

November 21, 2008

Fereydoon Namavar, Sc.D.
Professor and Director of Nano-Biotechnology
University of Nebraska Medical Center
985360 Nebraska Medical Center
Omaha, NE 68198-5360

Dear Dr. Namavar,

I fully endorse and support your FY 2010 project on “Smart Coatings.” The nanocrystalline ceramic coatings you are developing can be applied to virtually any surface, which makes their applicability unlimited in scope. This smart coating technology can lead to significant energy conservation and increased fuel efficiency by reducing friction on engine components and surfaces susceptible to wear or corrosion. Since these coatings are very radiation resistant and applicable to high temperatures, they could be useful in reducing corrosion and wear of advanced nuclear reactor components, as well as in nuclear fuel reprocessing. From a fundamental science perspective, such coatings can also be studied to develop radiation resistance materials for nuclear waste immobilization. Such coatings can also be utilized to improve the durability and function of surgical tools and orthopedic implants, as well as prevent microbial infection on such tools and implants.

I wish you success with your “Smart Coatings” project. These versatile coatings will prove to be beneficial for a wide range of industrial applications, commercial products, and the mission areas of federal agencies, particularly in the energy sector.

Sincerely,



William J. Weber, Ph.D.
Laboratory Fellow
Chair, Council of Fellows
Chemical & Materials Sciences Division

