Acceptance Speech of
PROFESSOR MICHAEL ANTHONY GIMBRONE, Jr.
Winner of the 2006
King Faisal International Prize for Medicine

Monday 3 April 2006 (5.3.1427H.)

Your Royal Highness, Prince Sultan Ibn Abd Al Aziz
Crown Prince, Deputy Premier,
Minister of Defense and Aviation and Inspector General
Your Highnesses
Your Excellencies
Distinguished Guests
Dear Friends,

First, I wish to express my deep appreciation to the King Faisal Foundation for this extraordinary honor, and for making this very significant statement, to the world, of the importance of celebrating advances in the arts and sciences, as an integral and enduring component of modern civilization—one whose value is enhanced by

sharing, whose significance knows no boundaries, and whose purpose can be embraced by all peoples.

The King Faisal International Prize in Medicine, which I am privileged to receive tonight, embodies the worthy goal of reducing human suffering caused by disease through modern advances in the biosciences. Indeed, these are exciting times for the biological sciences, in general, and for those of us in Medicine, in particular, who endeavor to understand the origins of complex human diseases, at the cellular and molecular level and to seek basic understanding that will lead to their earlier diagnosis, more effective treatment, and ultimately prevention.

I have devoted my professional career to the study of cardiovascular diseases—focusing on the "vascular endothelium" that comprises Nature's container for blood. While still a student at Harvard Medical School, I had the good fortune to meet Dr. Ramzi Suliman Cotran, himself a relatively young man, who was born in Haifa, Palestine, graduated from the medical school of the American University of Beirut, and had come to the United States to do advanced training in Pathology, in Boston. He became my mentor, and under his guidance I began to follow the path that has led me here tonight. Early in my work I was fortunate to discover a relatively simple method to isolate and grow endothelial cells outside of the body. This allowed their direct examination under a variety of experimental conditions, and began to reveal the inner workings of the heart and blood vessels in new ways. Many laboratories from around the world sent people to learn this new approach, and they, in turn, applied it to study a vast range of disease conditions. The study of blood vessel cells thus became a new discipline —that of Vascular Cell Biology.

In our own laboratory, we began to dissect the cellular and molecular mechanisms by which blood vessels become "inflamed". It had always been assumed that these vessels were passive tubes, that conveyed blood to a site of injury, with no active role in body defenses. Our studies of endothelial cells revealed a new paradigm—one in which the vascular endothelium actually expressed specialized molecules that helped to attract the white blood cells precisely to the site of injury and orchestrate the inflammatory response. This has led to novel strategies to regulate inflammation thru the development of new, promising drugs, for the treatment of atherosclerosis—the most common cause of heart attacks and strokes. And there is much promise for even more innovative applications of these discoveries to the early detection of uncontrolled vascular inflammation, long before the process can go on to cause life-threatening injury.

Beyond these technical details, I have learned some simple lessons which I would like to share—Science ultimately is done by People, who are the Engines of discovery, and open Communication among these people is the essential Fuel that drives this activity. Ultimately, the

value of scientific endeavor in the biomedical sciences can and should be measured by its translation into meaningful new treatments to alleviate human suffering. Future generations will judge our success as a civilization by how well we can harness new scientific knowledge in Medicine to serve Mankind.

Again, my sincere thanks to the King Faisal Foundation for this extraordinary recognition, which I humbly accept on behalf of all my colleagues, students, mentors and fellow biomedical scientists in the field of Vascular Biology and Medicine.

Thank you.