

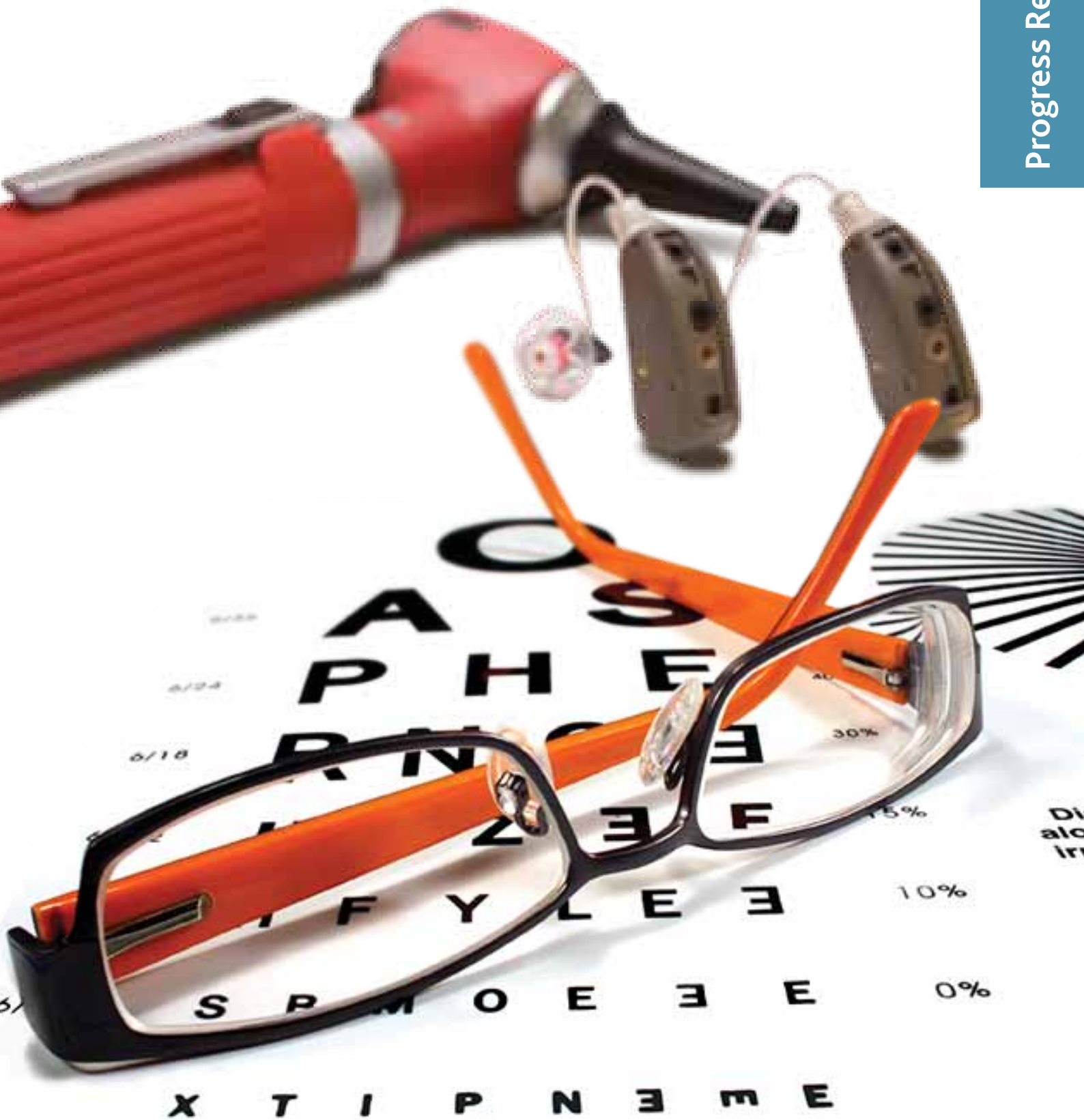


Royal Victoria Eye & Ear Hospital Research Foundation

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2013-2014

Progress Report



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INTRODUCTION



Noel Horgan - Chairman

Since its establishment in 1974 the Research Foundation at the Royal Victoria Eye & Ear Hospital, Dublin has had a particular interest in various forms of inherited and metabolic retinal diseases. It was amongst the first centres in the country to develop electrodiagnostics to aid in the diagnosis and assessment of patients with sight threatening conditions. Today, the Unit possesses state-of-the-art electrodiagnostic equipment and can carry out the full range of electrophysiological tests of retinal and visual function to the highest international standards. The Research Foundation has expanded over the last number of years and includes research on all types of eye disease including retinal disease, ocular oncology, ocular inflammation, corneal disease and eye complications of systemic disease, in addition to research in diseases of the ears, nose and throat.

Mr Noel Horgan

Chairman

Royal Victoria Eye & Ear Hospital Research Foundation

MISSION STATEMENT & GOVERNANCE STRUCTURE

Mission Statement

To promote research into the understanding and treatment of diseases of the eyes, ears, nose and throat.

► Governance Structure

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

| | |
|-------------------------------------|-------------------|
| <i>Director (Chairperson)</i> | Noel Horgan |
| <i>Director (Treasurer)</i> | Mark Cahill |
| <i>Director</i> | Aoife Doyle |
| <i>Director</i> | Conor Murphy |
| <i>Director</i> | Susan Kennedy |
| <i>Director</i> | Andra Bobart-Hone |
| <i>Director</i> | Marie Tighe |
| <i>Director</i> | Mark Rafferty |

Members of the Research Foundation

| | |
|---------------------|-----------------|
| <i>Member</i> | Danny Dunne |
| <i>Member</i> | Patrick Dowling |
| <i>Member</i> | William Power |
| <i>Member</i> | Louis Collum |
| <i>Member</i> | Jim Ruane |
| <i>Member</i> | Peter Barry |
| <i>Member</i> | David Charles |



SERVICES

Staff and Affiliated Professionals

| | |
|--|-------------------|
| <i>Medical Director</i> | Paul Kenna |
| <i>Chief Electrodiagnostic Technician</i> | Hilary Dempsey |
| <i>Senior Electrodiagnostic Technician</i> | Karen Collins |
| <i>Research Registrar</i> | Micheal O'Rourke |
| <i>Research Registrar</i> | Qistina Pilson |
| <i>Research Registrar</i> | Emma Duignan |
| <i>Research Senior House Officer</i> | Maedbh Rhatigan |
| <i>Research Nurse</i> | Anne Caslin |
| <i>Research Nurse</i> | Teresa Kearns |
| <i>Research Co-ordinator</i> | Emma-Jayne Verner |
| <i>Senior Research Photographer</i> | Hugh Nolan |
| <i>Research Photographer</i> | Laura Hughes |
| <i>Research Accounts</i> | Josephine Lavelle |
| <i>Research Administrator</i> | Cathy King |
| <i>Senior Counselling Psychologist</i> | Mary Lavelle |
| <i>Counselling Manager</i> | John Delany |

► Services Available

- Clinical Electrophysiology Service – to assess retinal and optic nerve function
- Colour Vision Testing – Farnsworth Munsell 100 hue and Lanthony D
- Dark Adaptation
- Visual field testing Humphrey and Goldmann fields
- A-Scans for assessing power of lens implants for cataract surgery
- Full eye examination for patients and their families suffering from Retinitis Pigmentosa and other inherited retinal degenerations
- Pattern E.R.G for pre-clinical visual function loss in Glaucoma
- Optical Coherence Tomography for Assessment of Macular Disease and Glaucoma
- GDX for Retinal Nerve Fibre assessment in Glaucoma
- Counselling Service for visually impaired people and their families

► Counselling Service at Research Foundation

A counselling and support service is provided to the Research Department in the Royal Victoria Eye and Ear Hospital every Wednesday and Thursday mornings from 10.00 a.m. to 1.00 p.m. for newly-diagnosed patients and their families and also for patients on follow-up visits.

This service is provided by Insight Counselling Centre, an initiative of Fighting Blindness. The Centre was established in 2002 with the objective of providing practical help, emotional support and psychotherapy to individuals experiencing sight loss, as well as to their families. Sight loss impacts in very many different ways and at many different levels on individuals and their families. The onset of sight loss can change one's relationship with self and others and reaching out for support in these circumstances can be very beneficial. The Centre provides a safe place for exploring matters of concern and help in finding a way through what can be a difficult and frightening time.

On-going counselling is also available Monday to Friday at the Insight Counselling Centre premises at 4 South Great George's Street and nationwide through its telephone counselling service. The service is provided free of charge by Fighting Blindness and is open to referrals from the clinical staff.



Mary Lavelle & Star

John Delany

*Senior Counselling Manager
Insight Counselling Centre
4 South Great George's Street
Dublin 2*



GENETICS RESEARCH

The Research Foundation has had a long-standing interest in inherited retinal degenerations since its inception. The Foundation is the premier centre in the Republic of Ireland for the clinical characterisation of patients with a variety of inherited retinal diseases including, retinitis pigmentosa (RP), choroïdæmia, Stargardt Disease and X-linked retinoschisis, amongst many others. Patients are referred from ophthalmology units throughout the state for these highly specialized investigations.

The Foundation has collaborated closely with the Ocular Genetics Unit at Trinity College Dublin for three decades in the genetic characterisation of patients attending the Foundation. This collaboration has resulted in the identification of novel disease-causing genes responsible for some of these inherited retinopathies. Amongst the pioneering discoveries resulting from this collaboration were the identification of Rhodopsin, the first disease-associated gene ever identified in any form of RP and now known to be the most frequent case of autosomal dominant forms of RP, the first reporting of a mutation in the Peripherin / RDS gene in a form of autosomal dominant RP, the first implication of the mitochondrial second serine transfer RNA gene (MTTS2) in patients with RP and hearing loss and the first documentation of a dominantly-acting mutation in the RPE65 gene in a late-onset form of RP. None of these discoveries would have been possible without the generous cooperation of patients ascertained and clinically investigated at the Foundation. Researchers at the Foundation continue this effort with the goal of achieving the core aim of the Foundation, namely 'development of new treatments for ear and eye conditions that will eliminate hearing and sight loss'.

Projects

1) Treatment Trial of QLT 019001

The discovery of the first dominantly-acting RPE65 gene mutation in an Irish family with RP attending the Foundation opened the way for participation of affected members in a treatment trial (ClinicalTrials.gov Identifier: NCT01543906; principal investigator: Dr. P. F. Kenna) of QLT 091001, a synthetic, orally delivered, 9-cis retinal analogue. This treatment trial, sponsored by QLT Inc. Vancouver, Canada, is the first gene-directed treatment trial in any form of autosomal dominant RP. The trial was initiated in 2012 and successfully completed in August 2014.

2) Next generation gene sequencing of patients with inherited retinopathies

The QLT 091001 treatment trial illustrates the importance of identification of disease-causing genes in patients with inherited retinopathies as a pathway to discovery of new treatment options, which has always been a key research aim of the Foundation. Whilst no approved treatments exist at present for any of these diseases, progress in research world-wide, to which the Foundation has contributed significantly, promises to develop novel treatments for these blinding conditions in the foreseeable future. Recognising this, the Foundation, in collaboration with the Ocular Genetics Unit at Trinity College, Dublin was awarded funding by the Health Research Board in 2010 to genetically characterise patients attending the Foundation, using next generation sequencing (NSG) technology to identify disease-associated gene mutations.

This ambitious project, approved by the Research and Medical Ethics Committee of the Royal Victoria Eye and Ear Hospital, Dublin was awarded further funding in 2013 from Fighting Blindness Ireland and the Medical Research Charities Group. To date, over 400 patients, identified and clinically investigated at the Foundation, have been recruited on a prospective basis. While the aim of this research is to analyse the spectrum of disease-causing genes in the Irish retinopathies population, the identification of these genes is vitally important information for those participating in the study as it gives patients the most precise diagnosis possible and enables them to consider participation in treatment trials in the future. Fighting Blindness Ireland, recognizing the importance of this work, in 2014 generously provided funding for Dr. Emma Duignan, Research Registrar, to participate in this study and to expedite recruitment of patients. This study will contribute, together with similar work in Northern Ireland being carried out by Dr. Guili Silvestri, as well as Mr. David Keegan at the Mater Hospital, Dublin to Target 5000, the project of Fighting Blindness whose aim is to genotype all patients with inherited retinal degenerations on the island of Ireland.

3) Attitudes to Genetic Testing of Patients with Inherited Retinopathies

Mr. Eoin Hanney, an Irish clinical genetics student at the University of Wales, conducted a survey in 2012 of patients attending the Foundation with Retinitis Pigmentosa into their experiences and attitudes to genetic testing. He submitted the results of this survey for his M Sc dissertation in 2013. Amongst his findings were that RP patients in this study saw the hope of treatment as the main benefit of genetic testing. For some patients, genetic testing provided an important, possibly even therapeutic, opportunity, to feel involved in research and to help others.

This important study will hopefully influence the development of future genetic testing services in Ireland. This is undoubtedly going to become a major clinical need for Irish patients as more treatment options, many based on knowledge of the disease causing gene, become available.

4) Servier Phase III Clinical Trial CL3 16527 067

Owing to the expertise of the Foundation in the assessment of retinal function the French pharmaceutical company Servier commissioned principal investigator, Dr. Paul Kenna, to carry out the Irish arm of a long term (3 years) ophthalmic safety study of Ivabradine, a novel heart-rate reducing agent administered orally at the therapeutic doses (2.5/5/7.5 mg b.i.d.) on top of anti anginal background therapy, to patients with chronic stable angina pectoris. This international, double blind, placebo controlled study commenced in 2012 and is expected to finish in 2015.

Mr Paul Kenna

Medical Director & Lecturer in Ocular Genetics

Royal Victoria Eye & Ear Hospital Research Foundation



RETINAL RESEARCH

The Research Foundation is the principal investigating site in Ireland for a number of drug trials involving anti-VEGF medications for the treatment of retinal diseases. This collaboration with pharmaceutical companies is a new development for the Research Foundation and we hope to expand this facility in the future.

► Projects

1) BRIGHTER STUDY

This is a phase 3 clinical trial examining the use of Ranibizumab in the treatment of macular oedema secondary to branch retinal vein occlusion. The Research Foundation will be the principal investigator on site for this trial in Ireland. The Brighter study commenced in September 2012 and will be completed by May 2015.

2) CRYSTAL STUDY

This is a phase 3 clinical trial examining the use of Ranibizumab in the treatment of macular oedema secondary to central retinal vein occlusion. The Research Foundation will be the principal investigator on site for this trial in Ireland. The Crystal study commenced in September 2012 and will be completed by May 2015.

3) OCTAVE STUDY

This is a phase 3 clinical trial examining the use of Ranibizumab in the treatment of macular oedema secondary to central retinal vein occlusion. The Research Foundation will be the principal investigator on site for this trial in Ireland. The Octave study commenced in October 2013 and will be completed by January 2015.

Mr Mark Cahill

*Consultant Ophthalmologist and Vitreoretinal Surgeon
Royal Victoria Eye & Ear Hospital*

PATHOLOGY RESEARCH

This is an on-going collaboration between the pathology services at the Royal Victoria Eye and Ear Hospital and Dublin City University, looking at potential prognostic biomarkers in eye cancer. The pathology services at Royal Victoria Eye and Ear Hospital are also working closely with the National Institute for Cellular Biotechnology NICBI on a Research Foundation supported research programme in identifying specific proteins in patients with eye melanoma that help to predict the spread of cancer outside the eye, with the aim of improving long term patient survival. Professor Susan Kennedy and Professor Martin Clynes was funded for three years by the Health Research Board to the sum of €328,135 for research entitled Investigation of novel protein targets associated with metastatic uveal melanoma.

► Projects

1. Proteomic analysis of tumours and vitreous fluid from uveal melanoma.
P. Ramasamy (MD Study), C. Murphy, N. Horgan, P. Meleady, M. Clynes, S. Kennedy, S. Beatty, D. Tiernan
2. Proteomics in uveal melanoma
A database and tissue microarray bank of 500 archived uveal melanoma tumours has been established.
3. On-going collaboration with Dr Brian Hennessey, RCSI on molecular sequencing of head and neck tumours funded by SFI grant to the consortium Molecular Therapeutics for Cancer.

Professor Susan Kennedy
Consultant Histopathologist
Royal Victoria Eye & Ear Hospital



OCULAR IMMUNOLOGY, INFLAMMATION AND CORNEAL RESEARCH

The Research Foundation supports long term collaboration between the ocular inflammation/cornea service of the Royal Victoria Eye & Ear Hospital, the National Institute for Cellular Biotechnology (NICB) at Dublin City University, the Department of Immunology at the Royal College of Surgeons Ireland and the Department of Rheumatology at St Vincent's University Hospital. This collaboration brings together clinical and scientific skills from a range of disciplines that are helping to improve our understanding of a number of inflammatory eye conditions and corneal diseases.

1) Herpes simplex keratitis research

Herpes simplex keratitis (HSK) represents the single most important inflammatory disease of the cornea with respect to its impact on vision and health related quality of life. It is characterised by repeated episodes of inflammation in the cornea, the clear window at the front of the eye, which leads to corneal scarring and, in many cases, loss of vision. It is caused by the common cold sore virus, known as Herpes Simplex Virus type 1. Our research into this condition aims to improve our understanding of how the herpes virus interacts with our immune system, particularly our innate immunity which is our first line of defense. By improving our understanding of this interaction, we hope to identify new targets for treatments of this disease and improve the outlook for sufferers of HSK.

Projects

1. Evasion of the innate immune response by herpes simplex virus in the cornea: molecular mechanisms mediating interferon down regulation and virus survival
2. Effect of corneal Herpes Simplex Virus-1 infection on Toll-Like Receptor expression in human peripheral blood mononuclear cells

Investigators: Conor Murphy, David Shahnazaryan, Ciaran de Chaumont, Conor Malone, Joan Ni Gabhann and Caroline Jefferies.

Affiliations: Royal Victoria Eye and Ear Hospital and Royal College of Surgeons in Ireland.

2) Giant cell arteritis research

Giant cell arteritis (GCA) is the most common form of primary systemic vasculitis (inflammation of blood vessels). Patients with GCA endure significant morbidity associated with the disease and its treatment. Significant deficits exist in our understanding of this disorder, particularly the underlying causes and mechanisms of the disease. Through a multidisciplinary approach we are developing a large database of GCA patients which will facilitate clinical and translational research studies, audit and participation in international multi-centre clinical trials. We are performing radiological assessments of patients with suspected GCA, including MR angiography, CT angiography and temporal artery ultrasound, in order to improve diagnostic accuracy. In addition, we are performing laboratory investigations on the blood and temporal artery biopsy specimens of patients with GCA with the aim of improving our understanding of how this disease occurs at a molecular level. This will hopefully help us to use more specific and effective treatments in the future and help us to understand why some patients do not respond well to conventional therapy with steroids. In the future we will perform genetic studies that we hope will provide information about the underlying causes and long term prognosis of the disease.

Projects

1. Improving outcomes in giant cell arteritis through clinical collaboration
2. Increasing diagnostic accuracy in GCA through imaging
3. Blood Vessel Instability and Oxidative Damage in Giant Cell Arteritis
4. Investigating pro-inflammatory mechanisms of GCA using an ex-vivo temporal artery culture model

Investigators: Conor Murphy, Eamonn Molloy, Ursula Fearon, Douglas Veale, Geraldine McCarthy, Lorraine O'Neill and Jim Meaney.

Affiliations: Royal Victoria Eye and Ear Hospital, Royal College of Surgeons In Ireland, St Vincent's University Hospital, University College Dublin, St James' Hospital and the Mater Misericordiae Hospital.

3) 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 role of toll-like receptors on blood cells from patients with pSS, as well as minor salivary gland biopsies (when taken for diagnostic purposes), tear samples and ocular surface washings. This study is being funded jointly by the Health Research Board (HRB) and the RVEEH Research Foundation.

Project

1. Profiling Toll-like receptor responses in patients with primary Sjögren's syndrome

Investigators: Conor Murphy, Qistina Pilson, Caroline Jefferies, Con Timon, Eamonn Molloy, Joan Ni Gabhann.

Affiliations: Royal Victoria Eye and Ear Hospital, St Vincent's University Hospital and Royal College of Surgeons in Ireland.

4) Anterior uveitis and spondylarthropathy 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. It is a common reason for presentation to ophthalmic emergency departments. In approximately half of cases there is an identifiable systemic disease, most commonly the seronegative spondylarthropathies (SpA). This is a group of inflammatory joint diseases that predominantly affect the spine but have many other manifestations including skin and bowel problems.

This collaboration with St. Vincent's University Hospital Department of Rheumatology has led to the development of an assessment algorithm called the Dublin Uveitis Evaluation Tool (DUET) that enables the earlier recognition of SpA. With early detection come early and more effective treatment and disease control, and hence better quality of life. Our laboratory studies on the causative mechanisms of AAU are also providing us with some fascinating insights into the disease.

Projects

1. Validation of the Dublin Uveitis Evaluation Tool (DUET), a new algorithm for the detection of undiagnosed spondylarthropathies in patients presenting with acute anterior uveitis in a primary care ophthalmology setting.
2. To investigate the role of regulatory microRNA and dendritic cell function in the pathogenesis of acute anterior uveitis



3. Prospective evaluation of vision and health-related quality of life in patients with acute anterior uveitis.
4. Peripheral blood mononuclear cell activation status and functional characteristics in patients with acute anterior uveitis.

Investigators: Conor Murphy, Micheal O'Rourke, Pathma Ramasamy, Muhammad Haroon, Mary Connolly, Douglas Veale, Ursula Fearon, and Oliver Fitzgerald.

Affiliations: Royal Victoria Eye and Ear Hospital, Royal College of Surgeons In Ireland, St Vincent's University Hospital, and University College Dublin.

Genetic analysis of patients with congenital hereditary endothelial corneal dystrophy (CHED)

CHED is a very rare inherited disease that manifests early in life with clouding of the front window of the eye, the cornea, as well as poor vision and nystagmus (wobbly eyes). It typically presents between the age of 2 and 5 years and causes lifelong bilateral blindness. In previous work, Dr Collette Hand, Lecturer in Genetics at UCC, located the abnormal gene causing CHED to chromosome 20. Since then, the affected gene has been identified and called SCL4A11. A large number of mutations in this gene have been described in different populations. In this study, we wish to identify the nature of the mutation in the SCL4A11 gene in a large Irish family with the condition.

Investigators: Conor Murphy, Mairide McGuire, Collette Hand.

Affiliations: Royal Victoria Eye and Ear Hospital, Royal College of Surgeons In Ireland, and the Department of Molecular Genetics, University College Cork.

Professor Conor Murphy

Professor of Ophthalmology

Royal College of Surgeons Ireland, Royal Victoria Eye & Ear Hospital

CORNEAL TISSUE ENGINEERING RESEARCH

Projects

Any damage to the cornea (the transparent dome on the front of the eye) resulting in scarring can lead to a reduction in vision or blindness. Damaged or diseased corneas are a major reason for blindness worldwide. Loss of the outer layer of cells, the cornea epithelium, and its stem cells results in cornea epithelial disease and can be caused by a number of injuries and disease such thermal and chemical burns and Aniridia. Loss of the corneal epithelia results in the epithelia of conjunctiva migrating onto the cornea surface resulting in vascularisation, pain and loss of sight. The use of cultured limbal-cornea epithelial stem cells is a method of replacing the lost limbal stem population. A culture process was developed by the National Institute for Cellular Biotechnology, Dublin City University which was successfully transferred to Irish Blood Transfusion Service (IBTS) for GMP production. This process is now currently awaiting final approval from the Health Products Regulatory Authority (HPRA) and hopefully will be available for clinical use at the end of the year. Further research is being conducted on the growth of other corneal cell types, such as corneal endothelial cells, and the use of novel matrices to support the growth of various corneal cell types. While additional on the expression of key corneal cell types during culture and diseases (such as Fuchs Dystrophy).

- 1) Gene expression profile of cultured limbal-cornea epithelial stem cells and cultured limbal fibroblast cells.

- 2) The role of cell culture set up in the growth of cultured limbal-cornea epithelial stem cells.

Investigators: William Power, Conor Murphy, Andra Bobart-Hone, William Murphy, Sandra Shaw, Martin Clynes, Finbarr O'Sullivan & Clair Gallagher

Affiliations: Royal Victoria Eye and Ear Hospital, Royal College of Surgeons In Ireland

National Institute for Cellular Biotechnology, Dublin City University, Irish Blood Transfusion Service

Mr William Power

Consultant Ophthalmologist

Royal Victoria Eye & Ear Hospital

FUNDRAISING

► **Art Exhibition and Sale**

The Research Foundation, Royal Victoria Eye & Ear Hospital held an Art Exhibition & Sale of paintings, drawings and sculpture to support vital research work in Eye & Ear disease. This was a silent bid Auction and held from Sunday 23rd June – Thursday 27th June 2013 in the Education and Conference Centre of the Royal Victoria Eye & Ear Hospital.

The Exhibition was directed by Dr Andra Bobart-Hone, Consultant Ophthalmologist whose Father-in-law is David Hone, PPHRA. The Exhibition attracted over 40 national and international artists whose works included bronze and glass sculpture, stained glasswork, oil paintings, watercolours, prints and framed etchings. The event raised much needed funds for the Research Foundation which will help to develop sight or hearing saving treatments through research.

The Exhibition featured the works of leading Irish sculptors such as John Behan RHA, Leo Higgins, Patrick O'Reilly, Sonja Landweer, Maggie Madden, and Carolyn Mulholland, RHA. The styles of sculpture showcased modern and abstract pieces using a host of mediums including bronze, glass and metal. Elaborate stained glass pieces were exhibited by George Walsh and Carmel Mooney. Paintings included artworks by Vivienne Roche, RHA 'Fovea Series II – Watercolours of the Eye', David Hone 'Fruit Study' Oil, Carey Clarke 'Pen & Ink Life Drawing of a female figure', Karen Ryan 'Betula Pubescens' Indian Ink on paper, Tom Ryan 'A Rose for Adelaide' Oil, and Campbell Bruce 'Headland' Oil on canvas. Pamela



Carmel Mooney





Leonard's collection depicts the texture of the waves, sea and landscape which is also evident in her most recent work. The event was a great success and over 50 pieces of artwork were sold in aid of blindness and deafness. Please see website www.researchfoundation.ie for the exciting collection of artwork.

► Art Raffle

The Research Foundation, Royal Victoria Eye and Ear Hospital held an Art Raffle October- December 2013 run by Dr Andra Bobart-Hone in aid of Deafness and Blindness. Raffle prizes were:

- Carmel Mooney Still Life Oil on canvas, 27cm x 45cm
- Campbell Bruce Headland Oil on canvas, 46 cm x 61 cm

It is with great regret that we note the passing of Campbell Bruce since that time.

The Research Foundation, Royal Victoria Eye & Ear Hospital would like to thank all of the Artists as well as Dr. Rosemary Hone; John de Vere White, Aisling Toth & Rory Guthrie (of de Veres auction rooms); John Hill (Hillsboro Fine art Gallery), Leo Higgins (Cast Bronze Foundry, Dublin), Rémi Thomas (Fusio Web Development) and Maeve Taylor (Artist) for all of their advice in addition to Tim Goodenough & staff (O'Briens Wine, Ranelagh); Lorna Rouse (O'Briens, Wine Donnybrook); Emma Jayne-Verner; Cathy King; Josephine Lavelle; Hilary Dempsey; the staff of the hospital; the Research Foundation members and family and friends for their support and for making the Art Exhibition and Raffle such a success.

► Flora Women's Mini-Marathon

Dr Eithne Walls, Senior House Officer in Ophthalmology at The Royal Victoria Eye & Ear Hospital Dublin, along with her friends Dr. Aisling Butler and Dr. Jane Deasy, was a passenger on the ill-fated flight AF447 which disappeared over the Atlantic as it travelled from Rio de Janeiro to Paris on June 1st 2009.



Eithne was a doctor at the Royal Victoria Eye and Ear Hospital and just starting out on her exciting journey to fulfilling a lifelong ambition of becoming an eye surgeon. She was a gifted, vibrant and special person and her loss has had a profound impact on all who were privileged to know her. Following this tragic accident Eithne's family established a research fund at the Research Foundation in her memory. This fund helps to support the vital research work of the Research Foundation into eye and ear disease.



Since 2010, each June Bank Holiday weekend Eithne's colleagues in Riverdance together with her colleagues and staff of the Eye & Ear Hospital and her friends and family have come together to honour and celebrate her memory by running the Flora Dublin Women's Mini Marathon to raise vital funds for her fund at the Research Foundation. We would like to thank the Walls family, staff of the hospital and all the dancers from Riverdance productions for their generous donations which will help to support eye research.



All the runners and walkers before the race

| Year of Mini Marathon | Total amount of donations |
|-----------------------|---------------------------|
| 2013 | €4,690.49 |
| 2014 | €4,117.09 |

► Dublin City Marathon

Kathryn Walls ran the Dublin City Marathon on Monday 28th October 2013 to raise funds for the Eithne Walls Research Fund. Kathryn ran the Dublin Marathon in record time but also managed to raise over £3600 for the Research Foundation. Thank you to Kathryn for all your fundraising efforts and to those who supported Kathryn - your donations are gratefully received.



Kathryn & Mary Walls



EVENTS

Eithne Walls Research Meeting

This meeting is held annually in June in the Education & Conference Centre of the Royal Victoria Eye & Ear Hospital. The meeting, held in memory of Eithne, is a forum for the young doctors in the hospital to present their research and to develop their ability to undertake research and present

it to their peers. This meeting continues to grow from strength to strength each year, which allow us to remember our dear colleague and foster continued interest in ophthalmic research.



| Winner | Award | Title | Year |
|-------------------------|------------------------------------|--|------|
| Dr Micheal O'Rourke | Eithne Walls Memorial Award | 'RVEEH anterior uveitis cohort' | 2014 |
| Dr Maxwell Treacy | Research Foundation Clinical Prize | 'Visual Acuity Charts' | 2014 |
| Dr David Shahnazaryan | Eithne Walls Memorial Award | 'Role of ICPO viral protein in HSK' | 2013 |
| Dr Jeyanthi Kulasegarah | Research Foundation Clinical Prize | 'Prevalence of human papillomavirus in multiple synchronous or metachronous primary squamous cell carcinomas of the upper aerodigestive tract' | 2013 |

► New Frontiers Meeting in Ophthalmology

Corneal Stem Cell Engineering

Thursday 27th June 2013

The New Frontiers in Ophthalmology Meeting took place on Thursday 27th June 2013 in the Education & Conference Centre at the Royal Victoria Eye & Ear Hospital.

The morning of the meeting was devoted to a symposium on corneal stem cell and tissue engineering. The use of cell-based therapies in the management of ocular surface and corneal disorders is a new and rapidly evolving field with many potential disease applications. In this symposium, the advances in the development of such therapies to restore the epithelial and endothelial corneal surfaces and the potential to transfer these developments to the clinical setting were discussed.



Meeting Programme:

- **'Clinical indications for ocular surface reconstruction'** Mr Billy Power, Consultant Ophthalmologist, Royal Victoria Eye and Ear Hospital
- **'Analysis of the role of demodex-associated bacterial antigens in inducing corneal damage in ocular rosacea'** Dr Kevin Kavanagh, Senior Lecturer, Department of Biology, NUI Maynooth
- **'Repairing the window of the eye – tissue Engineering approaches to repairing corneal epithelial damage'** Dr Finbarr O'Sullivan, Senior Scientist, National Institute of Cellular Biotechnology, Dublin City University
- **'Regulatory issues around the use of advanced therapies'** Ms Sinead Masterson, Blood & Tissues Inspector, Irish Medicines Board
- **'Clinical indications for treating corneal stromal and endothelial diseases with tissue engineering approaches'** Professor Conor Murphy, Professor of Ophthalmology, Royal Victoria Eye & Ear Hospital Eye & Ear Hospital and Royal College of Surgeons Ireland
- **'Principles of tissue engineering and the use of collagen-based biomaterials in regenerative medicine'** Professor Fergal O'Brien, Tissue Engineering Research Group, Royal College of Surgeons Ireland
- **'Towards the design of tissue engineered constructs for corneal regeneration'** Dr Andrew Cameron, Post-doctoral Fellow, Tissue Engineering Research Group, Royal College of Surgeons Ireland
- **'Tissue engineered corneal endothelium - exploiting the culture quirk'** Dr Clair Gallagher, Post-doctoral Fellow, National Institute of Cellular Biotechnology, Dublin City University

The afternoon was devoted to the Eithne Walls Research Meeting, at which NCHDs presented their latest research in competition for the Eithne Walls Medal and the Research Foundation Clinical Prize. The meeting was well attended and supported by an unrestricted educational grant from Novartis.



► New Frontiers Meeting in Ophthalmology

Diabetic Retinopathy

Thursday 12th June 2014

The New Frontiers in Ophthalmology Meeting was held on Thursday 12th June 2014 in the Education and Conference Centre of the Royal Victoria Eye & Ear Hospital. The meeting was devoted to a symposium on Diabetic Retinopathy.

Meeting Programme:

- **'Journey to the Edge of the Retina: Changing our Care of Diabetic Retinopathy through Ultra Widefield Imaging'** Prof Lloyd Paul Aiello, Harvard Medical School Vice Chair, Centers of Excellence, Harvard Department of Ophthalmology Associate Chief, Massachusetts Eye and Ear at Longwood Medical Director of Ophthalmology, Brigham & Women's Hospital Section Head, Eye Research; Vice President of Ophthalmology; and Director, Beetham Eye Institute, Joslin Diabetes Center
- **'Potential Uses for Endothelial Progenitors in Diabetic Retinopathy'** Dr Reinhold Medina Benavente, Lecturer for Experimental Medicine, School of Medicine, Dentistry & Biomedical Sciences, Queen's University
- **'Journey Through the Depths of the Retina: New Views and Novel Biomarkers from Ultrahigh Resolution Retinal Imaging using SDOCT and Adaptive Optics Scanning Laser Ophthalmoscopy'** Prof Lloyd Paul Aiello, Harvard Medical School Vice Chair, Centers of Excellence, Harvard Department of Ophthalmology Associate Chief, Massachusetts Eye and Ear at Longwood Medical Director of Ophthalmology, Brigham & Women's Hospital Section Head, Eye Research; Vice President of Ophthalmology; and Director, Beetham Eye Institute, Joslin Diabetes Center
- **'The Roll Out of Photography and Grading for Irish National Diabetic Retinopathy Screening and Treatment Programme'** Mr David Keegan, Clinical Lead Diabetic Retina Screen, Consultant vitreo-retinal surgeon, Mater Misericordiae University Hospital
- **'Diabetic Retina Screen - Photography and Grading; why, where and how it's done'** Mr Mark Cahill, Clinical Lead Global Vision, Consultant vitreo-retinal surgeon, Royal Victoria Eye and Ear Hospital
- **'Diabetic Retinal Screen – Arbitration and Gatekeeping'** Mr Robert Acheson, Clinical Lead, Medical Imaging Ireland, Consultant vitreo-retinal surgeon Mater Private Hospital



New Frontiers Meeting 2014

The meeting was sponsored by Novartis. The meeting had an excellent turnout and we received very positive feedback. We would like to thank the speakers Mr Mark Cahill (Chair), Prof Lloyd Paul Aiello, Dr Reinhold Medina, Mr David Keegan and Mr Rob Acheson and Novartis for making the meeting such a great success.

RESEARCH AWARDS

► Research Foundation funded Research Registrars

At the RCSI Annual Research Day on Tuesday 5th March 2013 both Dr Pathma Ramasamy and Dr Micheal O'Rourke whose research is funded by the Research Foundation were shortlisted for awards. Only 15 researchers were shortlisted for prizes out of over 250 abstracts.

Dr Ramasamy was delighted to receive first prize in the Postgraduate Scholars section, an award sponsored by Mundipharma Pharmaceuticals, for his presentation 'Proteomic Analysis of Uveal Melanoma'. Dr Ramasamy was also awarded a Travel Grant for best paper presentation to the amount of \$1,100 by the Association for Research in Vision and Ophthalmology, Florida for his research on 'Proteomics in Uveal Melanoma Identifies Novel Proteins Associated with Metastatic Disease'.

Dr O'Rourke was one of the five researchers selected to give an oral presentation for the Early Career Investigators Award and the Barnes Medal for his presentation 'aberrant microRNA expression in acute anterior uveitis' which gave great publicity to both the Royal Victoria Eye & Ear Hospital (RVEEH) and the Research Foundation. Dr O'Rourke was awarded the Irish College of Ophthalmologists (ICO) Research Bursary for 2013. Dr O'Rourke's project is examining both clinical and experimental aspects of anterior uveitis – a relatively common ocular inflammatory condition. This annual bursary has been instrumental in facilitating eye doctors to undertake a period of research or specific training in an eye care centre of excellence. The award is an unrestricted educational grant and is supported by Novartis.

Dr Maedbh Rhatigan whose research is also supported by the Research Foundation, was the winner of the Irish College of Ophthalmologists (ICO) Eye Research Bursary for 2014. Dr Rhatigan was awarded the ICO Research Bursary at 6th Annual Retinal Meeting in Adare, led by Miss Marie Hickey-Dwyer, President of the ICO and Eye Surgeon at the University Hospital Limerick, for her project entitled 'Negative Regulators of Inflammation and AMD in a cohort of The Irish Longitudinal Study on Ageing'. Dr Rhatigan's research study is being undertaken at the Royal Victoria Eye and Ear Hospital and supervised by Mr Mark Cahill, Consultant Ophthalmologist and Vitreoretinal Surgeon at the Royal Victoria Eye & Ear Hospital and Dr Sarah Doyle, Assistant Professor in Immunology at the Department of Clinical Medicine, Trinity College Dublin as part of an MSc by research in Clinical Medicine. The annual bursary is supported by Novartis.

Dr Rhatigan explained the study rationale "Age Related Macular Degeneration (AMD) is the leading cause of central vision loss worldwide. The estimated prevalence of AMD in Ireland is 7% with an annual cost over €130 million. The Irish Longitudinal Study on Ageing (TILDA) is a unique population based study on the over 50s in Ireland with a focus on measures of vision as one research theme. Inflammation is known to play a role in the development of AMD however the exact mechanisms remain unresolved. In collaboration with TILDA we plan to look at levels of negative regulators or 'off switches' of three key inflammatory mediators, elevated in the blood of people with AMD. This study will help to further understand the role of inflammation in AMD. It is our understanding these pathways may aid in identification of patients at increased risk of progression to more severe forms of AMD and may provide novel targets for therapeutic intervention".



MRCG HRB Joint Funding Scheme Research Award 2014

On 13th November 2014, Minister for Health Leo Varadkar announced an investment of €850,000 in state funding for international research through the Health Research Board (HRB) and Medical Research Charities Group (MRCG) Joint Funding Scheme. The Health Research Board (HRB) and Medical Research Charities Group (MRCG) together provide joint funding for charities conducting clinical research in rare medical conditions including respiratory infections and retinal blindness. The five charities that have been awarded research funding are the Alpha One Foundation, Cystinosis Ireland, Fighting Blindness, the Irish Thoracic Society, and the Royal Victoria Eye and Ear Hospital Research Foundation.



The Research Foundation was delighted to be amongst one of the five charities awarded €20,000 in funding for research. This study is entitled 'Restoring immune balance in patients with primary Sjogrens Syndrome (pSS) by modulating microRNA expression' and is directed by Professor Conor Murphy, Professor of Ophthalmology at the Royal Victoria Eye & Ear Hospital and Dr Joan Ní Gabhann, Honorary Lecturer in Biochemistry at Royal College of Surgeons Ireland. Sjogren's Syndrome is an auto-immune disorder where the immune system attacks the secretory glands leading to severe dry eyes, mouth, skin and large intestine. In addition, patients have an increased risk of developing non-Hodgkin's lymphoma and severe pulmonary complications. The study will investigate the contribution of microRNA to mechanisms that regulate production of inflammatory cytokines, as defects in these pathways are believed to be the root cause of pathology in Sjogren's syndrome.

The Government is investing €850,000 through the HRB with matching funding provided by the Medical Research Charities Group (MRCG), bringing the total investment to €1.9 million. A total of eight projects will be supported over the next three years, bringing to 95 the projects supported through this particular scheme over the past eight years. Minister for Health, Leo Varadkar commented: "This funding allows the charities to take their research activities up a level. They will be able to participate in international research projects, or fund projects which are being led from outside Ireland. It's a practical example of collaboration between the State and the charity sector. Hopefully, the research will bring real benefits to patients in Ireland and around the world."

PEER REVIEWED PUBLICATIONS

Clarke C., Madden S.F., Doolan P., Aherne S.T., Joyce H., O'Driscoll L., Gallagher W.M., Hennessy B.T., Moriarty M., Crown J., Kennedy S., Clynes M. (2013) **Correlating transcriptional networks to breast cancer survival: A large scale coexpression analysis**. *Carcinogenesis*. 2013 34(10):2300-8

Eustace A.J., Kennedy S., Larkin A.M., Maghoub T., Tryfonopoulos D., O'Driscoll L., Clynes M., Crown J., O'Donovan N. (2014) **Predictive biomarkers for dasatinib treatment in melanoma**. *Oncoscience*, Advance Publications

Farrar G.J., Chadderton N., Kenna P.F., Millington-Ward S. (2013) **Mitochondrial disorders: aetiologies, models systems, and candidate therapies**, *Trends Genet*. Aug;29(8):488-97

Gallagher C., Clarke C., Aherne S.T., Katikireddy K.R., Doolan P., Lynch V., Shaw S., Bobart-Hone A., Murphy C., Clynes M., Power W., O'Sullivan F. (2014) **Comparative transcriptomic analysis of cultivated limbal epithelium and donor corneal tissue reveals altered wound healing gene expression.** Invest Ophthalmol Vis Sci. 2014 Aug 14;55(9):5795-805. doi: 10.1167/iovs.14-14664. PMID: 25125605

Gleeson G., Larkin A.M., Horgan N., Kennedy S. (2014) **Evaluation of Chromogenic In Situ Hybridization for the Determination of Monosomy 3 in Uveal Melanoma.** Arch Pathol Lab Med 2014 May; 138(5):664-70

Haroon M, O'Rourke M, Ramasamy P, Murphy C.C., FitzGerald O. (2014) **A novel evidence-based detection of undiagnosed spondyloarthritis in patients presenting with acute anterior uveitis: the DUET (Dublin Uveitis Evaluation Tool).** Ann Rheum Dis. 2014 Jun 13. pii: annrheumdis-2014-205358. Doi: 10.1136/annrheumdis-2014-205358. [Epub ahead of print] PubMed PMID: 24928841

Mansergh F.C., Chadderton N., Kenna P.F., Gobbo O.L., Farrar G.J. (2014) **Cell therapy using retinal progenitor cells shows therapeutic effect in a chemically-induced rotenone mouse model of Leber hereditary optic neuropathy,** Eur J Hum Genet. 2014 Nov;22(11):1314-20

McCarthy A., Farrell M., Hedley-Whyte T., McGuone D., Kavanagh E., McNally S., Keogan M., Horgan N., Lynch T., O'Rourke K. (2013) **Granulomatosis with polyangiitis masquerading as giant cell arteritis.** J Neurol. 2013 Jun;260(6):1661-3. Epub 2013 Apr 13. PMID: 23579235

Rahman N, Murphy C.C. (2014) **Impact of intracameral cefuroxime on the incidence of postoperative endophthalmitis following cataract surgery in Ireland.** Ir J Med Sci. 2014 May 21. [Epub ahead of print] PubMed PMID: 24846749

Rahman W, Horgan N, Hungerford J (2013) **Circumscribed choroidal haemangioma mimicking chronic central serous chorioretinopathy.** J Fr Ophtalmol. 2013 Mar;36(3):e37-40. Epub 2012 Nov 30. PMID: 23201343

Ramasamy P., Murphy C.C., Clynes M., Horgan N., Moriarty P., Tiernan D., Beatty S., Kennedy S., Meleady P. (2014) **Proteomics in uveal melanoma.** Exp Eye Res. 2014 Jan;118:1-12. doi: 10.1016/j.exer.2013.09.005. Epub 2013 Sep 19. Review. PubMed PMID: 24056206

Stylianides A. Jones M.N., Stewart R.M., Murphy C.C., Goodson N.J., Kaye S.B. (2013) **Rheumatoid arthritis-associated corneal ulceration: mortality and graft survival.** Ophthalmology. 2013 Apr;120(4):682-6. doi: 10.1016/j.optha.2012.09.050. Epub 2013 Jan 3. PubMed PMID: 23290983

Treacy M.P., Treacy M.G., Dimitrov B.D., Seager F.E., Stamp M.A., Murphy C.C. (2013) **A method for the prescription of inexpensive spectacles by non-specialist healthcare workers: S-Glasses.** Eye (Lond). 2013 Apr;27(4):474-9. doi: 10.1038/eye.2012.286. Epub 2013 Jan 11. PubMed PMID: 23306732; PubMed Central PMCID: PMC3625996

Walsh N., Kennedy S., Larkin A., Corkery B., O'Driscoll L., Clynes M., Crown J., O'Donovan N. (2013) **EGFR and HER2 inhibition in pancreatic cancer.** Invest New Drugs 2013 31(3):558-66

PRESENTATIONS

Carrigan M., Kenna P., Farrar G.J., (2013) **Diagnosis via Next-Generation Sequencing**. Presented at Retina Meeting Dublin. November 2013

Carrigan M., Duignan E., Kenna P., Humphries P., Farrar G.J. (2014) **GNAT1 mutation in late-onset retinal degeneration**. Presented at Retina Meeting, Dublin. November 2014

Carrigan M., Duignan E., Kenna P., Humphries P., Farrar G.J. (2014) **Spectrum of CHM mutations in Irish choroideremia patients**. Presented at Retina Meeting, Dublin. November 2014

Duignan E., Carrigan M., Farrar G.J., Kenna P. (2014) **PROM1 mutations identified in two patients with inherited retinal degenerations**. Presented at Retina Meeting, Dublin. November 2014

Murphy C.C, O'Rourke M., Sweeney C., Connolly M., Fearon U. (2014) **Peripheral dendritic cells in non-infectious anterior uveitis**. Presented at Association for Research in Vision and Ophthalmology (ARVO) Orlando, Florida, USA. May 2014

Ní Gabhann J., Pilson Q., Murphy C.C, Jefferies C.A (2013) **Dysregulated miR Expression in PSS patients**. Presented at Bi-annual Ophthalmology-Rheumatology meeting, Royal Victoria Eye & Ear Hospital 2013

Ní Gabhann. J, Pilson.Q, Jefferies.C.A, Murphy. C.C (2014) **Dysregulated miR expression in pSS patients**. Presented at Bi-Annual Rheumatology Ophthalmology Congress, Royal Vitoria Eye and Ear Hospital. 28th November 2014

Ní Gabhann.J, Pilson.Q, Jefferies.C.A, Murphy. C.C (2014) **Dysregulated miR expression in pSS patients**. Presented at Bi-Annual Rheumatology Ophthalmology Congress, St Vincent's Hospital. 30th May 2014

Ní Gabhann J., Pilson Q., Murphy C.C, Jefferies C.A (2013) **Profiling TLR Responses in PSS Patients**. Presented at Bi-annual Ophthalmology-Rheumatology meeting, St.Vincent's University Hospital. July 2013

Ní Gabhann.J, Pilson.Q, Jefferies.C.A, Murphy. C.C (2014) **Targeting inflammation in Sjögren's syndrome – novel microRNAs as potential therapeutics**. Presented at Royal College of Surgeons in Ireland

Ní Gabhann.J, Pilson.Q, Jefferies.C.A, Murphy. C.C (2014) **Targeting inflammation in Sjögren's syndrome – novel microRNAs as potential therapeutics**. Presented at European League Against Rheumatology (EULAR), Le Palais des Congrès de Paris

Ní Gabhann.J, Pilson.Q, Jefferies.C.A, Murphy. C.C (2014) **Targeting inflammation in Sjögren's syndrome – novel microRNAs as potential therapeutics**. Presented at ISI Meeting, Conference & Event Centre, Crowne Plaza Dublin Northwood, Santry

O'Neill L., McCarthy E., Madigan A., , Veale D., Murphy C.C, Fearon U., McCarthy G., Molloy E. (2013) **Does Plasma Fibrinogen Have a Role in the Assessment of Patients with Giant Cell Arteritis?** Presented at American College of Rheumatology 2013

O'Neill L., McCormick J., Molloy D., Veale D., Murphy C.C, McCarthy G., Fearon U., Molloy E. (2013) **Lower Tissue Expression of IL6 in Patients with Giant Cell Arteritis Presenting with a Cranial Ischaemic Complication**. Presented at American College of Rheumatology 2013

O'Rourke M. (2013) **Acute anterior uveitis – clinical characteristics and molecular mechanisms.** Presented at Eithne Walls Research Meeting, Royal Victoria Eye & Ear Hospital. June 2013

O'Rourke M., Alfaresy S., Haroon M., FitzGerald O., **Murphy C.C.** (2014) **Vision and health related quality of life in non-infectious anterior uveitis.** Presented at Royal Academy of Medicine, Dublin, Ireland. December 2014

O'Rourke M., Canavan M., **Murphy C.C.**, Fearon U. (2014) **Dendritic cells in non-infectious anterior uveitis.** Presented at Irish society of Immunology Annual Meeting, Dublin. September 2014

O'Rourke M., Canavan M., Fearon U., **Murphy C.C.** (2014) **The role of circulating dendritic cells in the pathogenesis of anterior uveitis.** Presented at Association for Research in Vision and Ophthalmology (ARVO) Ocular Immunity, Autoimmunity and Inflammation Conference. Fort Lauderdale, Florida, USA. October 2014

O'Rourke M., Connolly M., Fearon U., **Murphy C. C.** (2013) **Aberrant microRNA expression and function in Acute Anterior Uveitis.** Presented at Royal College of Surgeons Ireland Research Day. March 2013

O'Rourke M., Connolly M., Fearon U., **Murphy C. C.** (2013) **Altered microRNA expression in Acute anterior uveitis.** Presented at Irish College of Ophthalmologists Conference. May 2013

O'Rourke M., Haroon M., **Ramasamy P.**, FitzGerald O., **Murphy C.C.** (2013) **The Dublin Uveitis Evaluation Tool (DUET) – an algorithm for earlier diagnosis of spondyloarthropathies by ophthalmologists in acute anterior uveitis.** Presented at Irish College of Ophthalmologists Conference. May 2013

O'Rourke M., Haroon M., **Ramasamy P.**, FitzGerald O., **Murphy C.C.** (2014) **Referral by ophthalmologists of anterior uveitis patients with possible undiagnosed spondyloarthritis.** Presented at European Association for Vision and Eye Research (EVER) Nice, France. October 2014

O'Rourke M, Haroon M, **Ramasamy P**, FitzGerald O, **Murphy CC** (2014) **A novel detection algorithm for recognizing spondyloarthritis in patients presenting to ophthalmologists with acute anterior uveitis.** Presented at Association for Research in Vision and Ophthalmology (ARVO) Orlando, Florida, USA. May 2014

O'Rourke M., Haroon M., **Ramasamy P.**, FitzGerald O., **Murphy C.C.** (2014) **The Royal Victoria Eye and Ear Hospital anterior uveitis cohort.** Presented at Irish College of Ophthalmologists Annual Scientific Meeting, Limerick. May 2014

O'Rourke M., Haroon M., **Ramasamy P.**, FitzGerald O., **Murphy C.C.** (2014) **A novel detection algorithm for recognising spondyloarthritis in patients presenting to ophthalmologists with acute anterior uveitis.** Presented at Royal College of Surgeons in Ireland Research Day, March 2014

O'Rourke M., **Murphy C.C.** (2014) **Pathogenesis of anterior uveitis.** Presented at Multidisciplinary Symposium: Optimizing Patient Care in HLAB27-Associated Uveitis Dublin. December 2014

O'Rourke M., Sweeney C., Connolly M., Fearon U., **Murphy C.C.** (2014) **Peripheral dendritic cells in non-infectious anterior uveitis.** Presented at Royal College of Surgeons in Ireland Research Day, March 2014

Pilson, Q., Ni Gabhann J., Jefferies C., Murphy.C.C (2014) **Novel method for the isolation and measurement of microRNA and microRNA related targeted genes in conjunctival epithelial cells in primary Sjogren's syndrome patients.** Presented at the European Association for Eye and Vision Research Meeting (EVER) October 2014

Pilson, Q., Ni Gabhann J., Jefferies C., Murphy.C.C (2014) **Potential therapeutic target for dry eye disease.** Presented at the Eithne Walls Research Meeting. June 2014

Pilson, Q., Ni Gabhann J., Jefferies C., Murphy.C.C (2014) **A new method for the measurement of microRNA and microRNA related targeted genes in conjunctival epithelial cells in Sjogren's syndrome patients.** Presented at the Irish College of Ophthalmologists Annual Conference. May 2014

Pilson, Q., Ni Gabhann J., Jefferies C., Murphy.C.C (2014) **MicroRNA as a potential biomarker for patients with primary Sjogren's syndrome.** Presented at the Royal College of Surgeons Ireland Research Day. April 2014

Pilson Q., Ní Gabhann J., Murphy C.C and Jefferies C.A. (2014) **MicroRNA as a potential biomarker for patients with primary Sjogren's syndrome,** Presented at The Royal Victoria Eye and Ear Hospital. March 2014

Ramasamy P., Murphy C.C., Clynes M., Horgan N., Moriarty P., Tiernan D., Beatty S., Kennedy S. (2013) **Label-free Proteomic Analysis of Metastatic versus Non-metastatic Primary Uveal Melanoma,** Presented at the New England Ophthalmological Society (NEOS), Boston, USA. May 2013

Ramasamy P., Murphy C.C., Clynes M., Horgan N., Moriarty P., Tiernan D., Beatty S., Kennedy S. (2014) **Quantitative Label-free LC-MS Proteomic Analysis of Uveal Melanoma Identifies Proteins Associated with Metastasis,** Presented at the Association for Research in Vision and Ophthalmology (ARVO) at Florida, USA. May 2014

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Ramasamy P., Murphy C.C., Clynes M., Horgan N., Moriarty P., Tiernan D., Beatty S., Kennedy S. (2013) **Proteomic Analysis of Metastatic versus Non-metastatic Primary Uveal Melanoma,** Presented at Irish College of Ophthalmologists Annual Conference, Killarney. May 2013

Ramasamy P., Murphy C.C., Clynes M., Horgan N., Moriarty P., Tiernan D., Beatty S., Kennedy S. (2013) **Bioinformatic Reanalysis of Gene Expression Microarray Data of Uveal Melanoma,** Presented at Irish College of Ophthalmologists Annual Conference, Killarney. May 2013

Treacy M., Carrigan M., Dempsey H., Collins K., Farrar G.J., Kenna P.F (2014) **Autosomal Dominant Retinitis Pigmentosa Due to a Frameshift Mutation in RP1 Identified Following Next Generation Sequencing,** Presented at Irish College of Ophthalmology Meeting, Limerick, 14 – 16 May 2014

BOOK CHAPTERS

Horgan N (2014) Uveal osseous tumors, in "Clinical ophthalmic oncology" 2nd edition, B Damato, A Singh editors. Springer –Verlag Berlin Heidelberg, ISBN 978-3-642-54254-1

Olver J., Cassidy L., Jutley G., Crawley, L. (2014) *Ophthalmology at a Glance*, Second Edition, Wiley-Blackwell

O'Rourke M, Haroon M, Murphy C.C, FitzGerald O (2013) *Anterior Uveitis in Spondyloarthropathy: The ophthalmologist's role in earlier recognition*. Book chapter in *Ankylosing spondylitis; symptoms, treatment and complications*. Nova Publishers. ISBN: 978-1-62618-362-9

RESEARCH AWARDS

Prof Conor Murphy, Professor of Ophthalmology RVEEH

Awarded research funding MRCG HRB Joint Funding Scheme 2014

Dr Pathma Ramasamy, Clinical Research Fellow RVEEH (Prof C.Murphy, Mr N.Horgan, Dr M.Clynes, Dr P.Meleady, Prof S.Kennedy)

Winner of postgraduate scholar prize, Royal College of Surgeons in Ireland, Annual Research Day, Dublin, March (2013)

Winner of Travel Grant for best paper presentation, Association for Research in Vision and Ophthalmology, Florida (2014)

Dr Micheal O'Rourke, Clinical Research Fellow RVEEH (Prof C.Murphy, Dr U.Fearon)

Winner of the Irish College of Ophthalmologists (ICO) Research Bursary (2013)

1 of 5 finalists for the Early Career Investigator Award (2013), The Barnes Medal, RCSI Research Day

Awarded the Barbara Knox Medal (2013) for best paper presentation at the Irish College of Ophthalmologists Conference

Dr Maedbh Rhatigan, Senior House Officer, RVEEH (M.Cahill, S.Doyle)

Winner of the Irish College of Ophthalmologists (ICO) Research Bursary (2014)

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