



CARLOW UNIVERSITY

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May 21, 2009

National Medal of Technology and Innovation
Nomination Evaluation Committee
c/o The United States Patent and Trademark Office

Re: Nomination of Zalman M. Shapiro

Dear NMTI Committee Members:

It is an honor and privilege for me to write in support of the nomination of Dr. Zalman Shapiro for the National Medal of Technology and Innovation. I have known Dr. Shapiro for several years because of his prominence in the Pittsburgh region where he is widely recognized as a dedicated scholar, a pioneer in scientific research, and a selfless leader focused on improving the lives of others. I have read accounts of his technological achievements, and have discussed with others the far-reaching significance of his innovative scientific developments which have resulted in fifteen patents, a number of which have clearly advanced the economic, environmental, and social well-being of our nation and far beyond. In addition to this review, I have had the good fortune to discuss with Dr. Shapiro the importance of education that enlightens people of all ages regarding the religious, cultural, and political realities of the mid-East and the struggle of people in that region to achieve lasting peace. His personal leadership in this realm is impressive and has been quietly effective, serving as a source of inspiration to many here and abroad.

Innovative leadership in scientific and technological research and development has been the consistent hallmark of Dr. Shapiro's professional life and is impressively illustrated in every one of his major achievements. By way of example I cite here several of these:
1) exhaustive studies of the iodide vapor deposition process for zirconium and hafnium leading to his unique and successful design of the apparatus for the low-cost production of zirconium and hafnium suitable for fuel cladding and reactor control, respectively; 2) direction of essential studies of uranium dioxide suitable for fuel for water-cooled power reactors; 3) conception and development of the method for, and the implementation of the first plant for the continuous production of uranium dioxide capable of being

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consistently fabricated into the high density fuel pellets required for nuclear power reactors; 4) establishment of the first commercial plutonium laboratory and fuel fabrication facility in the world and initiation of the first studies on the fabrication and characterization of uranium/plutonium mixed oxide fuel for power reactors; 5) the sharing of responsibility for the conception and design of the first successful very long-lived cardiac pacemaker.

Those with the privilege of knowing Dr. Zalman Shapiro readily acknowledge some of the qualities that set him apart as a truly great man: selflessness, courage and risk-taking, and persistence and endurance. As a truly selfless individual, he never expects recognition for his efforts nor does he seek acclaim for his achievements. He responds instinctively to human need and serves others in a way that never draws attention to himself. As an example, he initiated the Tolerance Project to teach 10th graders throughout Pittsburgh's high schools (12 public and 5 Catholic) the dangers of religious, ethnic and racial intolerance and he raised the funds required to send approximately 5000 students, over the last several years, to the National Holocaust Museum in Washington, D.C. He has demonstrated courageous risk-taking from the beginning of his professional career. Many year ago with only three potential partners and no external financial backing, he set out to raise the monies needed to form a company which developed into an enterprise that inspired the confidence, motivation, and successful productivity of approximately a thousand employees. Undoubtedly, at the age of 89 and recently the recipient of his fifteenth patent, Zalman Shapiro demonstrates an uncommon measure of persistence and endurance. With respect to his family life, his generous service within the Jewish community, and his commitment to pioneering excellence within scientific and technological realms, Dr. Zalman Shapiro's lifetime of extraordinary achievement reveals impressively his natural inclination to identify problems, to seek effective solutions, and thereby to contribute selflessly to the improvement of the human condition.

In submitting this recommendation to you, the esteemed members of the National Medal of Technology and Innovation Committee, I am confident that Dr. Zalman Shapiro's lifetime of professional pursuits and his exceptional achievements will demonstrate the qualities most worthy of your consideration.

Sincerely,



Grace Ann Geibel, RSM, Ph.D.

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