

Robert D. Pillsbury, Jr.

Dr. Pillsbury received his Ph. D. from the University of Texas at Austin in 1976. He has over 35 years of experience developing advanced computational algorithms and programs for the design and analysis of conventional and superconducting magnet systems. He has over 50 technical reports and publications in Journals and Conference Proceedings.

Dr. Pillsbury is presently the Treasurer and a Senior Consultant at Sherbrooke Consulting, Inc. The corporation was formed in August 1992 and Dr. Pillsbury joined full-time in August 1995. He has been consultant in electromagnetics and the design and analysis of magnet systems for applications in electrical machines, magnetic confinement fusion, and magnetic levitation. In addition to his own programs, he uses the suite of electromagnetic analysis programs developed by Vector Fields.

Prior to joining Sherbrooke Consulting, he was Leader of the Electromagnetic and Structural Analysis Group of the Technology and Engineering Division of the MIT Plasma Fusion Center from 1992 to 1995. The members of this group performed structural and electromagnetic analyses with applications in the areas of fusion, MHD, high energy physics accelerators and detectors, magnetic resonance imaging devices and magnetic levitation. Projects included: ITER, TPX, and ALCATOR CMOD tokamaks; design of detector magnets for CERN and SSC; MagLev; and design and analysis of magnets for seawater propulsion and coal-fired MHD.

Dr. Pillsbury joined the MIT Plasma Fusion Center as a Staff Engineer in 1982. From 1982 through 1995 he developed algorithms and computer programs for thermal, structural and electromagnetic analysis of large conventional and superconducting magnet systems. These include field, force and quench analyses. He developed finite element programs to solve non-linear magnetostatic and coupled non-linear thermal and electromagnetic field problems. He developed graphics programs for visualization of engineering data. He has a knowledge of UNIX, VAX/VMS, Windows and DOS operating systems.

Dr. Pillsbury was a Senior Engineer at the MIT Francis Bitter National Magnet Laboratory from 1980 to 1982. While there he developed analytic and numerical algorithms and computer programs to aid in the design and analysis of MHD magnet systems.

He was a Senior Research Engineer at the Magnetic Corporation of America from 1976 -- 1980. He worked on conceptual design and preliminary analysis of force containment structures for large-scale MHD magnet systems, developed and used computer programs for magnetic field and Lorentz force calculations for solenoidal, toroidal, and saddle shaped coils particularly suited for fusion and MHD systems. He also developed and used analytical and numerical models for transient and steady state conductor stability analysis. During this time he also served as Program Manager for a major superconducting MHD magnet system design and fabrication program. He also supervised engineers and engineering assistants in the computational support group.

In addition to his technical work, he teams with facilitators to capture and produce critical output from strategic planning, partnership or consultative work sessions. He consults on the use of Myers-Briggs Type Indicator (MBTI) for individuals and teams. He also serves as a small group facilitator.

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