

Opening Doors to cure MS

O P E N V I S I O N

O P E N A C C E S S

O P E N C O L L A B O R A T I O N

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OPEN VISION

For decades doctors and scientists have been working to cure Multiple Sclerosis, but many closed doors have blocked their way. Our goal is to open these doors. We want to open them so that nobody ever again has to suffer the pain, disability, and uncertainty that MS brings.

How do we open doors? By promoting access and collaboration, including:

- Giving scientists access to a repository of high-quality biological samples and data
- Serving as a catalyst for collaboration within the research, clinical, and pharmaceutical communities
- Sharing our ideas and resources with other disease organizations with similar goals
- Involving the entire MS community in our efforts, especially people who have MS and their families

We've been following this vision since 2001 when Art Mellor, an MIT-educated engineer and entrepreneur, founded Accelerated Cure Project. Art was diagnosed with MS the previous year after experiencing numbness and other symptoms that he couldn't explain. After researching his disease, finding that there was no fully effective treatment, and further discovering that nobody even knew the causes of MS, Art decided to devote himself to curing MS. With the help of his neurologist, he built a team dedicated to determining the causes of MS and using that knowledge to develop a cure.

Our team quickly learned that there are many doors barring scientists from making rapid progress in curing diseases like MS. For instance, many factors discourage or make it difficult for scientists to collaborate with one another. That's a huge barrier to overcoming a challenge like curing MS, which requires the combined efforts of many researchers in different fields. We also learned that there is no organized plan for investigating and curing diseases – a major obstacle to solving a complex

problem. Finally, we learned that many talented scientists with good ideas lack access to needed resources such as biological samples.

A STRATEGY TO OPEN THESE CLOSED DOORS

We began by developing the Cure Map, our strategic plan for determining the causes of MS by combining findings from many different research areas. We have also built a large-scale MS Repository of samples and data to allow more scientists to perform high-quality studies on critical topics. This Repository allows scientists to collaborate with each other – even if they work in different locations or in completely different fields – through combining their research results in order to generate new discoveries.

Our efforts have enabled studies on important topics such as the role played by genetics in MS, the factors driving nerve degeneration in MS, and biomarkers in the blood that could be used to quickly diagnose MS. We have organized collaborative scientific meetings on the interaction of genetic and environmental factors in MS, and on the role of infectious organisms in MS. And we have provided people with MS and their families not only information about research taking place in MS, but also the opportunity to participate directly in that research by joining our MS Repository.

Our philosophy has always been one of openness — we are open to new ideas, we share our work openly, and we openly welcome all who want to work with us to cure MS. We invite you to learn about what we're doing, and we hope you will join us in opening the door to cure MS!



A handwritten signature in black ink that reads "Carolyn Cronin". The signature is written in a cursive, flowing style.

Carolyn Cronin
President & CEO

OPEN ACCESS TO BIOLOGICAL SAMPLES

To cure MS, we will need to better understand the biology of the disease. That requires analyzing biological samples from people with MS to learn about the molecules and cells involved. Even a simple blood sample can tell us many important things: which genes are involved in MS, whether a past infection may have triggered MS, how immune factors act and interact in the disease, and so on.

However, many scientists don't have access to a source of high-quality samples to study. Perhaps their lab is not affiliated with a major MS clinic and therefore they don't have access to research subjects, or perhaps they lack the funds needed to establish their own sample collection. Their research ideas may have the potential to illuminate important aspects of MS, but without access to samples to test, these ideas will remain on the shelf.

MS REPOSITORY

Accelerated Cure Project is removing this barrier and making it possible for all scientists to act upon their good ideas. We have created an MS Repository that collects blood samples from people with MS and others who serve as controls. This repository is rapidly becoming an important resource in the MS research community. Here are some of the features that make our repository unique:

- Open accessibility: All investigators are welcome to apply for samples, no matter which institution employs them or where their lab is located.
- 1,600 subjects and growing: In MS research, "bigger is better" because larger studies are more likely than smaller ones to produce conclusive results.

ENROLLMENT HISTORY & PROJECTION

Cumulative Enrollment:

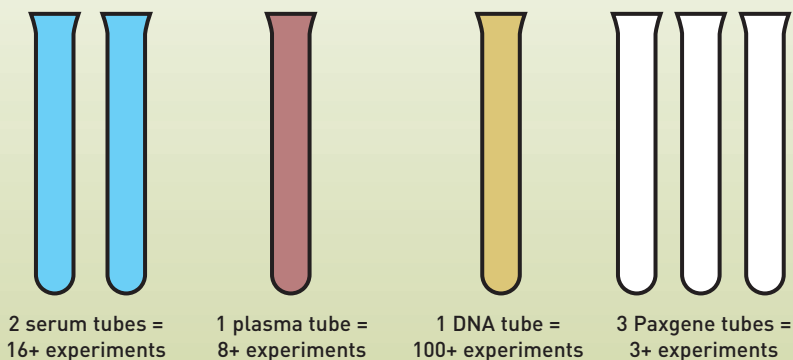


- Commitment to quality: All samples are processed, shipped and stored by highly trained personnel using standardized procedures, so scientists can rely on the quality and suitability of our samples for their research experiments.
- Diverse range of participants: Our repository subjects include people with MS, people with similar demyelinating diseases, and controls who don't have a demyelinating disease. There are few limits on who can participate, resulting in a diverse population that can meet many different scientific needs.
- Wealth of information: Scientists using our samples have access to nearly 40 pages of information that subjects provide about their medical background, demographic characteristics, and so on. Neurologists who enroll subjects with a demyelinating disease enter an additional 10 pages of medical information that is also available to researchers.
- Ability to track changes over time: We invite subjects to return to their enrollment site periodically to provide new samples and information that scientists can use to study changes in health and disease over time.

THE VALUE OF A SHARED REPOSITORY

BLOOD COLLECTED FROM A SINGLE PARTICIPANT CAN SUPPORT MANY STUDIES, NOT JUST ONE

Here, 7 tubes of blood from one person support over 100 experiments



HOW MUCH INFORMATION CAN THESE SAMPLES GENERATE?

Thanks to modern technology that allows scientists to do more with less, some experiments can generate over a million points of information about a single sample!

OPEN ACCESS TO OUR REPOSITORY DATABASE

An important aspect of our Repository is the database we've created to store information associated with the samples. Our database is open to all scientists who want to analyze it and discover the connections that are there.

This database contains two types of information:

- All of the information contributed by a participant and/or the neurologist upon enrollment into the Repository
- Results from all of the experiments conducted by scientists using that participant's samples, contributed in accordance with our data sharing policy

Because our Repository database contains information on a wide variety of topics, as well as results from many types of studies, it has the unique potential to reveal combinations of factors that may lead someone to develop MS or may affect the course of the disease.

The Repository database grows more valuable every day. All participants in the repository contribute at a minimum 300 individual details about their health and other aspects of their life. Combined with the data sets returned by researchers, we now have at least 750,000 pieces of data in our database, each one a potentially valuable link to determining what causes MS!

OUR GROWING IMPACT ON MS RESEARCH

As of July 2009 we have supplied samples and data to over 20 research studies and more requests come in each month. The fact that we have collected different types of blood samples means that we've been able to support investigations on a variety of topics. For example, we have supplied DNA samples to a major international collaboration performing "whole genome" genetic analysis, as well as to other scientists investigating genes that affect the risk of MS. Serum and RNA samples have been supplied to a number of companies who are developing blood tests for the diagnosis of MS. Serum from our repository is also being used to understand the biological mechanisms of MS and other demyelinating diseases such as neuromyelitis optica. As was our goal in establishing this repository, many of these studies are using large numbers of samples — even over 1,000 samples — thereby improving their chances of reaching a conclusive and valid result.

"The repository is an outstanding resource. Thank you for your work in creating it."

— Dr. David Simon,
Beth Israel Deaconess
Medical Center (*Variations in
mitochondrial DNA*)

A few of the studies that are using samples from the Repository:

Investigating the involvement of Vitamin D related genes and MS

– Dr. Alberto Ascherio, Harvard School of Public Health

An international collaboration to perform whole-genome screens on MS samples

– Dr. Philip DeJager and the International MS Genetics Consortium

Neurodegeneration in people with SPMS

– Dr. Julius Birnbaum, Johns Hopkins Hospital

Human gene expression for developing an MS diagnostic signature

– Dr. Douglas Bigwood, DioGenix, Inc.

Genetic and immunogenic analysis of AQP4 in neuromyelitis optica

– Dr. Brian Weinshenker, Mayo Clinic

The ability of anti-glucose antibodies to diagnose and stratify MS patients

– Dr. Nir Dotan, Glycominds Ltd.

For a complete list, visit <http://www.acceleratedcure.org/repository/research.php>

The Accelerated Cure Project group provided high quality samples and greatly helped one of our recent studies.

– Dr. Bernadette Kalman, VAMC, SUNY Upstate Medical University (*Variations in inflammatory genes*)

OPEN ACCESS TO OUR CURE MAP

Our mission of curing MS by determining its causes began with a quest to learn as much as we could about what prior research had revealed on this topic. We searched the medical literature and compiled our findings into a comprehensive analysis that we call the Cure Map. The Cure Map helps us see connections among research studies and guides us in reaching out to scientists who may become important collaboration partners.

The Cure Map organizes research results into five tracks: genes, infections, physical and emotional trauma, nutrition, and toxic agents. Our analyses of these results are provided in text (PDF) documents and are accompanied by databases that document the important features of relevant studies. All Cure Map files are available on our web site for free download by anyone — scientist or nonscientist — who wants to learn more about what may cause MS.

OPEN COLLABORATION

Challenges like curing MS can't be met by one person or group working on its own — instead we need to join forces with others who are working to reach the same goal.

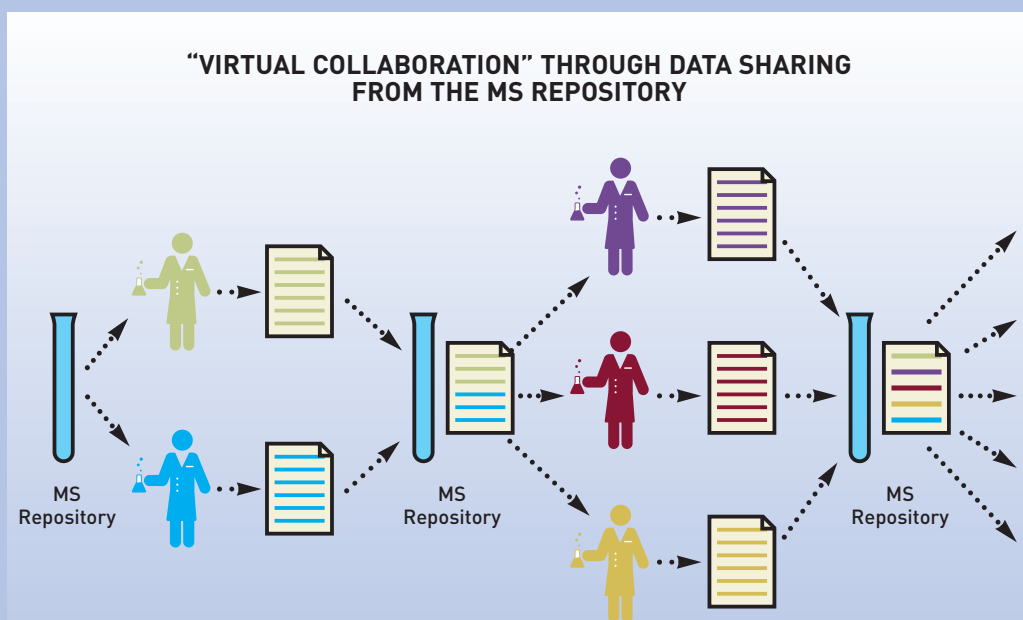
OPEN COLLABORATION WITH THE RESEARCH COMMUNITY

Our MS Repository gives us a natural platform for reaching out to researchers who have the skills and knowledge to address MS's most challenging questions. We are constantly looking for scientists who can explore these questions with us, and offer them samples and data as well as other resources we have available. Our goal is to enable scientists already working in MS to undertake new projects, and to entice other researchers to bring their capabilities into the study of this disease.

In setting up our MS Repository, we made deliberate choices to make it as easy as possible for people to collaborate with us. For instance,

scientists keep all intellectual property rights to the discoveries they make using our samples. That means the scientists or their institutions could potentially make and sell products using the knowledge they obtain. This policy is especially helpful when collaborating with for-profit organizations, who contribute significantly to MS research.

Another important feature of our Repository is that it enables “virtual collaboration” through data sharing. Scientists who request samples can obtain data that was previously deposited with us by other scientists who used those samples. They can investigate how that data relates to their own results, potentially discovering new findings in the combined data set. In this way, scientists who may never have had the opportunity to work together can collaborate indirectly, through combining the data they each obtained using the same samples. This aspect of our Repository makes it particularly valuable in finding interactions between factors (such as genetic factors and infectious organisms) that are normally investigated separately.



Samples from the MS Repository are shared with scientists who contribute their results back to us. These results can then be shared with other scientists receiving samples to conduct their own experiments. Combining and sharing results from different experiments in this way can lead to completely new insights about MS.

OPEN COLLABORATION WITH THE CLINICAL COMMUNITY

Through our Repository, we have built a network of enrollment sites that provide excellent patient care and conduct clinical research to improve the lives of people with MS. The staff at these sites know a tremendous amount about conducting clinical studies with the highest standards of excellence.

We learn from these staff, and we facilitate their learning from each other. All of the primary investigators (neurologists) at the sites are on an Oversight Committee which reviews sample and data requests and also helps guide the development of the Repository. The study nurses who enroll subjects into the Repository are also linked through monthly conference calls where topics such as best practices and upcoming process changes are discussed. We also send out a special newsletter to the sites to keep them informed of our progress.



OPEN COLLABORATION WITH OTHER DISEASE ORGANIZATIONS

Accelerated Cure Project is a founding member of the MS Coalition, a body of national MS organizations that work together and support each other's efforts to combat this disease.

We also collaborate with nonprofit organizations that are working to cure demyelinating diseases that are similar to MS. These organizations include the Transverse Myelitis Association and the Guthy-Jackson Charitable Foundation,

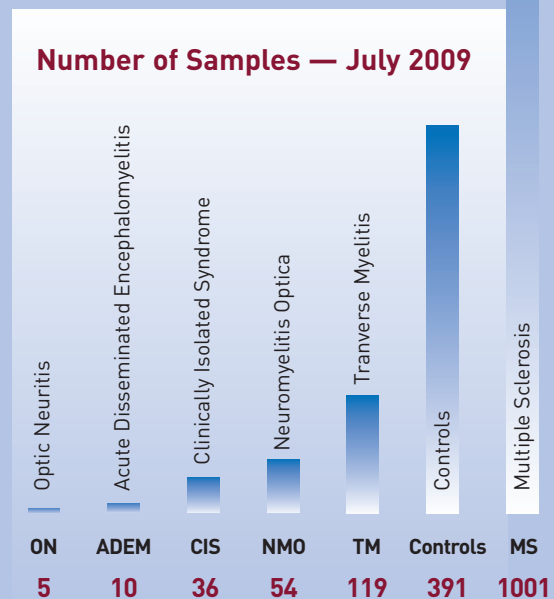


The Accelerated Cure Project's Repository is a vital resource to biotechnology companies developing diagnostic or prognostic tests for MS. Fast Forward is pleased to join forces with the Accelerated Cure Project to grow the Repository so that more companies can access its resources and thus advance the development of diagnostic tools and treatments for people with MS.



— Timothy Coetzee, Ph.D.
President, Fast Forward, LLC, a subsidiary of the National Multiple Sclerosis Society

which is focused on curing neuromyelitis optica (NMO). Because knowledge gained about one demyelinating disease can help shed light on others, we have opened our Repository to people with transverse myelitis (TM), NMO, optic neuritis, and acute disseminated encephalomyelitis (ADEM). Diseases like NMO and TM are even rarer than MS, so it makes a great deal of sense to join forces with these organizations and build a single resource that is useful to researchers studying each of these diseases.



OPEN PARTICIPATION

Art Mellor started Accelerated Cure Project because he wanted to be actively involved in curing his MS. Many other individuals and companies have joined in the effort, donating their time, funds, resources, and blood samples to open the door to curing MS.

We promote participation by the entire MS community in our efforts to cure MS.



Here are just a few examples of how individuals and groups have used their resources and abilities to help in the effort to cure MS:

- The Water Cove Charitable Foundation, the Tyler Hamilton Foundation, and others have made significant contributions to fund operations, enable us to launch new repository sites, and support special research collaborations.
- Volunteers like Marion Leeds Carroll, Deb Dufault, and Debbie Mann have run successful annual fundraising events to support Accelerated Cure Project's efforts all over the country.
- Over 1,600 people to date (and growing!) have contributed their blood samples and medical history to the MS Repository. Almost anyone with MS or one of the other diseases we include can participate as a Repository subject. Many of these people have invited their family members and friends to participate as controls as well.
- Organizations like Clockwork Design Group, inc and Echo Engineering have donated countless hours of services to keep Accelerated Cure Project running smoothly.

You can participate too!
To join us, call 781-487-0008 or go to www.acceleratedcure.org

HELP US OPEN THE DOORS

With the successful development of the MS Repository and the establishment of key partnerships, Accelerated Cure Project is positioned to make essential progress in curing MS by determining its causes. But we can't accomplish our mission without your help.

We have developed a long-range plan defining our needs, goals and strategic priorities for the next three years. We need to raise between \$10 and 15 million to take these critical next steps:

1) Continue to expand the MS Repository

This expansion is not "growth for growth's sake," but instead is driven by a need for larger sized studies that will produce statistically valid results.

- **Establish one new Repository site located on the West Coast to extend our coast-to-coast reach**
- **Enroll an average of 1,280 additional new participants into the MS Repository each year to bring our total to over 5,200 subjects by the year 2012**
- **Invite 1,150 participants back for follow-up visits to provide new samples and information about changes in their medical condition**

2) Provide support for research projects that bring us closer to understanding the causes of MS

In addition to making our repository samples and data openly available to researchers who approach us with ideas for experiments, we are also proactively identifying scientists who are capable of addressing the most important questions regarding MS. Through a matching grant, we have established a fund of \$500,000 to enable research using the MS Repository. Our goal is to increase the size of this fund so that we can expand our ability to answer questions about the causes of MS in a conclusive manner.



It would be criminal to the illness if Accelerated Cure Project did not conduct this campaign. People don't have 5 years to wait to get help. I would encourage anyone associated with this disease to give generously and support the Opening Doors campaign.



— Eric Yaverbaum

3) Promote our collaborative approach to curing MS

Recognizing the value of bringing scientists and physicians face-to-face, we intend to launch a series of research summit meetings on focused topics that bring together experts in MS and related fields. The topics will be driven by the findings of the Cure Map. The outcome of each meeting will be one or more pilot projects that will be executed collaboratively by the group using our research funds and our MS Repository resources.

To accomplish these objectives, Accelerated Cure Project is launching a multi-year comprehensive campaign effort – the Opening Doors campaign – and is seeking the support of the entire MS community: corporate partners, foundations, friends, family members and other individuals with an interest in curing MS.

The success of this endeavor will require extraordinary participation from current friends and associates as well as significant financial assistance from new champions who enthusiastically step up to help eradicate this disease. Please join us in investing in the fight to cure MS by making a pledge to the Opening Doors campaign! We invite you to visit www.acceleratedcure.org/openingdoors for more information.

A P P E A L

Accelerated Cure Project is primarily supported by contributions from individuals.
Please make a gift to support the mission to cure Multiple Sclerosis by determining its causes.

Contributions can be check, credit card, or stock.
We are a 501(c)3 nonprofit so your contribution may be tax deductible.

Please make checks payable to:
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Tax ID: 04-3555864

Online contributions can be made at:
www.acceleratedcure.org/contribute

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