



RESEARCH FOUNDATION
ROYAL VICTORIA
EYE & EAR HOSPITAL

Since 1974 the Royal Victoria Eye and Ear Research Foundation has spearheaded research in the fight against sight and hearing loss.

Activity Report 2019



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The Foundation

**A history of innovation –
looking to the future.**



A word from our Chairman

2019 was a busy and active year for the Research Foundation as we set about to fulfil our remit to champion and pioneer research in conditions of the eye and ear.

During 2019 The Research Foundation adopted its Strategic Plan for 2019, and I am pleased to oversee the progress for the period in meeting with our goals to: initiate and support research to aid our understanding of how to treat and prevent eye and ear disease, develop and champion new treatments for conditions that cause blindness and deafness and create real results in improved patient care and enhanced quality of life for patients.

I would like to congratulate the successful awardees of the Research Foundation Annual Grant Scheme for 2019. As always, the calibre of applications was excellent and a reflection of the dedication of the young doctors of the Royal Victoria Eye and Ear Hospital to their important research work.

Through the Eithne Walls Research Meeting and the VII New Frontiers in Ophthalmology Meeting in 2019, The Research Foundation continued to act as a catalyst and a facilitator for learning and knowledge sharing in our specialties, and it is indeed a privilege to provide a forum for our colleagues and peers in this way.

I would like to sincerely thank all those who kindly made donations to the Research Foundation, and worked so hard to raise funds for the Eithne Walls Research Fund through the VHI Women's Mini Marathon. As a charity organisation, all support is hugely important in helping sustain our work and much appreciated.

Thank you.



Mr. Jeremy O'Connor
Chairman, Royal Victoria Eye and Ear
Research Foundation



Our work – 2019 at a glance



3

Research projects funded



1,530

Tests carried out



400

Inherited Retinal Disease Patients assessed



12

Research Study presentations at the Eithne Walls Research Meeting



3

Research Study Medals Awarded



98

Attendees at New Frontiers Meeting



46 Years funding new clinical learning to improve patient treatment and care



Our Aims

- To develop and champion new treatments for conditions that cause blindness and deafness.
- To initiate and support research to aid our understanding of how to treat and prevent eye and ear disease.
- Create real results in improved patient care and enhanced quality of life for patients.



Annual Grant Scheme 2019

As awareness of the importance of healthcare research grows, the Research Foundation is proud to have a long history of supporting young researchers in their work. A key requirement of our Annual grant Scheme is that applicants must be able to demonstrate the potential impact of their research to improve healthcare, treatments, and most importantly, outcomes for patients.

This year, The Research Foundation supported three exciting projects, and we are very proud of the work being carried out by the awardees.



‘Trends in Orbital Tumours in an Irish Cohort 2009-2019; Are we making different diagnoses now?’ Dr. Ruth Ellard

Dr. Ellard’s topical and timely research delves into the aetiology, or cause, of orbital lesions in a tertiary ophthalmic hospital, The Royal Victoria Eye and Ear Hospital, over a 10 year period.

‘In light of new knowledge and histopathological investigations, tissue samples of lacrimal gland biopsies will be reevaluated. Molecular studies and immunohistochemical studies, which were not available at the time of biopsy in many cases, will be performed on these samples. This will include investigation for IgG4-related disease (Ig4-RD), a relatively newly described entity that now has diagnostic criteria’, Dr. Ellard.

Studies of this type are essential to informing practice and the knowledge gained can significantly aid diagnosis and management of the patients’ treatment and care.

Dr Ellard is undertaking her RCSI Masters in Surgery with this study forming her thesis.

An orbital lesion is a tumour or growth which forms on the orbit. The orbit is the socket which holds the eye.





‘Development of organoids from uveal melanoma tissue and patient-derived circulating tumour cells (CTCs) from liquid biopsies’ Dr. Bobby Tang

Dr Tang’s research addresses a prevalent condition affecting many in Ireland. Cases of Uveal Melanoma in Ireland are approaching 11 per million – possibly the highest in the world.

Dr Tang explains, ‘The unique biology and immunology of UM necessitates the development of specific management and treatment approaches. Therefore, this project aims to further our understanding of UM progression, metastatic potential and develop in vitro models to optimize the efficacy of targeted therapies’ Dr. Tang.

This study, in expanding our knowledge of the biology of Uveal Melanoma help us to develop Uveal Melanoma organoids which could predict response and resistance in individual cases.

In pre-clinical research, the use of cancer models allows us to study the characteristics of different cancer cells and to develop more targeted therapies. Recently, researchers have been able to create 3D structures called ‘organoids’ that more closely resemble tumour architecture and behaviour than previous cancer models. These structures have already paved the way for novel therapeutics in other cancer types.

In collaboration with Dr Naomi Walsh’s research team at the National Institute for Cellular Biotechnology, the study team aims to create the first 3D organoids in uveal melanoma that can lead to the development new and exciting treatments that have so far remained elusive’

The Uveal is the middle layer of the eye. A Uveal Melanoma is a form of malignant cells within the uveal.

Dr Bobby Tang



'Multiomic profiling of ocular inflammation in dry eye disease relating to ocular graft versus host disease'

Dr. Emily Greenan

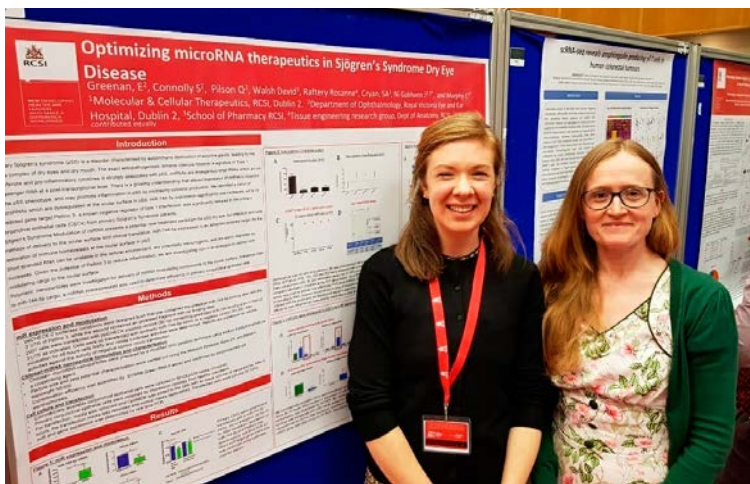


Dr Emily Greenan

This exciting study from Dr. Greenan focusses on Ocular Graft Versus Host Disease (GVHD), GVHD can occur as a complication following Haematopoietic Stem Cell Transplantation.

'Although GVHD can have a multitude of systemic manifestations in affected patients, ocular GVHD is one of the most frequent and long-term complications and is associated with significant morbidity and a marked reduction in quality of life. It can affect all parts of the eye, but occurs primarily on the ocular surface, resulting in dry eye disease (DED) or keratoconjunctivitis sicca. The pathogenesis is complex and incompletely understood. The aim of our research is to develop a new personalised approach to detect, prevent and treat adverse immune events in patients with ocular graft versus host disease' Dr. Greenan.

Ocular GVHD can occur when the glands and conjunctiva in the eye react to implanted cells. The glands in the eye produce tears - crucial for the protection and comfort of the eye – resulting in Dry Eye Disease.



Dr Emily Greenan and Joan Ní Gabhann-Dromgoole PhD Lecturer in Immunology and Ophthalmology, RSCI with their Poster Presentation at the RSCI Research day 2019

New Frontiers in Ophthalmology

Paediatric Ophthalmology and Strabismus

The 2019 VII New Frontiers in Ophthalmology Meeting took place on Thursday 20th June.

For what is always a key educational event in the calendar, we recorded our highest attendance to date with colleagues and peers from all over Ireland joining us in the Education and Conference Centre of the Royal Victoria Eye and Ear Hospital.

Chaired by Mr. Edward Loane, our panel of speakers was comprised of experts in the field of Paediatric Ophthalmology and Strabismus from the UK and Ireland, resulting in an engaging informative and highly successful meeting for all.

The meeting was sponsored by Novartis.

Speakers included:

- **Mr. Ian Flitcroft**,
Temple Street Children's Hospital & MMUH
'Active myopia management and the paediatric ophthalmologist'
- **Mr. Stephen Farrell**,
Temple Street Children's Hospital & MMUH
'Childhood Cataract'
- **Ms. Arundhati Dev Borman**,
Great Ormond Street Hospital
'Paediatric Demyelinating Optic Neuritis'
- **Mr. Joe Abbott**,
Birmingham Women's and Children's Hospital
'New developments in Retinoblastoma'
- **Mr. Ian Marsh**,
University Hospital Aintree
'The changes in Management in Neurological Strabismus over the last 40 years'



Mr Stephen Farrell, Ms Arundhati Dev Borman,
Mr Joe Abbott, Ms Jane Tilley, Novartis,
Mr Edward Loane, Mr Ian Marsh, Ms Fiona Flynn
Smith, Novartis, Mr Ian Flitcroft

Eithne Walls Research Meeting

Held annually, the Eithne Walls Research Meeting provides a forum for trainee doctors to present their research and clinical study work to their peers.

The meeting is held in memory of Dr. Eithne Walls, a Senior House Officer of Ophthalmology in the Royal Victoria Eye and Ear Foundation who was a passenger on the ill-fated flight A447 that disappeared over the Atlantic on 1st June 2009. Held annually, the Eithne Walls Research Meeting provides a forum for trainee doctors to present their research and clinical study work to their peers. The meeting is held in memory of Dr. Eithne Walls, a Senior House Officer of Ophthalmology in the Royal Victoria Eye and Ear Foundation who was a passenger on the ill-fated flight A447 that disappeared over the Atlantic on 1st June 2009.

The meeting is an opportunity for trainee doctors to present their work to their peers and enhance their experience in undertaking clinical learning and research, key to continuing our work to advance education and development. Young doctors who have taken part in the Eithne Walls Research Meeting have gone on to be part of crucial research projects bringing us closer to developing new treatments for conditions that cause blindness and deafness and broadening our understanding of how to treat and prevent eye and ear disease.

The Research Foundation offers trainees who participate the opportunity to win 1 of 3 awards for the best presentation:

- **Ophthalmology:**
The Eithne Walls Medal
- **Otolaryngology:**
The Professor Aongus Curran Medal
- **All Specialties:**
The Research Foundation Clinical Prize

The Professor Aongus Curran Medal commemorates our colleague Professor Aongus Curran, the eminent ENT Surgeon and Professor of Otorhinolaryngology who passed away suddenly in August 2016.

Medal Awardees 2019



**Eithne Walls
Medal**



Dr. Alan Hopkins
'Fundus Fluorescein
Angiography (FFA) in
Human Subjects Displays
Circadian Variation'



**Research
Foundation
Clinical Prize**



Dr. Bobby Tang
'Global ophthalmology:
a novel approach to an
old problem'



**Professor Aongus
Curran Medal**



Dr. Laura Loughlin
'Patterns of Recurrence and
Surveillance Requirements
for Human Papilloma Virus
Positive Oropharyngeal
Squamous
Cell Carcinoma'

2019 Eithne Walls Research Meeting Presentations

- ‘A 15-year review of the histopathological features of ocular samples relating to corneal melt occurring secondary to rheumatoid arthritis’ Emily Greenan
- ‘Unexpected - cannot intubate and cannot ventilate scenario’ Andrew Thuki
- ‘Post-operative strabismus in adults treated with episcleral plaque brachytherapy for choroidal melanoma’ Áine Ni Mhealóid
- ‘Immunohisto chemistry findings in patients with uveal melanoma’ Amira Salih
- ‘Patterns of Recurrence and Surveillance Requirements for Human Papilloma Virus Positive Oropharyngeal Squamous Cell Carcinoma’ Laura Loughlin
- ‘Ocular TB in a patient with a history of presumed Tolosa Hunt Syndrome’ Nikola Tomogova
- ‘Inhibiting caspase 11 in a mouse model of dry age-related macular degeneration’ Eoin Silke
- ‘Transcanal Endoscopic Ear Surgery (EES) for Cholesteatoma: A new frontier? – Royal Victoria Eye and Ear Hospital (RVEEH) Experience’ Ruzaimi Ramli
- ‘Pars plana vitrectomy in the management of paediatric uveitis: long-term visual and anatomical outcome’ Fergus Doyle
- ‘Fundus Fluorescein Angiography (FFA) in Human Subjects Displays Circadian Variation’ Alan Hopkins
- ‘Global ophthalmology: a novel approach to an old problem’ Bobby Tang
- ‘Audit of Emergency Department presentations following strabismus surgery’ Gareth O’Dwyer

Research Foundation
Royal Victoria Eye & Ear Hospital

Fundraising

Over the years, more than 100 runners have raised over €40,000.00 in Eithne's name.

The ill-fated flight AF447 carrying Dr. Eithne Walls and her friends Dr. Aisling Butler and Dr. Jane Deasy, disappeared over the Atlantic on 1st June 2009. The Eithne Walls Research Fund, established by Eithne's family, provides much needed support for the work of the Royal Victoria Eye and Ear Research Foundation and keeps the memory of Eithne very much alive in a way she would have approved of – supporting research for the prevention and treatment of eye and ear disease.

Each June Bank Holiday weekend Eithne's colleagues in the Royal Victoria Eye and Ear Hospital, friends and family, have come together to honour and celebrate her memory by running the VHI Dublin Women's Mini Marathon. In 2019, it was especially poignant as we marked the 10th anniversary of the tragedy.

Young doctors who have taken part in the Eithne Walls Research Meeting have gone on to be part of crucial research projects bringing us closer to developing new treatments for conditions that cause blindness and deafness and broadening our understanding of how to treat and prevent eye and ear disease.

Eithne was a remarkable young woman, whose goal was to help, and improve, the lives of others.

It was so important for us in 2019 to make a special effort to remember Eithne and her friends on the 10th anniversary, and were humbled so many chose to **Run for Research**, raising over €10,000.

Thank you everyone.



Eithne's sister Karthryn and mum Mary Elisabeth Walls



Ms. Hilary Dempsey (far left) and Dr. Paul Kenna (Centre) of the Research Foundation with The Blind Boys of Alabama and Mariam and Amadou at the National Concert Hall, Dublin.

The Research Foundation team was deeply honoured to be given special backstage access to the Blind Boys of Alabama & Mariam and Amadou when they visited Dublin in July 2019 to perform in the National Concert Hall.

Husband-and-wife team of Amadou and Mariam, Mali's best selling performers met in the Bamako Institute for the Blind in 1975, while the original lineup of those gospel harmony specialists, the Blind Boys of Alabama, got together in the late 30s at what was then called the Talladega Institute for the Negro Blind. The Blind Boys of Alabama are an astounding 9 time winners of Grammy Awards, and perhaps the most influential gospel group of our time.

It was an amazing night of music and these inspirational artists kindly dedicated their performance to the Research Foundation.

*“Where words fail,
music speaks!”*

In keeping with our musical theme, we would like to offer a special thanks to the Belfast Ukelele Jam who held a brilliant busking session to raise funds for the Eithne Walls Research Fund in Belfast on the 18th May 2019. A wonderful group of ukulele players bringing music on the streets in Eithne's name!



Our Research 2019

Ocular immunology and corneal research

The Ocular Immunology Research Group (OIRG) is a translational research group based in RCSI University of Medicine and Health Sciences and headed by Professor Conor Murphy, Chairman of the Department of Ophthalmology at RCSI and Consultant Ophthalmic Surgeon at the Royal Victoria Eye and Ear Hospital. Collaborations with clinicians and scientists from a range of disciplines both in Ireland and abroad are helping to improve our understanding of a number of inflammatory eye conditions and corneal diseases, including primary Sjogren's syndrome, graft versus host disease, uveitis and corneal transplant rejection.

Dr Joan Ni Gabhann-Dromgoole, Research Lecturer in Immunology and Ophthalmology at RCSI, is the scientific lead of the OIRG.

Dr Emily Greenan, Clinical Tutor and PhD candidate, completed the first year of her PhD in 2019 on "targeting ocular inflammation in dry eye disease through the study of microRNA and the development of micro RNA-based therapeutics".

1) Primary Sjögren's Syndrome Research

Primary Sjögren's Syndrome (pSS) is an autoimmune disease that destroys the specialised secretory glands that produce saliva and tears, causing dry eyes and dry mouth as

well as generalized symptoms of aches, pains and lethargy. There is currently no cure for pSS and the exact cause is unknown. In this study we are expanding our understanding of this disease at a molecular level by investigating the epigenetic control of inflammation mediated by microRNA, tiny RNA genes that act as a switch for biological processes like inflammation. We are measuring microRNA in blood immune cells and ocular surface cells as well as examining tear samples for inflammatory mediators. As well as aiming to identify biomarkers of disease, this study is focussed on developing new nanoparticle based therapeutic agents that inhibit inflammation by exploiting microRNAs expressed on the surface of the eye. It forms part of the PhD thesis of Dr Emily Greenan, Clinical Tutor and PhD candidate, RCSI.

2) Graft versus host disease research

Graft versus host disease (GVHD) is a severe immune reaction to stem cell transplant therapies for haematological disorders, most commonly blood cell cancers. One of the most severe manifestations of GVHD is ocular surface inflammation and dry eye disease.

As the main focus of Dr Greenan's PhD thesis, our work aims to improve the detection and treatment of ocular GVHD and enhance our understanding of the epigenetic control of inflammation of the surface of the eye in this condition. This project is supported by a strong collaboration with the Department of Haematology and the national haematology stem cell transplant centre at St James' Hospital.



3) Acute anterior uveitis research

Acute anterior uveitis (AAU) is characterised by the acute onset of inflammation in the front compartment of the eye, leading to pain, light sensitivity and blurred vision. We have recently published our work on microRNA in AAU and are currently studying a larger cohort of patients to explore the role of microRNA in both blood immune cells and the aqueous humour of the eye in HLA B27 positive and negative patients.

4) VISICORT corneal transplantation research

VISICORT is a multi-disciplinary research project involving 12 partners from across the EU with expertise in corneal transplantation, cell therapy, immunology, bio-sampling, systems biology/immune profiling and bioinformatics. The project will complete the first ever systematic immune profiling of human corneal transplant recipients. Clinical data and bio-specimens from over 900 corneal transplant recipients at 5 leading transplant centres, including the Royal Victoria Eye and Ear Hospital and RCSI, have been centrally collated and distributed to cutting-edge laboratories where multi-platform profiling and integrated bioinformatics analyses are underway. Profiling data will generate a better understanding of corneal transplant rejection and failure. This knowledge will be used to develop novel biomarker-based surveillance strategies and, coupled with SME-based expertise in cell product

development, will also inform the design and initiation of an optimised clinical trial strategy of immunomodulatory stromal stem cell therapy in high-risk human corneal transplant recipients. The project is being coordinated by Prof Matt Griffin, Professor of Transplant Biology at NUI, Galway. Benefitting from a €6 million award from the European Commission, the project launched in May 2014 and will be completed in April 2021. There has been a strong commitment and contribution to this project from the Royal Victoria Eye and Ear Hospital and we look forward to being able to achieve better outcomes for our patients in the future. See www.visicort.eu

Genetics Research

Genetics is the study of genes and heredity. As our understanding of genetics and hereditary conditions develops, the potential for preventative treatments is exponentially expanded and catapults us to a new level of perception on how and why conditions are passed on through families.

The Research Foundation has a long standing interest in inherited retinal degenerations since its inception. Led by our Medical Director, Dr. Paul Kenna, the Foundation is the premier centre in Ireland for the clinical characterisation of patients with a variety of inherited diseases such as Retinitis Pigmentosa (RP), Choroideraemia, Stargardts Disease and X-Linked Retinoschisis, amongst many others. For more than three decades, the Foundation has collaborated closely with the Ocular

Genetics Unit at Trinity College Dublin for the genetic characterisation of patients attending the Foundation. Patients are referred from Ophthalmology units throughout the country for these highly specialised investigations.

In 2019, the Research Foundation saw almost 400 inherited retinal disease patients for which Research Foundation receives no statutory funding. The continued provision and development of this vital service is crucial for these patients. Identifying disease causing genes is foundational to diagnosis, treatment, and cure.

Higher research degrees awarded

Dr David Shahnazaryan

The Role of Viral Regulatory Protein ICPO in Herpes Simplex Type I Keratitis, MD, RCSI 2019.

Ni Mhealoid Aine

Vision-Related and Health-Related Quality of Life in Patients with Giant Cell Arteritis, MCh by Module, RCSI 2018.

Goodchild Christine

Impact of Anterior Uveitis on patients: 5 year prognosis from the DUET study. MCh by Module, RCSI 2018.

Publications:

Greenan, E., Vandenberghe, E., & Murphy, C. C. (2019). Refractory recurrent ocular graft versus host disease. *BMJ Case Reports*, 12(12). doi:10.1136/bcr-2019-232579

Armitage, W. J., Goodchild, C., Griffin, M. D., Gunn, D. J., Hjortdal, J., Lohan, P., Murphy C.C., Vabres, B. (2019). High-risk Corneal Transplantation: Recent Developments and Future Possibilities. *Transplantation*, 103(12), 2468-2478. doi:10.1097/TP.0000000000002938

McSwiney, T. J., Power, B., Murphy, C. C., Brosnahan, D., & Power, W. (2019). Safety and Efficacy of Supratarsal Triamcinolone for Treatment of Vernal Keratoconjunctivitis in Ireland. *Cornea*, 38(8), 955-958. doi:10.1097/ICO.0000000000001963

Fennelly, E., Greenan, E., & Murphy, C. C. (2019). Corneal melt secondary to eosinophilic granulomatosis with polyangiitis. *BMJ Case Reports*, 12(6). doi:10.1136/bcr-2019-229859

O'Rourke, M., Trenkmann, M., Connolly, M., Fearon, U., & Murphy, C. C. (2019). Novel gene targets for miRNA146a and miRNA155 in anterior uveitis. *British Journal of Ophthalmology*, 103(2), 279-285. doi:10.1136/bjophthalmol-2018-312885

Conway, R., O'Neill, L., McCarthy, G. M., Murphy, C. C., Veale, D. J., Fearon, U., Molloy, E. S. (2019). Performance characteristics and predictors of temporal artery ultrasound for the diagnosis of giant cell arteritis in routine clinical practice in a prospective cohort. *Clinical and experimental rheumatology*, 37(2), 72-78.

Gabhann-Dromgoole, J. N., De Chaumont,

C., Shahnazaryan, D., Smith, S., Malone, C., Hassan, J., . . . Murphy, C. C. (2019). Systemic IL-1 β production as a consequence of corneal HSV-1 infection-contribution to the development of herpes simplex keratitis. *International Journal of Ophthalmology*, 12(9), 1493-1497. doi:10.18240/ijo.2019.09.19

Ramasamy, P., Larkin, A. M., Linge, A., Tiernan, D., McAree, F., Horgan, N., Murphy C.C., Meleady, P. (2019). PRDX3 is associated with metastasis and poor survival in uveal melanoma. *Journal of Clinical Pathology*. doi:10.1136/jclinpath-2019-206173

Mcswiney, T. J., Knowles, S. J., & Murphy, C. C. (2019). Clinical and microbiological characteristics of *Moraxella* keratitis. *British Journal of Ophthalmology*, 103(12), 1704-1709. doi:10.1136/bjophthalmol-2018-313557

Batterbury, M., & Murphy, C. (2018). *Ophthalmology an illustrated colour text.*

McElnea, E., Power, B., & Murphy, C. (2018). Interface Fungal Keratitis After Descemet Stripping Automated Endothelial Keratoplasty: A Review of the Literature With a Focus on Outcomes. *Cornea*, 37(9), 1204-1211. doi:10.1097/ICO.0000000000001636

Smith, S., Wu, P. W., Seo, J. J., Fernando, T., Jin, M., Contreras, J., Murphy C.C., . . . Jefferies, C. A. (2018). IL-16/miR-125a axis controls neutrophil recruitment in pristane-induced lung inflammation. *JCI insight*, 3(15). doi:10.1172/jci.insight.120798

O'Rourke, M., Fearon, U., Sweeney, C. M., Basdeo, S. A., Fletcher, J. M., Murphy, C. C., & Canavan, M. (2018). The pathogenic role of dendritic cells in non-infectious anterior uveitis. *Experimental Eye Research*, 173, 121-128. doi:10.1016/j.exer.2018.05.008

Dick, A. D., Rosenbaum, J. T., Al-Dhibi, H. A., Belfort, R., Brézin, A. P., Chee, S. P., Murphy C.C., Pleyer, U. (2018). Guidance on Noncorticosteroid Systemic Immunomodulatory Therapy in Noninfectious Uveitis: Fundamentals Of Care for Uveitis (FOCUS) Initiative. *Ophthalmology*, 125(5), 757-773. doi:10.1016/j.ophtha.2017.11.017

Conway, R., O'Neill, L., Gallagher, P., McCarthy, G. M., Murphy, C. C., Veale, D. J., Molloy, E. S. (2018). Ustekinumab for refractory giant cell arteritis: A prospective 52-week trial. *Seminars in Arthritis and Rheumatism*, 48(3), 523-528. doi:10.1016/j.semarthrit.2018.04.004

Conway, R., O'Neill, L., McCarthy, G. M., Murphy, C. C., Fabre, A., Kennedy, S., Molloy, E. S. (2018). Interleukin 12 and interleukin 23 play key pathogenic roles in inflammatory and proliferative pathways in giant cell arteritis. *Annals of the Rheumatic Diseases*, 77(12), 1-10. doi:10.1136/annrheumdis-2018-213488

Ní Mhéalóid, Á., Lukasik, T., Power, W., & Murphy, C. C. (2018). Alcohol delamination of the corneal epithelium for recurrent corneal erosion syndrome. *International Journal of Ophthalmology*, 11(7), 1129-1131. doi:10.18240/ijo.2018.07.09

Irish Retinal Circadian Project

Circadian regulation of the retinal vasculature: A paradigm for geographic atrophy development.

We are delighted to say that 2019 was an extremely successful year for our research. Some of the notable events include presenting at a number of conferences including ARVO, the ICO annual conference, the Eithne Walls annual meeting and Retina. Other achievements include Dr Natalie Hudson's publication 'Dysregulated claudin-5 cycling in the inner retina causes retinal pigment epithelial cell atrophy' in JCI Insight and her commentary paper on this and Dr Aisling Naylor's review entitled 'Tight Junctions of the Outer Blood Retina Barrier' which was published in the International Journal of Molecular Sciences. We were also honoured to receive a number of awards including Dr Alan Hopkins receiving the Inaugural John Blake Medal for Best Scientific Laboratory Paper at the ICO Annual Conference and the Eithne Walls Medal; Dr Aisling Naylor being awarded the ICO and Novartis Eye Research Bursary; Dr Natalie Hudson receiving the Geraldine Duggan Award for Young Researchers at Retina 2019 and Dr Matthew Campbell receiving a prestigious European Research Council (ERC) Consolidator Grant.

Conferences and awards:

The Association for Research in Vision and Ophthalmology (ARVO), 2019, Vancouver, April 28th- May 2nd, 2019

'Fundus fluorescein angiography (FFA) in human subjects displays circadian variation'
Poster presentation by Dr. Alan Hopkins

'Circadian rhythm mediated regulation of the inner blood retina barrier; Relevance for geographic atrophy development'.
Presentation by Dr Natalie Hudson

Irish College of Ophthalmologists Annual Conference 2019 Galway, 15th-17th May 2019

Dr Alan Hopkins was awarded the Inaugural John Blake Medal for Best Scientific Laboratory Paper for his presentation at the ICO for his presentation 'Fundus Fluorescein Angiography in Human Subjects Displays Circadian Variation'.

Eithne Walls Annual Meeting, Dublin, 20th June 2019

Dr Alan Hopkins was awarded the Eithne Walls Medal for his presentation 'Fundus Fluorescein Angiography (FFA) in Human Subjects Displays Circadian Variation'.

Retina 2019 Dublin, 14th November 2019

Dr Natalie Hudson was awarded the Geraldine Duggan Award for Young Researchers for her presentation entitled 'Dysregulated claudin-5 cycling in the inner retina causes retinal pigment epithelial cell atrophy'.

Poster presentation by Dr Aisling Naylor entitled 'Fundus Fluorescein Angiography (FFA) in Human Studies Displays Circadian Variation'.

The Association for Research in Vision and Ophthalmology (ARVO) 2020, Baltimore US 3rd-7th May 2020

Dr Aisling Naylor and **Dr Natalie Hudson's** abstracts were accepted for ARVO 2020, unfortunately, this was cancelled due to Covid-19.

Grants:

ICO Novartis Eye Research Bursary 2019-2020

Dr Aisling Naylor was named a joint recipient of the Irish College of Ophthalmologists (ICO) and Novartis Eye Research Bursary, this was presented at the ICO Winter Meeting which took place on Friday, November 29th in the Chartered Accountants House, Dublin.

European Research Council Consolidator Grant

Dr Matthew Campbell was awarded a prestigious European Research Council (ERC) Consolidator Grant Award for his project entitled 'Retina Rhythm: Investigating the role of the inner retina in age-related macular degeneration' this was awarded on 19th of December 2019.

Publications:

'Dysregulated claudin-5 cycling in the inner retina causes retinal pigment epithelial cell atrophy' JCI Insight published 8th August 2019 by Dr Natalie Hudson.

'Tight junctions of the outer blood retina barrier' International Journal of Molecular Sciences published 27th December 2019.

'Inner blood-retina barrier involvement in dry age-related macular degeneration' Neural Regeneration Research published 15th September 2020 by Dr Natalie Hudson.

'Inner blood-retinal barrier regulation in retinopathies' Advances in Experimental Medicine and Biology published 2019 by Dr Natalie Hudson.



Governance

The Research Foundation is governed by a Board of Directors. It is the duty of the Directors to help achieve the Research Foundation's charitable objectives and to safeguard and promote its values. The Directors meet on a quarterly basis. The Directors are accountable to the Members of the Research Foundation who meet once a year at the Annual General Meeting.

Board of Directors

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Compliance

At the Research Foundation we aim to continually improve and monitor our work and practices. Directors and staff engage with legislation, standards and codes which are developed for the charity sector in Ireland.

We subscribe to the following standards:

- **The Charities Act 2009**
- **The Governance Code**
- **Guidelines for Charitable Organisations as fundraising from the public**
- **The Lobbying Act 2015**

Company Registration Number (CRO): 514473
Registered Charity Number (RCN): 20083533
Registered Charity (CHY): 20950



Do you have an eye to the future?

Become a Supporter

Our supporters are cornerstones of the Foundation. When you become a supporter of the Research Foundation, you are part of a community that is inspired by the impact research has both in the present, and for future generations. Think of the vast chasm between health outcomes now, and in the past – supporters of research have paved the way forward.

We promise to use all donations as they are intended – to fund research and innovation in the fight against sight and hearing loss. The Research Foundation is a registered charity and adheres to the Guiding Principles of Fundraising.

Our Donor Charter outlines our commitment with our donors – a relationship based on respect and appreciation.

A close-up photograph of an elderly person's eye, showing wrinkles and a greyish-blue iris. The image is overlaid with a semi-transparent teal filter.

Be part of the search

Look ahead with us.



Become a Patron

Be a cornerstone of the Foundation

Patrons are the cornerstones of the Research Foundation. They enable us to continue our research programmes and push forward in achieving our goals:

- To develop and champion new treatments for conditions that cause blindness and deafness.
- To initiate and support research to aid our understanding of how to treat and prevent eye and ear disease.
- Create real results in improved patient care and enhanced quality of life for patients.

Patronage is open to both individuals and groups. It is important to us to honour and recognise the kind contribution of our patrons, without whom our work would not be possible.

Please contact us for a discussion about our work and learn more about our Patron Circles.

Research Foundation Business Network

A Partnership with Purpose

The Research Foundation understands a partnership with your company is a collaboration. We will work with you to develop a charity partnership which has a real impact on your company, staff and community.

There are many ways in which we can work together, from sponsorship and patronage, to staff engagement.

Joining the Research Foundation Business Network, indicates your company's wish to make a difference through research and innovation, the benefit of which will be felt now and in the future.

Leave a Legacy

Look ahead and leave your mark on the future

Leaving a legacy is an amazingly generous act and testament to your support of the work of the Research Foundation and understanding of the positive and far-reaching impact of medical research.

There are many ways in which you can make a gift to the Research Foundation in your will, and if you would like to know more, we have developed a legacy information pack to assist you. Please contact us if you would like to receive a copy of the information pack.

Please visit us at

www.researchfoundation.ie to
learn more about our work and
become part of our community.

Royal Victoria Eye & Ear Research Foundation
Adelaide Road, Dublin 2
Tel: 01 6393630

“The Reflective Eye”

– Orla Grant-Donoghue

***Can I hide in this place
where reality is multiplied,
amplified
between beams of light
magnified,
where mirrored retinas
reflect inner lives,
where jet streams carry truth
in the half light,
where moonbeams and sunlight
can find me
with
or
without
my sight?***

Thank you to Orla Grant-Donoghue, talented poet and writer, who has kindly given us permission to publish her inspiring poem. You can discover Orla's beautiful work at orlawrites.com.



**We welcome your
feedback on our
performance via
any of the contact
points provided.**

Contact us:

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