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National Medal of Technology and Innovation  
Attention: Jennifer Lo, Program Manager  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
Re: Nomination of Zalman Shapiro, PhD

Dear NMTI Committee Members:

With great pleasure, I recommend Dr. Zalman Shapiro, of Pittsburgh, for a National Medal of Technology and Innovation. I have known Dr. Shapiro for the past 16 years, when I was first recruited to the University of Pittsburgh, School of Medicine. We have remained in communication since I left Pittsburgh to head up the section of pediatric leukemia and lymphoma at UT-MD Anderson Cancer Center (Houston) and subsequently to direct pediatric hematology/oncology/stem cell transplantation research at Northwestern University.

Zalman was impressively active in his 70's (and now in his 80's) keeping himself current reading scientific publications and engaging in scientific/technical development. At the same time, he donated a remarkable amount of his time and energy to community organization work.

Among his accomplishments are major contributions to the technical development of the nuclear-powered US Navy and commercial nuclear power plants (of which there are currently 104 in operation in the US alone). His contributions have been critical for the advance of non-fossil fuel sources of energy – something that is so incredibly important in 2009 and for our country's energy-independence and national security and general well-being.

To me as an M.D., Zalman's responsibility for the design and development of the nuclear-powered pacemaker is a particularly resonant achievement. Not only did it preserve life, but it preserved quality of life. The NUMEC pacemakers were long-lasting (one original implantee is *still* walking around with one 35 years later) and so, unlike conventional pacemakers of the time, did not require additional surgeries. The patients were spared additional pain, suffering, possibility of acquiring serious infection and recuperation time. Moreover, health care costs were cut considerably.

Zalman continues to work into his late 80's! He just received his 15<sup>th</sup> patent which improves the efficiency of gem-quality diamond production. The positive implications of such an important patent go well beyond the economic (in its potential benefit to a large number of industries), to the social – with the resounding and needed message that age can be valuable in providing a broader foundation for significant contribution.

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In sum, Dr. Zalman Shapiro is a great scientist, a great colleague, a great mentor, and a great American. I can't imagine anyone more deserving of such a national award.

Sincerely yours,



Seth Corey, MD MPH  
Murphy-Rosen Research Professor of Cancer Biology and Chemotherapy  
Northwestern University

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