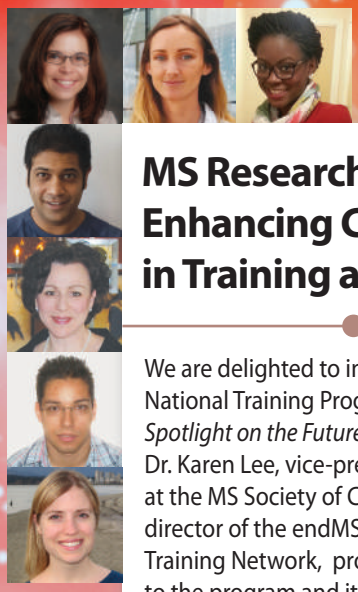
endMS Research and Training Network

Fall 2015

SPOTLIGHT ON THE FUTURE



MS Research Community: Enhancing Collaborations in Training and Research

We are delighted to introduce the endMS National Training Program's newly expanded *Spotlight on the Future* newsletter. This year Dr. Karen Lee, vice-president of Research at the MS Society of Canada and managing director of the endMS Research and Training Network, provides some context to the program and its fit within the endMS Network. See her message on page 10.

The success of the National Training Program is due to the remarkable support of many dedicated individuals including the Summer School hosts and faculty, SPRINT mentors and committee members who have been and continue to be essential to the development and implementation of the high calibre training being offered through the annual **endMS Summer School** and the **Scholar Program for Researchers IN Training (SPRINT)**.

Given the extraordinary efforts of our devoted trainees and alumni who participate in, and serve as ambassadors for many of the activities, we are delighted to let you know that the program has received funding for the next three years.

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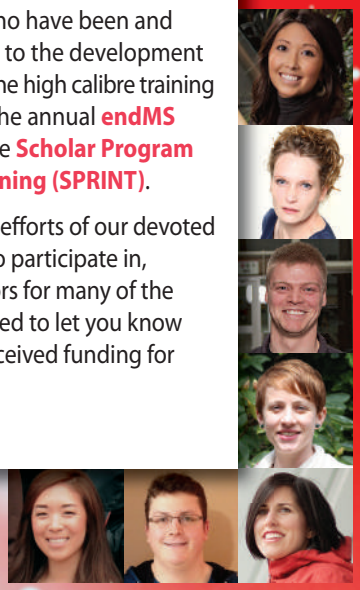

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A special thank you to the Quebec-Ottawa endMS Regional Research and Training Centre for hosting the 2015 endMS Summer School in Montreal from May 11-15. This year's theme was "The Biology of Attack and Repair in Multiple Sclerosis", with 43 trainees from across Canada in attendance. The program facilitated networking, collaboration and information exchange. The trainees benefitted from hands-on laboratory sessions, which provided practical experience with techniques relevant to MS research in the fields of immunology, molecular biology and histology. Plenary sessions included the following subjects: pathology, imaging, ethics and clinical trials, as well as clinical aspects of MS from both the neurologist's and patient's perspective, and career development sessions.

Our graduating SPRINTers presented the results of their inter-disciplinary learning projects at the Summer School in Montreal through a brief oral presentation. Nine new SPRINTers were welcomed and joined the graduating SPRINTers in the Career Development Sessions held the day prior to the start of Summer School.

Beyond the program, many scholars continue to stay involved. Take a moment to see what our SPRINT alumni are up to on page 7.

Planning is already underway for the 8th annual endMS Summer School to be held in Vancouver, June 13-16, 2016. You will see some changes to the Summer School, including the incorporation of the Career Development Sessions, which will be open to all participants. You will also be introduced to the hosts of the 2016 Summer School on page 8 in this newsletter. Stay tuned for more information on the application process coming later this fall.

If you are interested in becoming a SPRINT mentor and/or would like to be added to the distribution list in order to receive important competition notifications, or would like more information on the program, please contact us or visit our website at **www.endmsnetwork.ca**. A major initiative this year will be the expansion of our website to include national and regional events and opportunities, so please send us your announcements.

Congratulations and good luck to the graduating SPRINTers; do keep in touch! Warm thanks to the mentors as well because SPRINT would not be a success without you. To our incoming SPRINTers and mentors, we wish you a great year and look forward to seeing you in Vancouver!

DR. CHRISTINA WOLFSON
DIRECTOR, NATIONAL TRAINING PROGRAM

ANIK SCHOENFELDT
MANAGER, NATIONAL TRAINING PROGRAM

sprint

Introducing the 2014-2015 SPRINTers and mentors.

Our 10 SPRINTers:
Dr. Hilda De Jong
Afolasade Fakolade
Dr. Coral-Ann Lewis
Dr. Erin MacMillan
J. Keiko McCreary
Kyla McKay
Diane Nakamura
Alexandre Paré
James Rogers
Dr. Simon Zhornitsky

and our 4 mentors:
Dr. Susan J. Forwell
Dr. Amy E. Latimer-Cheung
Dr. Sarah A. Morrow
Dr. Manu Rangachari

DR. HILDA DE JONG

Dr. Hilda De Jong was born in Dronten, Netherlands. She completed a Bachelor of Science and a Master of Science in human nutrition and epidemiology at Wageningen University, followed by a PhD in pharmacoepidemiology at the Maastricht University Medical Center. Today Dr. De Jong is a postdoctoral research fellow in the Department of Medicine at the University of British Columbia. Her research explores the potential adverse events of beta interferons for multiple sclerosis (MS).

"I am involved in the BeAMS Study with Dr. Helen Tremlett's research group, which is examining the associations between the beta interferons and all the adverse events using health data from the population in British Columbia," says Dr. De Jong. "By presenting an extensive risk profile of the beta interferons, our study may provide new insights into the benefit-risk proportion of these medications in the real-world setting."

Having attended four endMS Summer Schools, Dr. De Jong deemed SPRINT a helpful platform for meeting other MS researchers in Canada and abroad. Thanks to an institutional transfer partly funded by the program, she spent a week at the Danish MS Center in Copenhagen last May, which fostered collaborations for the future.

"Not only did I benefit from a refined understanding of multiple sclerosis as a SPRINT trainee," relates Dr. De Jong, "but I also had the opportunity to collaborate on a project that was outside of my area of study and interact with expert investigators who have worked in the MS field for years."

Dr. De Jong commends SPRINT for its interdisciplinary approach to research and its strong support network.

"It is a brilliant initiative," she says of the program, "and an ideal environment to see how different institutions work and connect with one another."

AFOLASADE FAKOLADE

Afolasade Fakolade received a Bachelor of Science in medical rehabilitation (physiotherapy) in Nigeria in 2008, followed by a Master of Science (Distinction) in neurorehabilitation at Cardiff University, Wales in 2013. For the last six years, Afolasade has been involved in various research activities while working as a physiotherapist offering treatment to people with chronic neurological conditions including multiple sclerosis (MS). She is currently in the third year of her PhD in rehabilitation science at Queen's University in Ontario.

"My research is investigating whether there is a need for a program that supports people with moderate to severe multiple sclerosis to engage in physical activity together with their family caregivers," explains Afolasade. "The beneficial effects of physical activity and evidence indicating that those affected with more progressive forms of MS are especially sedentary suggest the need to identify ways of increasing physical activity in this population."

Afolasade says participating in SPRINT and two endMS Summer Schools allowed her to learn about different aspects of MS research outside her present field of study, in addition to recent advances in MS research and care.

"I enjoyed collaborating on a project with two other trainees under the mentorship of Dr. Sarah Morrow," says Afolasade. "Our study examined the use of corticosteroids for MS and we recently submitted a manuscript for consideration in the International Journal of MS Care. I also appreciated learning how to market my research to potential investors and improving my public speaking skills."

Afolasade believes SPRINT is uniquely positioned to bring together researchers from different disciplines and foster strong collaborations that are relevant for long-term MS research.

"Clearly, the focus on training and mentoring researchers in the very early stages of their career highlights the important influence SPRINT has in driving and enhancing the quality of current and future MS research both locally and internationally," states Afolasade. "My involvement in the program has not only made me more passionate about a career in MS rehabilitation, but also very keen on making a significant contribution to the scientific MS community in Canada."

DR. SUSAN J. FORWELL

Dr. Susan J. Forwell obtained a Bachelor of Science in occupational therapy at the University of Western Ontario, followed by a Masters and a PhD in occupational science at the University of Southern California. Today she is an associate professor in the Department of Occupational Science and Occupational Therapy at the University of British Columbia, and a research associate with the University's multiple sclerosis (MS) clinic. Her program of research includes a focus on the symptoms of MS such as fatigue, cognitive difficulties and intention tremor – a condition where goal-directed movements produce shaking in the moving body parts (such as hands). In her work on intention tremor, she has developed both an assessment and an intervention.

"My studies were driven by a clinical need identified in rehabilitation," says Dr. Forwell. "After developing a comprehensive assessment of fatigue from MS, I felt we needed to do a systematic review for the treatment of intention tremor in the disease."

Dr. Forwell became a SPRINT mentor in 2014 when she accepted an invitation from Dr. Christina Wolfson to become involved in the program.

"I thoroughly enjoyed the opportunity," she relates. "The trainees and I met several times by conference call and had a two-day meeting in Vancouver. During the face-to-face meeting, they were able to shadow a neurologist, an occupational therapist and a physical therapist, and see multiple sclerosis at a very clinical level."

According to Dr. Forwell, SPRINT offers an exceptional learning environment for researchers to explore all facets of multiple sclerosis.

"There is no other program like it in North America," she says. "SPRINT gives trainees the chance to participate in a focused summer school where various disciplines come together and different perspectives are shared to better understand multiple sclerosis."

Dr. Forwell credits SPRINT for shaping the future of MS research in Canada..

"Trainees involved in the program now look at future opportunities in multiple sclerosis because they are more informed and recognize MS as an area of research in which to specialize," she affirms. "SPRINT will bring multiple sclerosis to the fore for the next generation."

DR. AMY E. LATIMER-CHEUNG

Dr. Amy E. Latimer-Cheung completed graduate training at McMaster University and a post-doctoral fellowship at Yale University. She is currently an associate professor and a Tier 2 Canada Research Chair in physical activity promotion and disability at the School of Kinesiology and Health Studies at Queen's University. Her research aims to determine strategies for people with physical disabilities and chronic diseases like multiple sclerosis (MS) to engage in a healthy and active lifestyle.

"Our SPRINT project sought to identify healthcare professionals' preferred format for receiving emerging research evidence examining the effects of physical activity on health and fitness outcomes among people with multiple sclerosis," Dr. Latimer-Cheung explains. "We also wanted to develop a template for communicating research findings in accordance with these preferences, and to create a resource manual and sample research summaries."

As a SPRINT mentor, Dr. Latimer-Cheung had a wonderful experience overseeing a team of three enthusiastic trainees. "Not only were the trainees self-motivated and extremely supportive of one another both personally and professionally," she recounts, "but they were also excellent project managers who could identify tasks, accomplish them on time and produce nice end products."

Dr. Latimer-Cheung appreciates SPRINT's interdisciplinary approach to research. "The program is unique because trainees are encouraged to work outside of their comfort area and become well-rounded MS scholars," she states. "They not only broaden their knowledge of multiple sclerosis, but also build national collaborations, which is a great opportunity and career skill to have."

By providing a remarkable environment in which trainees can grow and flourish, adds Dr. Latimer-Cheung, SPRINT can have a great impact on the international health arena.

"I think the program will play an important role in producing very confident and well-informed MS researchers in the future," she affirms.

DR. CORAL-ANN LEWIS

Dr. Coral-Ann Lewis completed a Bachelor of Science in kinesiology at Simon Fraser University in 2003. She continued with graduate school and obtained a PhD in biomedical physiology in 2011. During her graduate studies, Dr. Lewis became interested in the role that neuroinflammatory responses played in the progression of neurodegenerative diseases such as multiple sclerosis (MS). Today she is a postdoctoral fellow in the laboratory of Dr. Fabio Rossi at the Biomedical Research Centre at the University of British Columbia.

"My current research focuses on the inflammatory response associated with demyelination in a mouse model of experimental autoimmune encephalomyelitis (EAE), and how this response evolves to subsequently support myelin regeneration and functional recovery," relates Dr. Lewis. "By understanding the inflammatory changes that occur during this transition, we will identify new therapeutic targets aimed at minimizing myelin destruction and enhancing its regeneration. The overall goal of this work is to elucidate how we can manipulate the inflammatory response associated with not only relapsing-remitting MS, but also secondary progressive MS to delay disease progression."

Dr. Lewis decided to apply to SPRINT while attending the endMS Conference in 2013 and meeting people who had taken part in the endMS Summer School Program.

"After observing the enviable camaraderie between past participants, I immediately decided this was something which I wanted to be involved in," she recounts. "To date, I have had the chance to meet and interact with MS researchers from across the country, and greatly improved my networking skills."

According to Dr. Lewis, SPRINT is unique because it provides trainees at the graduate and postgraduate level with opportunities for networking and collaborations to which they would otherwise not be exposed.

"I think the program is effective at enhancing interactions between trainees from different backgrounds and with different researchers," she says. "Being a SPRINT participant was a great experience and I feel I am a better researcher because of it."

DR. ERIN MACMILLAN

Dr. Erin MacMillan completed a Bachelor of Science in biophysics and a Master in medical physics at the University of British Columbia. Her interest in medicine and photography led to an eight-month co-op work term with Professor Alex MacKay's research group where magnetic resonance imaging (MRI) techniques were employed to study the brain. After specializing in spectroscopy – a "virtual biopsy" that measures the levels of several important chemicals in the brain non-invasively with an MRI scanner – she went to Switzerland to pursue her PhD at the University of Bern and the Swiss Federal Institute of Technology in Zurich. In 2013, Dr. MacMillan returned to the University of British Columbia as a post-doctoral research fellow in neurology, with the goal of applying advanced MRI and spectroscopy practices to clinical research in multiple sclerosis (MS).

"The primary goal of my current research is to demonstrate how advanced MRI and spectroscopy can be used to measure pathologically specific changes caused by disease," explains Dr. MacMillan. "It appears that spectroscopy can detect variation in the brain of secondary progressive MS patients within one to two years. We now hope to improve the sensitivity and specificity of our measures, and to investigate whether similar changes also occur in relapsing remitting MS, and if so, over what time frame."

As a SPRINT trainee, Dr. MacMillan attended the endMS Summer School in Halifax in 2014, and also collaborated with two other trainees and a mentor to create guidelines for how to present cutting-edge research to clinicians on exercise in multiple sclerosis.

"SPRINT was a fantastic experience," she says. "It provided the opportunity to develop and expand many skills including communication, time management, leadership and networking. It was also really helpful to have a mentor to look up to as it made me more confident in my choice to stay in academia."

According to Dr. MacMillan, SPRINT is an excellent initiative that is fundamental to the future of MS research.

"Building a network of researchers from different backgrounds will foster the interdisciplinary research that is necessary to find a cure for multiple sclerosis," she affirms.

J. KEIKO MCCREARY

Keiko McCreary obtained her Bachelor of Arts and Science degree in biology and kinesiology at the University of Lethbridge in Alberta. She went on to pursue a Master's degree in neuroscience, examining contrast agents in magnetic resonance imaging (MRI). Currently a third year PhD Student, Keiko is supervised by Dr. Gerlinde Metz at the Canadian Centre for Behavioural Neuroscience at the University of Lethbridge. Her research explores the effects of chronic and generational stress on the onset and progression of multiple sclerosis (MS).

"Our previous research showed that chronic stress influences disease severity in an animal model of MS called experimental autoimmune encephalomyelitis (EAE)," explains Keiko. "This led me to investigate how generational stress can impact one's susceptibility to diseases of the immune system such as multiple sclerosis."

As a SPRINT trainee and a participant at the endMS Summer School, Keiko learned hands-on techniques in the fields of molecular biology, immunology and neuroscience. In addition, she acquired effective presentation skills to communicate her research.

"Knowledge translation is extremely important in research and it is an expertise that everyone should master at some point in their graduate career," says Keiko. "The MS community is very involved in MS research and it is essential that we continue to inform them of our progress."

Keiko's interdisciplinary project involved a systematic review on Upper Limb Intention Tremor (ULIT) – a condition that occurs during target-oriented or visually guided movements – in multiple sclerosis. She also had the opportunity to shadow two leading neurologists at the MS Clinic of the University of British Columbia's Centre for Brain Health.

"Observing MS patients and listening to their stories inspired me to further my research (in multiple sclerosis)," confides Keiko. "These encounters in the clinical realm of multiple sclerosis were unforgettable, and so valuable to my education and life experience."

Keiko says SPRINT allows trainees to be immersed in many aspects of multiple sclerosis, not just their own research.

"SPRINT is distinctive because it facilitates communication between teams of researchers, which is necessary to produce the most impactful results and makes for the most efficient route of discovery," states Keiko. "Moreover, the program educates trainees and motivates them to continue pursuing research in multiple sclerosis, which is vital to research longevity."

KYLA MCKAY

Kyla McKay earned a Bachelor of Science with a major in neuroscience at Dalhousie University in 2008. She worked as a study coordinator with the MS Clinical Trials Group at the University of British Columbia where she first witnessed the detrimental impact of mental illness on people living with multiple sclerosis (MS). As a PhD student in the Experimental Medicine Program, she is exploring the epidemiology of MS, with a focus on the influence of mood and anxiety disorders.

"I first learned of the neurological mechanisms of multiple sclerosis while studying neuroscience as an undergraduate student," she says. "It was presented as a complex, debilitating disease with an unknown etiology, and it quickly captured my interest."

As a SPRINTer, Kyla credits the program for playing a key role in solidifying her intention to remain in the field of MS research.

"Firstly, my knowledge of MS has expanded beyond my own scientific discipline to include an understanding of the biological mechanisms involved in the disease progression," she explains. "Secondly, I have developed a strong set of "soft skills" that include interpersonal, presentation, writing, and networking skills. Thirdly, it has enabled me to engage with a network of researchers with whom I hope to work again in the future."

Of particular interest to Kyla was the career development session on knowledge translation.

"Communicating research findings to a wider audience is one of the most important components of science, yet it is often overlooked within academia," she asserts. "The workshop on presentation effectiveness allowed me to reflect on my skills as a presenter and provided useful instruction on how to keep an audience engaged, and ultimately convey my research in an interesting and meaningful manner."

Kyla cites SPRINT as an invaluable experience for MS researchers in training.

"The skills that trainees acquire are important for the development of a fuller understanding of multiple sclerosis and improved research proficiency, in general," she says. "Most importantly, through the encouragement of networking and mentoring, I believe this program supports the continuation of a collaborative community of MS researchers in Canada."

DR. SARAH A. MORROW

Dr. Sarah A. Morrow received her medical degree from the University of Calgary. She completed her residency in neurology at Western University and a clinical fellowship in multiple sclerosis (MS) in London, Ontario, followed by a research fellowship in cognition and MS with Dr. Ralph Benedict at the Jacobs Neurological Institute in Buffalo, New York. In addition, Dr. Morrow obtained a Master's degree in epidemiology at the State University of New York. A practising neurologist, she is currently an assistant professor of neurology in the Department of Clinical Neurological Sciences at Western University.

"My present research areas are cognitive impairment and corticosteroid use in multiple sclerosis," says Dr. Morrow. "I had a very inspiring mentor in medical school – Dr. Luanne Metz – who sparked my interest in the disease."

Among her achievements, Dr. Morrow established the first (and only) MS Cognitive Clinic in Canada. She also assisted with the development of SPRINT's mentorship program and later became a mentor.

"It was a great experience," she recounts. "As a junior clinician researcher, I had not supervised many graduate students, and at first I was apprehensive about what I could provide to PhD and post-doctorate students. However, once I started I learned that we had diverse skillsets and areas of expertise that complemented each other."

Dr. Morrow says the interdisciplinary approach encouraged and facilitated by SPRINT offers trainees a unique learning opportunity that is pivotal to their development as future MS researchers.

"The ability to work within your area (MS), while exploring new aspects of the disease that are outside of your area (e.g. basic science and epidemiology) can be very rewarding," she says. "Even as a mentor I found the program inspiring, motivating me to ask research questions in different ways and broaden the scope of my approach to projects."

DIANE NAKAMURA

Diane Nakamura obtained a Master of Science in anatomy and cell biology at Queen's University in Kingston, Ontario. Currently in her second year of her PhD at McGill University in Montreal, she is studying the contributions of paranodal proteins to myelin stability with the ultimate goal of identifying new targets to promote remyelination (the replacement of myelin sheaths), which can restore nerve function in the treatment of multiple sclerosis (MS).

"I became deeply interested in the MS field when my uncle was diagnosed with multiple sclerosis over 10 years ago," recounts Diane.

Introduced to SPRINT through members of her lab, Diane confides she gained much through her participation in the program, and in the 2014 and 2015 endMS Summer Schools.

"They were invaluable experiences that helped me to network and collaborate with colleagues across the country," she says. "Without these opportunities I would not have met the many wonderful researchers in the MS community."

Diane believes SPRINT offers a wonderful learning environment for trainees new to the MS field.

"It allows them to become more familiar with up-to-date research ranging from topics in basic science to clinical trials in a condensed amount of time," she explains. "During my SPRINT project, our group assisted with content development for a new website focused on presenting exercise in MS research findings to healthcare professionals. I have worked in the basic sciences for the majority of my time in research, so having this opportunity to branch out into a different discipline of MS was a one-of-a-kind experience!"

Diane also appreciated the career advice she received at the endMS Summer School.

"The career panels were very insightful," she remarks. "Asking professionals in academia and industry about their career paths provided much needed information about how to approach job hunting after graduate school."

According to Diane, SPRINT is an excellent initiative that helps engage young researchers in long-term MS research and build connections for life.

"Programs like SPRINT play an important role in encouraging trainees in the MS field to continue their studies by establishing valuable collaborations with colleagues across Canada, which are essential for the future direction of MS research."

ALEXANDRE PARÉ

Alexandre Paré obtained a Bachelor of Science in biochemistry at Université Laval. His interest in neuroimmunology developed during an internship in the lab of Dr. Steve Lacroix. Today, Alexandre is a third year PhD student in molecular medicine at Université Laval. His research focuses on the role of an inflammatory endogenous molecule, interleukin-1 beta (IL-1β), in the development of experimental autoimmune encephalomyelitis (EAE), an animal model of multiple sclerosis (MS).

"Interleukin-1 beta is a very important protein that is implicated in host defense against infections," describes Alexandre. "Our team has shown that animals that do not express IL-1β do not develop EAE. We are investigating how IL-1β participates in the elaboration of autoimmunity and how it can translate into useful treatment for people living with multiple sclerosis."

As a SPRINT trainee and a participant at the 2014 and 2015 endMS Summer Schools, Alexandre was exposed to different aspects of MS research and useful tools for academic growth.

"Both years were intense, but very beneficial for my present research and future career," relates Alexandre. "Summer School, for example, helped me to improve my writing and teaching skills, and learn about new developments in MS research. The workshops I attended were also well-conceived and well-presented."

Alexandre says collaborating on the interdisciplinary project with his fellow SPRINTers was a unique learning experience.

"It led to the production of a review article on a subject outside of my area of study," he states, "and gave me the opportunity to establish solid connections with other students from universities across Canada. At the same time, I engaged in fruitful discussions that inspired new ideas and techniques, which contributed to the progression of my thesis."

According to Alexandre, SPRINT can play a key role in raising the profile of MS research in Canada, as well as in the rest of the world.

"SPRINT is important for graduate students working in multiple sclerosis because it fosters networking between researchers and trainees, which greatly improves our knowledge of MS pathology," he says. "This, in turn, impacts the pace of our day-to-day research and contributes to the advancement of science."

DR. MANU RANGACHARI

Dr. Manu Rangachari completed his undergraduate studies at McMaster University. He obtained a PhD in immunology at the University of Toronto and went on to conduct postdoctoral work at the Brigham and Women's Hospital and Harvard Medical School in Boston. Since 2013 Dr. Rangachari has been an assistant professor in the Faculty of Medicine at Université Laval in Quebec City. His research explores the impact of CD4+ T cells and CD8+ T cells in the pathophysiology and treatment of multiple sclerosis (MS).

"The role of CD4+ T cells in initiating and promoting inflammation in multiple sclerosis has been, and continues to be, intensively studied," explains Dr. Rangachari. "However, there is increasing evidence that cytotoxic CD8+ T cells play a crucial role in mediating damage in the brain and spinal cord. In fact, CD8+ T cells may greatly outnumber their CD4+ T cells in MS lesions. We are using genetically modified mice to study how CD8+ and CD4+ T cells collaborate in disease processes in EAE, an MS-like disease in mice."

Last year Dr. Rangachari was approached by Dr. Christina Wolfson about becoming a SPRINT mentor.

"I immediately accepted," he relates, "as it seemed a great opportunity to learn, and to also get to know the promising young trainees who are the future of MS research in Canada."

Dr. Rangachari and his team of trainees conducted a literature review of studies that examined whether cholesterol, cholesterol metabolites or cholesterol-processing enzymes could act as markers of disease progression in multiple sclerosis and clinically isolated syndrome (CIS).

"We've recently published the resulting manuscript," he says. "In addition, I had the opportunity to attend the endMS Summer Schools in Halifax (2014) and Montreal (2015), and together with Dr. Sam David, presented in Montreal on the utility of EAE as a model for multiple sclerosis."

Dr. Rangachari praises SPRINT as an exceptional platform for bringing researchers together to share ideas.

"Being able to consider the challenges of MS from different perspectives will allow current trainees to craft innovative research programs of their own when they become independent investigators," he maintains. "Through SPRINT and the endMS Summer School, they also have the chance to make connections and ideally spark collaborations that will one day ultimately bear fruit in the form of interdisciplinary research geared towards finding a cure for multiple sclerosis."

JAMES ROGERS

James (Jim) Rogers completed his Honours undergraduate degree in biology with a minor in chemistry at Nipissing University in North Bay, Ontario. He moved out west in 2011 to work in the lab of Dr. Wee Yong at the Hotchkiss Brain Institute at the University of Calgary. Currently enrolled in the MD/PhD program, his research examines the impact of environmental factors on multiple sclerosis (MS).

"My project focuses on how Bisphenol-A (BPA) from various sources including plastics, and other derivatives of BPA, can alter the immune system in the context of inflammation using the Experimental Autoimmune Encephalomyelitis (EAE) model," he explains.

James was first introduced to SPRINT while attending the Summer School held in Winnipeg in 2012.

"I met a number of people through the endMS network who had been through the program and raved about it," he relates, "so I was excited to become a part of it as well."

With a background in basic science, James was grateful for the opportunity to work on an interdisciplinary project that focused on the clinical aspects of multiple sclerosis. He especially appreciated an arranged visit to the University of British Columbia where he and his SPRINT team spent the morning with MS clinicians seeing patients, and the afternoon with a physiotherapist and an occupational therapist in the movement clinic.

"As a trainee, I was not only able to expand my research background significantly, but also work with researchers from different backgrounds and in different locations across the country," says James. "It was certainly a remarkable experience that helped solidify my career plans of becoming a clinician-scientist."

James commends SPRINT for its collaborative approach to research.

"SPRINT brings both experienced and up-and-coming researchers together in the MS community," he says. "Going forward I think that many joint projects will develop as a result."

DR. SIMON ZHORNITSKY

Dr. Simon Zhornitsky was born in Kiev, Ukraine. He earned his Bachelor of Science in psychology at the University of Toronto, and his Master and PhD in translational research in psychiatry at the Université de Montréal. Currently a post-doctoral fellow in the Department of Clinical Neurosciences at the University of Calgary, Dr. Zhornitsky is exploring the effects of the psychotropic drug, quetiapine fumarate, on remyelination (the re-generation of the nerve's myelin sheath) in multiple sclerosis (MS).

"My current research focuses on quetiapine – already widely used in psychiatry – and recently been found to have remedial properties in animal models of multiple sclerosis," he explains.

Dr. Zhornitsky became involved with SPRINT through the endMS Network. As a SPRINT trainee, he enjoyed expanding his knowledge of multiple sclerosis and acquiring new skillsets through the career development sessions.

"During our group project we learned that endogenous cholesterol is linked to multiple sclerosis," he says. "We also had the opportunity to write a systematic review, which was helpful. You don't often receive that kind of training in research."

Last April Dr. Zhornitsky traveled to the MS Center at the VU University Medical Center in Amsterdam as part of an institutional transfer funded, in part, by SPRINT.

"It was a great opportunity to meet researchers and build collaborative relationships for the future," he relates.

According to Dr. Zhornitsky, SPRINT provides a unique experience for researchers in training.

"Not only are we exposed to different areas of expertise, but we can also seek guidance by reaching out to fellow MS investigators in the world," he says. "The chance to travel and visit different laboratories is another positive feature of the program."

ALUMNI UPDATES

Dr. Nadine Akbar successfully defended her PhD in August and is beginning a postdoctoral fellowship at the Kessler Foundation in New Jersey. The primary focus of her research is the use of exercise to help improve fatigue and cognition in adults with multiple sclerosis.

Dr. Jenea Bin successfully defended her PhD and is starting a postdoctoral fellowship at the University of Edinburgh in Dr. David Lyons' lab using live imaging to examine how axons respond to demyelination in real-time.

Dr. Pia Crone Christensen is continuing as a postdoctoral fellow/lab administrator at Nedergaard, but now at the Center for Basic and Translational Neuroscience at the University of Copenhagen (UCPH). She is expecting a baby girl in November.

Dr. Miguel De Avila married this past year and started working at Apotex Pharmachem Inc. in Brantford, ON as an analytical R&D associate III.

Dr. Charity Evans continues to work in multiple sclerosis research (mostly in the area of MS pharmacoepidemiology) at the College of Pharmacy and Nutrition at the University of Saskatchewan.

Dr. Heather Hanwell is a postdoctoral research fellow studying pediatric demyelinating disease within the Neurosciences and Mental Health Research Program at Toronto's Hospital for Sick Children. She is concurrently pursuing additional training in epidemiology at the Dalla Lana School of Public Health.

Camille Juzwik, Curtis Benson, Dr. Jason Plemel and **Dr. Michelle Ploughman** (SPRINT team) published the findings from their systematic review on anti-oxidant diets in alleviating the progression of multiple sclerosis in the Multiple Sclerosis Journal. (http://msj.sagepub.com/content/21/12/1485.abstract)

Kaarina Kowalec is a PhD Candidate at the University of British Columbia studying under Drs. Helen Tremlett and Bruce Carleton. Currently, she is analyzing genetic data from patients experiencing adverse drug reactions while writing her thesis. She was recently appointed as the 2015-16 trainee representative on the endMS Education and Training Committee. She looks forward to contributing to the future development of the endMS Network.

Hyunwoo Lee is a PhD candidate in Dr. Douglas Arnold's laboratory at The Montreal Neurological Institute (McGill University). His SPRINT team (**Dr. Shannon Dunn, Dr. Eva Gunde**) has recently published a book chapter on sex-based differences in multiple sclerosis. (http://www.ncbi.nlm.nih.gov/pubmed/25690592)

Sandra Magalhaes is continuing to complete her PhD research focused on etiology of both pediatric- and adult-onset multiple sclerosis in the Department of Epidemiology, Biostatistics and Occupational Health at McGill University under the supervision of Dr. Christina Wolfson.

Dr. Sandra Meyers completed her PhD, got married and moved to Toronto in late August to start a medical physics residency in radiation therapy.

Dr. Craig Moore has been awarded a Tier 2 Canada Research Chair in neuroscience and brain repair, and has recently helped to launch the Health Integrated Research Team in Multiple Sclerosis (HITMS) in Newfoundland and Labrador. HITMS is a new partnership involving clinicians, researchers and MS patients, and will make a significant contribution towards strengthening MS research activity in Atlantic Canada.

Sarah Neil recently left her position as a lab manager for Dr. Jacqueline Quandt at the University of British Columbia and moved to Toronto to begin a Master of Science in genetic counselling at the University of Toronto.

Jean-François Richard submitted his thesis during the summer and anticipates defending this fall.

Karen Turpin is a PhD Candidate in the School of Public Health at the University of Alberta. Her thesis is on understanding resilience in people with multiple sclerosis. She hopes to defend by mid-2016.

Introducing the Hosts of the 2016 endMS Summer School

When: June 13-16, 2016
Where: University of British Columbia

Title: The Evolving Art and Science of MS Care
Applications: Call for applications will be announced in December

DR. A. DESSA SADOVNICK

Dr. Sadovnick is a professor in the Department of Medical Genetics and the Division of Neurology, the Faculty of Medicine, University of British Columbia (UBC). She is the director of the Western Pacific endMS Regional Research and Training Center for Multiple Sclerosis.

Dr. Sadovnick's research has focused on the genetic epidemiology of common complex disorders, most notably multiple sclerosis and dementia. She is involved in several national and international multi-center research endeavors.

Dr. Sadovnick was one of the developers of the Master's Degree in the Genetic Counseling Program at UBC, served as its co-director and is now on the advisory panel. She has published over 300 articles in peer-reviewed journals and serves as a reviewer for a variety of medical journals and grant review panels. She has also served on several special task forces including the Canadian Coalition for Genetic Fairness, the Canadian Consensus Conference on Diagnosis and Treatment of Early Onset Dementia, and the Technical and Advisory committees for the Canadian Multiple Sclerosis Monitoring System.

Dr. Sadovnick has been a Michael Smith Distinguished Scholar (2000-2006) and was a recipient of the MS Society of Canada's National Merit award (2007).

DR. ROBERT CARRUTHERS

Division of Neurology, Department of Medicine
University of British Columbia

Dr. Robert Carruthers joined the University of British Columbia Staff in August 2014. He graduated from Tulane School of Medicine in 2008 and then completed his internship at Massachusetts General Hospital, followed by his residency at Brigham and Women's Hospital and Massachusetts General Hospital. His two year Multiple Sclerosis Fellowship at Brigham and Women's Hospital was funded by a grant from the National Multiple Sclerosis Society, and included an equal mix of research and clinical training. Dr. Carruthers' interests include clinical trial work and optimizing clinical care in multiple sclerosis, neuromyelitis optica and other neuro-immunologic disorders.

MICHELLE EISNER

2016 endMS Summer School Coordinator
University of British Columbia

Michelle Eisner served as coordinator of the Western Pacific endMS Regional Research and Training Centre (WPRRTC-BC/Sask) from July 2009-March 2015. Currently, she is the coordinator of the UBC MS Connect Education Program where she works closely with a dedicated group of trainees, researchers and clinicians. The program holds various events to enhance the knowledge and skills of trainees with respect to multiple sclerosis and neuromyelitis optica with the ultimate goal of building a strong research community.

2015 endMS Summer School and SPRINT

Networking

Clinical Aspects of MS Session

A SPRINT Team

Summer School Session

Icebreaker

Building friendships

Message from Dr. Karen Lee,
Vice-President of Research at the MS Society of Canada and Managing Director of the endMS Research and Training Network

The endMS Research and Training Network aims to attract, train and retain MS researchers here in Canada. Over the past nine years, the MS Society of Canada and the MS research community have seen the growth and development of many trainees and new people within the field of multiple sclerosis.

I am happy to report that, moving forward, many programs within the endMS Research and Training Network will continue. Many of you will have seen that the MS Society Personnel Awards, such as the Master's and Doctoral Studentships and Postdoctoral Fellowships, now fall under the endMS Research and Training Network umbrella.

At the same time, you will see that research training and mentorship continue to play important roles in the endMS Research and Training Network. Specifically, endMS training programs will continue with the very successful and highly competitive endMS Summer School and SPRINT.

The MS Society of Canada will continue to pursue ways to enable trainees and researchers to network as we understand the importance of exchanging ideas, and collaborating with peers and experts across the country. This fall, many current endMS postdoctoral fellows will be attending the National MS Society's (NMSS) Tykesson's Fellows Conference in Dallas, TX, and we are happy to announce that the next endMS Conference will take place at the end of 2016 (details to follow). Through these initiatives, the MS Society of Canada will strive to further the mission and spirit of the endMS Research and Training Network, and encourage trainees to look out for new funding opportunities and travel awards that will be available in the coming months.

The MS Society of Canada's endMS Research and Training Network

Research Awards	*Training and Mentorship	Networking
Master's Studentship Award	Summer School	endMS Conference
Doctoral Studentship Award	SPRINT	Travel Awards
Postdoctoral Fellowship	*Managed by the endMS National Training Program	

2015-2016 SPRINTers

Karissa Canning
McMaster University
Dr. Andrew V. Caprariello
University of Calgary
Dr. Courtney Casserly
University of Toronto
Samantha Kornfeld
Ottawa Hospital Research Institute
Citlali Marquez
University of British Columbia
Julia Nantes
McGill University
Katerina Othonos
University of British Columbia
Erin L. Stephenson
University of Calgary
Fatemeh Vakilian
University of Calgary

2015-2016 SPRINT Mentors

Dr. Audrey Hicks
Professor in the Department of Kinesiology,
McMaster University
Dr. Luc Vallières
Professor, Department of Molecular Medicine,
Faculty of Medicine, Université Laval
Assistant Director, Department of Neuroscience,
CHU de Québec
Dr. Linda Carroll
Associated Research Scientist, Injury Prevention Centre,
Director of Graduate Education and Professor,
School of Public Health,
University of Alberta

endMS Education and Training Committee Membership

Dr. Christina Wolfson (Chair),
endMS National Training Program Director,
McGill University
Dr. Marcia Finlayson
Chair of the endMS SPRINT Committee,
Queen's University
Kaarina Kowalec
SPRINT Alumni,
University of British Columbia
Dr. Ruth Ann Marrie
University of Manitoba
Dr. Quentin Pittman
University of Calgary
Dr. George S. Robertson
Chair of the endMS Peer Review Committee,
Dalhousie University
Dr. Penelope Smyth
University of Alberta
Anik Schoenfeldt
endMS National Training Program Manager,
Research Institute - McGill University Health Centre

2016 Summer School Collaborators

Dr. A. Dessa Sadovnick
2016 endMS Summer School Host,
University of British Columbia
Michelle Eisner
2016 endMS Summer School Coordinator,
University of British Columbia

For Summer School and/or SPRINT application and program guidelines, please visit our website at **www.endmsnetwork.ca**. If you are interested in becoming a SPRINT mentor or would like more information on the program, please contact:

Anik Schoenfeldt, Program Manager
endMS Education and Training Office
514-843-1442 | 1-877-288-2570
anik.schoenfeldt@mail.mcgill.ca

or

Dr. Christina Wolfson, Program Director
endMS Education and Training Office
514-934-1934 ext. 44739
christina.wolfson@mcgill.ca

The endMS Research and Training Network is a nationwide initiative formed to accelerate discovery in the field of multiple sclerosis in Canada. Through innovative training and funding programs, the endMS Network aims to attract, train and retain MS researchers and increase opportunities to conduct MS research in Canada.

The endMS Network is managed by the MS Society of Canada and funded through its related MS Scientific Research Foundation as the flagship investment of the $60 million endMS capital campaign.

Design: Bistro Design