Acceptance Speech by
Professor Alexander Varshavsky

Winner 2012/1433H King Faisal International Prize
For Science

34th Ceremony
Tuesday 6/3/2012 -13/4/1433H

Your Royal Highness Prince Salman Bin Abd Al-Aziz,
Minister of Defense,
Your Royal Highnesses,
Your Eminences,
Your Excellencies,
Distinguished Guests.

I am most grateful, and honored, to receive the 2012 King Faisal International Prize for Science. The illustrious names of the previous winners of this scientific award and the widely known impartiality and thoroughness of the Prize Committee make receiving the King Faisal Prize a singular honor indeed.

The work of our laboratory over the last three decades, at first at the Massachusetts Institute of Technology (MIT) and later at the California Institute of Technology focused on the understanding of how and why cells destroy their own proteins in order to divide, to protect themselves from stress, and to form new kinds of cells, a phenomenon called cell differentiation. We were fortunate to understand the fundamental biology of these processes, which center on a small protein called ubiquitin and underlie a staggering number of things that cells do in their daily lives. The field of these studies, initially very small, later grew to become both vast and diverse. After three decades of ever-expanding research in this biomedical realm, new directions of inquiry, new problems, and new applications of

fundamental discoveries continue unabated. Advances in the understanding of the ubiquitin and ubiquitin-like systems are being published at a clip that exceeds anyone's ability to follow these studies in their entirety, a state of affairs that is frustrating and exhilarating at the same time. I feel privileged having been able to contribute to the birth of this field, and to partake in its later development.

As you know, modern science owes a lot to remarkable contributions by Arab scientists and physicians who lived and worked roughly a thousand years ago not too far from the place of today's magnificent ceremony. They contributed invaluable insights to the world's civilization. The list of their achievements is very interesting and often startling. Some of their names are well known even today. Ibn Sina (or Avicenna) was a great physician and polymath who was interested in just about everything, a Renaissance man several hundred years before the European Renaissance. Every practicing mathematician knows about ibn al-Haitham (his Latinized name was Alhazen), or, for example, about al-Karaji (I love the sound and melody of his full name: Abu Bela Muhammad ibn al-Hasan al-Karaji). In our own time, I am happy to be a colleague and friend of Ahmed Zewail, a great Egyptian physical chemist and Nobel laureate who is my neighbor at the California Institute of Technology in Pasadena, California.

Viewed as a dynamic body of self-improving knowledge and insight, science is remarkably and refreshingly even-handed. To biology, a deer, a microbe, and a human being are equally worthy of noting and understanding. Science does not partake in turbulent passions that so often divide us, in part because science knows so much. But the world is complex, and the tranquility of science has to accommodate, somehow, the unsettling effects of ever-growing knowledge on the military technology and its increasing ability to harm large numbers of people.

It is precisely because the times we live in are so full of uncertainty and apprehension that the emphasis, by justly celebrated King Faisal Prizes,

on the international value of knowledge and free inquiry is so valuable and worthy of admiration.

I thank you again for the great honor of this distinguished award.