

Z.U.A. WARSI

Dr. Z. U. A. Warsi, 72, Professor Emeritus of Aerospace Engineering at Mississippi State University (MSU), died on Wednesday, December 3, 2008.

Zahir Uddin Ahmad Warsi immigrated to America in March 1967 to join the faculty of the MSU Aerospace Engineering Department and in 1978 he proudly became a citizen of the United States. At MSU, he conducted research in the area of viscous flows, involving both laminar and turbulent flow conditions. Simultaneously, he worked in the areas of heat transfer, non-Newtonian fluids, and various mathematical methods (e.g., tensor analysis, spectral techniques, etc.) as applied to fluid flow and elasticity problems. He was also one of the members of the original team involved in the development of numerical grid generation methods. His major



contribution to this area was in the development of a set of partial differential equations for coordinate generation in curved surfaces of arbitrary forms, which are also applicable for surface generation of arbitrary forms when boundary values are prescribed [1]. Prof. Warsi's research led to his participation as one of the original contributors in the National Science Foundation proposal leading to the establishment of the High Performance Computing Collaboratory (formerly Engineering Research Center) at MSU.

He obtained his BS, MS, and PhD degrees from the University of Lucknow in India. Both the MS and PhD degrees were in Applied Mathematics with specialization in Fluid Dynamics. He earned his doctoral degree in 1965 and the subsequent highly acclaimed journal articles based on his doctoral research produced faculty invitations from universities in the United States.

Dr. Warsi had numerous publications which included three books, two book chapters, two monographs, and 87 research papers (over 75% in single authorship). In 1992, he published *Fluid Dynamics: Theoretical and Computational Approaches* (CRC Press); this textbook has received much critical and scholarly acclaim and is currently in its third edition. At MSU he taught both undergraduate and graduate classes in fluid dynamics, mechanics, and engineering mechanics and guided 14 PhD dissertations and 10 Masters theses. Following his retirement from MSU in 2002 he continued his scholarly activities. His final journal article [2] was a result of his interest in the area of relativity and string theory. At the time of his passing, he was in the final stages of completing a textbook on continuum mechanics.

He received numerous awards and distinctions during his 41-year career at MSU. In 1983, he received the Minna-James-Heineman Foundation fellowship to spend a semester on sabbatical as a visiting Professor at the Von Karman Institute for Fluid Dynamics in Belgium. He was also the recipient of the Medallion Certificate of the Southeastern Section of the American Society of Engineering Education, NASA Certificate of Recognition, three Hearin-Hess Distinguished Professor awards from MSU, Outstanding Research Paper Award of the MSU College of Engineering, Outstanding

Research Awards from the MSU College of Engineering, and the College of Engineering Career Achievement Award. He was an associate fellow of the AIAA, and a member of the American Academy of Mechanics, Sigma Xi, and Sigma Gamma Tau.

Besides academia, Dr. Warsi was passionate about religion and politics as these two affected what was dearest to his heart: humanity. Always humble, he was a quiet philanthropist and a strong supporter of many causes that sought to aid in removing human suffering and tyranny. He was gentle, yet strong; tolerant and devout; a beloved husband and father. He and his wife Amina were married for 50 years and had five children and 14 grandchildren. He was known to all as a gentleman and a scholar, and he will continue to live in the hearts and minds of the many people he touched.

In honor of Professor Warsi and his scholarly impact on the scientific community, the Z.U.A. Warsi Excellence Scholarship has been established in the Bagley College of Engineering at Mississippi State University. Funds generated from the endowment will support students to inspire them in their quest for knowledge.

- [1] Warsi, Z. U. A., "Numerical Grid Generation in Arbitrary Surfaces Through a Second-Order Differential-Geometric Model," *Journal of Computational Physics*, Vol. 64, pp. 82-96, 1986.
- [2] Warsi, Z. U. A., "A Computational Approach to the Generation of Hypersurfaces in Riemannian Spaces", *Ganita*, Vol. 59, No. 1, 2008, pp. 29-42.