

Hassan Aref

September 28, 1950 - September 9, 2011

Hassan Aref, PhD, 60, Deland, IL, died September 9, 2011 of an aortic dissection. Born September 28, 1950 in Alexandria, Egypt to Moustapha Aref and Jytte Adolphsen. Married August 3, 1974 to Susanne Eriksen, PhD. Graduated from University of Copenhagen in 1975 and from Cornell University with a PhD in physics in 1980. Assistant professor at Brown University (1980-1985). Associate and full professor at University of California San Diego (1985-1993). Head of the Department of Theoretical and Applied Mechanics at the University of Illinois at Urbana-Champaign, 1992-2003. Dean of Engineering at Virginia Polytechnic Institute and State University, 2003-2005. Dr. Aref had been the Reynolds Metals Professor, Department of Engineering Science and Mechanics, Virginia Polytechnic Institute and State University since 2003.

Dr. Aref was awarded the Presidential Young Investigator Award from the National Science Foundation in 1985, and the Otto Laporte Award from the American Physics Society in 2000. Dr. Aref held the Danish National Research Foundation's Niels Bohr Visiting Professorship from 2006-2010. A *doctor technices honoris causa* from the Technical University of Denmark was conferred upon him in May 2011. He is the current recipient of the G. I. Taylor Medal by the Society of Engineering Science.

Dr. Aref was a fellow of the American Physical Society, the American Academy of Mechanics, and the World Innovation Foundation. He was a distinguished lecturer at numerous symposia, and has served as editor for four academic collections in fluid mechanics. He authored over 80 journal articles and six book chapters in the field.

Dr. Aref is particularly well known for having developed the concept of chaotic advection in fluid mechanics. The notion that regular, laminar flows can produce chaotic particle trajectories is now understood as a cornerstone of fluid flow kinematics and the term chaotic advection is used as a classifying keyword by leading journals of the field and for major conferences.

Other notable achievements include his administrative leadership in establishing *System X*, the first academic computer to exceed 10 teraflops, and 2003's 3rd fastest computer in the world. Dr. Aref held many leadership positions in the International Union of Theoretical Mechanics. Among the many conferences he organized, Dr. Aref was proudest of the IUTAM Symposium on *Fluid Mechanics of Stirring and Mixing* (La Jolla, 1990), and the *20th International Congress of Theoretical and Applied Mechanics* (Chicago, 2000), for which he served as President.

Dr. Aref believed that the primary goal of a university should be education through both teaching and research. His dedication did not stop him from having a wicked sense of humor. In one of his funniest moments, he staged an impromptu interruption of his own

Chicago Congress to have Newton, Galileo, and Archimedes introduce an Aref-authored play welcoming scientists from around the world to Chicago. In addition to his love of fluid mechanics, Dr. Aref loved his family, classical music, wine, foul-smelling cheeses, and puttering in his 12-acre yard.

He is survived by his wife Susanne, sons Michael (Lan) and Thomas, numerous students, friends, and colleagues. He was preceded in death by his parents. A celebration of life will be held Wednesday, 9:00 AM to 11:00 AM at Crossroads Church, 1602N 1125E Road Monticello, IL 61856, Monticello, IL. In lieu of flowers, donations can be made to a memorial fund to be established, details to come at hassan.mikearef.com.