 23 - 25 Jun: Paris, France.
- Sander B, Collins M, Read S. The effect of hyperopic blur administered one day after 0.01 percent atropine on the choroidal thickness of young myopes. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- Schmid KL, Gifford KL, Chan P, Christie B, Crouther S, Nahuysen O, Sechenova K, Sevil L, Youssef M, Atchison DA. The effects of aspheric and concentric multifocal soft contact lenses on visual quality, vergence and accommodation function in young-adult myopes. (Presentation) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- 51. Sepulveda JA, Anderson AA, Wood JM, McKendrick AM. The effects of healthy ageing on central

and peripheral motion perception. ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.

- Teoh SC, Collins MJ, Read SA. The effect of diffuse blur on contrast sensitivity and visual acuity. (Poster) 17th International Myopia Conference; 2019, 12 - 15 Sep: Tokyo, Japan.
- Ulaganathan S, Read SA, Collins MJ, Vincent SJ. Short and long term variations in choroidal thickness and axial length. (Poster) 17th International Myopia Conference; 2019, 12 - 15 Sep: Tokyo, Japan.
- Vincent SJ. (Invited) Optical effects of orthokeratology. 60th Annual Meeting of the Ophthalmological Society of Taiwan; 2019, 13 - 15 Dec: Taipei, Taiwan.
- 55. Vincent SJ. (Invited) Higher order aberrations, paediatric orthokeratology, and eye growth in children. International Summit of Specialty Contact Lenses, 2019, 8 - 10 Nov: Rome, Italy.

- Vincent SJ. (Invited) Controversies in scleral lens management. International Summit of Specialty Contact Lenses, 2019, 8 - 10 Nov: Rome, Italy.
- 57. Vincent SJ. (Invited) The effects of scleral lens wear on the conjunctival and scleral surface. International Summit of Specialty Contact Lenses, 2019, 8 - 10 Nov: Rome, Italy.
- 58. Vincent SJ. Biometry in myopia management. 17th International Cornea and Contact Lens Congress; 2019, 11 - 13 Oct: Noosa, Australia.
- 59. Vincent SJ. Scleral lens decentration. 17th International Cornea and Contact Lens Congress; 2019, 11 - 13 Oct: Noosa, Australia.
- 60. Vincent SJ. (Invited) Visual optics and myopia control. North Queensland Vision, 2019, Townsville, Australia.

- 61. Vincent SJ. (Invited) Anatomical and physiological considerations in scleral lens wear. North Queensland Vision; 2019, 10 - 11 Aug: Townsville, Australia.
- Vincent SJ. (Invited) An introduction to scleral lenses. 22nd Asia Pacific Optometric Congress; 2019, 17 -20 Aug: Manila, Philippines.
- 63. Vincent SJ. (Invited) Panel discussion on myopia management: sharing of best practices and treatment protocols.
   22nd Asia Pacific Optometric Congress; 2019, 17 - 20 Aug: Manila, Philippines.
- Vincent SJ. (Invited) A new dawn in myopia control: The evidence behind light exposure. 22nd Asia Pacific Optometric Congress; 2019, 17 - 20 Aug: Manila, Philippines.

- Vincent SJ. (Invited) Visual optics, eye growth and myopia control. 22nd Asia Pacific Optometric Congress; 2019, 17 - 20 Aug: Manila, Philippines.
- Vincent SJ. (Invited) Mini Global Speciality Lens Symposium: Oxygen and Scleral Lenses. British Contact Lens Association Clinical Conference and Exhibition; 2019, 8-10 May: Manchester, UK.
- Vincent SJ. (Invited) Are animal models of myopia development and control applicable to humans? West China International Myopia Control and Eye Care Symposium; 2019, 1 - 3 Mar: Chengdu, China.
- Vincent SJ. (Invited) Is it time to go public with myopia control as eye care practitioners? (A new dawn in Myopia control). Global Speciality Lens Symposium; 2019, 24 - 27 Jan: Las Vegas, USA.

- 69. Vincent SJ. (Invited) Myopia control (Optics and Eye Growth: Cornea to Cortex). Global Speciality Lens Symposium; 2019, 24 - 27 Jan: Las Vegas, USA.
- Vincent SJ. (Invited) State of sclerals: What we know and what we need to know (Research and Technology Update). Global Speciality Lens Symposium; 2019, 24 - 27 Jan: Las Vegas, USA.
- 71. Vincent SJ, Collins MJ. A topographical method to quantify scleral contact lens decentration. British Contact Lens Association Clinical Conference and Exhibition; 2019, 8-10 May: Manchester, UK.
- 72. White U, Black AA, Wood JM, Delbaere K. Progressive central vision impairment and concern about falling: A longitudinal study. (Presentation) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.

- Wood JM, Black AA, Mallon K, Anstey K. Predictors of driving performance in older adults with and without visual impairment. (Presentation) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- 74. Wood JM. (Invited) Real-world evaluation of drivers with glaucoma. World Glaucoma Congress, Melbourne, March 27 - 30, 2019.
- 75. Wood JM, Choo JS, Dinh S, Galvez R, Kweon S, Murray P, Pitts R, Isoardi G, Black A. Effect of different headlight technologies on visual performance at nighttime. Quadrennial CIE research conference in Washington, 17 - 19 June.
- 76. Wood JM, Black AA, Isoardi G. Driving, visibility and LED streetlighting: findings from on-road studies. Australian Smart Lighting Summit, Melbourne, Aug 28 - 29, 2019.

- 77. Wood JM. (Invited) Challenges of driver vision testing. Super Sunday Conference, Sydney, March 10, 2019.
- Wood JM. (Invited) Functional vision impacts on driving ability and safety. Australian Vision Convention, Gold Coast, April 13 -14, 2019.
- 79. Wood JM. (Invited) Challenges of determining visual fitness to drive. Tasmania Lifestyle Congress, Optometry Tasmania, Hobart, Aug 23 - 25, 2019.
- 80. Wood JM. Vision, visual impairment and falls. Tasmania Lifestyle Congress, Optometry Tasmania, Hobart, Aug 23 - 25, 2019.
- Yazdi H, Vincent S, Collins M, Read S. Regional changes in human choroidal thickness in response to short-term monocular hemifield myopic defocus. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.

- Yi F, Collins M, Davis B. Optical adaptation to spherical aberration. (Poster) ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.
- Zele AJ. (Invited) Non-visual melanopsin photoreception. 33rd International Pupil Colloquium; 2019, 2 - 4 Oct: Mercia, Spain.
- Zele AJ, Dey A, Adhikari P, Feigl B. (Invited) Rhodopsin and melanopsin contributions to human brightness estimation. 25th Symposium of the International Colour Vision Society (ICVS); 2019, 5 - 9 Jul: Riga Latvia.
- 85. Zhou N, Edwards K, Colorado LH, Schmid KL. Development of feasible in vivo confocal microscopy methods to image the eyelid margin in clinical research (Poster). ARVO Annual Meeting; 2019, 28 Apr - 2 May: Vancouver, Canada.

# Seminars Presentations at



- Atchison DA, Schmid KL. Effects of anisometropia and aniseikonia on stereopsis. Carl Zeiss Vision, Eberhard Karls Universität; 2019, 20 Nov: Tübingen, Germany.
- Hopkins S. Screen time and children's vision - how much is too much? Amblyopia and Visual Impairment Screening (AVIS), Ministry of Health; 2019, Oct: Malaysia.
- Vincent SJ. The International Myopia Institute White Papers: Myopia control in clinical

practice. Hong Kong Academy of Orthokeratology; 2019, 4 Jun: Hung Hom, Hong Kong.

- Vincent SJ. Current controversies in scleral contact lenses. Hong Kong Academy of Orthokeratology; 2019, 4 Jun: Hung Hom, Hong Kong.
- Wood JM. Road safety at night: The visual challenges, lighting issues and improving visibility. Department of Optometry and Vision Sciences Seminar Series, UoM, May 23, 2019.



Dipesh Bhattarai Title: Application of Bessel beams in the human eye

Supervisors: David Atchison, Marwan Suheimat

RIGHT > PhD Graduate, Dipesh Bhattarai (left), with supervisor, Professor David Atchison (right)





### Staff Promotions

- Senior Lecturer Alex Black
- Professor Andrew Zele

### **Research Awards**

• Emeritus Professor Leo Carney: Honorary Life Membership of the Australian College of Optometry for his distinguished and meritorious service to optometry.



Emeritus Professor Leo Carney (centre) receiving Honorary Life Membership of the Australian College of Optometry with President Professor Konrad Pesudovs (left) and CEO Ms Maureen O'Keefe (right)



Associate Professor Katrina Schmid (centre) with PhD student

- Associate Professor Katrina Schmid: co-author of the 5th most downloaded paper from Clinical and Experimental Optometry of all time - Cheng D, Woo GC, Schmid KL. Bifocal lens control of myopic progression in children. 2011; 94: 24-32.
- Associate Professor Stephen Vincent: Dallos Award, British Contact Lens Association.
- Associate Professor Stephen Vincent: Fellow, Scleral Lens Education Society



Associate Professor Stephen Vincent speaking at the 2019 British Contact Lens Association conference, Manchester, UK



Professor Joanne Wood (centre) recipient of the 2019 International Optometrist of the Year Award from the Universitat Politècnica de Catalunya, Spain



Professor Joanne Wood receiving the 2019 Hal W. Hendrick Distinguished International Colleague Award from the Human Factors and Ergonomics Society

- Professor Joanne Wood: 2019 Silver Fellow of the Association for Research in Vision and Ophthalmology (ARVO), recognising current ARVO members for their individual accomplishments, leadership and contributions to the Association
- Professor Joanne Wood: 2019 International Optometrist of the Year Award from the Universitat Politècnica de Catalunya, Spain, in recognition of her outstanding and extraordinary contributions and commitment to the development

of the optometry profession and vision care globally.

Professor Joanne Wood: 2019
 Hal W. Hendrick Distinguished
 International Colleague Award
 from the Human Factors and
 Ergonomics Society, in recognition
 of outstanding contributions to the
 human factors/ergonomics field to
 recipients based on the significance
 of their contributions and their
 worldwide recognition within and
 outside the human factors and
 ergonomics profession.



Rebecca Cox presenting at the QUT 3MT competition



CUT

PhD student Durgasri Jaisankar







Dr Sekar Ulaganathan

## Higher Degree Research Student Awards

- Rebecca Cox: Winner of the 2019 Faculty of Health Three Minute Thesis (3MT) competition and runner up in the 2019 QUT 3MT, for her presentation on, 'Understanding the Prevalence of Uncorrected Refractive Error and its Relationship to Eye Care Service Utilisation among Aboriginal and Torres Strait Islander Children.'
- Ms Durgasri Jaisankar: 2019 CDA Theme HDR Publication Award for the paper, 'Effects of eye rotation and contact lens decentration on horizontal peripheral refraction.'
- Mr Dinesh Kaphle: 2019 CDA Theme HDR Publication Award for the paper, 'Multifocal spectacles in childhood myopia: Are treatment effects maintained? A systematic review and meta-analysis.'
- Dr Sekar Ulaganathan: Outstanding Thesis Award (top 5 percent of doctoral candidates in 2018) for his thesis on, *'The influence* of light exposure and seasonal changes on short-term and longerterm changes in axial length of the human eye,' supervised by Associate Professor Scott Read, Professor Michael Collins and Associate Professor Stephen Vincent.
- Dr Samaneh Delshad: 'Executive Dean's Commendation' for her thesis on '*Temporal dynamics*



Dr Samaneh Delshad



Dr Shelley Hopkins (far right) receiving the Optometry Queensland and Northern Territory Peter J. Montgomery Award



Immediate Past Head, Associate Professor Peter Hendicott

of the eye's response to blur,' supervised by Professor Michael Collins, Associate Professor Scott Read and Associate Professor Stephen Vincent.

### **Teaching and Learning Awards**

- Ms Natalie Buckman: Associate Fellow Higher Education Academy
- Ms Cheryn Goh: Fellow, Higher Education Academy
- Dr Emily Pieterse: Graduate Certificate in Academic Practice and Fellow, Higher Education Academy

- Dr Leisa Schmid: Fellow, Higher Education Academy
- Mr Rohan Hughes: Associate Fellow, Higher Education Academy

### **Professional Awards**

• Dr Shelley Hopkins: Optometry Queensland and Northern Territory Peter J. Montgomery Award, recognising a practitioner who has made a significant contribution to social justice issues for patients.

### Recognition

 A portrait of immediate past Head of School (2008-2018), Peter Hendicott, was unveiled and placed alongside others on the School wall of fame.



### **Professional staff**

Kym Anderson (Acting School Coordinator) Kelly Beith Adele Birks (School Coordinator, on leave) Catherine Foster Robyn Sutton

### **Clinic staff**

Harry Grzes Tina Huynh (Clinic Coordinator) Kylie Prince

### **Research staff**

David Alonso Caneiro Laura Bentley Ines Cahill Trent Carberry Drew Carter Samuel Cheung Damian Cuda Brett Davis Samaneh Delshad Amanda Griffiths Jared Hamwood **Gregory Hindmarsh** Michael Hirning Luisa Holguin Colorado **Kirrily Hoole** Seved Hosein Hoseini Yazdi Sanet Johanna De Villiers Amy Johnson Callula Killingly Jason Kugelman Hamish McNeill Kylie McNeill Thomas Nugent Pryntha Rajasingam Jenna Riseley Alyra Shaw Marwan Suheimat Hoang Tran Sekar Ulaganathan Praina Vidyasagar Anthony Wingard Fan Yi

### Sessional staff

Sandra Au **Barash Barsha** Felicity Berkley Pradipta Bhattacharya Celia Bloxsom Edward Burgin Rebecca Cox Rachel De Leon Samaneh Delshad Ruvini Dissanavake Sunila Dumpala Damien Fisher David Foresto James Fuss Susan Gaskell Subodh Gnyawali Cheryn Goh **Cavelle Griffiths** Noel Harris Peter Hendicott Mark Hinds Luisa Holquin Colorado Inez Hsina **Rohan Hughes** Durgasri Jaisankar Callula Killingly Vinay Kumar Nilagiri

Simon Lan Courtenav Lind Simon Little Michelle Maynard Hamish McNeill Kvle McNeill Marissa Megaloconomos Naoc Tho Nauven Hamed Nivazmand Mark Overton Candice Pearson Leah Petit Pryntha Rajasingam Archaveeta Rakshit Leisa Schmid Alvra Shaw Ada Tang Mandy Truon Sekar Ulaganathan Elizabeth Vieritz Daniel Vu Ann Webber Julie Weir Craig Woods Kevin Yow Yeh Ilvanoon Zahari

# Higher degree research students

Pradipta Bhattacharva Andrew Christiansen Rebecca Cox Mahesh Dev Sunila Dumpala Ignacio Andres Viedma Escalona Damien Fisher Lirong Esther Ho **Rohan Hughes** Durgasri Jaisankar **Dinesh Kaphle** Barsha Lal Francisco Yoel Garcia Marin Vinay Kumar Nilagiri Hamed Nivazmand Mukund Pant Asik Pradhan Zachery Quince Archaveeta Rakshit Swee Chai Teoh Samir Upretv Ursula White

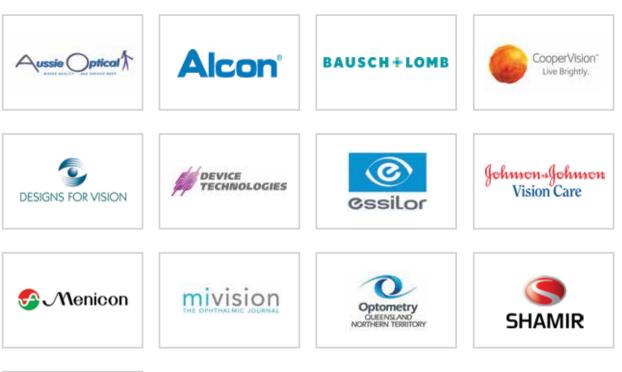
Ilvanoon Zahari

Nanyu Zhou

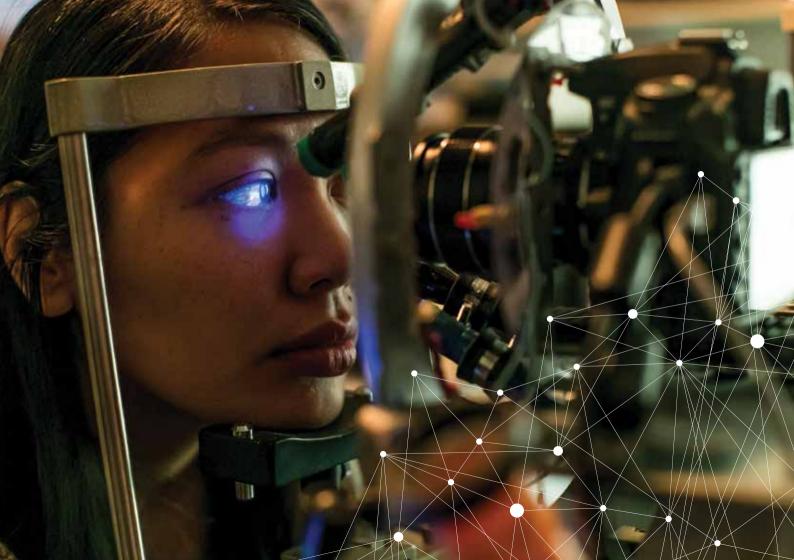
### QUT Optometry Student Society Executive

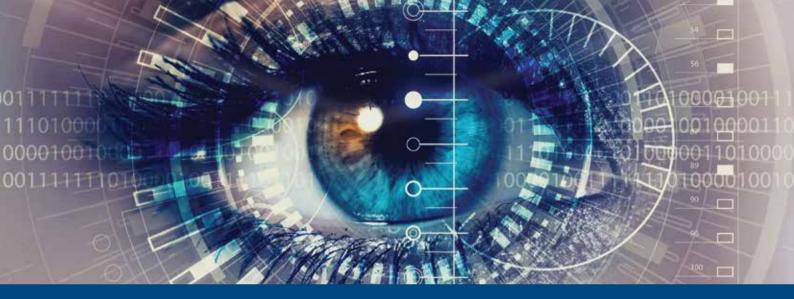
Jamie Bashar (Treasurer) Emma Havlev Sabrina Hsu Katrina Lacv Derek Lav Myngoc Le James Lee (President) Riva Makan Jordan Marr (Vice-President) Lachlan Munro **Bronte Bolls** Sungwoo Son Lachlan Su Anita Tran Briana Tsang Carmen Tse













the university for the real world<sup>®</sup>