

BSME GOLD MEDAL 2003

Citation

Prof. Fazle Hussain has made many exceptional and original scientific contributions to unveil the truth at the heart of turbulence, for which he has been awarded many world's prestigious awards in his field of research, Fluid Dynamics, namely 1984 Freeman Scholar Award of the American Society of Mechanical Engineers (ASME), 1998 Fluid Dynamics Prize of the American Physical Society (APS), 2000 Fluids Engineering Award of ASME and the American Institute of Aeronautics and Astronautics (AIAA) Fluid Dynamics Award for 2002. In recognition to his lifelong dedication to "search for order in the disorder of turbulence" and overall outstanding achievement in creating and enhancing knowledge for the benefit of mankind, BSME is presenting its highest award "BSME Gold Medal 2003" to Prof. Fazle Hussain, University of Houston, Texas, USA.

Biography



Dr. Fazle Hussain is the Hugh Roy and Lillie Cranz Cullen Distinguished Professor of Mechanical Engineering at the University of Houston, USA. He has established himself as the world's most highly successful scholar in the field of Fluid Dynamics by winning the four most prestigious awards of his profession, namely 1984 Freeman Scholar Award of the American Society of Mechanical Engineers (ASME), 1998 Fluid Dynamics Prize of the American Physical Society (APS), 2000 Fluids Engineering Award of ASME and the American Institute of Aeronautics and Astronautics (AIAA) Fluid Dynamics Award for 2002. Only two other scholars have ever claimed as many as two of the four widely coveted awards that Dr. Hussain has received for career achievement or seminal contributions in his field. The primary theme of Dr. Hussain's work is the "search for order in the disorder of turbulence." Among his original contributions is a realistic and economical strategy for significant drag reduction with a great potential for aircraft fuel economy and increased gas turbine efficiency.

Dr. Hussain has numerous publications, including 215 archival papers, 110 conference proceedings papers, 156 oral presentations at International conferences and 325+ invited lectures, seminars and keynote addresses. He has served on editorial boards of various leading scientific and engineering journals and organized a number of international conferences. He is a Fellow of APS, AIAA and ASME and was elected to the US National Academy of Engineering in 2001, to the Third World Academy of Sciences, Italy in 1997 and recently to the Bangladesh Academy of Sciences.

Dr. Hussain started his career as a lecturer in the Bangladesh University of Engineering & Technology (BUET) in 1963 after obtaining his B.Sc. in mechanical engineering from the same institution. He was the editor, general secretary and then vice-president of BUET's central student body EUCSU during the turbulent years 1960-63. He won the Governor's Challenge Cup in the Inter-University Debating Championship in 1963 and was the champion at the Inter-University Speakers Forum on Science in 1963. He worked as university correspondent of the then Pakistan Observer (now published as the Bangladesh Observer) for the period 1960-63 and served the Institute of Engineers, Bangladesh as its Honorary Editor from 1963 to 65. He developed a solar refrigerator for his BSc. Eng. project at BUET and built and analyzed a rocket motor while he was a lecturer. He moved to Stanford University as a Fulbright scholar and obtained his PhD. from Stanford in 1969. He was awarded the Eckhart Prize for Outstanding PhD Dissertation. He was a Visiting Assistant Professor at Johns Hopkins University for a short time before moving to the University of Houston in 1971, where he became full professor in 1976, Distinguished University Professor in 1985, and then awarded the Cullen chair in 1989. He now serves the American Physical Society as the Chair of its Division of Fluid Dynamics.

BSME GOLD MEDAL 2003

Citation

Dr. Zaman is the technical leader and the key researcher for flow control and noise reduction programs supporting Quiet Aircraft Technology (QAT) projects at NASA. He pioneered the understanding and the use of "tabs" for enhanced mixing in shear flows. Methodology developed under this effort is being applied in various NASA programs and industries. His other accomplishments include the discovery of a 'transonic tone' that occur in certain nozzle systems and a low frequency oscillation in flow over an airfoil near stalling condition. The discovery of the latter earned him the Glenn Research Center's best paper of the year award in 1989. In recognition of his outstanding research, performance and contribution to the engineering profession BSME is presenting its highest award "BSME Gold Medal 2003" to Dr. Khairul Q. Zaman of NASA Glenn Research Center, USA.

Biography



Dr. Khairul Q. Zaman is an Aerospace Engineer in the Turbomachinery and Propulsion systems division in NASA Glenn Research Center (GRC), Cleveland, OH, USA. He has earned over 10 NASA awards for performance and service. His excellence in research has earned him recognition through several prestigious awards including NASA Lewis paper of the year award for 1989, NASA exceptional scientific achievement award for 1991 and Division's best paper of the year award for 1996. Dr. Zaman is the technical leader and the key researcher for flow control and noise reduction programs supporting Quiet Aircraft Technology (QAT) projects at NASA. He pioneered the understanding and the use of "tabs" for enhanced mixing in shear flows. Methodology developed under this effort is being applied in various NASA programs and industries. His other accomplishments include the discovery of a 'transonic tone' that occur in certain nozzle systems and a low frequency oscillation in flow over an airfoil near stalling condition. The discovery of the latter earned him the Glenn Research Center's best paper of the year award in 1989.

Dr. Zaman has over 100 publications including 37 in journals papers. He has served as an Associate Editor of ASME journal of Fluids Engineering for 1999-2002. He reviewed over 200 technical articles including 80 for journals. He has supervised 3 postdoctoral fellows and 4 graduate students from different universities. He is monitoring about 10 university grants.

Dr. Zaman started his career as a lecturer in the Bangladesh University of Engineering & Technology (BUET) in 1970 after obtaining his B.Sc. in mechanical engineering from the same institution. He moved to the USA in 1974 and obtained a PhD from University of Houston, TX in 1978. He was involved in postdoctoral research as well as in part time teaching in the same university during 1978-1982. Then he joined NASA and worked in Langley Research Center at Hampton before moving to the Glenn Research Center at Cleveland in December 1985. He is also a life Fellow of BSME.