Foreword

The Ninth Thematic Conference on Geologic Remote Sensing, sponsored by the Environmental Research Institute of Michigan (ERIM), was held in Pasadena, California in February, 1993. The conference brought together over 500 participants from 31 countries and many exhibitors of products and services, to share their knowledge and experiences on the uses of remote sensing for geologic applications. Plenary and poster sessions covered topics including mineral and petroleum exploration; marine, engineering, and environmental applications; active faults and hazard detection and assessment; sensor technology; and data processing. Participants were treated to descriptions of past successes, on-going research studies, and glimpses of future technologies. Everyone left with a better appreciation of remote sensing capabilities applied to exploration, engineering, and the environment.

This, the second special issue of *Photogrammetric Engineering & Remote Sensing* to highlight remote sensing for exploration geology, presents 13 peer-reviewed papers covering the wide range of topics presented at the ERIM conference. They describe some of the uses of remote sensing for mineral and petroleum exploration, hazard assessment, geologic mapping, geobotanical studies, and water quality and ocean circulation monitoring. The wide range of disciplines represented illustrates the impact remote sensing technology has had on many aspects of geotechnology.

The editors of this special issue would like to express their thanks and appreciation to the reviewers; Chris Johnson, Pat Shannon, Bob Barton, Walt Tomlinson, Ralph Baker, Rebecca Dodge, John Berry, Larry Rowan, Bob Crippen, John Ford, Stuart Marsh, Veronique Carrere, Philip Slater, Jerry Richie, and Heather Cheshire for their timely and constructive comments and suggestions. We also thank the staff at ERIM for keeping us all organized and the ASPRS staff for their assistance in making this special issue possible.

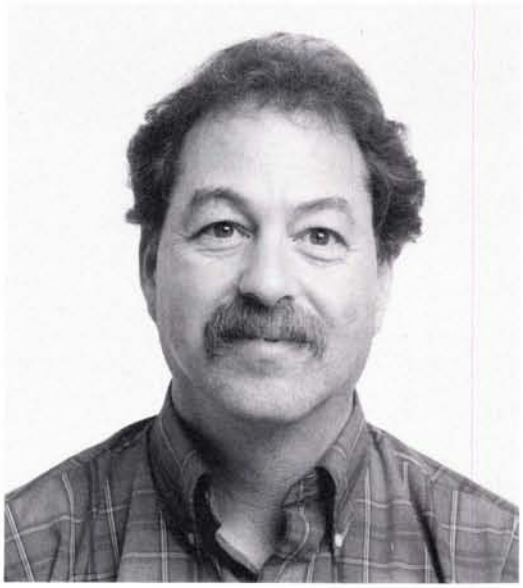
Guest Editors

Michael Abrams

Michael Abrams has been a Member of the Technical Staff at the Jet Propulsion Laboratory/California Institute of Technology since 1973. He has a broad range of experience in many aspects of geologic remote sensing: applications to sedimentary geology, mineral exploration, ophiolites, and volcanology; data analysis and exploitation; and sensor development and evaluation of sensor systems. He has been a funded principal investigator throughout his career, including research projects involving various satellite and aircraft remote sensing instruments: Landsat MSSX, Heat Capacity Mapping Mission, Skylab, Landsat Thematic mapper, and JERS-1. Currently he is Supervisor of the Volcanology Group in the Division of Earth and Space Sciences. Activities of the group include research into volcanic processes and atmospheric effects of volcanic emissions; international cooperations are underway with Japan, Italy, and Russia. In addition, the group includes the U.S. Science Team Leader and members of the EOS ASTER instrument, a joint U.S./Japan multispectral scanner to be launched in 1998 for Earth remote sensing observations.

In 1983-84 Abrams was employed at the IBM Science Center in Paris where he supervised three PhD students, and helped develop geologic remote sensing software and hardware for IBM. Prior to that he was vice-president of a remote sensing consulting company, GeoImages, Inc.

Abrams received his BSc in Biology from the California Institute of Technology in 1970, and his MSc in Geology from the California Institute of Technology in 1973. He has published numerous papers and articles on remote sensing applications for geology, including the Joint NASA/Geosat Test Case Report, and has been the assistant *PE&RS* editor for geology for three years. He has chaired and served on many international committees, workshops, and conferences dealing with geologic remote sensing. Current research interests focus on modern tropospheric SO_2 emissions from active volcanoes.



Henry Robert Hopkins

H.R. Hopkins is a consulting geologist specializing in remote sensing applications to petroleum and mineral exploration. Hopkins retired from Exxon Production Research Company in August of 1992. During his 30 years with Exxon he served as project leader and supervisor of Remote Sensing research. His primary interest concerned geologic image interpretation using photogeology, radar, seismic stratigraphy, side-scan sonar, and satellite imagery. He carried out exploration studies on every continent, except Antarctica, in support of Exxon activities worldwide. Hopkins was coleader of the Coyanosa test site of the NASA/GEOSAT Joint Test Case Program, and served as a member of the Space Applications Advisory Committee for NASA's Office of Space Science and Applications, from 1985 to 1988. He was a principal investigator for the French SPOT remote sensing evaluation program in 1986 and 1987, and in a member of the Program Committee of the ERIM Thematic Conference on Remote Sensing for Exploration Geology.

Hopkins received BA (1955) and MSc (1957) degrees in geology from the University of Virginia and the PhD (1960) from Cornell University. He is a member of the American Society for Photogrammetry and Remote Sensing, the American Association of Petroleum Geologists, where he is chairman of the Remote Sensing Committee of the Energy Minerals Division, and a charter member of the Division of Environmental Geosciences.