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## **Robert M. Koch, Ph.D.**



### **Senior Research Scientist for Undersea Tactical Stealth Systems Naval Undersea Warfare Center**

Dr. Robert M. Koch, P.E. serves as the U.S. Navy Senior Technologist (ST) in Undersea Tactical Stealth Systems at the Naval Undersea Warfare Center Newport, RI (NUWCNPT). This position allows the Navy to provide the technical consultation and leadership necessary to coordinate the development and integration of innovative technology in tactical stealth systems for undersea warfare of the future. Dr. Koch is responsible for stimulating, planning, coordinating, and reviewing the full spectrum of RDT&E efforts applicable to the development of signature control (and reduction) techniques and related systems. His duties also include planning, directing, and executing challenging basic research efforts related to advanced undersea vehicle propulsion, silencing techniques, and hydroacoustics. Dr. Koch is an internationally recognized researcher in advanced mathematical analysis of transient dynamic high-energy shock events, structural- and hydro-acoustics noise propagation, and general theoretical and applied mechanics formulations. He has authored dozens of peer reviewed technical journal articles, technical conference papers, and has been awarded many patents in these technology areas.

Dr. Koch was selected for the position of Senior Technologist in March of 2009 and has over 20 years of Federal Service.

Prior to this selection, Dr. Koch served as the Head of the Solid Mechanics and Design Branch, of the Autonomous Systems and Vehicles Department at NUWCNPT from 2005 to 2009. He was responsible for managing 20 technical employees and simultaneously worked as a Chief Research Scientist and Analysis Leader in applied mechanics. As Branch Head, Dr. Koch was responsible for all leadership functions, performing and directing all workforce planning and allocation decisions, ensuring that the branch met its approximately \$3+M annual funding goals, and closely monitoring and overseeing a multitude of ongoing branch RDT&E efforts.

From October 1991 to February 2005, Dr. Koch served first as a Senior Research Scientist and then as Chief Research Scientist in Applied Mechanics at NUWCNPT. During this period, he researched and published extensively in undersea warfare technologies related to structural dynamic, structural acoustic, and hydroacoustic investigations in both heavyweight and

lightweight torpedoes, Unmanned Undersea Vehicles (UUVs), Unmanned Surface Vehicles (USVs), countermeasures, targets, and supercavitating high speed vehicles.

Dr. Koch has also been an Adjunct Professor of Engineering, teaching undergraduate engineering courses for the past 26 years at Polytechnic University of New York and Roger Williams University. He has also been a Registered Professional Engineer (mechanical discipline) in the State of Rhode Island since 1996.

Dr. Koch earned his bachelor's of science degree in mechanical engineering in 1986 from the Polytechnic University of New York. He also received a master's of science degree in mechanical engineering (1988) and a doctorate in applied mechanics (1991) from Polytechnic University while on both teaching and research fellowships throughout.

In 2010, Dr. Koch was selected by the American Society of Naval Engineers as the recipient of the Society's 2010 ADM Solberg Award for outstanding achievement in R&D related to naval engineering research. Prior to that in 2009, Dr. Koch was also named the recipient of the 2009 Office of Naval Research (ONR) CAPT Robert Dexter Conrad Award for Scientific Achievement. He has been cited eight times each in both Who's Who in Science and Engineering and Who's Who in America and has been cited three times in American Men & Women of Science.

After becoming a "Top Ten" national finalist in 2004, Dr. Koch was named the National Society of Professional Engineers' National Federal Engineer of the Year in 2005. In 2006, he was also selected as one of eight Professional Engineers (PEs) nationally for a permanent seat on the Mechanical Engineering Board of the National Council of Examiners for Engineering and Surveying (NCEES) to prepare the National Mechanical Engineering PE Examination. As a volunteer for the NCEES since 2001, he has also helped establish national grading standards. In April, 2003, Dr. Koch was also a recipient of a NUWCNPT Excellence in Developmental Engineering Award.

In 2008, Dr. Koch was invited to participate as one of 12 Department of Defense Faculty Fellowship Proposal Technical Evaluators on two Technical Evaluation Panels (Engineering and Structural Materials) of the new Deputy Under Secretary of Defense (DUSD) Congressional National Security and Science and Engineering Faculty Fellowships (NSSEFF) Program for both the March and August 2008 first-year cycles. As a result of his 2008 performance, Dr. Koch was re-invited back to be Chairman of the Structural Materials Technical Panel for the 2009 DUSD NSSEFF program.

Dr. Koch also graduated with honors from the year-long Naval Post Graduate School (NPS) Defense Acquisition Workforce Improvement Act (DAWIA) Program Manager Level III Certification Program in December, 2006.

Dr. Koch has been an active member of a number of technical societies for the past two decades, including the American Institute of Aeronautics and Astronautics (AIAA), American Society of Mechanical Engineers (ASME), the Acoustical Society of America (ASA), the Sigma Xi Honorary Scientific Research Society, and formerly the New York Academy of Sciences. He is also a fully-participating member of the Engineering Acoustics and Structural Acoustics

Technical Committees of the Acoustical Society of America and the Structures Technical Committee of the American Institute of Aeronautics and Astronautics (AIAA).

In addition, Dr. Koch has been a technical reviewer for the Journal of the Acoustical Society of America, AIAA Journal of Aircraft, International Journal of Acoustics and Vibration, IEEE Journal of Oceanic Engineering, and many AIAA Structures, Structural Dynamics & Materials Conferences. He has also chaired numerous technical conference sessions, participated on Conference Technical Program Organization Meeting (TPOM) boards, and acted as a formal research advisement committee member for a number of NUWC employees who were pursuing graduate-level scientific degrees in the Undersea Tactical Stealth area.