Dr. David S. Burnett

Senior Scientific and Technical Expert
for Computational Structural Acoustics
Naval Surface Warfare Center Panama City Division

Dr. Burnett was appointed to the executive cadre as a Scientific Professional (ST) on January 27, 2013. He is responsible for leading, developing, directing and conducting Research and Development (R&D) technical programs within the Department of Defense (DoD) community in computational structural acoustics (CSA) and finite element analysis (FEA). He represents the Navy nationally and internationally, supporting DoD efforts in CSA and FEA that relate to the littoral warfare mission areas of mine countermeasures (MCM), expeditionary warfare, special warfare, diving and life support, Marine corps systems, homeland defense and force protection applications, as well as antisubmarine warfare (ASW).

Dr. Burnett received his PhD in Theoretical Mechanics from the Univ. of Calif., Berkeley, an MS in Engineering Science from the Calif. Inst. of Technology, and Bachelor of Engineering Physics and Master of Engineering degrees from Cornell University (graduating With Distinction and elected to Tau Beta Pi).

He worked 28 years at Bell Labs (formerly Bell Telephone Laboratories, the R&D division of AT&T), primarily in undersea R&D for ASW applications for the Navy, specializing in acoustics and structural vibration. In the 1980s and 1990s he was a group technical leader for the development of 3-D structural acoustics FEA computer simulation systems for ASW applications. He developed and taught several courses in the Bell Labs in-hours continuing education program in FEA, a branch of applied mathematics for producing numerical solutions to complicated problems in calculus. In 1983 Dr. Burnett received the title of Distinguished Member of Technical Staff and in 1996 the title of Fellow, Bell Labs' highest honor.

He retired from Bell Labs in 1998 and became Principal Scientist for NATO's Supreme Allied Command Atlantic at the Undersea Research Center in La Spezia, Italy, where he was a project leader for MCM, developing 3-D structural acoustics FEA computer simulation systems for modeling scattering from undersea mines. In 2004 he retired from NATO and joined NSWC PCD to continue his MCM work, developing the mathematical physics for modeling the scattering of acoustic waves from underwater structures.

Dr. Burnett holds 25 U.S. and international patents in the fields of computational acoustics and electromagnetism and is the author of three books: an 844-page textbook *Finite Element Analysis: From Concepts to Applications* (Addison-Wesley); a 230-page book of FEA homework

Updated 2-13

problems (Addison-Wesley); and a 200-page manual on computational structural acoustics (Bell Labs/DARPA). He is an editor for two scientific journals: the Journal of Computational Acoustics and the Journal of the Acoustical Society of America.