

Acceptance Speech by Professor
Vamsi Krishna Mootha
2016 Co-Winner of the King Faisal International Prize
For Science

38th KFIP Awards Ceremony
Wednesday 23/03/2016 (14/06/1437H.)

Custodian of the Two Holy Mosques
King Salman Bin Abdulaziz,
Your Highnesses,
Your Eminences,
Your Excellencies,
Distinguished Guests.

I am deeply honored to be receiving the 2016 King Faisal International Prize for Science. To see my name listed amongst previous recipients is quite humbling. I would like to thank the committee and royal family of King Faisal for bestowing on me this wonderful prize. I thank my family – especially my parents – for their unfailing love and support, along with all of my mentors – who taught me how to do science. Importantly, I accept this award on behalf of past and present members of my laboratory – whose creativity, passion, and dedication have contributed to the work being honored today.

My research group focuses on mitochondria. These are tiny structures found within each of our body's cells that serve as the major producer of energy. They are crucial for human health. I fondly remember my initial encounter with these energy factories in medical school, when I was shown an image of mitochondria for the first time. Their ultrastructure, chemistry, and bacterial ancestry instantly captivated me. As I continued to study mitochondria, it became clear to me that there were huge gaps in our understanding of a structure so vital for life. What the field needed was a molecular blueprint. Using the new tools of genomics – a discipline pioneered by former King Faisal International Prize recipient Sidney Brenner – my laboratory identified all mitochondrial components and we study how they orchestrate energy production. Our work has helped illuminate how mitochondria malfunction in a variety of human diseases –

ranging from rare birth defects to common disorders such as diabetes and cancer.

The King Faisal International Prize is designed to recognize contributions that have benefited humanity. A prize of this international repute instills in us an even greater desire to charge forward with our long-term vision of developing a new class of medicines that take aim at the energetic basis of disease.