

Mingling of minds and expertise – the 2015 Progress in MS Research Conference

10th December, 2015



The 2015 Progress in MS Research Conference, held recently in Melbourne, was a resounding success with researchers and clinicians from all over Australia coming together to discuss results and ideas. They were joined by an outstanding group of international keynote speakers who travelled from the US and Italy to share their expertise. The biennial Progress in MS Research Conference is coordinated by MS Research Australia with a Scientific Program Committee to showcase the latest results of investigators from all fields of MS research.

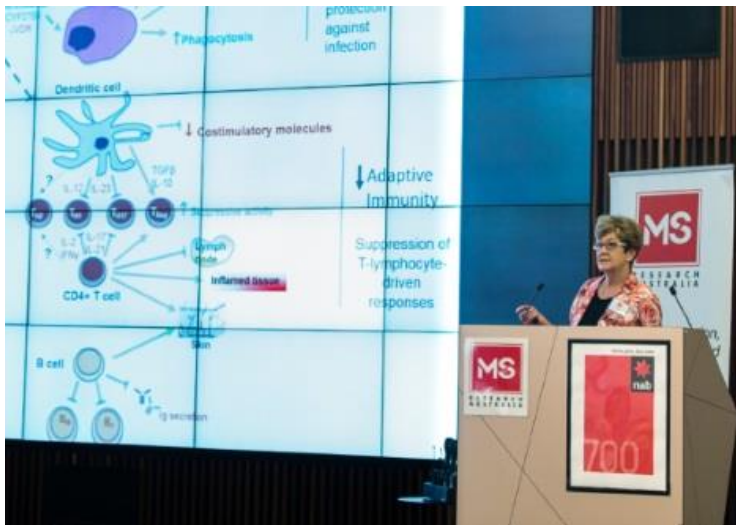
Professor Helmut Butzkueven, MS Research Australia Conference Convenor.

This year's conference revealed an impressive array of young talent in Australia, particularly in the areas of myelin repair, genetics and clinical research. These inspiring researchers represent a promising future which will benefit people with MS in Australia and worldwide.

Feedback on the conference from researchers has been very positive. Keynote speaker Professor Prue Hart, from the University of Western Australia said, 'It was a wonderful conference with a very positive, exciting atmosphere, I have come back with lots of new ideas for MS research'.

Visiting keynote speaker, Professor Luca Battistini from Italy, commented that the conference showcased the impressive breadth of Australian MS research. He said, 'It has been excellent to see the collegiate atmosphere here, and enjoy the discussions with researchers from so many different fields.'

Congratulations to all of the young investigators who presented their work at this conference, but in particular, to Mr Nathaniel Lizak from Monash University for his 'Best Oral Presentation' on the role of MS treatments in slowing disability progression, and to Dr Lucinda Black from the Telethon Kids Institute, WA, for her 'Best Poster' on the accurate measurement of vitamin D concentrations in clinical and research settings.



Professor Prue Hart, Telethon Kids Institute, WA.

Vitamin D and UV

Dr Annette Langer-Gould from Kaiser Permanente Research and the University of Southern California, USA, spoke about her research on the role that vitamin D plays in people from different ethnic backgrounds. Her work suggests that while low ultraviolet (UV) light exposure is universally associated with a greater risk of MS, low levels of vitamin D are not a risk factor for people from an African American background, confirming that these two MS risk factors work independently. Her presentation was complemented by Professor Prue Hart from the Telethon Kids Institute, WA who discussed her work on the direct effects of UV light and vitamin D on the immune system. There were also several presentations from emerging researchers on their findings on vitamin D and immune cells.

Genetics

The sessions on the Genetics of MS really showcased the multiple strengths of Australian MS researchers in this area and revealed the enormous body of work that is going on to unpick the exact function of the more than 100 MS risk genes in modifying the immune system in MS. This included presentations on the next wave of genetic research, such as understanding the chemical tags that regulate genes and can alter the function of immune cells.



(L - R) Dr Lisa Melton, Dr Kaylene Young, Professor Helmut Butzkueven (convenor), Associate Professor Jenny McGinley and Professor Robyn Lucas. Missing from photo is Dr David Nolan.

Myelin repair

Assistant Professor Jia Liu from the Icahn School of Medicine at Mount Sinai in New York kicked off an inspiring session on myelin repair and regeneration. She outlined her work investigating the role that myelin damage and repair plays in the psychiatric symptoms of MS such as depression. She was followed by an impressive series of young Australian researchers who are working on understanding the biology of myelin growth and repair – together their work reveals great potential that molecules and drugs will ultimately be found to enhance the natural myelin repair mechanisms in the brain.

Pathology and immunology

Professor Luca Battistini from the Fondazione Santa Lucia in Rome, shared his experiments to physically sort the immune cells in the blood of people with MS and reveal the cells involved in managing the response to the Epstein Barr Virus (EBV), another strong risk factor for MS. His work and that of Australian researcher, Professor Michael Pender, confirms that people with MS have a deficient response to EBV and confirms the important role that B cells of the immune system play in the disease.

Microparticles and platelets

A very intriguing session revealed that platelets, traditionally only thought to play a role in blood clotting, play an active role in inflammatory diseases including MS. Dr Jacqueline Orian from La Trobe University, presented results from her collaboration with Professor Karlheinz Peter from the Baker IDI Heart Research Institute. Together they have revealed that platelets

infiltrate the brain and spinal cord before immune cells in animal models of MS-like disease. This may be a useful method to track disease activity over time, using specialised imaging techniques. Other researchers in this session presented work on the smaller cousins of platelets, known as microparticles, which are also active in the MS disease process. This is an emerging area that has great potential for improving MS diagnosis and monitoring as well as revealing clues about the biology of MS.



Mr Nathaniel Lizak, Monash University was awarded the Young Investigators Best Oral Presentation.

Physical activity and optimising health in MS

Professor Mary Galea from the University of Melbourne discussed the factors that present both barriers and enablers for physical activity for people living with disability. She shared learnings from an extensive program designed to increase the uptake and persistence of physical activity in people with spinal cord injuries which was conducted at various gyms in the community. Increased ‘incidental’ physical activity as well as more formal planned exercise, have both been shown to have health benefits in rehabilitation, and improving depression and anxiety.

Clinical outcomes and epidemiology

Predicting disease course in MS and assisting the treatment decisions that doctors and people with MS must make, was the focus of one of the final sessions in the conference. ‘Real-world’ clinical data from people with MS collected over many years, has identified personal and genetic factors that predict disease progression, and the benefits of both early treatment and treatment continuation.



(L - R) Dr Jerome Staal, University of Melbourne, Dr Tobias Merson, Florey Institute of Neuroscience and Mental Health and Dr Stan Mitew, University of Melbourne.

Progressive MS

The final session of the conference showcased current and future work into progressive forms of MS, including work towards a much needed, accurate measure and definition of progressive MS to facilitate clinical trials and treatment, a project to investigate the risk factors for primary progressive MS, and the work of the International Progressive MS Alliance (of which MS Research Australia is a managing member) in funding and focussing attention on progressive MS research.