ALL-IRELAND MULTIPLE SCLEROSIS (AIMS) RESEARCH NETWORK SYMPOSIUM 2025

JUNE 6TH 2025

MAYNOOTH UNIVERSITY

AGENDA

Time	Session	Presenter(s)	Talk title
9:30	Registration and Coffee		
10:00	Welcome and opening remarks	Rebecca Maguire (Maynooth University) Alison Cotter (MS Ireland)	
10:10	Biomedical research in MS *(Chair: Eric Downer)*	Denise Fitzgerald (Queens University Belfast)	Could the eye be a window to the brain in MS? Launch of the Northern Ireland MS Research Hub
		Eric Downer (Trinity College Dublin)	Components of Cannabis sativa L. take a toll on multiple sclerosis
		María Muñoz-San Martín (RCSI)	Unravelling the role of miR-21 in demyelination and remyelination
		Lajos Csincsik (Queens University Belfast	Imaging the eye in MS: From BEAMS to OCTOPUS
11:10	Comfort break		
11:20	Psychosocial research in MS *(Chair: Fiadhnait O'Keeffe)*	Fiadhnait O'Keeffe (University College Cork)	Understanding and supporting neuropsychological outcomes in MS
		Sinéad Hynes (University of Galway)	A Cognitive Occupation-Based programme for people with Multiple Sclerosis (COB-MS): efficacy, acceptability and experiences of a feasibility cluster-randomised controlled trial
		Rebecca Maguire (Maynooth University)	Mental health impacts of living with MS: Experiences of MS disclosure, stigma and symptom concealment
		Guido Giunti (Trinity College Dublin)	Designing digital health solutions for people with MS
12:20	Lunch and poster viewing		
13:15	Panel discussion (*Chair: Alison Cotter*)	Ciara O'Meara, Sinéad Hynes, Joan Alaboson, Declan Groeger, Sorcha Boyle	The role of public and patient involvement (PPI) in MS research: Challenges and opportunities
14:00	Research at MS Ireland (*Chair: Rebecca Maguire)*	Susan Coote (MS Ireland)	Evolution of research at MS Ireland
		Austin Fahy (Maynooth University/RCSI)	Evaluation of Move Smart MS on anxiety in MS
14:30	Comfort break		
14:40	Flash Talks *(Chair: Laura Coffey)*	Laura Davenport (St Vincent's University Hospital Dublin)	A qualitative study on the experiences of autologous haematopoietic stem cell transplant for Multiple Sclerosis
		Eva Scallan Dowd (University College Cork)	The Impact of Multiple Sclerosis on Parenting: A Mixed-Method Systematic Review
		Almudena Otálora-Alcaraz (Trinity College Dublin)	Plant-derived cannabinoids as regulators of NLRP3 inflammasome signalling in immune cells with relevance to multiple sclerosis
		Andrea Kwakowsky (University of Auckland; University of Galway)	Tonabersat as a therapeutic option for Multiple Sclerosis
		Joan Alaboson (Maynooth University)	Multiple sclerosis peer support engagement, benefit perception and barriers. Findings from a mixed-methods survey in the Irish context.
15:30	Tea/Coffee and poster viewing		
16:00	Session 6 – Clinical research and perspectives in MS (*Chair: Lajos Csincsik*)	Fiona Magill (Belfast Health and Social Care Trust)	Multiple Sclerosis Research – the Nurse Perspective
		Audrey Reynolds (St Vincent's University Hospital Dublin)	Longitudinal Markers of Progression in MS
		Sarah Casey (St Vincent's University Hospital Dublin)	Cognitive biomarkers for illness progression and disability in Multiple Sclerosis: Predicting and measuring subtle changes in function over time
16:45	Keynote *(Chair: Jill McMahon)*	Gavin McDonnell (Belfast Health and Social Care Trust)	OCTOPUS: a new approach to clinical trials in MS
17:30	Closing and awards (sponsored by BrainWorx)		

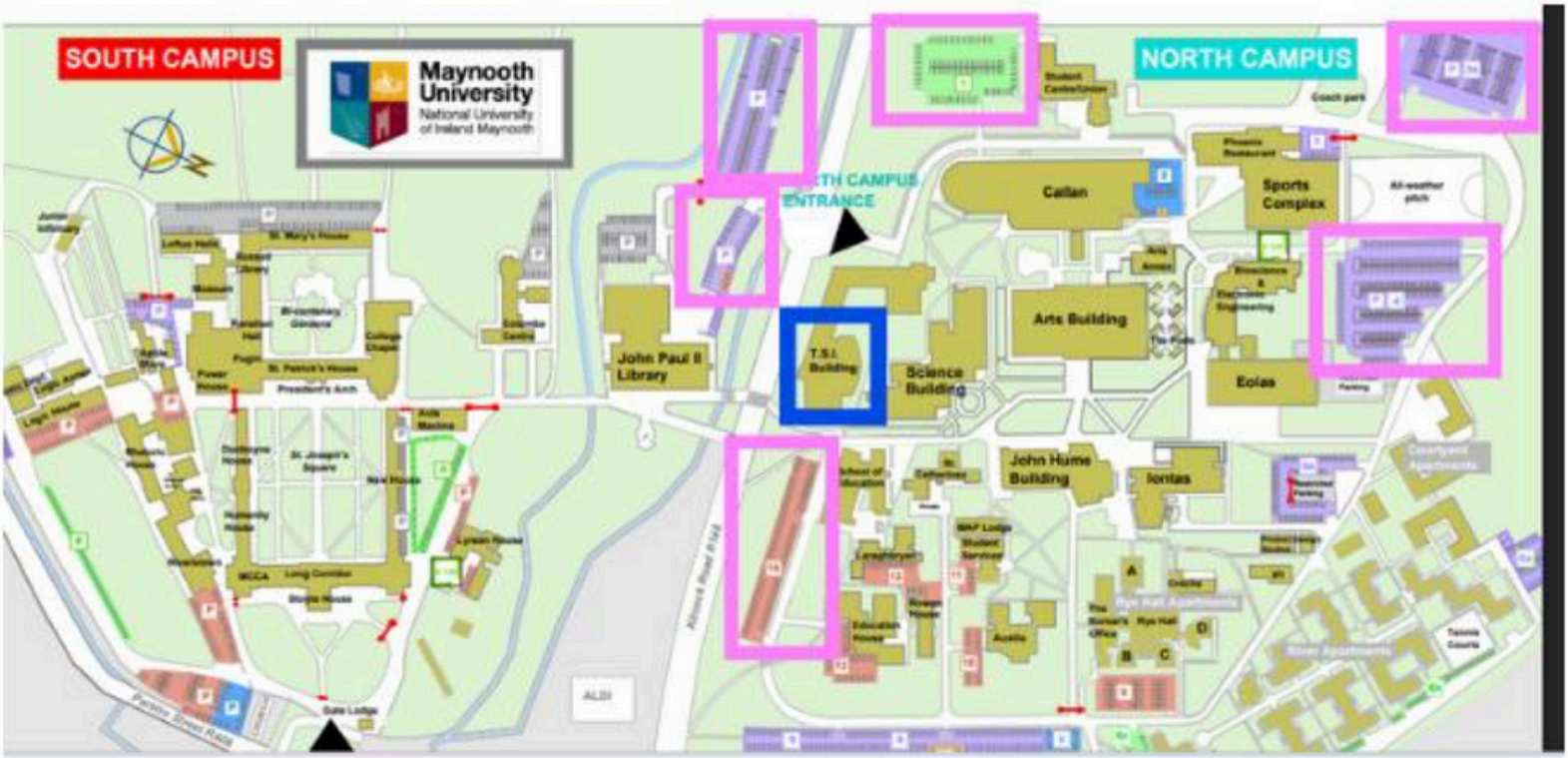
LIST OF POSTERS

Title	Presenter
Cognitive reserve in multiple sclerosis: The role of depression and fatigue	Clara Stein (University College Dublin)
Social Cognition and Psychological Markers of Wellbeing in Multiple Sclerosis: Initial findings at 4-year follow up	Hannah Lynch (University College Dublin; St Vincent's University Hospital)
Occupational therapy in adults with multiple sclerosis: a Cochrane systematic review	Ciara O'Meara (University of Galway)
Preliminary findings from a longitudinal study exploring the relationship between word-finding and disability in MS: The search for a cognitive biomarker	Lauren Costello (St Vincent's University Hospital)
The effect of phytocannabinoids and PPARγ (ant)agonists on reactivity in human-induced pluripotent stem cell-derived astrocytes	Magdalena D. Imiolek (Trinity College Dublin)
MHC-II is required for efficient central nervous system remyelination	Jessica A. White (Queen's University Belfast)
Altered Expression of Endoplasmic Reticulum Stress and Oxidative Stress Proteins in PBMCs from a Multiple Sclerosis Cohort	Shima Shapoori (University of Galway)
Investigating the role of C-type lectin receptors in murine central nervous system remyelination	Nira de la Vega Gallardo (Queen's University Belfast)
Investigating changes in retinal pathology in relapsing-remitting (RRMS) vs secondary progressive (SPMS) Multiple Sclerosis cases	Ashleigh McMullan (Queen's University Belfast)
Investigating the eye as a window to brain inflammation in Multiple Sclerosis	Michelle Naughton (Queen's University Belfast)
Neurologists' perspectives of cannabis-based medicines: results from an all-Ireland survey	Michael Savio (Trinity College Dublin)

PARKING AND VENUE

Parking + Venue

The symposium venue, TSI Building, is marked in blue on the map. Free parking is available in the car parks highlighted in pink, specifically Car Parks 1, 3, 4 & 14, and both car parks beside the library. As we're outside of term time, no permits are required in these car parks.



TALK ABSTRACTS

SESSION 1: BIOMEDICAL RESEARCH IN MS (TALK 1)

PROFESSOR DENISE FITZGERALD & DR MICHELLE NAUGHTON, QUEENS UNIVERSITY BELFAST

COULD THE EYE BE A WINDOW TO THE BRAIN IN MS? LAUNCH OF THE NORTHERN IRELAND MS RESEARCH HUB

Vision is one of the systems that can be affected by MS, in part due to the occurrence of inflammatory demyelination in the optic nerve (optic neuritis). However, the retina, which is part of the CNS, also demonstrates inflammation and neurodegeneration in MS, despite a lack of myelin. Major advances in live retinal imaging are supporting analysis of the retina to new depths, including at single cell level. Researchers in Northern Ireland are combining their expertise in ophthalmology, immunology, neurology and neuroscience to determine if changes in the eye can inform about changes in the brain in Multiple Sclerosis. Through this initiative, the team aim to broaden and deepen capacity in MS research in Northern Ireland, in a model of co-production of research with the public, and embedded within clinical trials.

SESSION 1: BIOMEDICAL RESEARCH IN MS (TALK 2)

DR ERIC J. DOWNER, TRINITY COLLEGE DUBLIN

COMPONENTS OF CANNABIS SATIVA L. TAKE A TOLL ON MULTIPLE SCLEROSIS

In this talk I will outline the translational research we undertake to assess the ability of cannabinoids, components of the plant Cannabis sativa L., to target innate immune inflammatory events associated with multiple sclerosis (MS). Toll-like receptors (TLRs) have become a focus in biomedical research given the role of this family of innate immune proteins in immune activation and autoimmunity. It is evident that TLR dysregulation, and subsequent alterations in TLR-mediated inflammatory signalling, can contribute to disease pathogenesis. Cannabinoid-based medicines are in the clinic for MS, and are under investigation for broad clinical development. I will present evidence that cannabinoids can exert anti-inflammatory effects by targeting innate immune inflammatory signalling governed by TLRs in immune cells. Such anti-inflammatory effects of cannabinoids represents therapeutic avenues for further investigation.

SESSION 1: BIOMEDICAL RESEARCH IN MS (TALK 3)

DR MARÍA MUÑOZ-SAN MARTÍN, ROYAL COLLEGE OF SURGEONS IRELAND

UNRAVELLING THE ROLE OF MIR-21 IN DEMYELINATION AND REMYELINATION

microRNAs (miRNAs) are small non-coding RNA molecules that regulate gene expression. Specifically in multiple sclerosis (MS), they have been extensively studied both as potential biomarkers and for their contributions to disease pathology, given their involvement in processes such as remyelination. Their therapeutic potential has also been explored, yielding promising results.

During my PhD, I demonstrated that miR-21 was overexpressed in the cerebrospinal fluid of individuals with active MS lesions, with its levels positively correlating with the number of active lesions observed on magnetic resonance imaging. In my first postdoctoral project at RCSI, I extended this research by analysing miR-21 expression in organotypic brain slices (OBS). I found that miR-21 was upregulated during both demyelination and remyelination. Since public repositories indicated that miR-21 expression in the central nervous system is predominantly localised in microglia, its overexpression in this cell type was also observed after lipopolysaccharide activation. Furthermore, single-cell sequencing análisis of OBS revealed that the expression of several miR-21 target genes – including Il-1β, Timp1, Lcn2, or Nt5e – was specifically altered in microglía during demyelination and remyelination.

Building on these findings, my future work Will investigate whether targeted manipulation of miR-21-regulated genes in microglia could represent a novel therapeutic strategy to limit demyelination and promote remyelination. Specifically, I plan to modulate candidate gene expression in human microglia and co-culture these cells with OBS depleted of their innate microglial populations.

SESSION 1: BIOMEDICAL RESEARCH IN MS (TALK 4)

DR LAJOS CSINCSIK, QUEENS UNIVERSITY BELFAST

IMAGING THE EYE IN MS: FROM BEAMS TO OCTOPUS

The Belfast Eye and MS (BEAMS) study set out to determine whether high-resolution eye imaging could detect subtle signs of multiple sclerosis (MS) that reflect hidden changes in the brain. While MS primarily affects the brain and spinal cord, the retina is also impacted-even in the absence of optic neuritis. BEAMS focused on identifying symptomless retinal changes that may indicate ongoing, subclinical inflammation and neurodegeneration.

Using advanced tools such as optical coherence tomography (OCT) and adaptive optics, we found novel signs of retinal changes in people with MS, including outer retinal thickening and photoreceptor loss - even in eyes without prior optic neuritis. These findings suggest the retina may serve as a sensitive, non-invasive marker of disease activity and potentially predict progression, such as the shift from relapsing-remitting to secondary progressive MS.

Retinal imaging is fast, well-tolerated, and more affordable than brain MRI, making it a practical option for regular monitoring. We are continuing to expand the BEAMS study through new recruitment and long-term follow-up visits with the original participants.

We have received approval to incorporate this imaging toolkit into the OCTOPUS trial, a major clinical study evaluating treatments for progressive MS. This will allow us to test whether these retinal scans can detect early signs of treatment response - potentially before changes are visible on brain imaging or in clinical symptoms.

Our long-term goal is to create a streamlined, high-resolution retinal imaging toolkit to help monitor disease activity, guide treatment, and improve outcomes for people living with MS.

SESSION 2: PSYCHOSOCIAL RESEARCH IN MS (TALK 1)

DR FIADHNAIT O'KEFFEE, UNIVERSITY COLLEGE CORK

UNDERSTANDING AND SUPPORTING NEUROPSYCHOLOGICAL OUTCOMES IN MS

MS can affect people in a range of varied and interconnected ways, physically, psychologically, and socially. An overview of recent clinical research in the assessment and intervention of some of the neuropsychological and psychosocial aspects of MS will be presented and how this programme of clinical neuropsychological research helps us understand, measure and provide appropriate supports and interventions for people with MS.

SESSION 2: PSYCHOSOCIAL RESEARCH IN MS (TALK 2)

DR SINÉAD HYNES, UNIVERSITY OF GALWAY

A COGNITIVE OCCUPATION-BASED PROGRAMME FOR PEOPLE WITH MULTIPLE SCLEROSIS (COB-MS): EFFICACY, ACCEPTABILITY AND EXPERIENCES OF A FEASIBILITY CLUSTER-RANDOMISED CONTROLLED TRIAL

Up to 65% of people with MS experience a decline in cognitive functioning. This invisible symptom of MS can be one of the most distressing. Although it is commonly occupational therapists who assess and treat cognitive dysfunction in MS, there are few, if any, MS-specific occupation-focused cognitive interventions. The COB-MS programme, an occupation-focused cognitive intervention, was developed to address this. It focuses on both the functional and occupational problems specific to cognition and MS. Objective: The aim of this research was to determine the initial efficacy and acceptability of COB-MS and investigate the barriers and facilitators to using COB-MS. Methods: This is a mixed methods evaluation of a cluster feasibility randomised controlled trial of the COB-MS. Participant experiences of the COB-MS intervention were collected from people with MS who took part in the programme (interviews) and occupational therapists who delivered the COB-MS programme (focus group), as well as the efficacy data collected from 118 people with MS. Results: The COB-MS was found to be feasible, including trial procedures and protocol. Data indicates that the COB-MS is accepted by participants and had positive impacts on daily life. Results revealed that, from a participant with MS perspective, the COB-MS program provided a positive experience and quality materials and resources; and was appropriate for a MS cohort, with a majority of respondents reporting application of learnings following the program, coupled with perceived improvements. From an occupational therapist perspective, the program and its procedure were found to be acceptable with respect to both feasibility and appropriateness. Conclusion: The COB-MS intervention was found to be an acceptable intervention from participants, and feasible to deliver and participate in online. Participants reported varied, impactful experiences of the impact of from taking part in the programme.

SESSION 2: PSYCHOSOCIAL RESEARCH IN MS (TALK 3)

DR REBECCA MAGUIRE, MAYNOOTH UNIVERSITY

MENTAL HEALTH IMPACTS OF LIVING WITH MS: EXPERIENCES OF MS DISCLOSURE, STIGMA AND SYMPTOM CONCEALMENT

While some people with MS (PwMS) choose to share their diagnosis with others, negative experiences of disclosure and anticipated stigma may prevent them from being fully open about the range of symptoms they experience. This may have implications for both mental health and support seeking. In this talk, I will discuss some of our recent research in this area, including a study which explored how disclosure experiences among PwMS relate to symptom concealment and anticipated stigma. Perhaps unsurprisingly, we found that those reporting negative disclosure experiences were less likely to be open about difficulties relating to their mental health, fatigue, and other MS symptoms. Conversely, positive experiences of MS disclosure were associated with lower levels of anticipated stigma and higher levels of openness around a range of symptoms. In addition to increasing the provision of mental health support for PwMS, these findings highlight the need to explore ways to enable PwMS to be fully open about the range of symptoms they experience.

SESSION 2: PSYCHOSOCIAL RESEARCH IN MS (TALK 4)

DR GUIDO GIUNTI, TRINITY COLLEGE DUBLIN

DESIGNING DIGITAL HEALTH SOLUTIONS FOR PEOPLE WITH MS

Dr. Guido Giunti will explore the design and development of digital health interventions for people with multiple sclerosis (MS), with a spotlight on participatory design and real-world validation. Drawing from his experience as the creator of the "More Stamina" app, Dr. Giunti will share how the solution was co-designed with patients, integrating their lived experiences and feedback into each development stage. He will also present how this approach was tested in real-life settings, underscoring the impact of patient-centered design in creating meaningful, usable digital health tools. This talk highlights the power of collaboration between technology and those it serves.

SESSION 3: PANEL DISCUSSION

DR CIARA O'MEARA, DR SINÉAD HYNES, JOAN ALABOSON, DECLAN GROEGER, SORCHA BOYLE, ALISON COTTER (CHAIR)

In this panel, researchers and experienced public and patient involvement (PPI) contributors will discuss the discuss challenges and opportunties for PPI in MS research.

SESSION 4: RESEARCH AT MS IRELAND (TALK 1)

PROFESSOR SUSAN COOTE, MS IRELAND

EVOLUTION OF RESEARCH AT MS IRELAND

This presentation will cover the evolution of research at MS Ireland in the past decade. Examples of how our current goals of communicating, translating and facilitating research will be outlined. Sources of research evidence that have informed services planning will be presented, along with direct evaluation of physiotherapy services in collaboration with Maynooth university. Current projects funded by the EU, and in collaboration with the RIMS network will be presented.

SESSION 4: RESEARCH AT MS IRELAND (TALK 2)

DR AUSTIN FAHY

EVALUATION OF MOVESMART MS, AN ONLINE STRUCTURED EXERCISE, SCT-BASED BEHAVIOURAL COACHING AND PEER SUPPORT PROGRAMME ON ANXIETY IN MULTIPLE SCLEROSIS

Background: Anxiety is a common experience among PwMS. While engaging in exercise has a number of known benefits, the role played by exercise in reducing anxiety has received less attention in this context. Aim: This study aimed (1) to assess the efficacy of a structured physiotherapist-led online exercise programme (MoveSmart) on anxiety in PwMS, (2) to identify the role of sociodemographic, health and psychological factors in predicting baseline anxiety, (3) to investigate how changes in these factors predict changes in anxiety, and (4) to explore participants' experiences with the programme. Method: Data from 284 PwMS who took part in MoveSmart were analysed. Participants provided sociodemographic and health information at baseline and completed measures of psychological factors. Change in anxiety scores were analysed using hierarchical regression. Focus groups were conducted with 25 participants to explore their experiences during the programme, with data analysed using reflexive thematic analysis.

AUSTIN FAHY (1, 2), SUSAN COOTE (3,4), REBECCA MAGUIRE (1)

1. Maynooth University
2. RCSI SIM Centre for Simulation Education and Research
3. Multiple Sclerosis Society of Ireland
4. University of Limerick

SESSION 5: FLASH TALK #1

DR LAURA DAVENPORT

A QUALITATIVE STUDY ON THE EXPERIENCES OF AUTOLOGOUS HAEMATOPOIETIC STEM CELL TRANSPLANT FOR MULTIPLE SCLEROSIS

Aim: Autologous haematopoietic stem cell transplant (HSCT) is an effective treatment for people with highly-active relapsing multiple sclerosis (MS), who are not adequately responding to disease-modifying therapies. To date, research has predominantly focused on disease-specific outcome measures. There is a lack of research exploring patient experiences of this complex treatment. The study aims to explore the experience of considering and receiving HSCT treatment for MS. Methods: Semi-structured interviews were conducted online with 12 adults with MS who had undergone HSCT treatment. Interview topics covered the experience of deciding on the treatment, the HSCT process itself, and the patient-reported outcomes following HSCT. Interviews were audio-recorded and transcribed verbatim. A thematic analysis approach was employed. Results: Three main themes were identified: (1) Balancing hope and fear explores the decision-making experience when considering HSCT as a treatment; (2) Distinct emotional experience, highlights the unique challenges faced on all stages of the treatment journey; and (3) Adjusting to outcomes, explores how participants make sense of the aftermath of the treatment, including managing the ongoing uncertainty of MS and complications arising from HSCT. Discussion: HSCT is a complex treatment, both physically and psychologically for pwMS. A comprehensive and holistic care pathway is required to support people with MS at all stages of the treatment process, to ensure patient-centred planning and care.

LAURA DAVENPORT (1), MATHEW MCCAULEY (2), LIAM SMYTH (1), AUDREY REYNOLDS (1), MARIA GAUGHAN (1), NIALL TUBRIDY (1), CHRIS MCGUIGAN (1) FIADHNAIT O'KEEFFE (3)

1. St Vincent's University Hospital
2. Trinity College Dublin
3. University College Cork, Cork

SESSION 5: FLASH TALK #2

EVA SCALLAN DOWD

THE IMPACT OF MULTIPLE SCLEROSIS ON PARENTING: A MIXED-METHOD SYSTEMATIC REVIEW

Multiple Sclerosis (MS) is typically diagnosed between ages 20–40, a period when individuals may be considering or actively raising children. MS symptoms can disrupt daily functioning, complicating parental responsibilities. This review synthesises quantitative, qualitative, and mixed-method evidence to examine how MS affects parenting. This review was registered with PROSPERO (ID: CRD42024569061), and follows PRISMA and JBI guidelines. Systematic searches were conducted across Academic Search Complete, CINAHL, PsychINFO, PubMed, and Scopus, complemented by citation searching, yielding 1,792 results (24/08/2024). Studies were screened using the SPIDER framework to identify studies examining parenting measures and experiences amongst parents with MS (PWMS). Quality and risk of bias were assessed using the MMAT. Findings were synthesised using a convergent integrated approach. The review included 22 studies: 11 quantitative, 9 qualitative, and 2 mixed-methods, including 2,466 PWMS and 2,401 others (non-parents with MS, parents without MS, parents with rheumatoid arthritis, and family members of PWMS). Synthesised findings indicated that MS impacts parenting, predominantly negatively. Four main themes emerged: Risk and protective factors related to parenting with MS; Impact of parental MS on parenting activities and daily family life; Emotional impact of MS on parents and their views of relationships within the family; Managing and coping as a PWMS. PWMS encounter substantial challenges due to fatigue, limited mobility, and cognitive difficulties. The review identified potential support mechanisms, including mental health supports, social networks, and family communication assistance. The findings highlight the need to develop interventions designed to support PWMS and their families.

EVA SCALLAN DOWD (1), FIADHNAIT O' KEEFFE (1)

1. University College Corkk

SESSION 5: FLASH TALK #3

ALMUDENA OTÁLORA-ALCARAZ

PLANT-DERIVED CANNABINOIDS AS REGULATORS OF NLRP3 INFLAMMASOME SIGNALLING IN IMMUNE CELLS WITH RELEVANCE TO MULTIPLE SCLEROSIS

Multiple sclerosis (MS) is a chronic autoimmune disorder associated with sensory and motor impairments. In Ireland, MS currently afflicts over 9,000 people, with approximately 290 people diagnosed with MS in Ireland each year. A range of disease-modifying therapies (DMTs) are available for symptom management in MS, nevertheless, most DMTs present with side-effects. There is a need for new therapeutic strategies in MS. Although MS is a complex disease, there is evidence indicating the role of neuroinflammation in MS pathogenesis. The NLRP3 inflammasome has a well-established function in innate immunity, and current evidence suggests that targeting the inflammasome is a key therapeutic target in the disease. Cannabidiol (CBD) and tetrahydrocannabinol (THC) are protective in murine models of MS, and sativex (a 1:1 combination of THC:CBD), is clinically available for symptom management in MS. The goals of this study are to define the role of the NLRP3 inflammasome in MS and develop inflammasome assays to assess the efficacy of novel therapeutics, (components of Cannabis sativa L.), as inflammasome inhibitors in immune cells with relevance to MS. This study assessed the expression profile of inflammasome markers (IL-1β/IL-18) in plasma samples, immune cells and brain tissue samples from control and MS cases. Inflammasome assays were used to assess the efficacy of THC/CBD as inflammasome inhibitors in immune cells with relevance to MS. Our findings indicate the components of the hemp plant Cannabis sativa L. have the propensity to target inflammasome signalling in immune cells with relevance to MS.

ALMUDENA OTÁLORA-ALCARAZ (1), MELODY CUI SUN (1), LISA COSTELLOE (2), HUGH KEARNEY (1, 3), PABITRA H. PATRA (4), ERIC J. DOWNER (1)

1. Trinity College Dublin
2. Beaumont Hospital
3. St. James's Hospital, Dublin
4. Transpharmation Ltd., London Biosciences Innovation Centre,

SESSION 5: FLASH TALK #4

DR ANDREA KWAKOWSKY

TONABERSAT AS A THERAPEUTIC OPTION FOR MULTIPLE SCLEROSIS

Neurodegenerative diseases such as Multiple sclerosis (MS), Parkinson's disease and Alzheimer's disease are marked by chronic neuroinflammation thought to be mediated by the inflammasome pathway. Connexin 43 (Cx43) hemichannels contribute to the activation of the inflammasome by releasing adenosine triphosphate (ATP) inflammasome activation signals. We evaluated if the Cx43 hemichannel blocker, tonabersat, is effective in modulating the inflammatory response and reducing disability in the myelin oligodendrocyte glycoprotein 35–55-induced experimental autoimmune encephalomyelitis (MOG35–55 EAE) model of MS and in a beta-amyloid-induced model of AD. We showed that the Cx43 hemichannel blocking drug, tonabersat, significantly reduced expression of neuroinflammatory markers for microglial activation (ionized calcium-binding adapter molecule 1 (Iba1)) and astrogliosis (glial fibrillary acidic protein (GFAP)) in the brain of both MS and AD models and also preserved myelin basic protein (MBP) expression levels in the corpus callosum, motor cortex, and striatum regions of the brain in MOG35–55 EAE mice. Reduced NOD-like receptor protein 3 (NLRP3) inflammasome complex assembly and Caspase-1 activation confirmed the drug's mode of action. MOG35–55 EAE mice showed clinical signs of MS, but MOG35–55 EAE mice treated with tonabersat retained behavior closer to normal. These data suggest that clinical trial phase IIb-ready tonabersat may merit further investigation as a promising candidate for treating neurodegenerative disorders.

ANDREA KWAKOWSKY (1,2), BHAVYA CHAWDHARY (1), ANTONIO DE SOUZA (1), EMILY MEYER (1), ANDREW H KAYE (3,4), STANLEY STYLLI (3,5), COLIN GREEN (1), HELEN DANESH-MEYER (1)

1. University of Auckland
2 .University of Galway
3. Dniversity of Melbourne
4. Hadassah Hebrew University Hospital
5. The Royal Melbourne Hospital

SESSION 5: FLASH TALK #5

JOAN ALABOSON

MULTIPLE SCLEROSIS PEER SUPPORT ENGAGEMENT, BENEFIT PERCEPTION AND BARRIERS. FINDINGS FROM A MIXED-METHODS SURVEY IN THE IRISH CONTEXT.

Background: People with multiple sclerosis (PwMS) may experience psychological distress and social isolation, necessitating higher psychosocial support needs. Peers with shared lived experiences may provide multi-dimensional support, potentially improving psychosocial outcomes. Objectives: This study explored peer support engagement, perceived benefits and barriers among PwMS living in Ireland. Methodology: A mixed-methods cross-sectional survey, co-designed with a public and patient involvement panel (n=7) collected online responses from PwMS between February and March 2024. Recruitment was facilitated by invitations received through MS Ireland (MSI) online channels, and mailing lists. Participants completed a series of Likert scale and open-text questions exploring their peer support need and experiences, both online and in-person. Descriptive analysis and content analysis was employed. Results: 218 PwMS: predominantly female (76%), living with relapsing-remitting multiple sclerosis (64.7%), and with an average age of 49.31 (SD =17.76) participated, identifying specialised programmes (e.g. yoga classes), social activities (e.g. coffee mornings), and MSI meetings as forms of peer support. Although almost all participants agreed that both in-person (n=99, 79%) and online (n=96, 72%) peer support was helpful, few people actually regularly engaged in peer support in person (10%, n=22) or online (16%, n=34) frequently or nearly always. Three themes: 1) low access, 2) unsupportive peers and peer support, and 3) personal engagement barriers, were identified as barriers. Conclusion: Although most PwMS perceive benefits from peer support, they experience limited peer support access, and one that is not always aligned with their needs. Organisations facilitating peer support for PwMS would find these findings relevant.

JOAN ALABOSON (1), LAURA COFFEY (1), REBECCA MAGUIRE (1)

1. Maynooth University

SESSION 6: CLINICAL PERSPECTIVES IN MS (TALK 1)

FIONA MAGILL, BELFAST HEALTH AND SOCIAL CARE TRUST

MULTIPLE SCLEROSIS RESEARCH – THE NURSE PERSPECTIVE

Nurses are a vital part of the MS Research Team, not just for their clinical skills during a clinical trial visit but for all of the other tasks they are involved with, to ensure a smooth running trial. This session will explore the role of MS Research Nurses, key skills required and highlight some of the challenges they encounter in their role.

SESSION 6: CLINICAL PERSPECTIVES IN MS (TALK 2)

AUDREY REYNOLDS, ST VINCENT'S UNIVERSITY HOSPITAL DUBLIN

LONGITUDINAL MARKERS OF PROGRESSION IN MULTIPLE SCLEROSIS

Therapeutic options for progressive multiple sclerosis remains limited. Identifying new clinical or radiological inflammatory activity is more overt in MS, measuring progression is difficult with current clinical measures. The use of clinical scales, such as EDSS (Expanded Disability Status Scale) have limited value in progressive MS clinical trials due to their lack of sensitivity to subtle progression and interrater variability. More objective, standardized markers of change are needed. A cohort of people with MS (pwMS) underwent standard measures of MS progression in addition to assessments of posturography (a measure of balance), neurocognitive assessment, and automated measurement of prosody of speech in 2020/2021. Repeat assessments were conducted in 2024/2025 to assess change over time. We will discuss outcomes of same and change in posturography and speech metrics over time.

SESSION 6: CLINICAL PERSPECTIVES IN MS (TALK 3)

DR SARAH CASEY, ST VINCENT'S UNIVERSITY HOSPITAL DUBLIN

COGNITIVE BIOMARKERS FOR ILLNESS PROGRESSION AND DISABILITY IN MULTIPLE SCLEROSIS: PREDICTING AND MEASURING SUBTLE CHANGES IN FUNCTION OVER TIME

The identification of MS biomarkers can enable better diagnosis, prediction of relapse, monitoring of treatment response, and prognostication in relation to progression and disability. However, MS is both complex and heterogeneous; no single marker can serve as a comprehensive metric. Instead, a combination of well-selected biomarkers is advantageous, to reflect the diversity of MS pathology, for optimal diagnostic, interventional, and prognostic value. Recently, research has largely focused on fluid and neuroimaging biomarkers. Here we make the case for a potential cognitive biomarker of progression and disability, namely, illness-related change in visual object meaning perception (visually based word retrieval and object naming; Yap et al., 2022). Initial 4-year longitudinal data indicate that slower processing speed and performance on tasks measuring visual object meaning perception correlate with greater MS-related disability on clinical measures, with greater difficulties in visually-mediated object naming experienced by persons with progressive MS. Data collection is ongoing, including healthy control follow-up, but findings are promising and further analyses are planned. The identification of a safe, effective, and less invasive way of predicting the course of MS, for use in bespoke combination with other biomarkers, could facilitate the evolution of clinical practice from group evidence-based to personalised medicine, optimising outcome for each person with MS.

SESSION 7: KEYNOTE PRESENTATION

DR GAVIN MCDONNELL, BELFAST HEALTH AND SOCIAL CARE TRUST

OCTOPUS: A NEW APPROACH TO CLINICAL TRIALS IN MS

Significant advances have been made in the management of MS in the past three decades but the condition remains ultimately progressive and disabling for most. The presentation will give a short overview of the current and potential disease modifying therapies for MS, particularly for those with progressive disease and the challenges faced in patient management. There will be a brief review of the recent MS STAT2 trial followed by a description of the current OCTOPUS study operating across the UK in primary and secondary progressive MS. There will be an outline of the unique trial design from the perspective of MS, eligibility criteria, recruitment, rationale for therapies being studied and progress to date.

POSTER ABSTRACTS

POSTER #1

COGNITIVE RESERVE IN MULTIPLE SCLEROSIS: THE ROLE OF DEPRESSION AND FATIGUE

Aims: Up to 60% of people with multiple sclerosis (pwMS) experience cognitive impairment. Cognitive reserve (CR) may protect against cognitive impairment in MS. CR is typically assessed through proxy measures assessing engagement in enriching activities. These tend to be developed for an older adult population in the context of ageing research. PwMS are a younger population, diagnosed between the ages of 20-40 years. Many pwMS experience fatigue, depression, and anxiety. Yet, the influence of common MS symptoms on engagement with activities that build CR is unclear. This study aimed to examine how CR-building differs between pwMS and a healthy control group and to investigate how common MS symptoms interact with CR-building.
Method: This cross-sectional study was preregistered. 206 pwMS and 150 age- and gender-matched controls participated. Participants completed measures of CR accumulated in early life (prior to the MS-diagnosis) and across the lifespan (education, occupation, leisure activities). Participants also completed self-report measures of cognitive difficulties, fatigue, depression, anxiety, and MS-impact on everyday life.
Results: PwMS had a lower level of engagement in cognitively enriching leisure activities compared to controls. PwMS who engaged more in cognitively enriching leisure activities self-reported lower levels of cognitive difficulty. However, after controlling for fatigue and depression, this association was no longer present. Correspondingly, we observed that higher levels of depression were associated with lower engagement in cognitively enriching leisure activities. Implications: Our results highlight the importance of addressing depression and fatigue in the context of CR research and lifestyle recommendations in MS.

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POSTER #2

SOCIAL COGNITION AND PSYCHOLOGICAL MARKERS OF WELLBEING IN MULTIPLE SCLEROSIS: INITIAL FINDINGS AT 4-YEAR FOLLOW UP.

Introduction: Although alterations in social cognition are a core feature of MS, little is known about social cognition over time in people with MS (pwMS), and associations with mental health. We present preliminary findings from a 4-year longitudinal study exploring the relationship between social cognition, depression, anxiety, and quality of life (QoL) in relapsing remitting (RRMS) and progressive (PMS) MS. Methods: In an initial cross-sectional study, 44 PwMS (21 RRMS) completed social cognition measures (Reading the Eyes in the Mind Test, RMET and Cambridge Mindreading Face-Voice Battery, CFVB) and mental health questionnaires in 2020. Longitudinal follow-up commenced in 2024; so far, 21 participants have been reassessed (9 male; 10 RRMS). Results: Exploratory 2-way analyses of covariance, controlled for age and education, indicated improved ability over time to recognise complex emotion and mental states on the CFVB Faces measure [F(1,19)=4.766; p=0.043]. Exploratory two-tailed independent t-tests showed significantly better performance for RRMS than PMS at baseline (p=0.03) and follow-up (p=0.029). 9 participants returned mental health measures. There was an overall improvement of QoL at follow-up [F(1,5)=9.17; p=0.029]. Depression and anxiety scores were stable over time. Exploratory 2-tailed Pearson partial correlations, controlling for age and years of education, did not reveal any relationships between social cognition and mental health measures. Conclusions: Thus far, data suggest improved processing of facial information at 4-year follow-up, with trends suggestive of better performance of PwRRMS. Data collection is ongoing. Increased statistical power will better enable exploration of associations between variables and potential

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POSTER #3

OCCUPATIONAL THERAPY IN ADULTS WITH MULTIPLE SCLEROSIS: A COCHRANE SYSTEMATIC REVIEW

People with multiple sclerosis (PwMS) report benefits from occupational therapy (OT). This new Cochrane review aimed to synthesize the benefits and harms of OT interventions on daily functioning, participation, and quality of life in PwMS. Two authors independently conducted systematic searches across electronic databases (CENTRAL, MEDLINE, Embase, CINAHL, PsycINFO, Web of Science), focusing on controlled clinical trials of OT in adults with multiple sclerosis. Primary outcome measures included daily functioning, qualityof life, participation and adverse effects. Risk of bias of included studies and overall quality were assessed using Cochrane RoB2/ROBINS-I and GRADEproGDT. We identified 7,388 studies and included 20 individual studies (16 RCTS and four CCTs), with 1310 participants with MS. A wide variety of OT interventions and outcome measures were observed. Ten evaluated fatigue management, nine focus on training of skills or empowering people to deal with their cognitive difficulties in daily activities and one study targeted social participation. Of the 20 included studies, 17 reported outcomes related to daily functioning, 13 to quality of life, and 5 to participation. Meta-analysis revealed no immediate effects on daily functioning of OT compared to an active control (0.23 [-0.13-0.59]), small effects compared to usual care ([1.8 [0.73-2.88]) and small effects compared to wait-list controls (0.93 [0.13-1.74]). No major adverse events were reported. Overall certainty of the evidence was low to very low. Occupational therapy seems a safe and promising intervention. However, due to the low certainty, future high quality and well-powered studies are needed to draw firm conclusions about the effects of OT for people with MS.

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POSTER #4

PRELIMINARY FINDINGS FROM A LONGITUDINAL STUDY EXPLORING THE RELATIONSHIP BETWEEN WORD-FINDING AND DISABILITY IN MS: THE SEARCH FOR A COGNITIVE BIOMARKER.

Introduction: It is suggested that MS-related change in visual object meaning perception (visually-mediated lexical retrieval and confrontation naming) may hold promise as a cognitive biomarker of disability in MS (Yap et al., 2023). Here we present initial longitudinal findings examining the relationship over time between word-finding, information processing speed, and disability in relapsing remitting (RRMS) and progressive (PMS) MS. Methods: So far, 21/44 persons with MS have been reassessed (9 male; 10 RRMS; mean age=52 years; mean education=16.5 years).Measures of word-finding (Visual Naming Test, VAN; Auditory Naming Test, ANT; Rapid Automatised Naming, RAN), information processing speed (Symbol Digit Modality Test, SDMT), mood (Hospital Anxiety and Depression Scale, HADS), and MS-related disability (Expanded Disability Status Scale, EDSS) were completed. Results: On reassessment, PwPMS experienced significantly greater disability than PwRRMS [$t(19)=-5.026$, $p<0.001$], but they did not differ on anxiety or depression. Exploratory 2-tailed Pearson correlations, adjusted for age and years of education, indicated that greater disability was associated with slower information processing speed [$r=-0.761$; $p<0.001$], slower visually-mediated word retrieval [$r=0.982$; $p<0.001$], and slower visually-mediated object naming [$r=0.684$; $p=0.001$]. Disability was not associated with VNT or ANT naming errors, nor RAN object naming. Better SDMT performance was negatively correlated with response times on the VNT [$r=-0.935$, $p=0.002$]. Mood did not correlate with cognitive performance. Exploratory 2-way analyses of covariance, controlled for age, years of education, and information processing speed, showed no significant main effects or interactions for RAN or ANT performance. However, response times for visually-mediated word retrieval were significantly slower for PwPS [$F(1,16)=22.099$, $p<0.001$; $\eta 2=0.58$]. Conclusions: Initial longitudinal findings suggest that greater MS-related disability is associated with slower processing speed and performance on tasks measuring visual object meaning perception, with greater difficulties in visually-mediated object naming experienced by PwPMS. Follow-up of PwMS and healthy controls is ongoing. Increased statistical power will facilitate further exploration of a word-finding biomarker hypothesis.

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POSTER #5

THE EFFECT OF PHYTOCANNABINOIDS AND PPARγ (ANT)AGONISTS ON REACTIVITY IN HUMAN-INDUCED PLURIPOTENT STEM CELL-DERIVED ASTROCYTES

There is growing evidence that inflammation plays a role in neurodegenerative diseases, including Multiple Sclerosis. Astrocytes and microglia are thought to play a central role in neuronal dysfunction and death. This study utilises a human model of inflammation, which involves differentiating astrocytes from human-induced pluripotent stem cells (iPSC), followed by stimulation with the microglial-secreted factor interleukin-1 alpha (IL-1α). This stimulation promotes a reactive phenotype in astrocytes, which permits the assessment of possible neuroprotective candidates such as cannabinoids and PPARγ agonists and antagonists.

The iPSC-derived astrocytes were pre-treated with PPARγ agonist (pioglitazone), PPARγ antagonist (T0070907) and/or cannabinoids, then stimulated with IL-1α to induce reactivity. The astrocyte reactivity profile was examined via ELISA. qPCR analysis was conducted to assess the expression of reactivity genes and expression levels of PPARγ receptors. Our data suggest that treatment with cannabinoids can downregulate astrocyte reactivity via different signalling pathways, while the inhibition of PPARγ receptors with T0070907 further enhanced this shift towards a more anti-inflammatory environment. qPCR analysis revealed that in reactive astrocytes, the genes encoding the CB1, PPARα and PPARγ receptors are significantly downregulated, but treatment with cannabinoids resulted in a significant downregulation in reactive gene expression. The effect of PPARγ agonist and antagonist is yet to be further analysed via ELISA and qPCR. However, given preliminary results, we expect T007009 to further downregulate the expression of reactive genes. To conclude, cannabinoids and PPARγ (ant)agonists may have a therapeutic effect on astrocyte reactivity in response to specific pro-inflammatory stimuli, thus modulating inflammation in neurodegenerative diseases.

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POSTER #6

MHC-II IS REQUIRED FOR EFFICIENT CENTRAL NERVOUS SYSTEM REMYELINATION

Multiple sclerosis (MS) is an immune-mediated inflammatory disease of the central nervous system (CNS), characterised by the loss of myelin and oligodendroglia (demyelination). Although myelin regeneration (remyelination) can occur in MS, it often fails, leading to disease progression and subsequent disability. While there are no remyelinating therapies available, regulatory T cells (Treg) have been shown to promote oligodendrocyte progenitor cell (OPC) differentiation and myelin regeneration in the CNS. The mechanisms underlying this effect remain mostly unknown but have been linked to the T cell activator MHC-II. In MS, MHC-II is highly expressed in de- and remyelinating lesions and can be upregulated by glial cells important to myelin regeneration (microglia, astrocytes, and oligodendrocytes). To further understand the functional significance of MHC-II in CNS regeneration, we used in vitro OPC-T cell co-cultures and an in vivo model of lysolecithin-induced demyelination in WT and MHC-II-deficient mice.

Surprisingly, we found that Treg cells significantly drive OPC differentiation independent of MHC-II in vitro. Immunofluorescence staining of demyelinated spinal cord sections also revealed the absence of MHC-II does not significantly affect the number of oligodendrocyte lineage cells, proliferating OPCs and differentiated oligodendrocytes, but did impair early axonal engagement and the density of proliferating microglia/macrophages. For microglia/macrophages, impairments in proliferation were rescued by adoptively transferred Treg in MHC-II KO mice. Taken together, these data suggest a novel MHC-II-independent mechanism of Treg-driven OPC differentiation, and a possible requirement for Treg in the microglial/macrophage response to demyelination. Ongoing work is investigating the mechanisms by which Treg function beyond what is classically known in MS.

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POSTER #1

ALTERED EXPRESSION OF ENDOPLASMIC RETICULUM STRESS AND OXIDATIVE STRESS PROTEINS IN PBMCS FROM A MULTIPLE SCLEROSIS COHORT

Background: Endoplasmic reticulum (ER) and oxidative stress are key contributors to multiple sclerosis (MS) pathogenesis, promoting autoimmune-driven demyelination. The ER stress response, particularly the unfolded protein response (UPR), is activated by inflammatory mediators, viral infections, or increased protein load and aims to restore ER homeostasis. Moreover, oxidative stress arises from an imbalance between pro-oxidants and antioxidants, with a dominance of pro-oxidants. While changes in ER and oxidative stress markers have been observed in the central nervous system (CNS) of MS patients, their expression in peripheral blood mononuclear cells (PBMCs) remains unexplored. Methods: Blood samples from 37 MS patients and 23 age- and sex-matched healthy controls were analysed. Gene expression of BiP, CHOP, calreticulin, PERK, XBP1, ATF-6, GRP94, SOD2, HO1, GCLC, Nrf2, and NFκB1 was measured in PBMCs using real-time PCR. Additionally, an inflammatory panel of cytokines and chemokines was assessed in serum samples via flow cytometry. Results: Gene expression of PERK (p=0.001), calreticulin (p=0.009), XBP1 (p=0.007), GRP94 (p=0.000), and Nrf2 (p=0.001) was significantly reduced in MS patients, while GCLC (p=0.000), HO1 (p=0.020), and NFκB1 (p=0.014) genes were significantly upregulated compared to controls. No significant differences in serum inflammatory markers were observed. Conclusion: Building on our earlier findings in animal models and MS brain tissue (1, 2, 3), we report for the first time altered ER and oxidative stress gene expression in PBMCs of MS patients. These results suggest a systemic stress response beyond the CNS and highlight the potential of peripheral biomarkers for understanding MS and guiding therapeutic development.

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POSTER #8

INVESTIGATING THE ROLE OF C-TYPE LECTIN RECEPTORS IN MURINE CENTRAL NERVOUS SYSTEM REMYELINATION

Multiple sclerosis (MS) is an immune-mediated demyelinating condition of the central nervous system (CNS). Currently, there are no clinically approved drugs available which promote remyelination, a regenerative process driven by oligodendrocytes. Immune cells contribute towards the damage that occurs in MS, but they are also essential for CNS remyelination to occur in animal models of MS. Microglia and infiltrating macrophages phagocytose myelin debris and secrete pro-regenerative factors – both of which are crucial for efficient remyelination. These cells also express the C-type lectin receptors (CLRs) Dectin-1, Dectin-2 and Mincle, pattern recognition receptors which bind carbohydrate moieties, including endogenous ligands released during tissue damage. Some of the glycoproteins they bind are present in myelin, suggesting CLRs have the capacity to bind myelin or myelin debris. Furthermore, Dectin-1 has been shown to ameliorate experimental autoimmune encephalomyelitis and promote axonal regeneration in mice. Therefore, we hypothesised that CLRs on microglia and infiltrating myeloid cells promote CNS remyelination via phagocytosis of myelin debris. To test this hypothesis, the demyelinating toxin lysolecithin was injected in the spinal cord ventral white matter of wild type (WT) and Mincle, Dectin-2 and Dectin-1 deficient (MD2D1-/-) mice. At 5 days post-lesion (dpl), debris MBP (dMBP) clearance was significantly reduced in MD2D1-/- mice. Furthermore, at 14 dpl, oligodendrocyte progenitor cell (OPC) proliferation was significantly increased, and OPC differentiation was significantly decreased in MD2D1-/- mice. These results suggest that CLRs may mediate myelin debris clearance and regulate remyelination in the mouse CNS, justifying the need for further investigation.

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POSTER #9

INVESTIGATING CHANGES IN RETINAL PATHOLOGY IN RELAPSING-REMITTING (RRMS) VS SECONDARY PROGRESSIVE (SPMS) MULTIPLE SCLEROSIS CASES

Multiple Sclerosis (MS) is an immune-mediated, neurodegenerative disease, characterised by demyelinating lesions that manifest in the central nervous system (CNS). Damage to myelin disrupts axonal signalling, promotes neurodegeneration and leads to progressive neurological impairment. Recent studies have shown that in some neurodegenerative disorders, disease pathology present in the brain can similarly manifest in the eye. MS-associated retinal histopathology remains largely unexplored and whether cellular changes in the eye hold a predictive value for disease progression are unknown. Using the Dame Ingrid Allen Tissue Collection, a globally unique resource of matched brain and eye MS tissue, we aim to investigate changes in retinal cell populations in RRMS vs SPMS to better understand how MS disease pathology may manifest in the eye. To this end, we first clinically classified a cohort of specialised MS cases that precede intervention of disease-modifying therapies, therefore reflecting natural MS pathology. Matched brain and eye tissue blocks underwent histological preparation via tissue sectioning and haematoxylin and eosin (H&E) staining for visualisation of cellular architecture by microscopy. Next, we plan to quantify and compare cell density in the primary neuronal layers of the central and peripheral retina in MS subtypes. Image analysis will be completed in a double-blinded fashion using Qupath. As an extension of the CNS, the retina holds potential as a more accessible site to monitor disease progression and treatment response. With rapidly developing optical technology, this could hold significant therapeutic and prognostic value for MS patients.

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POSTER #10

INVESTIGATING THE EYE AS A WINDOW TO BRAIN INFLAMMATION IN MULTIPLE SCLEROSIS

In Multiple Sclerosis (MS), disease-modifying treatments are effective in reducing relapses caused by acute inflammation but have little impact on later, progressive stages of MS. These difficult-to-treat stages are associated with CNS-intrinsic inflammation, that is relatively self-sustaining, behind an intact blood-brain-barrier, rather than continually supplied by blood-derived cells. Termed 'compartmentalised inflammation' this aspect of MS is not easily detectable in living patients making it difficult to monitor and test new treatments for. Neurodegeneration and inflammation occur in the retina in MS and correlate with brain atrophy, but the nature of retinal inflammation is not well described. If the phenotype and mechanisms of inflammation in the eye reflect that of the brain, the eye may be a more accessible tissue to study this important pathogenic aspect of MS. We hypothesise that compartmentalised inflammation develops in the retina in MS and is immunologically similar to compartmentalised inflammation in the brain. To test this hypothesis, we are characterising and grading inflammation in matched post-mortem MS eye and brain tissue. With this tissue set, we will apply high-parameter multiplexed immunofluorescence staining (Phenocycler) to gain a deep profile of inflammatory cells and functional states in eye and brain, maximising knowledge gleaned from these rare tissue sections. Integrated analysis of datasets will determine if immunological profiles of inflammation in the eye has predictive value for compartmentalised inflammation in brain. These studies will provide deep knowledge of retinal inflammation and explore the predictive value of the eye to investigate CNS inflammation in MS.

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POSTER #11

NEUROLOGISTS' PERSPECTIVES OF CANNABIS-BASED MEDICINES: RESULTS FROM AN ALL-IRELAND SURVEY

Introduction: The prescription of cannabis-based medicines in Ireland is a debated topic. At present, consultants can prescribe specific cannabis-based products for a restricted set of indications in Ireland, with neurologists being at the forefront of therapy. The aim of this study was to conduct a national survey to determine the perspectives of Irish neurologists regarding the use of cannabis-based medicines. Methods: An online anonymous survey was conducted from March to July 2024 to capture the perspectives and experiences of neurologists in Ireland regarding cannabis-based therapeutics. This survey was distributed to neurologists in the Republic of Ireland and Northern Ireland through the Irish Institute of Clinical Neuroscience. Results: Thirty-four neurologists completed the survey. The data portrayed a need for educational programmes on cannabinoid-based medicines, and conveyed that Irish neurologists are interested in the use of these therapies in their practice. The study found that one-third of participants have made an application to assess cannabis-based products on behalf of a patient. Conclusion: The study found that the majority of neurologists are aware of the systems in place to access cannabis-based products for medical use, and that there is a need for educational programmes regarding the clinical and legal aspects of prescribing.

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MEET OUR SPEAKERS

MEET OUR SPEAKERS

PROFESSOR DENISE FITZGERALD

PROFESSOR OF NEUROIMMUNOLOGY, WELLCOME-WOLFSON INSTITUTE FOR EXPERIMENTAL MEDICINE, SCHOOL OF MEDICINE, DENTISTRY AND BIOMEDICAL SCIENCE, QUB

Denise completed her B.Sc. in Cell Biology and Molecular Genetics at University College Dublin (1996-2000) where she then went on to pursue her PhD in Immunology under the mentorship of Prof. Alan Baird (2000-2004). During this time Denise developed a keen interest in demyelinating diseases of the CNS and in 2004 she moved to Thomas Jefferson University, Philadelphia to pursue postdoctoral training in MS research. During that time, Denise was awarded a postdoctoral fellowship from the National Multiple Sclerosis Society (USA) which supported her commitment to researching CNS demyelination. In 2009, Denise moved to Queen's University Belfast (QUB) to start her own independent research group. In 2015 she became Northern Ireland's first recipient of a Wellcome Trust Investigator Award and became Professor of Neuroimmunology in 2018. She was awarded the QUB Vice-Chancellors prize for Research Innovation (2017) and the QUB Staff Excellence Award for Outstanding Leadership (2018). Her work on immune-mediated myelin regeneration was awarded the 2018 UK MS Society's Annual Research Prize. She founded the Northern Ireland MS Research Network which was awarded the 2021 QUB Vice-Chancellor's Prize for Research Culture and the 2023 British Society for Immunology 'Outstanding Team Award' and has grown to become the Northern Ireland MS Research Hub, launched in 2025. She has contributed significantly to the development of Postdoctoral Career Development support programmes at QUB. The focus of her research team is uncovering mechanisms of how the immune system influences tissue regeneration in the Central Nervous System.

MEET OUR SPEAKERS

DR ERIC DOWNER

ASSOCIATE PROFESSOR, SCHOOL OF MEDICINE
TRINITY COLLEGE DUBLIN

Dr. Eric Downer is an Associate Professor and Fellow at Trinity College Dublin. He was recently appointed as the Associate Director of Research in the School of Medicine at Trinity. He is currently involved in teaching Physiology to +600 Medical, Physiotherapy, Science, Radiation Therapy, OT and Biomedical Science students. He previously held a position as Lecturer in Anatomy & Neuroscience in UCC (2013 - 2015), where he also acted as Director of the Biosciences Imaging Centre. He was also the Director of the Human Health & Disease BSc programme at Trinity from 2015 - 2024. His research lab is interested in neuroimmunology, with emphasis on the role of the innate immune system in neuroinflammatory conditions. He has a particular interest in the cannabinoid system, and its role in regulating neuroinflammation. His research in this field has made contributions to our understanding of novel anti-inflammatory therapies, particularly in the context of MS. In recognition of his contributions to research and education, he is the recipient of the Royal Academy of Medicine in Ireland Early Career Award (2009), Neuroscience Ireland Early Career Investigator Award (2013), Deans Teaching Initiative Award (2016), Provosts Excellence in Teaching Award (2021), and was elected to Fellowship in Trinity in 2023.

MEET OUR SPEAKERS

MARIA MUNOZ SAN MARTIN

María Muñoz San Martín graduated in Biotechnology from Universidad de León (2013) and earned a Master's in Applied Microbiology from Universidad Autónoma de Barcelona (2014). In 2016, she was awarded the FI-2016 fellowship from AGAUR to pursue her PhD at the Institut d'Investigació Biomèdica de Girona (Spain), where she investigated circulating microRNA profiles in serum and cerebrospinal fluid across multiple sclerosis clinical phenotypes. In February 2021, she secured the prestigious Marie Skłodowska-Curie Actions Individual Fellowship (MSCA-IF) to join Dr. Claire McCoy's/Dr. Jennifer Dowling's groups at the Royal College of Surgeons in Ireland. From 2021 to 2023, she led a project exploring the role of microRNAs in demyelination and remyelination using organotypic brain cultures. In November 2023, she was awarded a Juan de la Cierva Contract Grant to join Dr. Julio Pascual's group at Instituto de Investigación Sanitaria Marqués de Valdecilla (Santander, Spain). Throughout her career, María has participated in 10 research projects — including two pivotal to her trajectory: the MSCA-IF project and her first project as principal investigator, where she is developing in vitro human models to study astrocytes and AQP4 in glymphatic dysfunction. This year, she was awarded the Cajal Grant (area of Neurology), from Cátedra UAM – Merck Innovación en Ciencia y Salud, to advance her research on miR-21 and remyelination. Her scientific output includes 13 publications (four as first author), 19 conference contributions (including an invited talk at the International Progressive MS Alliance Congress, Vienna, 2023).

MEET OUR SPEAKERS

DR LAJOS CSINCSIK

RESEARCH FELLOW

OPHTHALMIC IMAGING READING CENTRE

QUEEN'S UNIVERSITY BELFAST

Dr Lajos Csincsik is a Postdoctoral Research Fellow at the Ophthalmic Imaging Reading Centre, Queen's University Belfast. He specialises in studying retinal changes associated with neurodegenerative conditions, particularly multiple sclerosis (MS), with the goal of identifying reliable retinal biomarkers of disease activity and progression. Dr Csincsik is a co-applicant on a recently awarded major strategic grant in MS research and leads the development and delivery of the clinical eye imaging component of the project.

MEET OUR SPEAKERS

DR FIADHNAIT O'KEEFFE

SENIOR LECTURER

UNIVERSITY COLLEGE CORK

Dr Fiadhnait O'Keeffe is a Senior Lecturer in Clinical Psychology on the Doctorate Programme of Clinical Psychology in the School of Applied Psychology in University College Cork (UCC) and adjunct Professor with the School of Psychology in University College Dublin (UCD). She has an active clinical research programme in neuropsychological and mental health outcomes following neurological and physical health conditions. Fiadhnait is an experienced clinical psychologist and clinical neuropsychologist. Her most recent clinical role was Principal Specialist Neuropsychologist in St Vincent's University Hospital in Dublin, where she established the SVUH Neuropsychology service. Fiadhnait has worked directly clinically and through her clinical research programme with people with MS in many different contexts, with a particular focus on understanding and supporting neuropsychological aspects of MS.

MEET OUR SPEAKERS

DR SINÉAD HYNES

SENIOR LECTURER

UNIVERSITY OF GALWAY

Dr Sinéad Hynes is a Senior Lecturer at the University of Galway and a CORU-Registered Occupational Therapist. Her research career has been exclusively in patient-focused, rehabilitation and symptom management, particularly with people with multiple sclerosis. Public and patient involvement (PPI) is the cornerstone of her research and she is constantly challenged by the PPI contributors she works with. She completed her PhD at the University of Cambridge and from here worked in the NHS as an occupational therapist and trial manager before moving to Canada for a postdoc funded by the US MS Society. Following this, she took up her current lecturing post at the University of Galway in 2015. She is a member of the Galway Neuroscience Centre and an MS Ireland representative on The European Committee for Treatment and Research in Multiple Sclerosis (ECTRIMS) Council.

MEET OUR SPEAKERS

DR REBECCA MAGUIRE

ASSOCIATE PROFESSOR
MAYNOOTH UNIVERSITY

Dr Rebecca Maguire is an Associate Professor in the Department of Psychology at Maynooth University. She holds a BA (Hons) in Psychology and an MA and PhD in Cognitive Science from University College Dublin. Rebecca has a number of research interests which span various disciplines, and has published over 80 articles in fields such as health, education, psychology, philosophy and computer science. Her current research is situated in the field of health psychology, with a specific focus on the impact that living with chronic illness can have on both patients and their family members. Building on her work in psycho-oncology, Rebecca began conducting research in the area of multiple sclerosis in 2019. This was also inspired by her own experience as a patient (Rebecca has been living with MS for over 15 years). Since then, she has been involved in projects with the European MS Platform (EMSP), the International Women in MS (iWiMS) research group, and MS Ireland, where she is also a board member and chair of the Research, Advocacy and Communications subcommittee.

MEET OUR SPEAKERS

DR GUIDO GIUNTI

NEUROINSIGHT FELLOW & DIGITAL THERAPEUTIC LEAD

TRINITY COLLEGE DUBLIN

Dr. Guido Giunti is a medical doctor specialized in digital health design and development. He completed his medical studies in Argentina and received training in Family Medicine and Primary Care. Dr. Giunti has worked in academic, clinical, and industrial settings at top organizations in Europe, including the University of Oulu in Finland, TU Delft in the Netherlands, and Trinity College Dublin in Ireland. Dr. Giunti is also an entrepreneur, having co-founded "TEDxUBA", the TEDx event of the University of Buenos Aires, and designed the educational video game "Immune Defense" about how the immune system fights off infections. He has combined his medical, technological, entrepreneurial, and design expertise to lead the development of "More Stamina", an evidence-driven self-management gamified digital health solution for people with Multiple Sclerosis. Dr. Giunti's work has received numerous awards, including a Marie Sklodowska-Curie fellowship, the Best Doctoral Dissertation award in his field, and recognition as one of Finland's top healthcare innovators by the medical magazine Mediuutiset. In 2021, he was selected as one of Argentina's Ten Outstanding Young Persons by the Junior Chamber International due to his work on medical innovations. In 2024, Guido received the Changemaker in Health and Global Patient Innovator award by HIMSS. Dr. Guido Giunti currently works in Trinity College Dublin on the topic of Digital Therapeutics for chronic conditions.

MEET OUR SPEAKERS

DR CIARA O'MEARA

Ciara O'Meara is an Assistant Professor in General Nursing at the School of Nursing & Midwifery at the University of Galway. Ciara completed her undergraduate training at University College Cork and her expertise lie in the areas of cardiology and neurology, with a specific interest area in Multiple Sclerosis. She is also a Registered Nurse Tutor, having completed her Masters in Health Sciences (Nursing Education) at the University of Galway. Her research thesis looked at 'Parents' Experiences of a Multiple Sclerosis Diagnosis in their young adult sons/daughters: An interpretative phenomenological approach'. Ciara is part of an international research team, currently finalising their Cochrane Systematic Review on 'Occupational Therapy in Adults with Multiple Sclerosis'. She brings a unique perspective to the concept of PPI; Ciara is an early career researcher herself, recognising the importance of involving and collaborating with members of the public and patients within her own research. She also incorporates her own lived experience of being a patient contributor to research, having lived with Multiple Sclerosis for the past 15 years.

PPI PANELISTS

MEET OUR SPEAKERS

JOAN ALABOSON

MAYNOOTH UNIVERSITY

Joan Alaboson is a 3rd year PhD student in the Department of Psychology, Maynooth University. PPI is central to my PhD project, exploring the role of peer support in improving the wellbeing of people with MS (and their families and friends), which has been co-designed with the input and validation of PwMS, their families, and MS Ireland staff involved in providing a range of supports to PwMS in Ireland.

DECLAN GROEGER

PPI CONTRIBUTOR

Declan has been a PPI contributor to a number of projects over the last few years, including sitting on panels for the HRB and ICGP. Declan is 68 years old and has lived with MS for 31 years. As Declan notes: “I'm quite happy to share my story and if I can help researchers in any way I'm happy to in the full knowledge that I personally won't benefit but it may future generations. It also keeps me interested and in contact.”

PPI PANELISTS

MEET OUR SPEAKERS

SORCHA BOYLE

Sorcha is from County Louth, a mam of one and a qualified midwife. Living with RRMS since 2014 and refractory to medication, Sorcha underwent HSCT for MS in London in 2022. Sorcha is an IPPOSI Graduate, EUPATI Fellow and chair of the Irish ENP. She is interested in patients being embedded in research, and also patients being educators in the classroom based training of healthcare professionals.

ALISON COTTER

Alison is the Advocacy and Research Officer at MS Ireland, where she focuses on research to drive evidence-based neurological healthcare policy. A Law and Business graduate from the University of Galway, she has worked in advocacy since 2019, including in the Oireachtas. Since joining MS Ireland in 2022, she has prioritised representing the needs of people with MS and other neurological conditions in national policy. Alison serves on the AIMS RN Executive Committee and is Vice Chair of the Neurological Alliance of Ireland, working to advance research and influence decision-making.

PPI PANELISTS

MEET OUR SPEAKERS

PROFESSOR SUSAN COOTE

MS IRELAND

Susan is UL Adjunct Clinical Professor and MS Irelands Exercise and Physiotherapy coordinator. She is a member of the UL Health Research Institute and Centre for Physical Activity and Health Research. She works translating the evidence for exercise and physiotherapy for MS in clinical practice leading a team of directly employed physiotherapist and contractor physio, yoga and fitness instructors. She was Associate Professor of Physiotherapy at UL, specialising in neurological rehabilitation. She was appointed to UL in 2003 and taught and researched in the area of neurological rehabilitation at undergraduate and postgraduate levels until 2019. She was the director of the MS Research team at UL. She leads a programme of work that is a collaboration with Multiple Sclerosis Ireland, UL and the HSE. Her research mission is “to reduce symptom severity and improve quality of life for people living with MS through research and education that impact on practice”. Her recent research agenda has concerned the application of physiotherapy and exercise interventions for people living with MS with a range of mobility limitations, in a community health care setting. She has expertise in leading multicentre RCT’s of exercise interventions, studies evaluating the effects of augmenting exercise with technology, evaluating measures of physical activity, and qualitative research of participant and carer perceptions of interventions.

RESEARCH AT MS IRELAND

MEET OUR SPEAKERS

DR AUSTIN FAHY

RSCI SIM

Dr. Austin Fahy is a post-doctoral researcher working in RCSI SIM centre. He specializes in the use of mixed-methodology in the field of health psychology. He is interested in exploring experiences of anxiety in PwMS, with a focus on investigating supports that can help with the reduction and management of this experience.

FIONA MAGILL

MS NURSE

BELFAST TRUST

Fiona Magill graduated from Queens University in Belfast with BSc in Nursing Sciences in 2005. Took up first Nursing post in the Regional Neurology unit in Royal Victoria Hospital also in 2005. Worked there until 2013 when I took up role as Multiple Sclerosis Nurse in Belfast Trust. 2020 became the first Multiple Sclerosis Research Nurse in Northern Ireland. This was originally for 2 years, but was extended due to uptake of MS Research in Belfast. Also, in 2018 qualified as a Clinical Reflexologist. Work closely with one of the MS Society groups providing Reflexology to their members once a month, along with providing Reflexology to Neurology inpatients in the Neurology Rehabilitation unit in Musgrave Park Hospital Belfast.

RESEARCH AT MS IRELAND CLINICAL RESEARCH AND PERSPECTIVES

MEET OUR SPEAKERS

AUDREY REYNOLDS

Audrey Reynolds is a neurology SpR and current UCD Newman Clinical Multiple Sclerosis Fellow in St Vincent's University Hospital Dublin. She has worked in clinical neurology since 2017. She is undertaking a doctoral research degree looking at longitudinal analysis of physical, speech and cognitive markers of disability in multiple sclerosis.

DR SARAH CASEY

Dr Sarah Casey is Principal Clinical Neuropsychologist at St. Vincent's University Hospital. Sarah champions a compassionate, holistic approach in neuropsychological assessment, rehabilitation, and therapeutic interventions with patients under the care of the SVUH Neurology Department. In her work with people with MS, Sarah uses evidence-based interventions, adapted and tailored to the individual, to improve mood, psychological wellbeing, functional participation in valued activities, and quality of life. Sarah is a Chartered Clinical Neuropsychologist with the Psychological Society of Ireland's Division of Neuropsychology, and a HCPC-registered practitioner psychologist in the UK. Sarah is an Adjunct Professor with the UCD School of Psychology, and she delivers academic workshops on clinical neuropsychology to professional psychology doctoral trainees and masters students in both UCD and TCD. She has peer-reviewed publications in neuroscience and neuropsychology. At a national level, Sarah represented the Division of Neuropsychology on the HSE's NCP for Rehabilitation Medicine HSCP Working Group. Sarah was a co-lead in the development of the Adult Specialist Competences Framework for Clinical Neuropsychology in Ireland.

CLINICAL RESEARCH AND PERSPECTIVES

MEET OUR SPEAKERS

DR GAVIN MCDONNELL

Dr Gavin McDonnell graduated from Queen's University Belfast (QUB) in 1990 and obtained an MD in 1998 following a thesis on the Epidemiology, Immunology and Genetics of MS. During his specialist training he worked in Belfast, Edinburgh and Vancouver. Since 2002 he has been a Consultant Neurologist in Belfast with a subspecialist interest in MS and is an Honorary Senior Lecturer at QUB. A former Training Programme Director for Neurology in NI and Clinical Lead for Neurology in the Belfast Trust, he has retained his interest in MS research. He helped to establish the original NI MS Research Network and has been involved in a number of research trials and collaborations, including with colleagues at QUB. He is a medical advisor to the UK MS Society and is currently on the CAG for the UK MS Registry. He is currently the local PI for the OCTOPUS trial in progressive MS.

KEYNOTE PRESENTATION

ACKNOWLEDGMENTS

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