



MARK D. NOBLE, PH.D.

*Professor of Biomedical Genetics  
Director, Stem Cell and Regenerative  
Medicine Institute*

## STEM CELL AND REGENERATIVE MEDICINE

*“Mark’s visits really kept me going and his research gives me hope for further recovery. I hope other friends of the University read about this and get involved in a significant, meaningful way.”*

—UNIVERSITY TRUSTEE AND ALUMNA NANCY LIEBERMAN '77. Noble’s guidance and expertise enabled Lieberman to return to her career as a partner in a Manhattan law firm after being involved in a skiing accident which left her with limited mobility.

The  
**MELIORA**  
CHALLENGE

THE CAMPAIGN *for the*  
UNIVERSITY OF ROCHESTER

## Inventing Solutions, Impacting Lives

Mark D. Noble, Ph.D., director of the Stem Cell and Regenerative Medicine Institute, leads a thriving research program that focuses on aspects of stem cell biology that drastically change the way we approach many important diseases and can improve millions of lives worldwide. Along with Margot Mayer-Proschel, Ph.D., and Chris Proschel, Ph.D., the internationally recognized team has played key roles in discovering all four of the known stem cells specific to the central nervous system. Internationally, they are among a small number of research teams focusing on developing such a broad-based approach to the field of stem cell medicine.

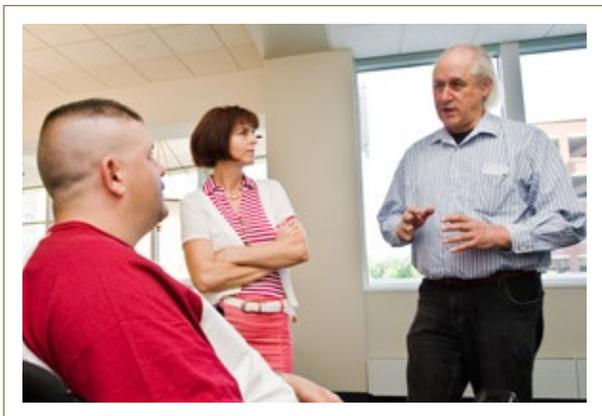
***Moving restorative neuro-therapy forward by leaps and bounds.*** Dr. Noble and his colleagues are leading the development of new treatment models in the field of treating neurological injury. Their work is demonstrating that in conditions such as chronic spinal cord injury and Parkinson’s disease, symptoms may result from loss of function of nerve cells that are still present, but no longer are able to send and transmit the information that controls movement. If these nerve cells could be re-activated, it may be possible to regain great amounts of function without creating entirely new neuronal connections and long-distance neuronal regeneration. Drs. Noble, Proschel and Mayer-Proschel discovered a unique cell that is not only one of the most effective cells for repairing damage to the brain and spinal cord, but also has the unique properties of re-activating neuronal circuits that are present but have become dysfunctional. This approach may also benefit in cerebral palsy, traumatic brain injury and potentially Alzheimer’s disease.

***“Shot on goal” approaches to innovative cancer treatment.*** Just as a hockey player increases his team’s chance to win by blasting the goal with good shots, a researcher increases his team’s chances for success by exploring multiple promising approaches in the clinic. Through years of extensive studies, Dr. Noble and his colleagues have identified new pathways critical to the initiation and maintenance of multiple types of cancers and applied these findings to the discovery of new properties of drugs already approved by the FDA for other purposes. This approach greatly reduces the time required to take a well-planned shot at the goal of providing new treatments. Over a half-dozen generic drugs are now showing remarkable promise in the treatment of a variety of deadly cancers such as neuroblastoma and triple-negative breast cancer. These new cancer treatments offer great promise of being more effective with fewer side effects than existing treatments. And because the drugs already have been approved for use in humans, they can be transitioned in just a few years from the lab to the clinic, allowing patients to receive treatments faster. The team’s work on devastating pediatric genetic diseases called lysosomal storage disorders is just as promising. These findings can cause a tremendous shift in medicine and make an unprecedented contribution to reducing the costs of health care.

# Your gift helps us *discover new ideas, today*

We ask you to join us to make possible the fundamental research that can to benefit the health of people across the region, nation, and around the world.

*What's next?* There are many exciting ways your generosity can make a difference. With your investment, we can significantly expand the fruits of our work in either of the dramatic ventures described on the other side, leading to discoveries that can prevent and potentially cure the most complicated diseases of our time.



Mark D. Noble, Ph.D. and Margot Mayer-Pröschel, Ph.D. talk with a patient.

For example, every \$300,000 enables us to bring another type of cancer through pre-clinical evaluation.

In the field of spinal cord injury, \$1,000,000 allows us to complete all necessary animal experiments with human cells to know how to optimize treatment strategies.

**But we need to move quickly.** Successfully discovering and developing new therapies is an incredibly risky endeavor, one that requires a lot of attempts before a winner is found. Your support could help us make that “unstoppable shot.” Private philanthropy is essential to enhancing promising science and highly meritorious research projects. You are the key to helping us find new first-in-class treatments and therapies that show results **NOW**.

We invite you to contact Marc Misiurewicz, Senior Director of Advancement, to learn more about how you can make a difference. On behalf of the University of Rochester Medical Center and those we serve, we extend our deepest thanks.

*“Hope in every sphere of life is a privilege that attaches to action.*

*No action, no hope.”*

— PETER LEVI  
ENGLISH POET AND BIOGRAPHER