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The
MELIORA
CHALLENGE

THE CAMPAIGN
for the UNIVERSITY
OF ROCHESTER

Restoring damaged cells in the lungs and throughout the body

Every day, we are exposed to air pollutants, chemical fumes, particles, even second- and third-hand smoke that can damage our lungs and airways. Long-term, this exposure can cause lung diseases such as chronic bronchitis, scarring diseases, asthma, and chronic obstructive pulmonary disease (COPD), a disease that

affects 50 million Americans. At UR Medicine, we have one of the nation's foremost inhalation facilities to help us determine new approaches to treating lung disease and protecting your lungs from these pollutants. We are also known across the country and around the world for our COPD research.

Another aspect of our work centers on examining lipid mediators—chemical messengers that are released in response to tissue injury—which play an essential role in inflammation, and the anti-inflammatory benefits of eating foods high in Omega 3 fatty acids. Our scientists have determined that not only do lipid mediators produced from Omega 3s protect your lungs from inflammation, but they can also restore healthy lung activity to damaged tissue.

While working diligently to prevent lung diseases, our researchers are taking the new knowledge they gain and applying it to preventions and treatments for a variety of diseases. For instance, due to chemotherapy treatments, trauma, burns, or other injuries or illnesses, your body's healthy cells stop growing and turn to scars or fat. Our scientists have discovered a protein called Thy1 that regulates this process. By carefully regulating Thy1, stem cells also remain healthy and can be used to treat some of the world's most serious diseases. We have also developed, and are testing, new drugs that prevent the formation of scars and fatty tissue in eye diseases that cause blindness. Our findings will be applicable for injuries and diseases affecting your entire body, promoting healthy, growing cells that not only prevent disease, but public health problems like obesity, and that help cancer survivors live healthier lives.

With your support, we can turn our pre-clinical findings in inflammation, scarring, and lung disease treatment and prevention into preventing and curing a variety of diseases.

Your Gift Will Help Us *Prevent and Cure a Variety of Diseases*

We have an unique ability to link our discoveries with new concepts that tie diseases and fundamental disease processes together to provide better treatments and cures. You can help us prevent and cure a wide variety of disease. Join us today to have an impact in Rochester, across the nation, and around the world.

ENDOWED FELLOWSHIPS AND PROFESSORSHIPS—\$750,000 to \$2,000,000 OR MORE

Professorships (\$1,500,000 or more) are among the most coveted and defining rewards that a faculty member can receive, recognizing and fostering excellence. They also serve as a powerful recruitment tool, drawing new faculty and researchers of established distinction in lung research. Fellowships (\$750,000 or more) can inspire early-career scientists who have the imagination and drive to advance biomedical research and translate laboratory findings into the treatment of disease.

TEAM SCIENCE FUNDS—\$500,000 to \$1,000,000 (multi-year)

Most scientific discoveries are not made by one lone scientist. Generally, they are the result of years of intensive work by teams of researchers that include graduate students, post-doctoral fellows, and laboratory technicians. You can support the contributions of our entrepreneurial, innovative research teams who have a legacy of working collaboratively across disciplines and with scientists from other institutions, looking not only at fundamental disease processes, but also at how diseases in the lungs also tie to diseases in the heart and eyes. You can also support the technology that speeds the path to new therapies and cures, yet adds heavily to research costs.

BRIDGE FUND—\$100,000

As government research funds become more restrictive, it is increasingly difficult for both well-established and new investigators to maintain funding when there is an interruption in NIH funding—interruptions that can have significant, negative impact on research being conducted. Private philanthropy is an essential stopgap measure to sustain promising science and highly meritorious research projects.

PILOT PROJECTS/SEEDS FUNDS—\$50,000 to \$100,000 (annually)

Gifts for seed funding are “risk capital.” They allow scientists to shift the direction of their research to follow promising leads or new ideas, propelling scientific discoveries in new ways. You can help give researchers the time they need to push the boundaries of science and allow innovative ideas to reach their full potential. For example, in our renowned inhalation facility, we are developing a way to analyze air breathed into a condensate. In the future, breath analysis may replace blood draws to determine whether you have a health issue.

POSTDOCTORAL AND STUDENT FELLOWSHIPS—\$25,000 to \$75,000 (a one-year fellowship)

Funds support an aspiring scientist while providing research training and mentorship in the laboratory setting.