

Acceptance Speech by Professor  
**Steven L. Teitelbaum**  
2019 Co-Laureate of the King Faisal Prize  
in Medicine  
41<sup>st</sup> KFP Awards Ceremony  
Sunday 24/03/2016(17/07/1440H.)

The road I have travelled began in a one bedroom apartment in Brooklyn, New York I shared with my brother, parents and grandmother. In the heat of summer, we slept on the roof.

Yet my parents harbored outsized dreams, insisting my brother and I attend excellent colleges and become professionals. I attended Washington University Medical School and then joined its faculty. Being at Washington University was central to my scientific accomplishments.

My career as a scientist was decided when I encountered a three-month old girl with a rare fatal bone disease called osteopetrosis. The child's brain and nerves were compressed by unregulated bone growth and her bone marrow was being obliterated.

At that time, my colleagues and I developed a working hypothesis that the dysfunctional cells called osteoclasts, that permitted her bones to grow wildly, came from bone marrow. We decided to try to save her by giving her healthy bone marrow. Discovering her brother was immunologically identical to her, we transplanted his bone marrow into his sister. Seven anxious days later a drastic change in the little girl's x-rays revealed she was cured and remains so today. Bone marrow transplantation is now standard treatment for this once fatal disease.

Moved by my experience, I decided to research whether we could regulate the osteoclast to treat common bone diseases such as osteoporosis, which promotes fractures in 50 percent of women reaching the age of 65. Studies from our and other laboratories have resulted in treatments that have dramatically reduced the incidence of osteoporosis and its attendant fractures and have led toward promising treatments for a variety of childhood skeletal diseases. Our research has also contributed to the development of drugs which halt the common spread of breast cancer to bone.

Your Majesty, members of the Royal Family, I was fortunate to be given scholarships to a fine university and great medical school and the opportunity to pursue a passion for scientific discovery. I accept this award with gratitude in the name of all the other girls and boys from meager backgrounds for whom a helping hand at the right time could bring them to this very platform.

Thank you.