

Acceptance Speech by Professor
Jeffrey Friedman
Co-Winner of the 2013 (1434H)
King Faisal International Prize for Medicine

35th Ceremony
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Your Royal Highness Prince Salman Bin Abd Al-Aziz
Crown Prince Deputy Premier, Minister of Defense
Your Royal Highnesses,
Distinguished Guests,

I am extremely grateful to receive the 2012 King Faisal International Prize for Science . This is a deep honor that is amplified by luminous science of the previous winners, and the great esteem receiving a King Faisal International Prize bestows on its recipients. .

I am also pleased that the committee saw fit to recognize advances in obesity research. The conventional view on the part of many is that the obese are responsible for their condition. I am proud to be part of a dynamic and fast moving field that offers the alternative view that body weight is controlled by a powerful biologic system that regulates body weight by changing the activity of a neural circuit that robustly regulates the basic drive to eat. These neural pathway functions in all mammals and differences in its activity to a large extent explain why some people are thin and others obese. Defects in the genes that comprise this biologic system cause obesity including the leptin gene which my laboratory identified. Leptin is a hormonal signal made by fat tissue that is secreted into blood and that then regulates the neural circuit that controls appetite. A mutation in the leptin gene can cause massive human obesity which can be effectively treated by administering leptin made in the laboratory. Recent evidence further suggests that leptin can be used to treat several human conditions including several forms of diabetes and that in time it could be part of a combination of therapies for

obesity. The identification of leptin and the neural circuit it controls is changing the perception of the causes of obesity and laying the foundation for what in time will, I believe, new types of medical treatment.

In 1903, Theodore Roosevelt , an illustrious former President of the United States wrote, "[Far and away the best prize that life offers is the chance to work hard at work worth doing.](#)"

The work of science is well worth doing. Advances in science and technology are a gift from each generation to the next and I am proud to be part of a world wide enterprise the origins of which

began with our forbears here in the Middle East where modern civilization began and where some of the giants of antiquity plied their craft such as Al-Kharizmi who by developing the Arab numeral system created the foundation of modern mathematics. Investment in science of technology of the sort that has now put in place in Saudi Arabia will , I am confident, lead the way forward.

As scientists we are the instruments of a wave of new knowledge that passes through of us from the past and into the future. The wave of knowledge of which my research is a part began with the realization of the French chemist Lavoisier in the 18th Century that living organisms are subject to the basic laws of physics and chemistry, the formulation of the first law of thermodynamics by Joule and Meyer, passes through Hetherington and Ranson two great neuro-anatomists and Gordon Kennedy and Romaine Hervey two physiologists of the 20th century and of course Doug Coleman, with whom I am proud and pleased to share this award. This wave has coursed briefly through me into a future that I cannot clearly see but which others undoubtedly can or will. The culmination of the wave of which I was a part is the realization that molecules control feeding behavior and obesity is not a personal choice. It is my hope and expectation that this realization will not only lead to new treatments but also lead to a greater sense of understanding for the obese. As a child, it would have been inconceivable to me then that I would ever have my name listed with the previous recipients of this award and it is the deepest of honors. I look forward to seeing this award continuing to flourish as future recipients make future discoveries and the wave of new knowledge moves forward. I thank you again for the great honor conferred by this distinguished award.

Thank you