

An MS Research Revolution



LEADING THE WAY TO MYELIN REPAIR: MEET ROBIN MISKIMINS, PHD



As an independent investigator, Robin Miskimins' research activities are focused on the development of myelin in the central nervous system, work the Society has supported. Currently she is the Director for Faculty and Research Development for Health Affairs at the University of South Dakota, where she has actively mentored junior faculty, post-doctoral scientists, graduate and undergraduate students. Dr. Miskimins received her Ph.D. from the University of Arizona in Molecular Biology. She then did her post-doctoral training in the laboratory of Dr. Robert Yu at Yale University.

National MS Society: Tell us about the focus of your research.

Dr. Robin Miskimins: My research focuses on the development of myelin in the brain, trying to understand normal processes that help the myelin do what it's supposed to do. I think it's important to understand how things work normally. Think about it for a minute, if your car breaks down and you take it to a mechanic to fix it — he needs to know how it's supposed to work when it's right, besides knowing what's wrong. That's my thought process for myelin repair. I need to know what it's supposed to be like so I can figure out how to get there.

The Society: Research is tough work. What motivates you to spend hours in the lab to do this work?

Dr. Miskimins: I think this work is very important for lots of reasons, one of which is that when I was in graduate school, I learned that my first cousin Jill was diagnosed with MS. So it took on a personal kind of a bent for me. When I did my postdoctoral work at Yale, I found a neurology lab that was looking for people with my skills where I could work in an area that I thought maybe I could really make a difference and that it would impact the life of my cousin. As it turns out, my children's piano teacher and many other people I've come to know are affected by MS. It was a field that was personally connected to me.

NOW IS A GREAT TIME IN MS RESEARCH. WE'VE COME SO FAR FROM WHEN I FIRST STARTED 30 YEARS AGO, SUCH AS NEW TREATMENTS THAT SEEM TO BE MAKING A DIFFERENCE IN QUALITY OF LIFE FOR PEOPLE WITH MS. BESIDES THE PROGRESS IN THERAPIES, I SEE AN INCREASE IN GRANT OPPORTUNITIES FOR SCIENTISTS.

The Society: You've had lots of interactions with the Society over your career. From your perspective, do you feel this is a hopeful time in MS research?

Dr. Miskimins: Now is a great time in MS research. We've come so far from when I first started 30 years ago, such as new treatments that seem to be making a difference in quality of life for people with MS. Besides the progress in therapies, I see an increase in grant opportunities for scientists. There are new and exciting understandings we have with myelin and the repair processes, and the opportunities to stimulate them. I feel this is an opportune time for the Society to be pushing this effort forward with the NOW campaign.

DR. TIMOTHY COETZEE, CHIEF RESEARCH OFFICER, REPORTS ON SOCIETY RESEARCH PROGRESS IN 2012



As the Society prepared our 2011– 2015 Strategic Response to MS, thousands of people across the MS movement were surveyed to inform our five-year plan. Consistent in their responses were hopes and expectations that the Society would do more to drive research faster. This is why our Strategic Response includes this goal: **We are a driving force of MS research and treatment to stop disease progression, restore function, and end MS forever.** I am pleased to share the progress we have made in 2012 with your support, for each supporting objective of this goal:

We better understand the scientific mechanisms that lead to disease progression.

- Developed strategies and began implementing a plan for addressing progressive MS. This involved our Research Programs Advisory Committee hosting a think tank to define priorities; MS Societies from around the world joining to launch the International Collaborative on Progressive MS; and Fast Forward funding Athersys' & Innate Immunotherapeutic's novel approaches to treating progressive MS.
- Addressed impediments to clinical trials in progressive MS by developing better tools and designs. We convened a workshop to develop strategies for pediatric MS clinical trials, formed a disability measure task force and supported 10 new research projects focusing on imaging outcomes.

We pursue new avenues to discover how nerve cells are damaged and potentially repaired.

- Provided robust support of 60 novel research projects focusing on nervous system damage and repair — including 8 projects resulting from the Promise 2010 repair initiative. We also partnered with entrepreneurial biotechnology companies to enable development of technologies, discoveries and tools, that can be applied to neuroprotection and repair.

We pursue new rehabilitation techniques and symptomatic treatments to restore neurological function and enhance quality of life.

- Supported 4 new rehabilitation projects focused on applying new rehabilitation techniques to improve quality of life in MS. Also increased numbers of specialists able to conduct rehabilitation research by training 6 rehabilitation research fellows and supporting 2 new training centers.
- Funded research aimed at understanding MS symptoms, including pain and cognition.

We identify risk and triggering factors that cause MS, and understand the biological interactions that lead to its development so that MS can be prevented.

- Better defined the role of environmental risk factors in susceptibility and ongoing disease by hosting an international summit on vitamin D and launching the first vitamin D trial.
- Supported efforts to identify additional genes involved in MS risk and activity by funding a resource for collecting genetic material from people with MS. Also funded 3 companies pioneering the development of personalized medicine strategies for MS.

We expand and strengthen the quantity and quality of MS research worldwide to accelerate new discoveries and treatments for people with MS.

- Enhanced training experience of Society fellows by convening them at multiple meetings where they connect with their peers, mentors and people impacted by MS.
- Supported core resources and stimulated global collaboration, providing funds to enhance DNA repository, tissue banks and to drive the International Collaborative on Progressive MS.



DID YOU HEAR THE EXCITEMENT FROM ECTRIMS?

In October, 7,000 investigators convened in Lyon, France to present findings at ECTRIMS (European Committee for Treatment and Research in MS), the world's largest meeting dedicated to MS research.

More than 1250 scientific presentations and display posters covered virtually every aspect of research to stop MS, restore function, and end MS forever. Among these were the latest results from trials of emerging therapies, possible risk factors, disease mechanisms, rehabilitation, and much more.

Go to blog.nationalMSSociety.org to view videos featuring leading scientists, blog posts on promising advancements and a full report on ECTRIMS.

OUR THANKS

I extend my heartfelt thanks for all you do for people with MS. In 2012, the Society saw huge momentum in our efforts to STOP MS in its tracks, RESTORE what has been lost, and END the disease once and for all. Because of the incredibly generous support of donors, the Society also realized significant growth in our research funding.

But what does this progress mean for people living with MS? What does it mean to families like the McGraws who face the daily challenges, and uncertain future, attached to multiple sclerosis?

The National Multiple Sclerosis Society remains steadfast in pursuing our vision for a world free of MS. And until that milestone is achieved, our efforts to drive MS research will not slow nor cease. We promise to build on our 2012 investments in research, \$44 million for 350 research projects, by pursuing all promising solutions for people living with multiple sclerosis.

I hope you will join the McGraw family and so many others who are driving MS research forward in the New Year. With your participation, I am confident 2013 will be an even better year.



Yours truly,

Cyndi

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President & CEO
National Multiple Sclerosis Society

GIVE WHAT YOU CAN, NOW.



Ten years ago, Robin McGraw knew several people living with multiple sclerosis, although he knew little about the disease. As a paramedic fluent in French, McGraw was hired in 2002 by the Tyler Hamilton Foundation to act as the medical director for its first MS Global ride, which wound its way through France, Germany and Switzerland.

"I was there to assess and treat anyone who had an accident or injury," he recalls. "Five riders had MS, and over the two-week ride, I got to know them a bit — and what living with this chronic disease was like for them. When I got back to the States, I told the Foundation that I wanted to donate my time rather than be paid for it."

Three weeks later, McGraw accompanied his wife to her high school reunion. "I was sitting on a couch having a beer with two women whose husbands had been in my wife's class," he says. "They were best friends and I was telling them about the ride I'd just been on when one of them, her eyes welling up, turned to her friend and said, 'I have MS.' They'd been very close for a decade, but only during this conversation did she feel comfortable revealing a long-held secret to her friend."

"It was a cathartic moment for us all and I realized I was meant to be involved," says McGraw. He soon connected with the Society through its office in Boston and began raising funds for MS research and programs benefiting people living with the disease through Bike MS events.

Then, two years ago, McGraw's niece, the daughter of his older brother Josh, was diagnosed with MS in her late 20s. McGraw was able to help guide his family through the initial steps of her diagnosis and treatment.

"My brothers and I were taught at a very young age that there is no other way to lead than by example," McGraw says. "The research has come such a long way and my niece is counting on all of us to join together to finally lick this thing." Last year, McGraw made a \$50,000 gift to the NOW campaign; this year, he and his brothers, Josh and David (pictured on either side of Robin in photo), through the Donald C. McGraw Foundation, committed \$1 million to the campaign.

McGraw, currently a member of the Greater New England Chapter Board of Trustees and the NOW campaign fundraising cabinet, believes it is only a matter of time before researchers will be able to restore the function lost to MS, to stop the disease in its tracks and to put an end to MS forever.

Give what you can — NOW: We have reached the point when individual efforts can be made exponentially stronger through support and collaboration. Stand together with Robin, Josh and David McGraw to raise \$250 million to fuel MS research by giving what you can today.



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