

**Plamen B. Atanassov, Ph.D.**

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**Bio:** Plamen Atanassov grew up in Bulgaria and graduated from the University of Sofia in 1987, with a MS (university diploma) in Chemical Physics and Theoretical chemistry. He joined the Bulgarian Academy of Sciences and became a member of the technical staff of its Central Laboratory of Electrochemical Power Sources (now the Institute for Electrochemistry and Power Systems). His initial work included materials solutions for metal-air batteries. During 1988-89, Plamen Atanassov was a visiting scientist in the Frumkin's Institute of Electrochemistry, Russian Academy of Sciences, Moscow, Russia, studying the bio-electrochemistry of enzymes in the lab of Prof Mikhail Tarasevich. He received his Ph.D. from the Bulgarian Academy of Sciences in Physical Chemistry/Electrochemistry under the guidance of Professors Ilia Iliev and Evgeni Budevski.

Dr. Atanassov moved to the United States in 1992 and later became a member of the research faculty at the University of New Mexico. During this period he was involved in the development of several electrochemical biosensor technologies for biomedical, environmental food safety, and defense applications (The spelling of the last name, under which he published until 2000 was "Atanasov"). In 1999, he joined Superior MicroPowders LLC (now a division of Cabot Corp.) where he was a project leader in fuel cell electrocatalysts development.

Plamen Atanassov returned to the University of New Mexico (UNM) in 2000 as a faculty member of the Chemical & Nuclear Engineering Department. He was engaged primarily with the Center for Micro-Engineered Materials (CEMEM), where he was Associate Director and the UNM PI of the NSF Industry/University Collaborative Research Center: "Ceramics & Composite Materials Center", a joint venture with Rutgers University and Pennsylvania State University. In this collaborative program, funded by industrial membership, Dr. Atanassov secured the participation of Intel Corp., Sharp, Motorola, Cabot Corp., Toyota Motor Co., and smaller companies such as MesoSystems (now I-Cx), MesoFuel (now Intelligent Energy) and Akermin. Biosensor programs of Dr. Atanassov were supported through UNM Center for Biomedical Engineering, of which he was a founding member.

Starting 2008, Dr. Atanassov founding the UNM Center for Emerging Energy Technologies, and was its founding director from 2008 to 2011. While leading this School of Engineering inter-disciplinary research center, he was the PI on AFOSR MURI award, "Fundamentals and Bioengineering of Enzymatic Fuel Cells," which includes faculty from Columbia University, Northeastern University, Michigan State University, St. Louis University and University of Hawaii. He is currently the PI for the New Mexico DOE EPSCoR Implementation Award, "Materials for Energy Conversion," a concerted effort of UNM, New Mexico Tech, New Mexico State and Eastern New Mexico Universities.

Professor Atanassov 's current research programs include development of non-platinum and platinum group metal electrocatalyst for fuel cells, new materials and technologies for batteries and other power sources, enzymatic bio-fuel cells, sensor systems design and integration of micro-analytical systems. Plamen Atanassov currently collaborates on funded programs with colleagues from University of Utah, Columbia University, University of Washington, Michigan State University, University of California and has active research collaborations with Fraunhofer Institute fir Chemical Technology, University of Padua, University of Poitiers, Grenoble Polytechnic, University of Montpellier, University of Strasbourg, University of Santiago de Chile, University of Sao Paulo,

University of British Columbia and University of Ottawa. He has standing collaborations with scientists from several National Laboratories: Los Alamos National Laboratory, Sandia National Laboratories, National Renewable Energy Laboratory, Argonne National Laboratory, Oak Ridge National Laboratory, Lawrence Berkeley National Laboratory and Brookhaven National Laboratory.

Currently, Dr. Atanassov is working with Daihatsu Motor Company (a member of Toyota Motor Co.) on the development of anion-exchange membrane fuel cells for automotive applications. This collaboration includes a relationship with Cabot Corporation, Ballard Power Systems, Nissan Technical Center of North America, Automotive Fuel Cell Cooperative (a Daimler-Ford Company), IRD, Sharp Labs of America, and several OEM developers.

From January 2012 to December 2013 Plamen Atanassov served as an Associate Dean for Research of the UNM School of Engineering while continuing his research leadership of a large research group and supporting multiple collaborations.

Professor Atanassov is an author in 220 peer-reviewed papers published, including 12 reviews, which brought more than 8000 citations, forming an h-index of 38. His co-edited book (with H.R. Luckarift and G.R. Johnson), "Enzymatic Fuel Cells: from Fundamentals to Applications" just released by Wiley. Dr. Atanassov has given multiple presentations and technical conferences and invited seminars and lectures in many institutions, universities, and companies around the world.

Dr. Atanassov holds 15 UNM-affiliated issued US Patents and another 13 US patents belongs to Carbot Corp. (as a result of his work at Superior MicroPowders). There are another 23 filed Patent Applications and 36 Provisional Patent Applications in the pipe-line. His portfolio of non-platinum cathode catalyst technologies led to the creation of start-up company, Pajarito Powder LLC, with the aim of commercializing non-platinum fuel cell catalysts. Dr. Atanassov is also involved in DOD-funded small business technology transfer research (STTR) projects: three Phase II projects with CFD Research Corporation and one Phase II project with Lynntech Corporation that further the development of enzymatic fuel cells towards defense applications. Two of his current graduate students have started companies to commercialize the bio-fuel cell technology developed at UNM.

Prof. Plamen Atanassov has been an active member in several professional and research societies: American Chemical Society, Electrochemical Society and the International Society of Electrochemistry. In those societies his role has been primarily in organizing symposia, some of which run now for 10 years and more.

The nomination by the ISE to stand in the election for a Vice President is an invitation to engage in fortifying the society relationships with industry. Corporate membership is critical for building successful partnership among academia, governmental research and industry as it provides validation and reference check on the current societal expectations and financial interest in the research and the global impact of the electrochemical sciences. It is also critical for recruiting the new generation of scientists to the society as it provides a conduit to reach potential employers and for personal professional development.