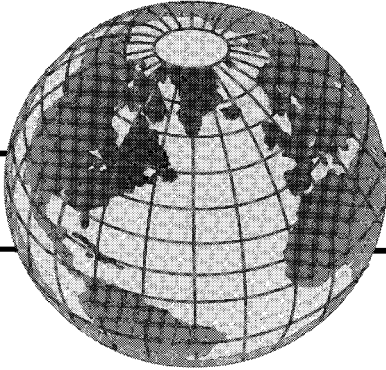




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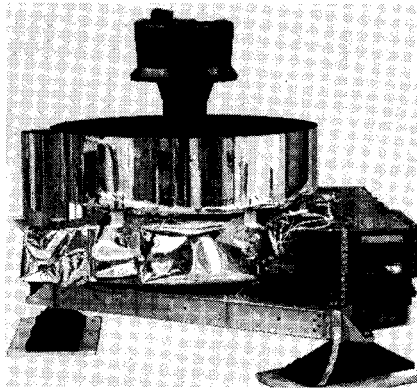
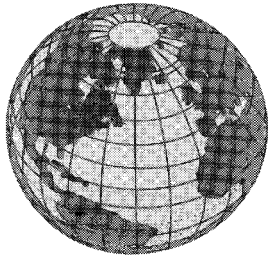
Geoscience and remote sensing society

NEWSLETTER

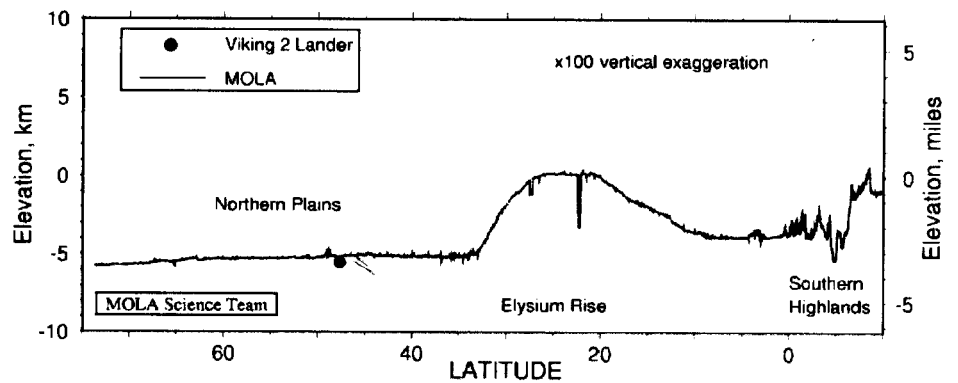


Editor: Christopher S. Ruf
Cumulative Issue #107

June 1998
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3000 Mile Laser Altimeter Profile Across Northern Hemisphere of Mars



See page 3 for a description of image.

Table of Contents

IEEE GRSS AdCom, Officers and Committee Chairs	2
Editor's Comments	3
President's Message	3
Editorial Board Members	4
1998 AdCom Members' Names and Addresses	5
News from Nasa: Triana Education and Science	6
CEO Programme News Update	7
Sicad Geomatics and GTE Internetworking Demonstrate OpenGIS technology at GEObit, Leipzig	11
Ordnance Survey Joins OGC	12
Upcoming Conferences	back cover

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s.schneiderman@ieec.org

Newsletter Input and Deadlines

The following is the schedule for the GRSS Newsletter. If you would like to contribute an article, please submit your input according to this schedule. Input is preferred in WordPerfect or ASCII for IBM format (please send disk and hard copy) as IEEE now uses electronic publishing. Other word processing softwares, including those for Macintosh, are also acceptable, however, please be sure to identify the format on the disk and include the hardcopy.

GRSS Newsletter Schedule

Month	March	June	Sept	Dec
Input	Jan 15	April 15	July 15	Oct 15
Issue Mailed	March 8	June 2	Sept 1	Dec 7

IEEE GRSS AdCom, Officers and Committee Chairs - 1998 GRS-29 (Division IX)

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<i>Vice President of Technical Committees</i> Charles Luther	<i>IGARSS '98</i> Leung Tsang	<i>Without Vote:</i> Chapter Chairs Standing Committee Chairs Honorary Life Members Irving Engelson Eric Herz
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<i>Executive Vice President</i> Werner Wiesbeck	<i>IGARSS 2000</i> Andrew J. Blanchard and David Goodenough	
<i>Chapter and Speakers Committee</i> Eni G. Njoku	<i>IGARSS 2001</i> Anthony K. Milne	
<i>Constitution and Bylaws</i> David Goodenough	<i>PACE</i> John A. Reagan	
<i>Fellows</i> Roger Lang	<i>Society on Social Implications of Technology</i> Keith Raney	

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Editor's Comments



Christopher S. Ruf
Department of Electrical
Engineering
121 Electrical Engineering East
The Pennsylvania State
University
University Park, PA
16802-2705
TEL: 814.865.2363
FAX: 814.865.7065
EMail: ruf@ktb.ee.psu.edu

This issue begins with a cover figure showing Laser Altimeter profiles of the Martian surface as measured by MOLA-2 on board the Mars Global Surveyor. There is even some ground truth validation, courtesy of the Viking 2 Lander! See the Cover Figure Information elsewhere on this page for more details. Articles contained in this issue include an overview of NASA's upcoming Triana flight mission, intended to put an Earth viewing Web Site into L-1 orbit, and two articles provided by the non-profit industrial organization Open GIS Consortium (OGC). One reports on recent internetworking demonstrations in Europe based on the OpenGIS Specification. The other introduces a new OGC member, Ordnance Survey, the National Mapping Agency of Great Britain.

Cover Figure Information

The Mars Global Surveyor, currently in orbit around Mars, carries MOLA-2 (Mars Orbiter Laser Altimeter), which was developed at NASA's Goddard Space Flight Center and is shown here in the top frame (for further information see <http://mars.jpl.nasa.gov/mgs/>). The bottom frame depicts a topographic profile across the northern hemisphere of Mars obtained by MOLA. The profile was obtained during the Capture Orbit Calibration Pass on September 15, 1997 and represents 20 minutes of data collection. The profile has a length of approximately 5000 kilometers. The large bulge is the western part of the Elysium rise, the second largest volcanic province on Mars, and shows over 5 kilometers of vertical relief. This area contains deep chasms that reflect tectonic, volcanic and erosional processes. In contrast is the almost "featureless" northern plains region of Mars, which show only hundreds of meters of relief at scales the size of the United States. Plotted for comparison is the elevation of the Viking Lander 2 site, which is located 445 kilometers west of the profile. At the southernmost extent of the trace is the transition from the northern plains to the ancient southern highlands. Characterizing the fine-scale nature of topography in this chaotic region is crucial to testing theories for how the dichotomy between the northern lowlands and southern uplands formed and evolved. The spatial resolution of the

President's Message



Nahid Khazenie
NASA Earth Sciences Program
Office
NASA Goddard Space Flight
Center
Mail Code 170
Greenbelt, MD 20771
JSA
TEL: 703.917.8655
nkhazeni@pop100.gsfc.nasa.gov

Greetings!

First, I thank our members who came forward with their helpful comments in response to my invitation in the March issue of the newsletter. I enjoyed hearing from you and exchanging ideas. I look forward to hearing from more of you.

In this issue I will highlight some of the latest accomplishments by your elected AdCom in our efforts to keep the society healthy, strong, and forward-looking.

In the last five years we have had an increase of thirty percent in abstract submissions to IGARSS. Our society has been growing and our technical area of interest has been attracting more scientists and researchers from around the world. The same growth is evident in the number of papers and proposals for special issues submitted to our Transactions. This healthy growth is welcomed, even though it has created an un-welcomed delay in the publication time. AdCom, and in particular Dr. Leung Tsang our Transaction Editor, and Dr. Jim Gatlin, our Vice President for Operations and Finance, have been working towards finding ways to reduce the publication time.

The Society publishes the Transactions on Geoscience and Remote Sensing (TGARS) bimonthly (Jan., Mar., May, July, Sept., Nov.). To avoid very large issues and to maintain a more timely schedule, some of these bi-monthly mailings have a Part-I and a Part-II. The Transactions Editors are presently approving an average of 13 papers per month with an average length of 9 pages. Therefore, the "steady-state" number of *Continued on page 4*



Presidents Message

continued from page 3

pages for 12 months of TGARS is 13x9x12 for regular papers. Add to it an IGARSS Special issue of 250 pages and we have a total of 1654 pages a year.

In 1998 we budgeted for 1750 pages. However, we experienced a sharp increase in the number of submitted/accepted papers, and an increase in the number of valuable proposals for special issues. We have approved an "EOS" special issue for July and a "Sea Ice" special section as Part 11 for September. With the additional papers and special issues, by completion of the September issue, the 1998 page budget of 1750 will be reached. The annual page budget is the basis for the membership fee and the non-member subscription fee.

Going beyond this page budget represents a loss of income for the Society. This can be absorbed if close to 100% of the page charges are collected. Thanks to our membership, our society has been enjoying a high rate of page charge collection. The AdCom just approved (via e-mail) an over-budget increase of 200 pages and will consider an additional increase at the July AdCom meeting. This action is being taken to reduce the backlog of approved papers awaiting publication.

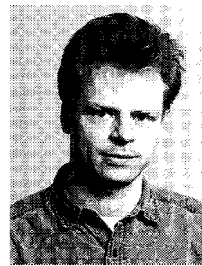
For 1999, we took additional steps to reduce the paper backlog. We have already approved two special issues on "ADEOS" and "Data Fusion." We will also have a special sec

Continued on page 13

Newsletter Editorial Board Members:



Christopher S. Ruf, Editor
Department of Electrical Engineering
121 Electrical Engineering East
The Pennsylvania State University
University Park, PA 16802-2705
TEL: 814.865.2363
FAX: 814.865.7065
EMail: ruf@ktb.ee.psu.edu



Brian Laursen,
Associate *Editor* for European Affairs
Department of Electromagnetics Systems
Building 348
Technical University of Denmark
Lyngby, DENMARK
TEL: 45.45.88.14.44
FAX: 45.45.93.16.34
EMail: bl@emi.dtu.dk



Michael Collins,
Associate *Editor* for University Profiles
Department of Geomatics Engineering
University of Calgary
Calgary, AB, CANADA T2N 1N4
TEL: 403.220.5826
FAX: 403.284.1980
EMail: collins@ensu.ucalgary.ca



David McLaughlin, Associate *Editor* for
Experimenter's Notebook
Electrical and Computer Engineering
Department
Radar Systems Laboratory
Northeastern University
Boston, MA 02115
TEL: 617.373.2032
FAX: 617.373.8970
EMail: d.mclaughlin@nunet.neu.edu



Timothy Kane,
Associate *Editor* for Review Articles
Communications and Space Sciences
Laboratory
318 Electrical Engineering East
The Pennsylvania State University
University Park, PA 16802-2705
TEL: 814.863.9727
FAX: 814.863.8457
EMail: tik7@psu.edu



Mark Sletten, Associate *Editor* for
Organizational Profiles
Code 7255
Naval Research Laboratory
4555 Overlook Ave. SW
Washington, DC 20375
TEL: 202.404.7971
FAX: 202.767.3303
EMail: msletten@ccf.nrl.navy.mil

1998 AdCom Members' Names and Addresses

<p>Andrew J. Blanchard <i>Past-President, IEEE GRS-S</i> College of Engineering University of Missouri Columbia W1013 Engineering Bldg. East Columbia MO 65211 TEL: 573.884.7872 FAX: 573.882.2490 ajb@ecvax2.ecn.missouri.edu</p>	<p>Ram M. Narayanan <i>IGARSS'96 General Chairman</i> University of Nebraska-Lincoln Department of Electrical Engineering 209N Walter Scott Engineering Center PO Box 880511 Lincoln NE 68588-0511 TEL: 402.472.5141 FAX: 402.472.4732 rnarayanan@unl.edu</p>	<p>1995-1997 GRSS Additional Addresses Hock Lim Faculty of Science Centre for Remote Imaging, Sensing and Processing National University of Singapore Lower Kent Road Singapore 119260 TEL: 65.772.3220 FAX: 65.775.7717 phylimh@nus.sg</p>
<p>Albin J. Gasiewski 1996-1998 <i>VP of Meetings and Symposia, IEEE GRS-S</i> Georgia Institute of Technology School of Electrical & Computer Engineering 777 Atlantic Drive Atlanta GA 30332-0250 TEL: 404.894.2934 FAX: 404.894.4641 ag14@prism.gatech.edu</p>	<p>Eni G. Njoku 1997-1999 MS 300-233 Jet Propulsion Laboratory California Institute of Technology 4800 Oak Grove Drive Pasadena CA 91109 TEL: 818.354.3693 FAX: 818.354.9476 njoku@lor.jpl.nasa.gov</p>	<p>Leung Tsang 1997-1999 <i>GRS-S Transactions Editor: IGARSS'98 General Chairman</i> Electromagnetics and Remote Sensing Laboratory/FT10 Department of Electrical Engineering University of Washington Seattle WA 98195 TEL: 206.685.7537 FAX: 206.543.3842 tsang@ee.washington.edu</p>
<p>James A. Gatlin 1997-1999 <i>VP of Operations, IEEE GRS-S</i> Code 704 NASA Goddard Space Flight Center Greenbelt MD 20771 TEL: 301.286.6680 FAX: 301.286.1750 j.gatlin@ieec.org</p>	<p>Vincent Salomonson 1995-1997 <i>VP of Professional Activities, IEEE GRS-S</i> Code 900 Earth Sciences Directorate NASA Goddard Space Flight Center Greenbelt MD 20771 TEL: 301.286.8601 FAX: 301.286.3884 vinces@esd.gsfc.nasa.gov</p>	<p>Werner Alpers 1995-1997 <i>IGARSS'99 General Chairman</i> Institute of Oceanography University of Hamburg Troplowitzstr 7 Hamburg D-22529 GERMANY TEL: 49.40.4123.5432 FAX: 49.40.4123.5713 alpers@ifmsun1.uni-hamburg.de</p>
<p>David Goodenough 1997-1999 <i>Senior Past-President, IEEE GRS-S</i> Head, Adv Forest Technologies Program Pacific Forestry Centre 506 West Burnside Road Victoria BC V8Z 1M5 CANADA TEL: 604.363.0776 FAX: 604.363.0775 dgoodenough@A1.PFC.Forestry.CA</p>	<p>Kamal Sarabandi 1998-2000 Dept. of Electrical Ent. & Computer Science Ann Arbor, MI 48109-2122 USA TEL: 313-936-1575 FAX: 313-647-2106 saraband@cecs.umich.edu</p>	<p>Fawwaz T. Ulaby 1998-2000 <i>Honorary Life Member</i> University of Michigan 3228 EECS Building Ann Arbor MI 48109-2122 TEL: 313.764.0501 FAX: 313.747.2106 ulaby@cecs.umich.edu</p>
<p>Martti T. Hallikainen 1997-1999 <i>President, IEEE GRS-S</i> Helsinki University of Technology Laboratory of Space Technology P. O. Box 3000 Espoo 02150 Espoo FINLAND TEL: 358.0.451.2371 FAX: 358.0.451.2898 martti.hallikainen@hut.fi</p>	<p>Haruhisa Shimoda 1997 National Space Development Agency of Japan Earth Observation Research Center Poppongi First Bldg 14F 1-9-9 Roppongi Minato-ku Tokyo 160 JAPAN shimoda@eorc.nasda.go.jp</p>	<p>Keith R. Carver 1997 <i>Honorary Life Member</i> Dept of Electrical & Computer Engineering University of Massachusetts Amherst MA 01003 TEL: 413.545.1665 FAX: 413.545.4611 kcarver@zouker.ecs.umass.edu</p>
<p>Thomas J. Jackson 1996-1998 <i>Secretary, IEEE GRS-S</i> USDA-ARS Hydrology Lab 104 Bldg 007 BARC West Beltsville MD 20705 TEL: 301.504.8511 FAX: 301.504.8931 tjackson@hydrolab.arsusda.gov</p>	<p>Alois Sieber 1996-1997 Space Applications Institute Institute for Remote Sensing Applications Ispra Establishment Ispra Varese 21020 ITALY TEL: 39.0.332.789089 FAX: 39.332.785772 alois.sieber@irc.it</p>	<p>Michael J. Collins 1996-1997 Director of Educational Initiatives University of Calgary Dept of Geomatics Engineering Calgary Alberta T2N 1N4 CANADA TEL: 413.220.5826 FAX: 413.284.1980 collins@ensu.ucalgary.ca</p>
<p>Nahid Khazenie 1996-1998 <i>Executive Vice President, IEEE GRS-S</i> Code 170 Educational Programs Coordinator Mission to Planet Earth Office NASA Goddard Space Flight Center Greenbelt MD 20771 TEL: 703.917.8655 FAX: 703.917.8656 khazenie@hrpisis.gsfc.nasa.gov</p>	<p>Karen M. St. Germain 1997-1999 Naval Research Laboratory Remote Sensing Division, Code 7223 4555 Overlook Avenue SW Washington DC 20009 TEL: 202.767.3443 FAX: 202.767.9194 ksaint@ultraimg.nrl.navy.mil</p>	<p>Keith Raney 1997-1999 <i>GRS-S Rep to Society on Social Implications of Technology</i> Space Dept, Applied Physics Lab The Johns Hopkins University Johns Hopkins Road Laurel MD 20723-6099 TEL: 410.792.5000</p>
<p>Charles Luther 1996-1998 <i>VP of Technical Committees, IEEE GRS-S</i> Code ONR 321SR Office of Naval Research 800 Quincy Street Arlington VA 22217 TEL: 703.696.4123 FAX: 703.696.3390 lutherc@onrhq.onr.navy.mil</p>	<p>Kiyo Tomiyasu 1996-1998 Lockheed Martin Corporation 366 Hilltop Road Paoli PA 19301-1211 TEL: 610.531.5740 FAX: 610.644.8521</p>	<p>John A. Reagan 1996-1998 <i>PACE</i> ECE Dept, Bldg 104 University of Arizona Tucson AZ 85721 TEL: 520.621.6203 FAX: 520.621.6189 reagan@ece.arizona.edu</p>
<p>Charles Luther 1996-1998 <i>VP of Technical Committees, IEEE GRS-S</i> Code ONR 321SR Office of Naval Research 800 Quincy Street Arlington VA 22217 TEL: 703.696.4123 FAX: 703.696.3390 lutherc@onrhq.onr.navy.mil</p>	<p>Werner Wiesbeck 1995-1997 Institute for High Frequency & Electronics University of Karlsruhe Kaiserstrasse 12 76128 Karlsruhe GERMANY TEL: 49.721.608.2522 FAX: 49.721.691.865 werner.wiesbeck@etec.uni-karlsruhe.de</p>	<p>Christopher S. Ruf 1995-1997 <i>GRS-S Newsletter Editor</i> Department of Electrical Engineering 121 Electrical Engineering East The Pennsylvania State University University Park, PA 16802-2705 TEL: 814.865.2363 FAX: 814.865.7065 ruf@ktb.ee.psu.edu</p>



News From NASA: Triana Education and Science

Nahid Khazenie and Gregory Williams

In March, United States Vice President Albert Gore challenged NASA to design, develop and launch a satellite, to be called Triana, to provide a continuous, full disk view of the Earth to be made available worldwide over the Internet. In response, NASA issued a formal Request for Information (RFI) seeking ideas from the education community, industry, and universities on educational opportunities, scientific applications and commercial opportunities possible from such a mission.

Responses from the RFI were due by May 1. The dozens of responses received are being assessed by NASA and will be used to develop mission and educational concepts for discussion with the NASA Administrator. This process is ongoing, with a candidate mission concept to be discussed with the Administration and the Congress in June.

The prime objective of the Triana mission is to provide a "real time" image of the full sunlit disk of the Earth for educational outreach opportunities. We envision engagement of high school and university students in all phases of the mission, from design through operations and data analysis. Images from the satellite would be available through an Internet World Wide Web site to be maintained and updated by the educational community.

Second, observations provided by the envisioned mission could potentially be used for the areas of meteorology and environmental monitoring as a complement to the existing/planned environmental monitoring missions by NASA, the U.S. National Oceanic Atmospheric Administration and other agencies/nations.

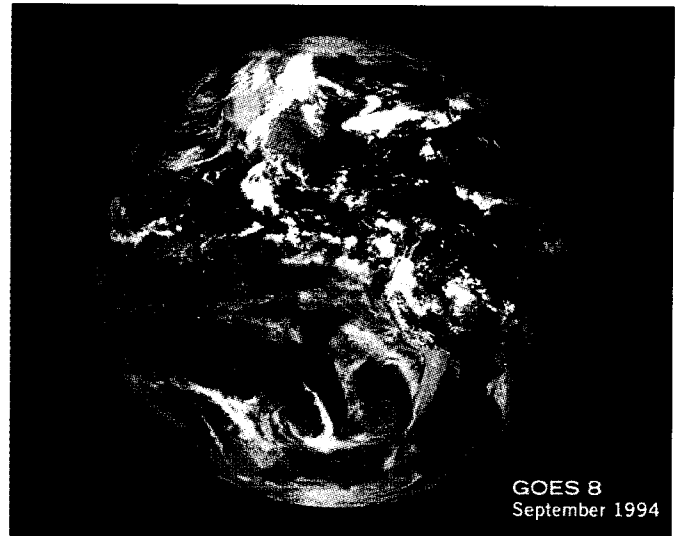
Third, the commercial potentials of the envisioned mission are:

- Building, launching and operating the satellite
- Developing and marketing products and/or value added services that take advantage of the spatial and temporal resolutions of observations

The mission characteristics for the Triana satellite/sensor system have been defined as:

- HDTV quality, full color image of the full sunlit disk of the Earth at 7x7 Km resolution and updated every several minutes
- Image data available over the Internet
- Student involvement in all phases of the project
- Build and launch two years or less from the time of selection
- Five year lifetime
- Solar L-1 orbit at one million miles distance from Earth

NASA has performed a preliminary feasibility study to determine baseline mission characteristics. A baseline spacecraft and



instrument concept was developed which consists of a 20-cm diameter aperture telescope and a 3-color, 8-bit, 2048-pixel CCD camera with a 0.7 degree field of view. This system provides full, three color images of the Earth with 7 km resolution. The payload is carried on a small (< 100kg) spacecraft. A three axis stabilized ACS system must provide absolute pointing to < 10 arcmin accuracy and stability of < 0.2 pixel over 10 msec (CCD integration time). The satellite carries a 1 -meter X-band antenna and is capable of downlinking data at 200 Kbits/sec; it will require approximately 3 minutes to send a full image. Three 3-meter X-band ground stations are required to receive data. The satellite would operate at ambient temperature. The satellite is carried into orbit as a secondary payload on an expendable launch vehicle or from the Shuttle payload bay. Both options require a upper-stage to place it into L- I orbit. A STAR 30 motor is required for the Shuttle option. Additional technical information can be found in the NASA fact sheet referenced below.

NASA has solicited two types of information:

- First, educational, scientific or commercial applications beyond those identified above. Prospective respondents should provide sufficient detail to enable identification and/or characterizations of engineering design features supporting such applications.
- Second, potential partnership(s) and/or sponsorship arrangements by academia, industry, foundations or other organizations within the U.S. International partnerships are also welcomed.

More on the Triana RFI are available at <http://www.hq.nasa.gov/office/mtpe> under the ESE research announcements.



NEWS UPDATE FROM THE CEO PROGRAMME

CIP-GEO ALIGNMENT

The Catalogue Interoperable Protocol (CIP) is being implemented in the CEO's data and information system, INFEO. This will be the mechanism used to search for data across all major space agency catalogues. CIP was specified within the CEOS (Committee on Earth Observation Satellites) and

therefore has the backing of all member agencies worldwide. CIP is built on top of Z39.50 - the same network protocol used by libraries to search their catalogues. In addition CIP has developed the concept of Collections and Retrieval Managers. These allow automatic routing of queries among "collections" of data held in different catalogues.

GEO, on the other hand, is a nickname for the profile of Z39.50 in the USA that is used to search for geospatial data described by FGDC (Federal Geographic Data Committee) metadata. Although GEO is a US initiative, it is being taken up in several non-US countries. GEO has many similarities to CIP since they both search for georeferenced and time referenced data, as well as use the same underlying protocol. Typical GEO datasets are GIS data, digital elevation models and maps.

Within CEOS, a study was undertaken to "align" the two profiles. The goal of this alignment has been to allow users from both communities to search each others data catalogues. This means, for instance, that future INFEO users will be able to access GIS and Map data from exactly the same user interface as they use to search for satellite data.

This alignment study, led by the CEO Programme, identified a number of changes to each protocol to allow for cross-profile search and retrieval. These changes are now being incorporated into both specifications. All being well, a wide range of new EO datasets will become available to GIS users, and visa versa. If you would like to find out more about CIP-GEO alignment, please contact Clive Best by email:

EDUCATION AND TRAINING PROJECT AIMED AT PRESS COMMUNITY

The aim of this project is to provide professional press editors with appropriate information on Earth Observation. It shows how the press can use Earth Observation information and thereby will encourage the wider use of information created by satellites.

This project was carried out by GAF, Germany, within the

framework of a CEO Education and Training project. They have produced an information guide and a CD-ROM for dissemination to the European Press community. GAF has also set up accompanying Web pages at <http://www.gaf.de/presshelp>, and further information and assistance can be obtained through the Press helpdesk (email: presshelp@gaf.de, Tel: +49 89 12 15 280).

5TH EEOS (EUROPEAN EARTH OBSERVATION SYSTEM) MEETING: DATA ACCESS - FROM ARCHIVE TO REAL TIME, 15-16 OCTOBER IN EDINBURGH, UK

This meeting will continue the successful series of technical workshops in the field of Earth observation. The topic has been selected to reflect the growing concern in Europe for the long term preservation of satellite data that has been gathered over the planet during the last three decades. Preservation of this data is one thing, but more importantly, improved access to this information is being demanded including real-time availability.

Topics to be discussed will include:

- standardisation for archiving (achieving ISO standards)
- interoperability and common searching
- archive utilisation including data mining
- real-time access to data (including comms links)
- long-term preservation in the European context

The meeting is being jointly organised by the British National Space Centre (BNSC), the Remote Sensing Society (RSS), the European Space Agency (ESA) and the CEO Programme.

Outline details of the programme will be available at the end of April. For further details please contact Martin Shelley, Earth Observation, BNSC, 151 Buckingham Palace Road, London SW1W 9SS, tel +44 171 215 0780, fax +44 171 215 0804, email Martin_Shelley@bnsq-hq.ccmil.com or the CEO helpdesk at ceo.helpdesk@jrc.it or fax +39 332 785 461.

FOR MORE INFORMATION

For more information about the CEO Programme and its activities, see the CEO Programme web site at URL: <http://www.ceo.org>. Enquiries can be sent to the CEO Helpdesk (ceo.helpdesk@jrc.it or fax: +39 332 78 5461).

**Proposals for Future
Symposia**

*Next Available Date: 2003
Summary Due: 01 June 1998*

GRSS will be accepting white paper proposal summaries for IGARSS'03 (non-North American teams) through 01 June 1998. Invitations will be extended to qualifying teams July 1998 for full presentations to be made at the November 1998 AdCom meeting to be held in Columbia Missouri USA. Interested parties should direct inquiries and submit written summaries to:

IEEE GRSS
17906 St. Emilion Court
Spring Texas 77379 • USA
+1.281.251.6067 (f) +1.281.251.6068
tstein@phoenix.net

Summaries should include the following:

- A. General Informationa.
 - Proposed Year & Possible Dates (May to September, 5 days)
 - Location (country/state/city)
- B. Team Data
 - Host Institution, Group or Agency
 - General & Tech Prgm Chairmen
 - Steering Committee
- C. Conference & Hotel Facilities
 - 10 parallel technical sessions
 - Plenary session, seating for 1000
 - Hotel accommodations, including current room rates
- D. Potential Sponsors
- E. Preliminary Budget (in US\$ at the prevailing rate) -- a sample budget is available upon request

Potential hosts should consider in preparation of proposals weather conditions, accessibility to travel, availability of accommodations, and conflicts with other known meetings of closely related societies, such as APS, MTT, PIERS, and AGU.

INTERNATIONAL GEOSCIENCE AND REMOTE SENSING SYMPOSIUM

IGARSS

FUTURE SYMPOSIA SITES AND DATES

IGARSS'98 6-10 July 1998
Sheraton Seatt
Seattle Washington US
*Leung Tsang, University of Washingt
General Chairm*

Refer to our conference website at www.igarss.org for up-to-date information!

IGARSS'99 28 June - 2 July 1999
Congress Centrum Hambu
Hamburg Germai
*Werner Alpers, University of Hambu
General Chairm*

IGARSS 2000 24-28 July 2000
Hilton Hawaiian Villa;
Honolulu Hawaii US
*Andrew J. Blanchard, University of Missouri at Colum
and David Goodenough, Pacific Forestry Centre, Victoria Cana
General Co-Chairm*

IGARSS'01 Date TB
Sydney Austral
*Anthony Milne, University of New South Wa
General Chairm*

IGARSS'02 Date TB
Toronto Cana
*Ellsworth LeDrew, University of Waterl
General Chairm*

For more information regarding future symposia, contact:

IEEE Geoscience and Remote Sensing Society
17906 St. Emilion Court • Spring Texas 77379 • USA
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IGARSS '98

1998 IEEE International Geoscience and Remote Sensing Symposium

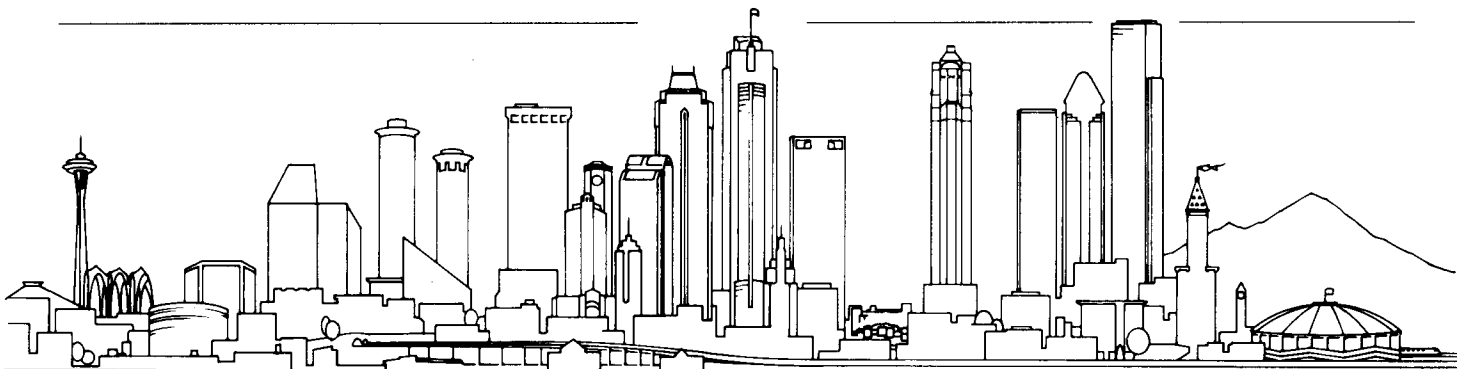
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Networking For You.



Sicad Geomatics and GTE Internetworking Demonstrate OpenGIS Technology at GEObit, Leipzig

Leipzig, Germany, May 6, 1998. Sicad Geomatics and GTE Internetworking, both principal members of the Open GIS Consortium, Inc. (OGC) demonstrated distributed, interoperable geoprocessing software at the Geobit conference in Leipzig, May 6-8, 1998. This is the first public demonstration in Europe of interoperable GIS solutions based on the OpenGIS Specification. The presentation extends the US Federal Geographic Data Committee (FGDC) demo of the OGC to include German geospatial data and integration of the Sicad Geospatial Data Server. The Sicad Geospatial Data Server communicates with OpenMap, an Internet Mapping Solution provided by GTE Internetworking, through common interfaces based on the OpenGIS Simple Features Specification. (Official OpenGIS Specification conformance tests are pending.) Users are able to overlay data managed by the SICAD Geospatial Data Server with other data managed by other OpenGIS Specification conformant systems. The databases are connected over the Internet.

"Geobit attendees are very fortunate to have Sicad Geomatics and GTE Internetworking demonstrating this capability at Geobit," said Lance McKee, OGC's Vice President Corporate Communications." A new era of geoprocessing interoperability is just beginning, and this demo helps people begin to understand the implications for their organizations."

Sicad Geomatics is a 100% subsidiary of Siemens Nixdorf Informationssysteme AG, Paderborn, with its headquarters in Munich and both national and international sales centers. It has over 200 employees in Germany and is devoted exclusively to development, marketing and sales activities for the geographical information system (GIS) Sicad. The company makes use of the existing sales channels of Siemens Nixdorf and extends them by cooperating with established partner companies. Sicad is one of the leading geographical information systems in the world, and its products are used in particular by local government, public utilities, surveyors' offices, utility companies and telecommunication enterprises. 17 different language versions with a total value of over 1 billion German marks have already been installed throughout the world.

The Distributed Spatial Technology Laboratory at BBN Technologies, GTE Internetworking exists to help its customers use the Internet to access and display distributed spatial in

formation through open standards and protocols. The Distributed Spatial Technology Laboratory provides a setting for GTE Internetworking's leading edge distributed geospatial systems research and development. Its role is to carry out R&D in the areas of wide-area network based distributed mapping and geoprocessing as well as wireless and handheld applications of geospatial technology. GTE Internetworking offers customers, from consumers to Fortune 500 companies, a full spectrum of Internet services and solutions including dial-up and dedicated Internet access, end-to-end network management, high-performance distributed hosting and application solutions, managed security, and systems integration, for customers migrating their mission-critical business applications to the Internet.

The Open GIS Consortium is an international organization of 126 members engaged in a cooperative effort to create the OpenGIS Specification for common software interfaces that enable direct communication between diverse geoprocessing systems. OGC envisions the full integration of geospatial data and geoprocessing resources into mainstream computing and the widespread use of interoperable, commercial geoprocessing software throughout the information infrastructure.

Enquiries to:

SICAD GEOMATICS
Marketing Communications
Andrea Schmitz
Tel.: +49 (0) 89/636 - 44731
Fax.: +49 (0) 89/636 - 45202
andrea.schmitz@mch.sni.de

GTE Internetworking
Allan Doyle
Tel.: +1 617 873 3398
Fax: +1 617 873 4328
<http://javamap.bbn.com>
adoyle@bbn.com

Open GIS Consortium, Inc.
Corporate Communications
Lance McKee
Tel. +1 508-655-5858
Fax +1 508-655-2237
lmckee@opengis.org



ORDNANCE SURVEY JOINS OGC

Contact: Lance McKee
Vice President, Corporate Communications
Open GIS Consortium, Inc.
35 Main Street, Suite 5
Wayland, MA 01778
voice: (508) 655-5858
fax: (508) 655-2237
email: lmckee@opengis.org

Wayland, Massachusetts, USA March 31, 1998 - The Open GIS Consortium, Inc. (OGC) announced today that Ordnance Survey, the National Mapping Agency of Great Britain, has joined OGC as a Technical Committee member. Ordnance Survey is the first major non-US government agency to join OGC.

Though a public-sector organization, Ordnance Survey is an £80 million-a-year business which recovers more than 90% of its costs by selling products and services or licensing others to use its copyrighted material. Ordnance Survey's strategic planning process includes ongoing analysis of the ways in which technology is remolding the business environment, opening up opportunities to offer new products and services.

Bryan Nanson, Director of Information Management, said that, "Faced with the requirement to re-engineer what is already probably the most sophisticated geospatial data capture and customer supply system in the world, Ordnance Survey anticipates that Membership in OGC will help us to influence and anticipate software interface and component product design. This will help minimise the risk that geoprocessing software vendors' new products will fail to meet our requirements. It will also ensure that we take full advantage of geospatially related developments which are based on the most effective mainstream and emerging Information Technology."

Lance McKee, OGC's Vice President, Corporate Communications, said, "National mapping agencies face significant challenges because the technologies underlying their operations and the operations of their government and private sector customers are evolving very rapidly. OGC provides a forum for both understanding and influencing the technology that is moving geoprocessing into mainstream information systems."

About Ordnance Survey

Ordnance Survey employs around 1850 people in their headquarters in Southampton and in 81 offices across Britain. Ordnance Survey uses more than 1000 desktop computers in its work and 40 gigabytes of information flow between them every day, traveling along 20 kilometres of fibre-optic cable and 300 kilometres of wiring in its headquarters building alone.

Ordnance Survey has created and maintains by far the most detailed mapping of Britain. The National Topographic Database (NTD) is now the "master map of Britain", recording on computer more than 200 million individual features of the Brit-

ish landscape. It features items as small as telephone boxes and private garages surveyed at scales of up to 1:1250 (80 cm to 1 kilometre or about 50 inches to 1 mile), a scale which shows the detailed shapes of individual buildings. The NTD is effectively a seamless electronic map of the whole country which has replaced the need to maintain around 230,000 individual large-scale paper maps.

New information is added to the NTD daily and detailed information from it can be accessed instantly through a growing network of agents around Britain as hard-copy print-outs or as data on floppy disk. The NTD is also the prime source of information used to create a wide range of Ordnance Survey products at many scales, from paper maps to digital datasets.

Computer technology is also underpinning the development of a National Geospatial Data Framework (NGDF), in which Ordnance Survey is one of the key players. The aim is to create a framework which will allow the integration and combined use of much more information collected by a wide range of bodies.

In addition to developing its databases, pursuing a wide-ranging research program and launching new products, Ordnance Survey is increasingly offering services to tailor its products to the requirements of individual customers - a trend initiated by the 'print-on-demand' Superplan mapping.

Offering solutions to specific problems goes well beyond Ordnance Survey's traditional offerings, for the digital revolution has transformed what is possible, what customers want, and the very nature of a national mapping agency.

About OGC

OGC is a not-for-profit industry organization dedicated to organising cooperative technology development that enables interoperability between diverse geoprocessing systems and improved access to geographic information and geoprocessing services for users. In addition to developing the OpenGIS Specification in the OGC Technical Committee, OGC works to inform the geoprocessing community about open geoprocessing and promotes a vision of full integration of geospatial data and geoprocessing resources into mainstream computing and the widespread use of interoperable, commercial geoprocessing software throughout the global information infrastructure.

OGC currently has 120 members, about one-half from countries other than the US. Members include geoprocessing software vendors, such as Autodesk, Bentley Systems, Cadcorp, Intergraph, Laser-Scan, MapInfo, Smallworldwide, and Sedona Geoservices, and IT industry leaders including GTE Internetworking, Intergraph, Microsoft, Mitsubishi, Oracle, Sun and Siemens Nixdorf. UK's Ordnance Survey joins a group of US federal agencies in OGC, including the US Geological Survey National Mapping Division, Department of Defense National Imagery and Mapping Agency, NASA National Space Science Data Center, and the Department of Agriculture National Resources Conservation Service.



Upcoming Conferences

(continued from back cover)

Name: **IEEE AP-S International Symposium and USNC/URSI National radio Science Meeting**

Dates: June 21-26, 1998

Location: Renaissance Waverly Hotel, Atlanta, GA

Contact: L. Wilson Pearson

1998 AP-S/URSI Technical Program Committee

Dept. of ECE

PO Box 340915

Clemson, SC 29634-0915

apsursi98tpc.info@ces.clemson.edu

Name: **9th Australasian Remote Sensing and Photogrammetry Conference**

Dates: 20-24 July, 1998

Location: University of New South Wales, Sydney, AUSTRALIA

Contact: Australian Convention and Travel Services
GPO Box 2200

Canberra, ACT, 2601

AUSTRALIA

tel. 612-6257-3299

FAX 612-6257-3256

Prof. Tony Milne, Conference Chairman,

t.milne@unsw.edu.au

Name: **International Symposium on Optical Science, Engineering, and Instrumentation**

Dates: July 19-24, 1998

Location: San Diego Convention Center,

San Diego, CA USA

Abstracts: December 22, 1997

Contact: SPIE

Voice: 360-676-3290

FAX: 360-647-1445

URL: www.spie.org

Name: **International Conference on Applications of Photonic Technology**

Dates: July 27-30, 1998

Location: Chateau Laurier Hotel, Ottawa, Ontario, CANADA

Abstracts: January 2, 1998

Contact: Dr. G. A. Lampropoulos,

A.U.G. Signals Ltd.

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Toronto, Ont. M4T 3A1 CANADA

URL: <http://www3.sympatico.ca/icapt/icapt.html>

Name: **PIERS Workshop on Advances in Radar Methods**

Dates: July 20-22, 1998

Location: Hotel Dino, Braveno, ITALY

Abstracts: January 31, 1998

Contact: Dr. Ann Francois

Space Applications Institute

Joint Research Centre of the European Commission

1-21020 Ispra (VA), ITALY

Voice: +39-332-789131

FAX: +39-332-785772

Email: piers.aviram@jrc.it

URL: <http://www.sai.jrc.it/piers.aviram>

Name: **1998 IEEE-USA Professional Activities Conference**

Dates: September 4-7, 1998

Location: Phoenix, AZ

Abstracts: February 1, 1998

Manuscripts: May 1, 1998

Contact: Ann Hartfiel

tel. 202-785-0017

FAX 202-785-0835

email a.hartfiel@ieee.org

URL <http://www.ieee.org/usab>

President's Message

continued from page 4

tion on "KidSat." This, together with the normal IGARSS'98 special issue, required a budget of 2700 pages for 1999. Four of the 1999, and the January 2000 bi-monthly mailings, will also include a Part-II. This should completely eliminate the "approved paper backlog" as a significant element in the time-to-publication equation. On behalf of our society, I thank Dr. Tsang and Dr. Gatlin, and other members of AdCom, for their work and attention towards a timely publication schedule.

Now for more good news. In 1999, the current year's

TGARS will be placed on the IEEE publications WEB (as each issue is published). This will be accessible to members of the Society only. AdCom has approved this action which will cost the Society \$15,000 a year. Members will continue to get the printed copies of the TGARS and will now also have electronic access to the current year's articles. For the year 2000, we will consider offering the printed copy as an option for members. This will bring a corresponding reduction in member dues.

I look forward to seeing you in Seattle at IGARSS'98.



Name: **Asia-Pacific Symposium on Remote Sensing:
Atmospheric, Environmental, and Space**

Dates: September 13-17, 1998
Location: China International Exhibition Center, Beijing, CHINA
Abstracts: February 16, 1998
Manuscript: June 22, 1998
Contact: SPIE
Voice: 360-676-3290
FAX: 360-647-1445
URL: www.spie.org

Name: **European Network for the Development
of Advanced Models to Interpret Optical
Remote Sensing Data Over Terrestrial
Environments (ENAMORS Workshop)**

Dates: September 17-19, 1998
Location: Tuusula, FINLAND
Contact: ENAMORS Finnish Geodetic Institute
Geodeetinrinne 2 (PL 15)
FIN-02431 MASALA
voice: 358-9-295550, FAX: 358-9-29555200
Email: ENAMORS@fgi.fi
URL: <http://Hneutrino.pc.helsinki.fi/jouni/ENAMORS/ws97.html>

Name: **URSI Commission F Triennial Open Symposium
"Wave Propagation and Remote Sensing"**

Dates: September 22-25, 1998
Location: Aveiro, PORTUGAL
Contact: Prof. Armando C. D. Rocha
Instituto de Telecomunicacoes
Universidade de Aveiro
3810 Aveiro, PORTUGAL
Voice: +351 34 370324,
FAX: +351 34 381128
Email: arocha@av.it.pt

Name: **OCEANS '98**

Dates: 28 September - 1 October 1998
Location: Acropolis Conference Center, Nice, FRANCE
Contact: Georges Bienvenu
Thomson Marconi Sonar
525, Route des Dolines, BP 157
06903 Sophia-Antipolis
FRANCE
tel. +33 492 96 44 69
FAX +33 492 96 39 25
email bienvenu@tmr.thomson.fr
Email: jjin1@uiuc.edu

Name: **IEEE International Conference on Systems,
Man, and Cybernetics**

Dates: October 11-14, 1998
Location: Hyatt Regency La Jolla, San Diego, CA
Contact: SMC'98 Secretariat
Dept. of Industrial Engineering
Rutgers University
96 Frelinghuysen Road
Piscataway, NJ 08854-8018
voice: 732-445-3671
FAX: 732-445-5467
Email: smc98@coewww.rutgers.edu
URL: <http://www.engr.rutgers.edu/~smc98>

Name: **European Commission Advanced Study
Course on Space Techniques for
Environmental Risks (STER): Land Surface
Use and Urban Issues**

Dates: 29 June - 10 July 1998
Location: Strasbourg, FRANCE
Contact: Prof. Michael Rycroft
Advanced Study Course Coordinator
International Space University
Strasbourg Central Campus
Parc d'Innovation
Boulevard Gonthier d'Andernach
67400 Illkirch
FRANCE
Voice: +33 (0) 3 88 65 54 38
FAX: +33 (0) 3 88 65 54 35
Email: ster@isu.isunet.edu
URL: <http://www.isunet.edu>

Name: **32nd ESLAB Symposium - Remote Sensing
Methodology for Earth Observation and
Planetary Exploration**

Dates: Sept. 15-18, 1998
Location: ESTEC, Noordwijk, The Netherlands
Abstracts: April 15, 1998
Manuscripts: Sept. 18, 1998
Contact: ESTEC Conference Bureau
Postbus 299, 2200 AG
Noordwijk, The Netherlands
Voice: +31-71-5655005
FAX: +31-71-5655658
Email: eslab32@estec.esa.nl
URL: <http://www.estec.esa.nl/CONFANNOUN/98a01>



Name: **Workshop on Emerging Scatterometer Applications - From Research to Operation**

Dates: Oct. 5-7, 1998

Location: ESTEC, Noordwijk, The Netherlands

Abstracts: April 15, 1998

Manuscripts: Oct. 7, 1998

Contact: Mrs. M. Brons

ESTEC Conference Bureau

Postbus 299, 2200 AG

Noordwijk, The Netherlands

Voice: +31-71-5655005

FAX: +31-71-5655658

Email: confburo@estec.esa.nl

URL: <http://www.estec.esa.nl/CONFANNOUN/>

Name: **Workshop on Retrieval of Bio- and Geo-Physical Parameters from SAR Data for Land Applications**

Dates: October 21-23, 1998

Location: ESTEC, Noordwijk, THE NETHERLANDS

Abstracts: June 1, 1998

Contact Dr. Maurice Borgeaud

European Space Agency

ESTEC-EEP

Keperlaan 1, 2200 AG Noordwijk

THE NETHERLANDS

tel. +31 71 565 4830

FAX +31 71 565 4999

email maurice@xe.estec.esa.nl

URL

<http://www.estec.esa.nl/CONFANNOUN/98c07>

Tenure Track faculty position in microwave remote sensing The University of Maryland, Baltimore County (UMBC)

The Department of Computer Science and Electrical Engineering in the College of Engineering at UMBC invites applications for a tenure-track assistant professor position to begin as early as January 1999, but no later than September 1999. We seek candidates who have a

general background in communications and signal processing with a specific focus on microwave remote sensing. Prospective candidates should have a Ph. D. degree in Electrical Engineering or a closely related field, such as Applied Physics, with a preference of one degree in Electrical Engineering. Candidates with postdoctoral research experience are preferred. The successful candidate will be expected to establish an externally funded research program with a focus on remote sensing and work closely with the Joint Center for Earth System Technology (JCET). JCET is a joint center of UMBC and the Earth Sciences Directorate of NASA's Goddard Space Flight Center. The successful candidate will also be required to teach at both the undergraduate as well as the graduate level and direct students' research. Start-up funding will be made available. Applications consisting of a complete curriculum vitae, a brief statement of teaching and research interests and goals, and the names and telephone numbers of three references should be sent to Dr. Christian von Kerczek, Chair of the Faculty Search Committee, College of Engineering, UMBC, 1000 Hilltop Drive, Baltimore, MD, 21250. The screening of applications will begin immediately and will continue until the position is filled. UMBC is an AA/EOE employer.

UPCOMING CONFERENCES



Name: **Vail Rock '99, 37th US Rock Mechanics Symposium**

Dates: June 6-9, 1998

Location: Marriott Mark Hotel, Vail, CO

Contact: Mark Cramer, Event Manager

Voice: 303-771-2000

FAX: 303-843-6212

Email: mrcramer@expomasters.com

Name: **The Eighth Biennial IEEE Conference on Electromagnetic Field Computation**

Dates: June 1-3, 1998

Location: Tucson, Arizona, USA

Abstracts: January 5, 1998

Contact: CEFC'98 - Secretariat Engineering

Professional Development

The University of Arizona

1224 N. Vine Avenue

Tucson, AZ 85719-4552 USA

Voice: 520-621-3054

FAX: 520-621-1443

Email: epd@engr.arizona.edu

URL: <http://Hwww.ece.arizona.edu/~cefc98>

Name: **IEEE MTT-S International Microwave Symposium and Exhibition**

Dates: June 7-12, 1998

Location: Baltimore, MD

Abstracts: September 1, 1997 (panel session, workshop, special session)

December 1, 1997 (microwave symposium and RFIC papers)

March 13, 1998 (ARFTG papers)

Contact: Steven N. Stilzer

Northrop-Grumman

Voice: 410-765-7348

FAX: 410-993-7747

URL: <http://www.mtt.org>

Name: **27th International Symposium on Remote Sensing of the Environment**

Dates: June 8-12, 1998

Location: Tromso, Norway

Abstracts: October 15, 1997

Contact: Norsk Romsenter Norwegian Space Centre

P.O. Box 113 Skoyen N-0212

Oslo, NORWAY

FAX: 47-22-51-18-01

Email: isrse@spacecentre.no

URL: <http://Hwww.spacentre.no/>

(Continued on page 13)

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445 Hoes Lane
P.O. Box 1331
Piscataway, NJ 08855-1331