



News from the School of Optometry and Vision Science

Never Stand Still

UNSW Science

School of Optometry and Vision Science

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Greetings from the Head of School

Welcome to our mid-year newsletter. A lot has happened since our last edition and in April we were delighted to welcome the new President and Vice Chancellor of UNSW Australia, Professor Ian Jacobs, to the School. There is considerable enthusiasm in the School for the new strategic directions for the University in academic excellence in research and education, social engagement and global impact. These themes are a great fit for the School and we look forward to making a significant contribution to these endeavours. The full White Paper is available at <https://www.2025.unsw.edu.au/>

I am also pleased to congratulate our staff on their national grant success in the ARC Linkage grant scheme this year and in internal grant schemes, notably the June Griffiths Fellowship. 2015 so far has been a busy year for grants with staff submitting a record number of submissions to major national and international schemes.

In June we celebrated the graduation of 46 graduate optometrists, 10 PhD students, 37 optometrists graduating with coursework degrees and awards to our prizewinners. Importantly our celebrations included the 50 year reunion for the first graduates of the BOptom programme and we enjoyed welcoming four of the six graduates back to UNSW.

In postgraduate coursework, we have 22 optometrists so far involved in these programmes in 2015 and there are eight courses offered in the second half of the year, including a new course in advanced diagnosis of ocular disease with the Centre for Eye Health and an accelerated course in Behavioural Optometry with ACBO. We also were pleased to offer our Business Skills course again in 2015 and thank you to the industry and professional mentors who made this such a success. Welcome also to our 10 new PhD students this year.

We were shocked and saddened by the sudden loss of Brien Holden recently. Brien touched many lives throughout his career and he played a role in the professional lives of many staff at the University and most certainly many in the sector. He put Australia on the map in terms of excellence in vision correction research and his humanitarian endeavours have changed the lives of many around the world. A celebration of Brien's life and enormous contributions will be held at the University in October and I will be in touch shortly via our alumni email with details as these become available.



I hope you enjoy catching up with our news and we look forward to welcoming you back to our upcoming Alumni event in September and to welcoming and thanking those of you who have come to the clinic as volunteer supervisors to help guide our students in patient consultations.

With best regards,
Fiona Stapleton

Events

29 September 2015
1pm-4pm Foreign Body Removal Workshop,
UNSW Optometry Clinic

29 September 2015
2015 UNSW SOVS Alumni Evening, Postgraduate Research Showcase

1 December 2015
UNSW SOVS Alumni Evening on Infection Diseases featuring Dr Nicole Carnt from the Save the Sight Institute

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Graduation and Prize Winners

School Of Optometry and Vision Science Prize Winners 2014

The Specsavers Prize

for the best performance in Optometry in Year 2

Cindy Van

The Essilor Australia Pty Limited Prize for Ocular Disease

for the best performance in Ocular Disease in Year 3+

The Essilor Australia Pty Limited Prize for Optics

for the best performance in Optics +

Faculty of Science Summer Vacation Research Scholarship Jeremy Chung Bo Chiang

The CooperVision Australia Prize in Year 4 Optometry

for the best performance in Optometry in Year 4

Janelle Geyin Tong

The Leonard Fine/ Luxottica Memorial Prize in Optometry and Vision Science

for the best performance in Bachelor of Optometry Bachelor of Science program +

The Susan Larter Vision Trust Prize

for a final year or postgraduate student who achieved clinical excellence and/or has contributed to the practise and knowledge of behavioural/neuro-developmental optometry

Lisa Ma

The Designs for Vision Prize

for the best overall performance throughout the Bachelor of Optometry Bachelor of Science program in Primary Care Optometry

Abdul Baset Hamidi

The Transitions Optical Prize

for the best overall performance in clinical optometry throughout the Bachelor of Optometry Bachelor of Science Program

Kate Erica Darley

The UVEX Safety Australia Pty Ltd Prize

For the best performance in the Bachelor of Optometry Bachelor of Science in Environmental Optometry

Sarah Boneham

The Specsavers Prize for Excellence in Patient Management

Awarded to final year BOptom BSc Student for excellence in patient management +

The BOC Ophthalmic Instruments Prize

for the best overall performance throughout the Bachelor of Optometry Bachelor of Science program in Colour Vision

Helene Ly

The Optometric Vision Research Foundation Prize

for the best research project presentation in the final year of the Bachelor of Optometry Bachelor of Science

Shared by:

Kai Xi Patrick Cao

Lisa Ma

The Essilor Australia Pty Ltd Prize (Dispensing)

for the best overall performance throughout the Bachelor of Optometry Bachelor of Science program in dispensing

Vincent Khou

The BOC Head of School's Prize for distinguished performance throughout the Bachelor of Optometry Bachelor of Science program

Simon Chi Wee Lim

The ACBO Prize

for the best overall performance throughout the Bachelor of Optometry Bachelor of Science program in Binocular and Children's Vision

Mark Jinkyu Bae

The Optometrists Association Australia Prize

for outstanding academic performance in the Bachelor of Optometry Bachelor of Science program

Martin Quan Diep

The Neville Fulthorpe Prize for Clinical Excellence

Most improved in Clinical Optometry

Lucy Liu

School of Optometry and Vision Science Vacation Research Scholarships

Yu-Han Henrietta Wang

Ziqian Miao

Bao Tran Duong

Yi Fu Zhou

The David Bard Scholarship

Hung Thanh That Ton

Alcon Excellence Beyond Optometry Award

Layal Naji

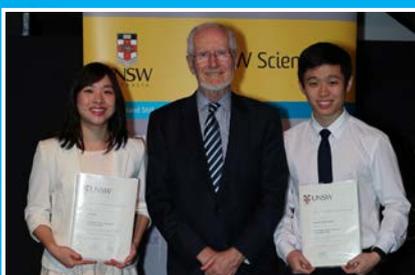
The Brian Kirby Prize for Research Excellence in Optometry

Doctoral student in Optometry with the best thesis

Debarun Dutta



Alcon Excellence Beyond Optometry Award





Vale Professor Brien Holden (1942-2015)

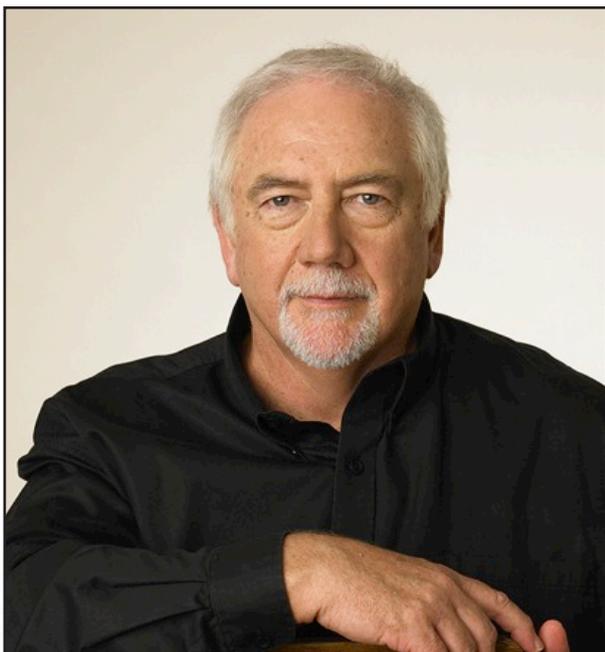
It is with enormous sadness that the School of Optometry and Vision Science at UNSW Australia announces the passing of our longstanding staff member and visionary, Professor Brien Holden.

Professor Holden joined UNSW in the early 1970's after completing his training as an optometrist at University of Melbourne and his doctoral studies at City University in London. Professor Holden quickly developed an internationally recognised research centre in the Cornea and Contact Lens Research Unit at the School of Optometry UNSW with expertise in contact lenses and vision correction.

He touched so many lives over his career and he inspired others to strive for excellence. Professor Holden, through the Institute he founded, led the development of breakthrough vision correction products and delivered eye care education and systems that have benefited millions of people worldwide. His passion to deliver eyecare for all will continue as his legacy.

Head of School Professor Fiona Stapleton said "Professor Holden's influence on the life and careers of those involved in eyecare research and delivery at UNSW, in Australia and internationally cannot be overstated. He shaped my career and that of many academics at this school and in many optometry schools around the world. Brien always inspired us to believe in the power of research and inquiry in helping to solve the world's greatest vision challenges." He will be deeply missed by staff, students and colleagues at UNSW.

Our deepest sympathies and thoughts are with Professor Holden's family on this occasion.

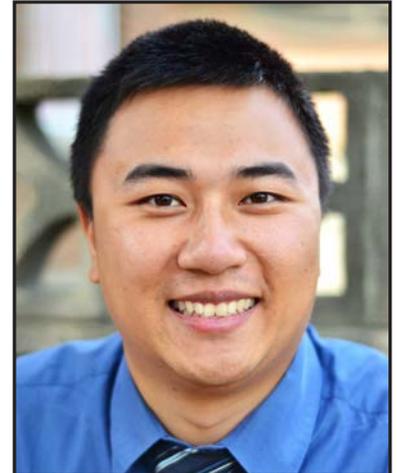


Professor Brien Holden

New Lecturer Appointed: Dr Alex Hui

We warmly welcome Dr Hui who has joined us as a Lecturer. Alex completed his optometry degree on the Dean's Honours List at the University of Waterloo in Canada.

His thesis, entitled "Contact Lenses for Ciprofloxacin Drug Delivery" was completed at the Centre for Contact Lens Research, School of Optometry and Vision Science, University of Waterloo. His research interests include contact lenses, ocular drug delivery, ocular pharmacology and ocular disease. He is a member of the Canadian Association of Optometrists, the Ontario Association of Optometrists, and is a Fellow of the American Academy of Optometry. Dr Hui will be contributing to undergraduate and postgraduate teaching in the areas of ocular disease and therapeutics.





School of Optometry and Vision Science Alumni Continuing Education event: School Postgraduate Research Showcase

For the first time, our Alumni Continuing Education Event was held together with confirmation and progress reviews for our higher degree research students. The inaugural Higher Degree Research Showcase was a success. It provided students with the opportunity to present their research findings to our alumni community, as well as to staff and fellow students. A break for supper gave guests and SOVS staff and students the time to catch up, discuss the presentations and network. The prize for best presentation was awarded to Angelica Ly for her paper titled Multimodal Markers of Macular Degeneration. Sponsored by the UNSW Bookshop, the photo competition was won by Sailesh Kolanu for his stunning shot of an eye drop being instilled. The next Higher Degree Research Showcase will be held on Tuesday 29th September 2015 so remember to mark this date on your calendars! In December, we have another Alumni event, this time featuring the fascinating work of Dr Nicole Carnt.

50 Year Anniversary and Reunion of the First BOptom Graduates from UNSW

During June 2015, the first BOptom graduates of UNSW, Class of 1964 met at our UNSW Optometry Clinic to catch up and reminisce.

Ian Sim, Chris Henderson, Peter Fisher and Robert Shoebridge were invited to the School for afternoon tea. Heng Pang Beh and Noel Quinsey also Class of 1964 were unfortunately unable to attend.

Former teacher Brian Smith sent some mementos from his teaching days which subsequently were generously donated to the School.

Even though the graduation gowns have now changed from a rose colour to a gold colour, the four alumni were excited to recreate an original photo opportunity from when they graduated in 1965. They also got into the spirit and modelled our new spectacle range in the UNSW Optometry Clinic!

Dean of Science, Professor Merlin Crossley also attended the gathering.



Alumni, staff, UNSW postgraduate students and colleagues mingle in the UNSW Optometry clinic over refreshments



The winning entry in the photographic competition.
Photographer: Sailesh Kolanu



Congratulations to Angelica Ly for the best presentation



Alumnus Profile: Professor Kovin Naidoo

BSc, BOptom (UDW), MPH (Temple), OD (PCO), PhD (UNSW), FAAO, FBCO, Acting CEO: Brien Holden Vision Institute, Africa Chairperson: International Agency for the Prevention of Blindness



Formerly a student leader and political detainee, having been banned and house arrested during apartheid, Professor Kovin Naidoo is a distinguished alumnus who has continued his social consciousness through his academic career. A powerful public health advocate, he has devoted his working life to reducing avoidable blindness and vision impairment, with specific emphasis on refractive error.

Kovin completed his undergraduate studies in Optometry at the former University of Durban Westville (now University of KwaZulu Natal) in 1992 and went on to concurrently complete his OD at Pennsylvania College of Optometry and Masters in Public Health from Temple University in the United States of America in 1995. In 2010, Kovin obtained his PhD qualification from University of New South Wales (UNSW). On returning to South Africa in 1995, Kovin was appointed as Head of the Department of Optometry at the former University of Durban Westville from 1996 to 1999 and has honorary appointments as Adjunct Faculty at Salus University (USA) and Senior Visiting Fellow at UNSW.

Kovin's focus in blindness prevention was triggered almost 15 years ago by research which indicated that the blindness around the world was significantly affected by uncorrected

refractive error. In late 1998, with the support of Professor Brien Holden from the Brien Holden Vision Institute in Australia, he set up the Africa trust of the International Centre for Eyecare Education, today known as the Brien Holden Vision Institute Foundation (Africa). Public health optometry is his passion as can be seen by the activities he has undertaken since.

In response to his realisation that there was a need to develop research capacity in Africa, Kovin founded the African Vision Research Institute (AVRI) in 2005. AVRI is working on global systematic reviews on blindness prevention and has recently launched Africa's only joint ophthalmology and optometry journal: African Vision and Eye Health. When he realised that 80% of the population in Africa relies on the public sector for health and vision concerns and this was not working for them, Kovin developed a sustainable pathway for refractive error services in the public through the employment of >300 optometrists in the public sector. He also founded African Vision, an NGO addressing avoidable blindness, particularly from cataracts.

He currently serves as the Africa Chairperson of the International Agency for the Prevention of Blindness, an executive committee member of the World Council of Optometry and Chair of WCO's Public Health Committee.

Kovin has also conceptualised an exciting upcoming initiative, 'Our Children's Vision' Campaign' which will focus on child health and refractive error. It aims to reach 50 million children by 2020 and is run by the Brien Holden Vision Institute with founding partner Vision for Life Foundation is supported by the musician Bono and REVO sunglasses.

UNSW Optometry Clinic Update

Semester 2 has commenced! Stage 4 and Stage 5 students have been benefitting from the increase in Clinic patient numbers this year and practicing through more consultations than ever before.

The clinic ran a very successful Binocular Vision and Accommodation Workshop in conjunction with the Optometry Association Super Sunday in May. Over 35 optometrists honed their diagnosis and management skills of binocular vision and accommodation dysfunctions. The workshop included hands-on experience and valuable group case discussions.

Our team welcomes Esther Lefas, Acting Clinic Business Manager and congratulates Tracy Kane on her newborn, Noah! We thank our dedicated team of clinical and professional staff that continue to contribute to the great performance of the Clinic and our Alumni, mentors, visiting supervisors and industry supporters.

The UNSW Optometry Clinic will hold a Foreign Body Removal Workshop on Tuesday 29 September from 1pm.

Whether you are newly qualified or have been practising for years you'll benefit from this Foreign Body Removal course. Optometrists will soon have a Medicare billing code for the removal of corneal foreign bodies. This workshop will include essential information on the safe and effective removal of foreign bodies and the appropriate management and follow-up.

Cost is \$300 + GST; payment can be made through the following link:

https://webpay.fin.unsw.edu.au/OneStopWeb/unsw/createbooking?E=SCI_FOREIGN_2015

If you have any queries regarding the Workshop, please contact Clinic Director, Kathleen Watt:

Kathleen.watt@unsw.edu.au



Postgraduate Teaching Update

Graduate Certificate in Ocular Therapeutics

Applications are now open to optometrists interested in completing the Graduate Certificate in Ocular Therapeutics Program at the School of Optometry and Vision Science at UNSW Australia.

The Graduate Certificate in Ocular Therapeutics is designed to provide the knowledge and experience necessary for registered optometrists to prescribe certain therapeutic agents in the management of ocular disease in Australia and New Zealand.

Set to begin in February 2016, this redesigned program will consist of the following key features:

- **Diverse and Flexible Content Delivery** – The course will include a large component of self-paced online distance education (interactive online webinars, discussion groups, lecture recordings and exercises), and a two day targeted face to face session at UNSW for hands on clinical skill development.
- **An Australian Designed Program** - This course is based on current and future standards of treatment and management of ocular disease applied to our Australian context.
- **Experienced clinical and didactic instructors**, drawn from Australia and internationally will teach this course.
- **A Long History of Experience** – The program at UNSW is currently the longest active Graduate Certificate in Ocular Therapeutics Program in Australia and New Zealand, and has enrolled more than 525 optometrists since the program began in 2006.
- **Numerous Clinical Placements** – A large network of clinical placement sites are available in New South Wales and the rest of Australia.
- **Cost Effective** – Affordable fees

The combination of flexible, self-directed learning packages, targeted skill development session and diverse clinical placements is designed to maximise the educational impact for busy practicing optometrists.

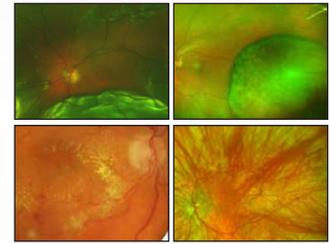
The Graduate Certificate in Ocular Therapeutics program at UNSW is accredited by the Optometry Council of Australia and New Zealand (OCANZ).

Advanced Diagnosis of Ocular Disease (OPTM7511)

OPTM7511 provides guided learning to help optometric practitioners refine their diagnostic skills while consolidating and developing their knowledge of ocular disease.

The course aims in the first instance, to provide an extensive grounding in the theoretical aspects of ocular disease through video lectures and reading. This understanding of the core foundations of ocular disease will then be given practical application with candidates working through specially selected case studies, allowing them to refine and develop transferrable diagnostic skills. This involves developing the ability to firstly understand and interpret the results produced by cutting-edge ocular imaging technologies, and clinical data.

Based on the analysis of this data in conjunction with other clinical findings, it is expected candidates will learn to generate a differential diagnosis, to identify any further testing that may be necessary and then, based on all the available information, formulate a diagnosis.



The case studies build critical diagnostic skills and problem solving abilities which combine with the foundation science material presented in the course to support ongoing learning.

OPTM7511 can be completed on-line and all resources needed to complete this course may be accessed either through Moodle, or the UNSW library. There is also an option to participate in a half-day clinical workshop at the end of the on-line course. This workshop is designed to consolidate learning while helping candidates work through actual clinical cases seen at the Centre for Eye Health based at UNSW Australia.

To express your interest, or if you have further enquiries, please contact the postgraduate administrator Fiona Anderson at: f.anderson@unsw.edu.au

Business Skills in Optometry

Business Skills in Optometry is a 12 units of credit course available at the School of Optometry and Vision Science which ran earlier this year. This was the second time this course has been delivered with great feedback from the optometrists enrolled. We are particularly proud of this course which was developed specifically for the industry by Adjunct Senior Lecturer, Linda Hailey, a small business expert with enormous experience within our industry. The course was available as weekly real time webinars with face-to-face debrief days to support the learning and with a large practical component. All the practical tasks are based around your practice or the practice you are working in and the skills developed enable you to build a business plan tailored for your specific situation. One of the strengths of this course has been the access to industry experts and mentors and to former graduates of the course.

We are grateful to our industry mentors George Skoufis, Richard Banks, Dave Chaffey, Peter Hewett, Carolyn Hewett, Chris Pooley and Ross Gavin. To register your interest in future courses please contact Fiona Anderson (f.anderson@unsw.edu.au)

From an optometrist completing her MOptom this year:

I thoroughly enjoyed Business Skills in Optometry. This semester the course attracted optometrists from various working backgrounds and I believe everyone including myself learnt valuable practical skills that could be implemented in our work environment. The lectures were relevant, with the right amount of detail to have a solid understanding of the business side of optometry. The incorporation of optometric mentors was no doubt invaluable and of course Linda Hailey was just superb. Her approach to the course content was systematic, logical and practical. Each assessment built on the previous skills learnt, allowing us to see the big picture.

In The Popular News

Devil in a Blue Dress: 6 March 2015

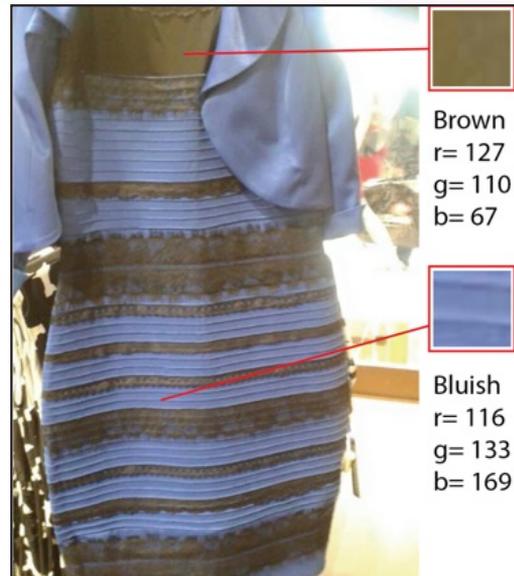
Dr Juno Kim, ARC Future Fellow at UNSW's School of Optometry and Vision Science sheds some light on the dress that has generated worldwide media attention.

What seems to be driving this controversy is that people see it differently. Some see the dress as light blue (or even white) and gold (like me), others see it as blue and black. Why is this so?

Well, if you take screen captures of the scene, you can measure the Red, Green, Blue composition of areas of the dress. When you do this, you find that the relevant image measure R116,G133,B169 for the 'blue' fabric, and R127,G110,B67 for the 'black' fabric.

Variations in the way people experience these colours depends on their ability to discount the spectral properties of the light source inferred from available image cues. There aren't many other surfaces in the foreground of the image, other than the dress, that can be used to infer the spectral properties of the illumination field. The main cue to the colour of the light source is possibly the halo around the light in the background, which seems to have a bluish tinge. If one were to discount this blue lighting from the illumination of the white surface better, then they would perceive the physically white parts on the dress as "white", rather than bluish (the hue in the image based on screen captures).

As for the dark grey (black) fabric, the hues in the image are actually a brown, so it is not surprising that some people experience gold. This would also be exacerbated by inferring a bluish light source over the scene. Discounting some of the blue content in the image



would cause the reds and greens to be perceived more strongly, which when blended, generate the experience of yellow.

It is through principles like these of lightness and colour constancy that allow us to experience the colour of objects consistently across changes in illumination. These principles date back to the work of Edwin Land, the inventor of the Polaroid camera. However, the dress is a striking example of how this system can break down when insufficient information about the lighting of the scene is captured in the one image. What is responsible for the variability in colour experience between people? The illumination cues they attend to? Hopefully, new research will provide an explanation.

Community Engagement

The Vision Education Centre Celebrates 25 Years of Operation!

Starting in July 1990 the Vision Education Centre (VEC) was the brain child of Sheila Crewther and Associate Professor Barbara Junghans. The VEC gives students experience with paediatric patients by bringing literally busloads of children into the clinic. With Sheila and Barbara's enthusiasm and vision and collaborations with Yvonne Holden, UNSW U committee (a group of friends of the University that raise funds to support a wide range of programs) and St George Leagues Club, the VEC was developed and took off.

Ever since then the VEC has run on Thursday mornings, turning the clinic and AOP seminar room into a noisy, fun-filled excursion for Primary School aged children. The children enjoy an interactive lesson with hands-on activities followed by an eye screen carried out by our optometry students. They take home activity booklets filled with interesting puzzles and facts about eyes and vision.

The VEC is now looked back on with great fondness by the optometry Alumni of UNSW. Our current students see the benefit of this experience with one of our final year students commenting "The VEC showed me how rewarding it can be working with children".



Last year the VEC received a highly commended award in the Vice Chancellors Awards for Excellence in the Community Engagement category. Congratulations and thanks to Sheila Crewther and Barbara Junghans and all the clinic staff past and present who have made this successful.

Highlights in Postgraduate Research Education

Welcome to New Students

This year we welcomed ten new students to our cohort who draw on experiences and expertise gained not only locally but from home countries that include Hong Kong, Nepal, India, Wales and Pakistan. New, exciting, and wide ranging research topics include: Human Perception of *Human Ambiguous Three Dimensional Figures*, *Tracking the Appropriateness of Eye Care Delivery in Australia*, *The Effects of Oestrogen in Inflammatory Dry Eye*, and *The Bacteriological Profile of Corneal Ulcers*.

Higher Degree Research Graduations



At the UNSW June Graduation Ceremony six students were awarded with their PhD. Congratulations goes to; Dr Khalid Jamous, Dr Kiseok Lee, Dr Cecilia Chao, Dr Athira Rohit, Dr Simin Masoudi and Dr Ezai Badarudin. Five students have been awarded and they will have their degrees conferred in the November ceremonies: Kholoud Bokhary, Carolina Kunnen, Tina Hakimi, Xiang Chen and Jerome Ozkan. The final half of the year brings one submission with a number of students in the final stage of writing up!

Awards

Praveen Yerramothu and Ananya Datta are both recipients of SOVS Teaching Fellowship Awards. Lakshmi Bodduluri received the Best Presentation Award for her poster at the International Colour Vision Society Conference (ICVS) and Sowjanya Siddireddy won the Cornea & Contact Lens Society of Australia (CCLSA) Postgraduate Award.

Student Support Events

During Semester 1, SOVS hosted a number of seminars and events in support of student life and learning. Most popular has been the 'Shut up and Write' workshops that allow students to focus solely on their writing, with writing support offered by specialised UNSW Learning Centre Staff. The Excel Fu course gave students the chance to hone their excel skills. An Ethics Seminar presented by Director Ted Rohr and staff from the Research Ethics and Compliance Support Unit was held during the March Review Week. Other seminars in the pipeline include the following: time management, science writing, and

intellectual property and will coincide with the Annual Progress Review and Research Skill Conference Week to be held in September-October 2015.

Conferences and Seminars

It has been a busy first half of the year for the postgrads. To date, students have attended a number of conferences. Cecilia Chao, Ashik Asafali and Rajini Peguda attended ARVO (Denver, USA). Tiong Peng Yap attended the College of Optometrists in Vision Development Annual Conference (Las Vegas, USA), Lakshmi Bodduluri attended the International Colour Vision Society conference and Pat Arthur presented at the European Conference on Eye Movements in Vienna on 17 August 2015. Jerome Ozkan was invited to present on his research at the Victorian Division of the Contact Lens Society of Australia and Tiong Peng Yap gave a seminar on 'Dyslexia and Colour' at the National University of Malaysia.

Special mention has to go to Ashik Asafali who was runner-up in iQuest, a quiz competition (in the fields of ophthalmology, optometry and basic science) conducted during the 22nd Annual Meeting of the Indian Eye Research Group (now ARVO-India Chapter), only losing the contest in a tie-breaker!



CONSIDERING A HIGHER DEGREE?

Do you have a keen interest in an aspect of your clinical work and want to find out more?

Would you like to broaden your horizons and try something new?

Have you longed for your student days?

Then this may be just the thing for you...

The School of Optometry and Vision Science at UNSW has numerous opportunities for higher degree research across diverse areas including:

- clinical optometry
- pure and applied research with clinical significance
- basic research in optometry and vision science

Students with an optometry background study alongside graduates from a variety of disciplines including ophthalmology, microbiology, psychology, education, bio-engineering and pharmacology.

The School is co-located with some of the most active optometric and vision research facilities in Australia: the Research in Orthokeratology Group (ROK), the Brien Holden Vision Institute (BHVI), the Vision CRC, the Centre for Eye Health (CfEH),

and the Optics and Radiometry Laboratory (ORLab). We are regarded internationally for strengths in ocular surface, posterior segment and vision science research and our research students are supervised by advisors at the forefront of their field. Students have access to excellent facilities, opportunities for conference travel and collaboration with optometric colleagues across the globe.

Scholarship opportunities are available and studies can be commenced at any stage during the academic year.

If you would like to find out more, please contact our Postgraduate Research Director, Dr Blanka Golebiowski (b.golebiowski@unsw.edu.au or (02) 9385 4502).

Meeting a Postgraduate Student: Ephrem Sitiwin



Ephrem Sitiwin ready for the laboratory

Tell us a little about yourself and why you decided to do a PhD?

I completed a degree in Advanced Science - Biotechnology at UNSW in the nineties. Since then I have taken on an eclectic collection of jobs ranging from being an RA at a biotech lab to running my own art-technology based company here and abroad. However, in the last decade or so, I have mostly earned a living in corporate media IT as a business consultant and project manager. At the end of my last contract, I decided to make a prodigal return to science because inherently, I still find science a paradoxical melange of fun and challenge (okay, definitely more challenge).

Tell us about your research specialisation and why you decided to go into this area.

Armed with the sage and holistic training I receive from Associate Professor Michele Madigan, I am studying the distribution, phenotype and cellular interactions of uveal melanocytes in the human eye, particularly in the choroid. There is still a lot to be discovered about them and I get to use very cool and high tech microscopes! In addition, I am constantly learning from brilliant minds and souls in this project.

What are your career plans once you graduate?

If granted with the opportunity, perhaps a stint as a postdoc but I have always intended to use the skills and insights acquired from this training in the continuing development of my own company, which I started a while back. The genesis of my company was based on my vision of marrying my life two passions: Art and Technology.

Any advice for anyone thinking of doing a research degree in Optometry or Vision Science (MSc or PhD)?

As a mature aged research student, I asked myself very pragmatic questions before embarking on this journey. While it is terribly important to have the backing of a supportive supervisor and an interesting project, I had to consider if I could financially support myself while pursuing this goal and what the financial implications of the project would be. More important to me, I needed to know if I would be able to tell good and insightful stories while remaining inspired, creative and happy. These are points that I suggest anyone who is thinking of pursuing a research degree to ponder with truth and honesty.

Ephrem Sitiwin commenced his PhD project entitled 'Distribution, Phenotype and Cellular Interactions of Uveal Melanocytes in the Human Eye' in August 2014, under the supervision of Associate Professor Michele Madigan. He is co-supervised by Associate Professor Robert Max Conway and Dr. Svetlana Cherepanoff from the Save Sight Institute, Sydney.

Research News

It's been an exciting six months for research at SOVS.

Grant success:

We were successful in the latest round of ARC grants, with Professor Naresh Kumar (School of Chemistry) and Professor Mark Willcox being awarded a prestigious ARC Linkage Grant commencing in 2015. The grant entitled "Novel antimicrobial surface coatings for Cochlear implants" is in partnership with Cochlear Ltd. Infection associated with the use of biomaterials such as biomedical implants, catheters and orthopaedic prostheses is a major barrier to the use of these devices and current treatments are ineffective. The objective of this grant is to develop, in collaboration with industry partner Cochlear, new coatings for materials used to manufacture these devices. These coatings are based on novel antimicrobials which have been shown to prevent adhesion and colonisation of biomaterials by bacteria *in vivo*. We are also testing these antimicrobials in laboratory and clinical trials (with our friends at the LV Prasad Eye Institute, Hyderabad, India) funded by an NHMRC Development grant awarded to Professors Willcox, Kumar and Stapleton in 2014.

It was also great that Dr's Jalbert, Nivison-Smith and Zangerl were successful in securing funding through UNSW grant schemes to further their research. These grants enabled them to continue their research into The Appropriateness Of Optometric Care Delivery For Patients With Diabetes In Australia, The Metabolic Actions Of Vinpocetine In The Treatment Of Ocular Ischaemia, and Identifying Clinical Indicators Of Early Age-Related Macular Degeneration To Clinic And Propaedeutic, respectively.

Publications:

We have also been publishing the results of our research – and here are some of the highlights. A paper by Dr Lisa Nivison-Smith's had one of its figures chosen as 'Image of the Week' for the American Journal of Physiology - Cell Physiology. This paper showed that the herbal supplement, vinpocetine has beneficial effects in retinal ischaemia, a pathological process involved in many retinal diseases which cause blindness such as diabetic retinopathy, glaucoma and vascular occlusion syndromes. This builds on their previous findings which found vinpocetine also regulates neurochemical signalling in the retina after ischaemia. These results suggest vinpocetine may be a potential therapy for ischaemic diseases of the eye and other tissues. This work was a collaborative effort between Dr Nivison-Smith and Professor Kalloniatis at SOVS and Dr Monica Acosta at the University of Auckland. The School had seven papers in one issue of Optometry and Vision Science. These included three papers from Professor Stephen Dain and [ORLAB](#). A paper appeared in PLoSOne entitled "Serum-Induced Keratinization Processes in an Immortalized Human Meibomian Gland Epithelial Cell Line" from work carried out by a visiting fellow, Dr Ulrike Hampel, during her visits to the School in 2013 and again in 2014. This work was not only a collaboration with the School and Uli from the Department of Anatomy II, Friedrich-Alexander-University Erlangen Nürnberg, Erlangen, Germany, but also our collaborators from the University of Wollongong.

Awards:

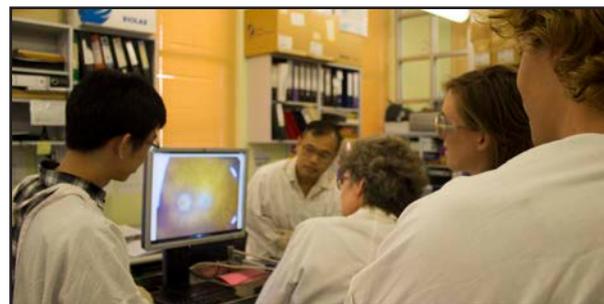
One of our Postdoctoral Fellows, Dr Ren Chen, was awarded a prestigious Fulbright Scholarship. During this Scholarship Ren will develop a new combination therapy based on dual-action microspheres that not only prevent medical device infections but also promote wound healing and reduce inflammatory responses in collaboration with Professor Kathryn Uhrich's group at Rutgers University (NJ, USA).

Training programs:

We are also proud to work with undergraduate scholars during their Summer Vacation Scholarships. We were host to Jeremy Chiang who was awarded the 2014-2015 Faculty of Science Summer Vacation Research Scholarship, along with Henrietta Wang, Ziqian Miao, Tran Bao Duong and Yifu Zhou who were successful in gaining scholarships. These students undertook research into a variety of topics including Age-related Macular Degeneration, Contact Lenses, and Dry-eye. Optometry and Vision Science students, visiting medical students and PhD students worked together during the summer exploring cell biology research skills and conducting laboratory experiments with Associate Professor Michele Madigan. The research team included Hung Ton (Optometry Year 3 UNSW School of Optometry and Vision Science David Bard Summer Scholarship), Miguel De Assis (Study Abroad Brazil UNSW medical student), Ephrem Sitiwin (PhD Optometry), Madeleine Vader (visiting medical student Leiden University Medical School), Adrian Cioanca (Vision Science Year 3), and Wilson Luu (Year 5 Optometry). Several other students also participated including Paul Gilan and Rose Gu (Year 5 Optometry), and Daisy Shu (Optometry 2012, now PhD University of Sydney). The research they undertook related to studies of eye melanocytes (pigmented cells in the eye that absorb light), naevi (pigmented spots - like freckles - in the back of the eye), changes in the retina with aging and age-related macular degeneration.



Summer Vacation Scholars



Summer Cell Biology Research Students

Conferences

We attended and presented our research at many national and international conferences, including ARVO, the BCLA (where Professor Stapleton was awarded the prestigious BCLA medal for her outstanding work on the epidemiology of microbial keratitis), St Stevens Bacteria-Material Interactions conference (St Stevens, New Jersey, NY, USA), the 1st International Joint Meeting of Global Environment and Energy Course at Gifu University (GU-GLEE) in Japan, the 3rd Asian Network for Natural and Unnatural Materials (ANNUM 3) at the Punjab University in Chandigarh, India, and TFOS Initiating Innovation: Targeting the Unmet Need for Dry Eye Treatment. These meetings showcase our research and facilities, and enable us to continue to expand our research projects and clinical trials.



Professor Fiona Stapleton awarded BCLA Medal for 2015



3rd Stevens Conference on Bacteria-Material Interactions held at the Stevens Institute of Technology in Hoboken, NJ, USA

BHVI News

Kovin Naidoo appointed Interim CEO for Brien Holden Vision Institute

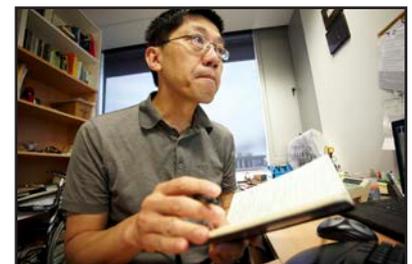
Professor Kovin Naidoo has been appointed Interim CEO for Brien Holden Vision Institute, following the passing of Professor Brien Holden in July. A board member and Director of Global Programs for the Institute's Public Health programs, Professor Naidoo is also a PhD graduate from UNSW.

"While we mourn the loss of our beloved leader and friend we are reminded that the goals we collectively set and share, the movement that we began together, that changed the course of our industry's history and millions of lives, will live on with passion, conviction and commitment to Brien's legacy and our purpose to see vision for everyone...everywhere," he said.

Professor Naidoo has served as the Head of Optometry at University of KwaZulu-Natal (UKZN), South Africa, and is currently CEO of the African Vision Research Institute and an Associate Professor of Optometry at UKZN. He was African Optometrist of the Year in 2002 and International Optometrist in 2007. He was jointly awarded, with Professor Holden, the Schwab Social Entrepreneur Award for Africa 2010, at the regional World Economic Forum in Tanzania because of his ability to merge business acumen with social causes.

Researchers in top vision IP list

Brien Holden Vision Institute and Vision CRC at UNSW Australia have been the leading intellectual property generators in vision related technologies over 2001-2012 in Australia, according to



Professor Arthur Ho at work

a report released by IP Australia. The Institute's Chief Technologist, Arthur Ho, a Visiting Professor at SOVS, was named among the top five inventors in the medical devices field.

The report is available at:

<http://industry.gov.au/industry/IndustrySectors/PharmaceuticalsandHealthTechnologies/Pages/Australian-Medical-Devices-Patent-Analytics-Report.aspx>

Birth of new contact lens technology



Dr Ravi Bakaraju

far to near while minimising ghosting and haloes. Invented by one of the Institute's top scientists, UNSW graduate Dr Ravi Bakaraju, the EDOF contact lenses perform relatively

The Extended Depth of Focus (EDOF) contact lenses for presbyopia uses higher order aberrations to optimise retinal image quality over a wide range of distances from

independent of a patient's natural aberrations and variation in pupil size and are designed to meet the vision needs of emerging presbyopes, middle aged and older people.

WHO-BHVI joint Global Scientific Meeting on Myopia discusses the rapidly rising prevalence and impact of myopia

Key scientists, researchers and clinical experts from around the world, met at UNSW in March, 2015, to discuss the rapidly increasing prevalence, the vision, social and economic impact of myopia and reports that myopia is now the leading cause of blindness in older people in Tajimi, Japan and in Shanghai, China.

CFEH News



Since opening in November 2009 the Centre for Eye Health (CFEH) has performed over 23,748 client assessments and conducted over 169,845 individual tests.

In 2014-15 CFEH received 6,212 referrals from its 1,230 optometrist and 90 ophthalmologist registered practitioners. During the year the Centre assessed 5,148 clients and conducted more than 33,000 advanced imaging tests.

Outreach services continued to be developed in collaboration with the Outback Eye Service of The Prince of Wales Hospital Ophthalmology Department, targeting remote and regional communities.

The Centre maintains its contribution to education at UNSW Australia, and the continuing professional development of Optometry. CFEH is also proud that four of its own staff optometrists continue PhD studies utilising data collected in the clinic.

Over the past four years, the Centre has made a significant impact in helping people who are at-risk of losing sight, and looks forward to making further progress in the future.

Glaucoma Management Clinic

In March 2015 the Centre for Eye Health opened the Glaucoma Management Clinic in conjunction with Prince of Wales Hospital – Ophthalmology Department. The Glaucoma Management Clinic (GMC) is a shared care service providing optometric and ophthalmological assessment including advanced eye imaging for patients who are glaucoma suspects or who have glaucoma.

It is designed to ensure compliance with the December 2014 Optometry Board of Australia's guidelines for the use of scheduled medicines.

Continuing Professional Development

The Centre for Eye Health has always maintained the importance of educating current referrers as well as future referrers in order to ensure standards of clinical care increase throughout the profession. This financial

year, CFEH provided 1,520 Continuing Professional Development (CPD) points or the equivalent of approximately 900 hours of training. LearningforVision, which features a range of online CPD activities and modules, delivered 1,152 of these points. Through the delivery of CPD, the Centre is indirectly ensuring better healthcare outcomes by improving practitioner diagnostic skills.

Student Education

The Centre for Eye Health has continued its contribution to student education on behalf of SOVS with fifth year students actively taking part in clinical work on a four week rotation, which will shortly increase to six weeks.

Staff located at CFEH conducted undergraduate teaching (in Ocular Diseases) for third year students.

Research

During the financial year, CFEH published 13 peer reviewed publications. In addition to four new postgraduate students, an increasing number of undergrad students have become involved in ongoing projects. The outcomes of a diverse range of projects, all geared to assess and improve current clinical standards in Australia and around the world, have been presented at a number of international conferences and shaped educational resources available through CFEH. Research findings are being applied at CFEH to improve clinical diagnosis and management, foremost in glaucoma, and are being expanded to other disorders. The impact on clinical excellence has also been notable in increasing collaboration with the local health community.



Michael Kalloniatis
Centre Director
Centre for Eye Health