

## *Preface*

Prof. A. D. Kirwan, Jr. (Denny to his friends) has had a long and distinguished career as a physical oceanographer. Denny is currently program director of Physical Ocean Science and Engineering at the University of Delaware. He has held academic positions at Old Dominion University, the University of South Florida, Texas A&M University, and New York University. He was program director for the Physical and Chemical Oceanography Program, Office of Naval Research, and worked as a research scientist for both Exxon Production Research Company and Science Applications, Inc. While at Texas A&M University, he developed technology enabling scientists to measure surface currents by satellite-tracked drifting buoys. More recently, he has been active in applying dynamical systems methods to oceanography.

He is author/co-author of over 70 reviewed papers and articles in scientific journals, and he is a former editor of *Journal of Geophysical Research* and of *Nonlinear Processes in Geophysics*. Dr. Kirwan has served on a number of national and international oversight committees for ocean research.

Dr. Kirwan's awards include a Fulbright Research Fellowship to Freie Universitat, West Berlin, and the Outstanding Performance Award at the U.S. Naval Research Laboratory. He had been an invited lecturer at several foreign institutions. His career has included active duty as a lieutenant in the U.S. Navy.

His national and international memberships include the American Meteorological Society, the American Geophys-

ical Union, the American Association for Advancement of Science, the Society of Engineering Science, the American Physical Society, the New York Academy of Sciences, the European Geophysical Union, and Sigma Xi.

Kirwan has developed significant research collaborations with Brown University in Rhode Island, the California Institute of Technology, and Old Dominion University in Virginia; government research laboratories such as the Naval Research Laboratory and NATO's Supreme Allied Commander Atlantic (SACLANT) Undersea Research Centre in Italy.

Kirwan received his bachelor's degree from Princeton University and his doctorate from Texas A&M University. His book *Mother Nature's Two Laws: Ringmasters for Circus Earth*, recently published by World Scientific, introduces nonscientists to thermodynamics and explains how this science is applied in issues of societal concern. Kirwan has also co-edited the book *Rapid Environmental Assessment* published in 1998.

We would all like to congratulate Denny for his 70th birthday! We all have fond memories of having worked with him in many fruitful collaborations over the years. This issue is dedicated to him as a symbol of the scientific excellence that he represents to all of his many friends and colleagues, the level of excellence to which we would all strive to achieve.

*Al Osborne*