

Preface

This report contains the 1989 annual progress reports of the Research Fellows of the Center for Turbulence Research. It is intended primarily as a year-end report to the National Aeronautics and Space Administration, Ames Research Center which supports CTR through core funding and by making available its physical and intellectual resources.

The Center for Turbulence Research is devoted to the fundamental study of turbulent flows; its objectives are to stimulate advances in the physical understanding of turbulence, in turbulence modeling and simulation, and in turbulence control. Last year was CTR's third year in operation. CTR now has about fifteen Postdoctoral Fellows, and supports five doctoral students and several short term visitors annually. Several other doctoral students who are supported by grants from the Air Force Office of Scientific Research, the Office of Naval Research, and the National Science Foundation also conduct their research at the CTR. The CTR staff study a wide range of turbulence problems in collaboration with NASA-Ames scientists and Stanford faculty members. The CTR roster for 1989 is provided in the Appendix. Also listed are the members of the Advisory Committee which meets annually to review the Center's program, and the Steering Committee which acts on Fellowship applications.

This year, publication of the CTR Manuscript series was initiated. These are manuscripts prepared for submission to journals that are made available for early dissemination of completed research results by the CTR staff. The reports appearing in the following pages are a brief account of the accomplishments of the CTR Fellows in 1989. They are grouped in the general areas of modeling, experimental research, theory, simulation and numerical methods, and compressible and reacting flows.

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