

Modern approaches



Dr. Alan J. Thompson pioneers groundbreaking work in MS diagnosis and rehabilitation.

by Susan Worley

Alan J. Thompson, MD, the recipient of the 2017 John Dystel Prize for Multiple Sclerosis Research, has devoted more than 35 years to the treatment and care of people with MS. Among his many contributions, he is perhaps best known for his work with magnetic resonance imaging (MRI), to modernize the diagnosis of primary progressive MS and his efforts to find rehabilitation solutions for people living with this disease.



Alan J. Thompson, MD, has contributed to modernizing the diagnosis of primary progressive MS. Photo courtesy of Alan J. Thompson

“We’re delighted to present the 2017 John Dystel Prize for MS Research to Dr. Thompson, who pioneered the research of progressive MS and was instrumental in using magnetic resonance imaging to determine the criteria for diagnosis,” says Bruce Bebo, PhD, the Society’s executive vice president of research. “Dr. Thompson has played an integral role in opening up the way to understanding the complexities of progressive MS.”

The prestigious John Dystel Prize, jointly awarded by the Society and the American Academy of Neurology, is made possible by a research fund established by the late Oscar Dystel, who was a member of the Society’s National Board of Directors, and his late wife, Marion. The prize is awarded each year in honor of their son John Jay Dystel, who died from complications of MS.

Lifelong career

Dr. Thompson was still a medical student at Trinity College in Dublin during the 1970s when he decided to pursue a lifelong career in MS research.

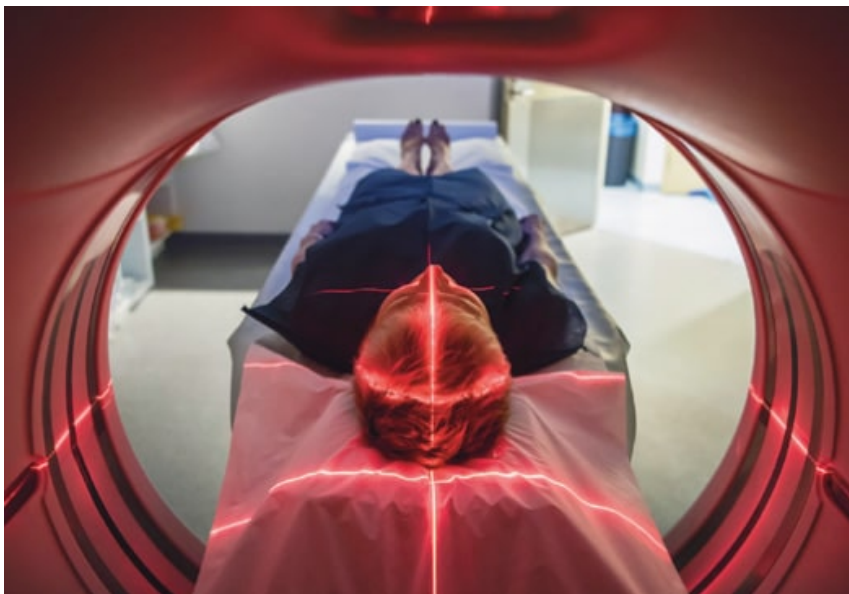
“I have always been drawn to challenging areas of research,” says Thompson, dean of the University College London Faculty of Brain Sciences. “Particularly those that, if resolved, could have a major impact on patients. Once I decided to study neurology, I was drawn to multiple sclerosis in part because it is a very common condition in Ireland.

“Back in those days, there were no treatments for the disease and no active approach to the

management of the disease. It seemed that most of the fundamental questions around causation and mechanisms had yet to be answered. With the naivety of youth, I felt sure this was something to which I could contribute.”

Dr. Thompson says that he was fortunate to have an opportunity to begin research on biomarkers in MS (immunological markers in the blood and spinal cord) under the guidance of his mentor, Dr. Michael Hutchinson, in Dublin. By another stroke of good luck, this research post was funded with the proceeds of a concert given by the famous conductor and pianist Daniel Barenboim.

“My good fortune continued when I moved to London in the mid-1980s, and began to work with professor Ian McDonald, PhD, one of the leading MS researchers of that century,” remembers Dr. Thompson. “At the time, he was pioneering the application of magnetic resonance imaging to MS and making major contributions to diagnosis and monitoring [of the disease] and our understanding of underlying disease mechanisms. It was he who encouraged me to focus on progressive MS, and that resulted in some exciting research which translated into a number of well-cited papers.”



MRI is the diagnostic tool that currently offers the most sensitive, non-invasive way of imaging the brain, spinal cord or other areas of the body. It can help establish a diagnosis of MS and monitor the course of the disease.

Before the development of the first disease-modifying therapies for MS during the 1990s, Dr. Thompson was known for his interest in neurorehabilitation for people with MS and his use of imaging to track their rehabilitation. He and his team developed two new outcome measures for research studies involving patient assessment of interventions: the MS Impact Scale and the MS Walking Scale.

When scientists began to explore drug interventions for MS, Dr. Thompson led some of the first clinical trials of interferons in the treatment of primary progressive and secondary progressive MS. His refinement of the use of MRI to evaluate the disease led to insights into progressive MS that have helped shape the course of research.

“Alan’s pioneering work showed that people with primary progressive MS have, on average, fewer plaques in the brain,” says imaging expert Daniel Reich, MD, PhD, recipient of the Society’s prestigious Barancik Prize for 2016. Plaques are the lesions or disease hot spots that show up on MRI scans. “That discovery has stood the test of time, and really has defined our thinking about imaging findings in that form of the disease.”

In addition to conducting innovative research, Dr. Thompson has offered his expertise in a number of voluntary positions, including his role for 10 years as chair of the Medical and Scientific Advisory Board of the Multiple Sclerosis International Federation and his current role on the National MS Society’s Research Programs Advisory Committee. Dr. Thompson also has mentored many young academics, researchers, doctors and administrators nationally and internationally. He is editor-in-chief of the influential Multiple Sclerosis Journal and is chair of the Scientific Committee of the International Progressive MS Alliance.

Looking toward the future

Dr. Thompson plans to continue his work in progressive MS, with a particular focus on exploring biomarkers and examining the role of spinal cord imaging in understanding MS-related disability.

“My colleagues in Queen Square Multiple Sclerosis Centre and I have developed a comprehensive research program that allows us to explore the mechanisms underlying disability, and to engage in major trials focused on the testing of neuroprotective interventions,” Dr. Thompson says.

Much of Dr. Thompson’s time these days is spent working with the International Progressive MS Alliance.

“This has been an extraordinary initiative led by MS societies involving clinicians, neuroscientists, people affected by MS and industry,” Dr. Thompson says. “Its vision is very simply to accelerate the development of new treatments in progressive MS. In five short years it has raised the profile of progressive MS and brought together researchers across the world to identify new treatment targets for progressive MS.

“There is still a huge amount of work to do, but our ultimate goal is to develop treatments that will one day prevent the development of progression.”

Dr. Thompson says his desire to have a major impact on people living with MS is the source of his inspiration. “It always has to be about patients,” Dr. Thompson says. “They are at the very heart of everything I do.”

Susan Worley is a freelance medical writer in Bryn Mawr, Pennsylvania.

Read about Dr. Thompson's work with the [International Progressive MS Alliance](#).