



## RESEARCH UNITS, CENTRES AND INSTITUTES

### Annual Report Template

Please refer to the University of Auckland Policy on Research Units, Centres and Institutes for more information on reporting and accountability requirements (clause 2.5). A copy of this policy is available from the University Policy Register.

#### Section 1a - IDENTIFICATION INFORMATION:

Title of Unit, Centre or Institute:	New Zealand National Eye Centre - NZ-NEC
Name of Director:	Professor Charles McGhee
Name of Deputy Director:	Professor Paul Donaldson

#### Section 1b - ENDORSEMENT OF REPORT:

Signatures:	<i>Please sign in appropriate space below</i>
<b>Professor Charles McGhee - Director</b> (Required for all Units/Centres/Institutes)	
<b>Professor Charles McGhee -Head of Department</b> (Required only for Department/School Units)	
<b>Dean</b> (Required for Faculty/University Centres/Institutes)	

**Section 2 – ADVISORY BOARDS AND MEETING DATES:**

Names of Oversight Advisory Board members (for Faculty and University Centres that have Oversight Boards)	
Names of Expert Advisory Board members (for Faculty and University Centres that have Expert Advisory Boards)	
Names of Management Committee Members (for University and Faculty Centres)	<p>Professor Charles McGhee</p> <p>Professor Paul Donaldson</p> <p>Professor Steven Dakin</p> <p>Sue Raynel – Manager NZ-NEC</p> <p>Hutokshi Chinoy – Administrative Manager</p>
Dates of advisory board and management committee meetings that took place during the year	<p>14<sup>th</sup> November 2017</p> <p>Plus committee members have had several informal meetings during the year.</p>

**Section 3 – PARTICIPATING MEMBERS AND EMPLOYEES/STUDENTS:**

Names and Departments of participating members	<p>Department of Ophthalmology, Faculty of Medical and Health Sciences; School of Optometry and Vision Science; Molecular Vision Laboratory.</p> <p>Affiliated members: New Zealand National Eye Bank; Glaucoma New Zealand; Clinical and Experimental Ophthalmology; Department of Anatomy with Radiology; University of Auckland Bio-engineering Institute</p>
List names, positions, and FTEs of all staff employed and postgraduate students involved in the Unit or Centre	<p>No staff are employed directly by NZ-NEC but provide assistance at discretion of the Departmental HoD's.</p> <p>See appendix for list of staff within NZ-NEC</p>

**Section 4 – INTRODUCTION:**

<p>Provide here a brief introduction to the report (maximum of 300 words)</p>	<p>We are continuing to utilise the recommendations in the 2016 Research Centre Review report as a guide to developing NZ-NEC.</p> <p>Half day seminar for all members of NZ-NEC in May. This was an opportunity for researchers to network and explore the potential for submitting HRC programme grants specific to vision. This continues to be a work in progress and it is anticipated that a programme grant application was submitted in 2017. There were also collaborations that eventuated from this seminar within the NZ-NEC team.</p> <p>In 2017 members of NZ-NEC individually or collaboratively were successful in attaining research funding in excess \$9,500,000.00. Grants came from a wide variety of sources including \$4,919,534 from HRC for an on-going collaborative programme grant, \$1,975,768.00 in MBIE grants, \$1,110,000.00 in Marsden grants, \$773,476.00 from ADHB (mainly in fellowship grants).</p> <p>There have been 2 book chapters and 96 peer reviewed publications from members in 2017.</p> <p>The Department of Ophthalmology had 5 PhD's and 1 MD completed or submitted in 2017.</p>
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**Section 5 – AIMS, GOALS AND FUTURE PLANS:**

<p><b>a. General Aims:</b></p> <p>Briefly describe the general aims (plans and objectives/goals) of the unit or centre. Identify how they address the University and Faculty Strategic Plan.</p>	<p><b>Vision:</b> to eliminate preventable blindness and reduce visual impairment</p> <p><b>Mission:</b> to become a foremost international vision research, clinical and teaching centre through excellence, innovation and collaboration</p> <p><b>Goals:</b> To develop and increase the profile of eye health, vision research and education – in New Zealand/Aotearoa and internationally by:</p> <ul style="list-style-type: none"> <li>Laboratory research</li> <li>Clinical research and Clinical Services</li> <li>Application of research into practice</li> <li>Innovation</li> <li>Collaboration</li> <li>Teaching and Learning</li> <li>Community Outreach</li> </ul>
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	Public Health Policy
<b>b. Goals for Reporting Year:</b>  Describe the specific goals for the reporting year.	1. Continue with expanding community programmes 2. Increase our research collaborations within UoA, nationally and internationally
<b>c. Plans for Upcoming Year:</b>  Outline the plans for the next year. Identify any resource implications.	1. Continue with expanding community programmes 2. Increase our research collaborations within UoA, nationally and internationally

### Section 6 – MAJOR ACHIEVEMENTS AND OTHER NOTABLE ACTIVITIES:

Report against the specific goals listed in 5b above	<ol style="list-style-type: none"> <li>1. We continue to provide glaucoma clinics within the UoA, in partnership with ADHB, to upskill community optometrists with a view to transferring patient care to the community. There currently 2 community optometrists contracted to provide care in the community with another 4 credentialed community based optometrists. CMDHB have also expanded their glaucoma service with the addition of 4 credentialed optometrists from the UoA based glaucoma course. Also 6 of the credentialed glaucoma optometrists are staff within the School of Optometry and Vision Science who utilise skills and knowledge in their clinical teaching environment. We have a waiting list of 7 optometrists for the next course.  Glaucoma New Zealand provided 6 seminars to the general public in different centres throughout the country.</li> <li>2. Members of NZ-NEC continue to explore collaborative research options. Current research collaborations continue with those in last years report and new collaborations established with; Massey University, Vanderbilt University, USA, Stony Brook University USA as well as many within the UoA.</li> <li>3. We submitted an HRC programme grant this year as planned. Also investigations / collaborations within NZ-NEC continue.</li> </ol>
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<p>Summary of major developments and achievements. Identify how these activities contribute to the research capability of the department or faculty (beyond what would be achieved through the activities of the individual members). Please provide greater detail for anything noteworthy that may give useful publicity to the University</p>	<p>A/P Rob Jacobs was appointed as a member of the New Zealand Order of Merit in the Queen's Birthday Honours for his services to optometry and education.</p> <p>Optometrist, Erna Takazawa, was named the University of Auckland 2017 Young Alumna of the Year for her work developing optometry in Samoa and leading improvement of eye care in the Pacific.</p> <p>Professor Colin Green (with A Gunn, L Bennet, J Dean and J Davidson) Shorland Medal of the New Zealand Association of Scientists 2017</p> <p>Professor Charles McGhee inaugurated as President of Asia Pacific Academy of Ophthalmology from 2017 to 2019.</p> <p>HRC Programme Grant. Pathogenesis, detection and treatment of perinatal brain injury. A Gunn, LBennet, C Green, N Holford, C. Unsworth. J Dean, J Davidson. \$4,919,534</p> <p>Professor Paul Donaldson in collaboration with research partners at Vanderbilt University, USA received a \$305,000 NHI grant</p> <p>Nigel Brookes, NZ National Eye Bank, who won one of the commercial prizes at the Velocity Innovation Challenge with his entry 'endoCellMetrics'.</p> <p>Professor Charles McGhee was interviewed on The Project about growing contact lens problems in New Zealand.</p> <p>James McKelvie and Sunny-Li published in NZ Listener their article focussed on baby boomers and cataract</p> <p>Professor Trevor Sherwin was invited to present the prestigious Ida Mann lecture at RANZCO 2017 Perth.</p> <p>Dr James Slater is the recipient of an HRC Pacific Health Clinical Training Fellowship.</p> <p>Professor Dipika Patel, Professor Charles McGhee, in collaboration with Massey University, received an MBIE grant of \$998,532.00.</p> <p>Salim Ismail, Jeremy Mathan, Jane McGhee, Dr Jinny Yoon, Ye Li and Professor Trevor Sherwin won both the 'best research video' and the 'best video' award in the RANZCO Congress film festival, Perth, WA for their video '<i>Walking with Dying Spheres or Die Another Day</i>'</p>
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Dr Stuti Misra and Professor Trevor Sherwin were both awarded APAO achievement awards for their many contributions to the APAO Scientific program over several years.

Optometry graduate, Dr Nabin Paudel was awarded a World Council of Optometry (WCO) Teaching Fellowship to teach paediatric optometry and visual electrophysiology to the undergraduate optometry students of Nepal.

The inaugural SOVS conference was held over two days (22-23 July 2017) and consisted of a mix of clinical/research seminars and practical workshops. Seminar topics included clinical imaging, vision research, amblyopia treatment and myopia control. Workshops were held on imaging/eye-tracking, ocular prosthetics, paediatric assessment and glaucoma. There was also an opportunity for undergraduate optometry students to present the results from their summer research projects. The 2017 meeting was attended by 80 people (evenly split between community delegates, alumni and optometry students).

**Promotions:**

A/P Dipika Patel promoted to Professor

Dr Julie Lim promoted to Senior Lecturer

Dr Gus Grey appointed to - Director of Biomedical Imaging Research Unit

Students within NZ-NEC have had another successful year:

- Frazer Coutinho, PhD student, best image in the confocal microscopy category at the BIRU Image Competition
- Lola Mugisho ,PhD student, recipient of 2017 International Gap Junction Conference Travel Bursary
- Renita Martis, PhD student, was the recipient of H.C Russell Memorial Scholarship, HOPE Foundation for Research on Aging Scholarship and Academic career exploration scholarship
- HealthX 2017: Henry Wallace, BMedSci student, won the Non-Doctoral oral presentation category. The title of Henry's talk was '*Predicting Postoperative Pseudophakic Refraction*'. Renita Martis 2nd runner up biomedical oral presentation category.
- Priyanka Agarwal, PhD student, placed third for her 3-minute presentation at the 2017 New Zealand-Australia Joint Workshop of the Controlled Release Society.
- Luis Knight, Hons Student, J D Sinclair Postgraduate Award for Excellence in Physiology

	<ul style="list-style-type: none"> <li>• Joevy Lim, BMedSci, was one of the 15 finalists the Velocity 100k Challenge, an entrepreneurship programme run by the Centre of Innovation and Entrepreneurship at the University of Auckland. A total of 87 teams entered Velocity 100K Challenge. Joevy and her team placed first among the finalists, winning a total of \$25,000 in seed capital for their venture! Joevy and her team are designing a medical device that aims to reduce the time taken in surgeries, product is likely to be commercialised in 2019.</li> </ul>
<p>Comment on any co-operative commercial activities, research with other University or Government laboratories or research groups</p>	<p><b>Commercial Research</b></p> <p>BOTU continued a project with Novaliq, Germany, using the developed ex vivo model to evaluate the penetration of various formulations into the ocular tissues after topical application. This model allows screening of ocular formulations at an early stage of development and could reduce the cost and complexity of testing routines currently used by the pharmaceutical industry</p> <p>Professor Colin Green continues to provide advice and has been appointed as Chief Scientist for Ocunexus.</p> <p><b>Provisional Patents</b></p> <p>COUTINHO FP, RUPENTHAL ID, GREEN CR. <i>Novel constructs and methods of treatment</i>. New Zealand Provisional Patent Application No. 731353 (submitted 28<sup>th</sup> April 2017)</p> <p>COUTINHO FP, RUPENTHAL ID, GREEN CR. <i>Methods of treatment</i>. New Zealand Provisional Patent Application No. 731364 (submitted 28<sup>th</sup> April 2017)</p>
<p>Comment on any courses given or workshops and seminars held</p>	<p>NZ-NEC held an afternoon seminar for all research groups in May 2017 with a view to progressing submission of an HRC programme grant specific to vision research. This is on-going with a programme grant application submitted in 2017.</p> <p>We continue to hold monthly seminars for disseminating current research findings and issues. These have also have been an avenue for generating collaboration amongst researchers who otherwise would not have had contact. See attached for seminar details.</p>

Several high profile international guest lecturers have presented at NZ-NEC seminars in 2017:

1. Professor Michael Kalloniatis, - University of NSW, Australia
2. Distinguished academic visitor award recipient Professor Christian Naus The University of British Columbia, Vancouver, Canada
3. Distinguished academic visitor award recipient: Barbara Pierscionek, Kingston University
4. Dr Maria Markoulli, Senior Lecturer, SOVS, University of NSW, Sydney
5. Professor Luc Leybaert, University of Ghent, Belgium
6. Prof Roger Truscott, Senior Research Prof. Illawarra Health and Medical Research Institute, NSW
7. Professor Oliver Schmachtenberg, Professor of Neuroscience at the University of Valparaiso, Chile
8. Professor Jan Burt, Department of Physiology, University of Arizona, USA

Summer students presented their projects at the "Excellence in Ophthalmology and Vision Research Prize Evening". Students were given guidelines for their 6 minute presentations which were judged by academics external to NZ-NEC – the judges in 2017 were Professor Alan Merry and Distinguished Professor Ian Reid

The winner of the NZ-NEC student symposium was Muthana Noori from the SOVS.

Members of NZ-NEC participate in the MBChB, optometry undergraduate and the optometry ocular therapeutics programmes as well as vocational training for the Royal Australian and New Zealand College of Ophthalmology vocational scheme. They also provide education to ophthalmic nurses, health facilities and community organisations eg Glaucoma NZ provides 6 seminars to communities throughout New Zealand annually



## Section 7 - Reviews

<p><b>Date of last review</b></p>	<p>August 2016</p>
<p><b>Review Recommendations</b></p> <p>List the recommendations of the review and give an update of progress on addressing the recommendations.</p>	<ol style="list-style-type: none"> <li>1. Submission of an HRC programme grant</li> </ol> <p>NZ-NEC held an afternoon seminar for all research groups in July 2017 with a view to progressing submission of an HRC programme grant specific to vision research. This is on-going with a programme grant application submitted in 2017.</p> <ol style="list-style-type: none"> <li>2. Role of Professor Steven Dakin need to be strengthened and clarified</li> </ol> <p>Extensive discussion re: undergraduate and postgraduate optometry teaching, specifically glaucoma credentialing for UoA and community optometrists.</p> <p>Joint appointments between departments eg Hannah Kersten</p> <ol style="list-style-type: none"> <li>3. Increase participation of School of Optometry and Vision Science and Molecular Vision Laboratory within the Centre, to develop more collaborative research opportunities for the future</li> </ol> <p>HRC grant application and the many collaborative grants received by members in NZ-NEC e.g. Dr Monica Acosta, Dr Ilva Rupenthal and Professor Colin Green (AMRF and MPPT); Dr Ilva Rupenthal, Dr Eshan Vaghefi and Dr Sachin Thakur (FRDF)</p>

## Section 8 – FINANCIAL REPORT

State whether the Unit or Centre has its own Activity Centre/s and list the Activity Centre/s being used	NZ-NEC does not have its own cost centre
State sources of funding, for example, from research funds from outside bodies, from the Department or Faculty, or other	N/A
List any significant resource allocation decisions taken by the Oversight Board during this reporting year (if applicable)	N/A
Include a statement of financial performance (contact Faculty Accountant for assistance), or give a clear explanation of the reasons if there has been no financial activity	N/A

## Section 9 – RESEARCH OUTPUTS

<p>Include a list of publications and other research outputs</p>	<p><b>Book Chapters</b> Sherwin, T., Ismail, S., Ioh, I., &amp; McGhee, J. (2016). Histopathology 9from Keratoconus Pathology to Pathogenesis). In Keratoconus Recent Advances in Diagnosis and Treatment. Springer.</p> <p><b>2017</b> Vincent AL Chapter 6. Inherited Ocular Disease in the New Zealand Māori; Novel genetic mechanisms and founder effects in Gyan/Iwata (eds): Advances in Vision Research, Volume II. Genetic Eye Research in Asia and the Pacific Springer Verlag (Publishing Date Feb2018)</p> <p><b>Peer Reviewed Journal Articles</b></p> <ol style="list-style-type: none"><li>1. Ziaei M, Meyer J, Patel DV, McGhee CN. Scleral Suture-Fixation of Supplementary Sulcus-based Toric Intraocular Lenses to Prevent Rotational Instability. <i>Clinical and Experimental Ophthalmology</i> 2018 Epub ahead of print.</li><li>2. Crawford AZ, Krishnan T, Ormonde SE, Patel DV, McGhee CN. Corneal transplantation in a New Zealand population 2000-2009: minor and significant adverse events, allograft rejection and survival. <i>Cornea</i> 2017 (In press)</li><li>3. Gokul A, Vellara HR, Patel DV. Advanced Anterior Segment Imaging in Keratoconus- a review. <i>Clinical and Experimental Ophthalmology</i> 2017 (In press).</li><li>4. Ziaei M, Zhang J, Patel DV, McGhee CN. Umbilical cord stem cells in the treatment of corneal disease. <i>Survey of Ophthalmology</i> 2017;62(6)803-815</li><li>5. Kim BZ, Patel DV, McKelvie J, Sherwin T, McGhee CNJ. The Auckland Cataract Study II: Reducing Complications by Preoperative Risk Stratification and Case Allocation in a Teaching Hospital. <i>Am J Ophthalmol.</i> 2017;181:20-25.</li><li>6. Kim BZ, Patel DV, McGhee CN. The Auckland Cataract Study 2: clinical outcomes of phacoemulsification cataract surgery in a public teaching hospital. <i>Clinical and Experimental Ophthalmology</i> 2017; 45(6):584-591</li><li>7. Bhikoo R, Vellara H, McKelvie J, McGhee CNJ, Patel DV. The effect of abnormal stromal protein on the biomechanical properties of the cornea. <i>Clinical and Experimental Optometry</i> 2017;100(6):729-731</li><li>8. Mathan JJ, Patel DV, McGhee CNJ, Patel HY. Analysis of glaucoma subtypes and corresponding demographics in a New Zealand population. <i>Biomedicine Hub</i> 2016;1:453313</li><li>9. Crawford AZ, McKelvie J, Craig JP, McGhee CNJ, Patel DV. Corneal Transplantation in Auckland, New Zealand, 1999-2009: Indications, Patient Characteristics, Ethnicity, Social Deprivation, and Access to Services. <i>Cornea</i> 2017; 36(5):546-552</li><li>10. Gokul A, Patel DV, Watters G, McGhee CN. The Natural History of Corneal Topographic Progression of Keratoconus after Age 30 years in Non-contact Lens Wearers. <i>British Journal of Ophthalmology</i> 2017;101(6):839-844</li></ol>
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11. Patel DV. Systemic associations of corneal deposits: a review and photographic guide. *Clinical and Experimental Ophthalmology* 2017;45(1):14-23.
12. Vellara HV, Hart R, Gokul A, McGhee CN, Patel DV. *In vivo* ocular biomechanical compliance in thyroid eye disease. *British Journal of Ophthalmology* 2017; 101(8):1076-1079
13. Meyer JJ, Gokul A, Vellara HR, Prime Z, McGhee CNJ. Repeatability and Agreement of Orbscan II, Pentacam HR, and Galilei Tomography Systems in Corneas With Keratoconus. *Am J phthalmol.* 2017 Dec 7. pii: S0002-9394(17)30476-2. doi: 10.1016/j.ajo.2017.11.001. [Epub ahead of print] PubMed PMID: 29224683.
14. Cartwright VA, McGhee CN. Is there still a place for short clinical case reports in modern mainstream medical publishing? *Clin Exp Ophthalmol.* 2017 Nov;45(8):770-772. doi: 10.1111/ceo.13075. PubMed PMID: 29148262.
15. Bhikoo R, Vellara H, Lolokabaira S, Murray N, Sikivou B, McGhee C. Short-term outcomes of small incision cataract surgery provided by a regional population in the Pacific. *Clin Exp Ophthalmol.* 2017 Nov;45(8):812-819. doi: 10.1111/ceo.12965. Epub 2017 May 15. PubMed PMID: 28421654.
16. Ziaei M, Kim BZ, Hadden PW, McGhee CN. Battle-axe fold: surgical technique for in-the-bag implantation of an artificial iris implant. *Clin Exp Ophthalmol.* 2017 Nov;45(8):831-834. doi: 10.1111/ceo.12959. Epub 2017 May 24. PubMed PMID: 28403577.
17. Bhikoo R, Vellara H, McKelvie J, McGhee CN, Patel DV. The effect of abnormal stromal protein on the biomechanical properties of the cornea. *Clin Exp Optom.* 2017 Nov;100(6):729-731. doi: 10.1111/cxo.12510. Epub 2017 Feb 1. PubMed PMID: 28147445.
18. Bhikoo R, Vellara H, Lolokabaira S, McGhee CN. Small incision cataract surgery provided by a regional population in the Pacific: a 12-month follow-up. *Clin Exp Ophthalmol.* 2017 Oct 24. doi: 10.1111/ceo.13093. [Epub ahead of print] PubMed PMID: 29064610.
19. Han JV, McGhee CN. When is a complication a complication in contemporary cataract surgery? *Clin Exp Ophthalmol.* 2017 Oct 20. doi: 10.1111/ceo.13092. [Epub ahead of print] PubMed PMID: 29052938.
20. Meyer JJ, Krishnan T, McGhee CN. Minimal iris touch excision: a novel surgical technique for local excision of iris melanoma. *Clin Exp Ophthalmol.* 2017 Aug 25. doi: 10.1111/ceo.13041. [Epub ahead of print] PubMed PMID: 28842945.
21. Vellara HR, Hart R, Gokul A, McGhee CNJ, Patel DV. *In vivo* ocular biomechanical compliance in thyroid eye disease. *Br J Ophthalmol.* 2017 Aug;101(8):1076-1079. doi: 10.1136/bjophthalmol-2016-309532. Epub 2016 Dec 9. PubMed PMID: 27941044.
22. Lockington D, Belin M, McGhee CNJ. The need for all cataract surgeons to run a regular vitreous loss fire drill. *Eye (Lond).* 2017 Aug;31(8):1120-1121.

- doi:10.1038/eye.2017.58. Epub 2017 Apr 7. PubMed PMID: 28387763; PubMed Central PMCID: PMC5558226.
23. : McGhee C. August consultation #6. *J Cataract Refract Surg.* 2017 Aug;43(8):1122-1123. doi: 10.1016/j.jcrs.2017.07.015. PubMed PMID: 28917421.
24. Kim BZ, Meyer JJ, Brookes NH, Moffatt SL, Twohill HC, Pendergrast DG, Sherwin T, McGhee CNJ. New Zealand trends in corneal transplantation over the 25 years 1991-2015. *Br J Ophthalmol.* 2017 Jun;101(6):834-838. doi: 10.1136/bjophthalmol-2016-309021. Epub 2016 Sep 15. PubMed PMID: 27635063.
25. Bhikoo R, Murray N, Sikivou B, Emma S, McGhee C. Demographic features and visual outcomes of patients presenting to diabetic photo-screening and treated for sight threatening retinopathy in Fiji. *Int J Ophthalmol.* 2017 May 18;10(5):790-795. doi: 10.18240/ijo.2017.05.22. eCollection 2017. PubMed PMID: 28546939; PubMed Central PMCID: PMC5437470.
26. Crawford AZ, McKelvie J, Craig JP, McGhee CN, Patel DV. Corneal Transplantation in Auckland, New Zealand, 1999-2009: Indications, Patient Characteristics, Ethnicity, Social Deprivation, and Access to Services. *Cornea.* 2017 May;36(5):546-552. doi: 10.1097/ICO.0000000000001159. PubMed PMID: 28257380.
27. Misra SL, Kersten HM, Roxburgh RH, Danesh-Meyer HV, McGhee CN. Corneal nerve microstructure in Parkinson's disease. *J Clin Neurosci.* 2017 May;39:53-58. doi: 10.1016/j.jocn.2017.02.033. Epub 2017 Mar 3. PubMed PMID: 28268149.
28. AK Mayer, C Van Cauwenbergh, C Rother, B Baumann, P Reuter, ACHM Study Group, E De Baere, B Wissinger, SKohl (ACHM Study Group: A Farkas, A Renner, A Bajak Canak, A Sagar, Andrea L Vincent, A Green, A Rauch, AS. Plomp, B Varsanyi, B Käsmann-Kellner, B Leroy, B Jurklies, B Streubel, B Prager, B Mitterski, B Lorenz, B Tumiene, B Bachynski, , C Ayuso, C Vincent-Delorme, C Poloschek, C Inglehearn, C Hamel, C Castellan, D Huhle, D Birch, D Blain, D Zobor, D Lev, D Wand, D Sharon, E Zrenner, E Apfelstedt-Sylla, E Traboulsi, E Heon, E Holinski-Feder, E Levy-Lahad, F Curtis, F Munier, F Stanzial, F P.M. Cremers, G Du Bois, GMatthijs, G Ferrazzini, G Niemeyer, G Rudolph, H Dollfus, H Scholl, H Jägle, H Krastel, I Gottlob; I Golovleva, Isabelle Audo, J C Mora, J Ming, J Weinstein, J R. Heckenlively, K Strom, K Rütther, L McGregor) CNGB3 mutation spectrum including copy number variations in 552 achromatopsia patients.. *Human Mutation.* Hum Mutat. 2017 Nov;38(11):1579-1591. doi: 10.1002/humu.23311. Epub 2017 Aug 28.
29. Vincent AL, Abeysekera N, van Bysterveldt KA, Oliver VF, Ellingford JF, Barton S, Black GM. NGS Targeted Disease panel in rod-cone retinal dystrophies in Māori and Polynesian reveals novel changes, and a common founder mutation. *Clin Exptal Ophthal* 2017 May 9. doi: 10.1111/ceo.12983. [Epub ahead of print]
30. van Bysterveldt KA, IKink W, AL Taie, R, Oliver VF,

Vincent AL. *ADAMTSL4* assessment in an atypical Marfan population reveals a recurrent founder mutation causing Ectopia Lentis in Polynesians. *Ophthalmol Genet* 2017 Apr 10:1-7. doi: 10.1080/13816810.2017.1309552. [Epub ahead of print]

31. . Dudakova L, Stranecky V, Ulmanova E, Trkova M, Vincent AL, Liskova P. Segregation of novel p.(Ser270Tyr) MAF mutation and p.(Tyr56\* CRYGD variant in a family with dominantly inherited congenital cataracts *Molecular Biology Reports* in press
32. Mugisho OO, Green CR, Zhang J, Binz N, Acosta ML, Rakoczy E, Rupenthal ID. Immunohistochemical Characterization of Connexin43 Expression in a Mouse Model of Diabetic Retinopathy and in Human Donor Retinas. *Int J Mol Sci*. 2017 Nov 29;18(12). pii: E2567. doi: 10.3390/ijms18122567.
33. Mugisho OO, Green CR, Kho DT, Zhang J, Scott Graham E, Acosta ML, Rupenthal ID. The inflammasome pathway is amplified and perpetuated in an autocrine manner through connexin43 hemichannel mediated ATP release. *Biochim Biophys Acta*. 2017 Nov 17. pii: S0304-4165(17)30380-X. doi: 10.1016/j.bbagen.2017.11.015. [Epub ahead of print]
34. Tonkin RS, Bowlesa C, Perera CJ, Keating BA, Makker PGS, Duffy SS, Lees JG, Tran C, Don AS, Fath T, Liu L, O'Carroll SJ, Nicholson LFB, Green CR, Gorrie C, Moalem-Taylor G. Attenuation of mechanical pain hypersensitivity by treatment with Peptide5, a connexin-43 mimetic peptide, involves inhibition of NLRP3 inflammasome in nerve-injured mice. *Experimental Neurology* 2018; 300:1–12.
35. Mao Y, Nguyen T, Tonkin RS, Lees JG, Warren C, O'Carroll SJ, Nicholson LFB, Green CR, Moalem-Taylor G, Gorrie CA. Characterisation of Peptide5 Systemic Administration for Treating Traumatic Spinal Cord Injured Rats. *Exp Brain Res*. 2017; 235:3033-3048.
36. Leybaert L, Lampe PD, Dhein S, Kwak BR, Ferdinandy P, Beyer EC, Laird DW, Naus CC, Green CR, Schulz R. Connexins in cardiovascular health and disease: pharmacological implications. *Pharmacological Reviews*. 2017; 69:396-478. Invited Review.
37. Kim Y, Griffin JM, Mohd N Mat Nor, Zhang J, Freestone PS, Danesh-Meyer HV, Rupenthal ID, Acosta ML, Nicholson LFB, O'Carroll SJ, Green CR. Tonabersat prevents inflammatory damage in the central nervous system by blocking Connexin43 hemichannels. *Neurotherapeutics*, 2017; doi: 10.1007/s13311-017-0536-9.
38. Galinsky R, Davidson JO, Lear CA, Bennet L, Green CR, Gunn AJ. Connexin hemichannel blockade improves survival of striatal GABA-ergic neurons after global cerebral ischaemia in term-equivalent fetal sheep. *Scientific Reports*. 2017; DOI:10.1038/s41598-017-06683-1.

39. Zhang J, Cole RN, Lin P, Acosta ML, Green CR, Danesh-Meyer HV. Transiently raised IOP equivalent to that experienced during ocular surgery causes moderate inflammation but does not affect retinal function or result in retinal ganglion cell loss in an animal model. *J Ophthalmic Sci.* In Press.
40. Kim Y, Davidson JO, Green CR, Nicholson LF, O'Carroll SJ, Zhang J. Connexins and Pannexins in cerebral ischemia. *Biochim Biophys Acta.* 2017 Mar 25. pii: S0005-2736(17)30100-1. doi: 10.1016/j.bbamem.2017.03.018. [Epub ahead of print] Review.
41. Kim Y, Griffin JM, Harris PWR, Chan SHC, Nicholson LFB, Brimble MA, O'Carroll SJ, Green CR. Characterizing the mode of action of extracellular Connexin43 channel blocking mimetic peptides in an *in vitro* ischemia injury model. *Biochim Biophys Acta.* 2017; 1861:68-78.
42. Ismail, S., Mathan, J. J., Li, Y., McGhee, J. J., Yoon, J., & Sherwin, T. (2017). DIE ANOTHER DAY OR WALKING WITH DYING SPHERES. In *CLINICAL AND EXPERIMENTAL OPHTHALMOLOGY* Vol. 45 (pp. 84-85). WILEY.
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