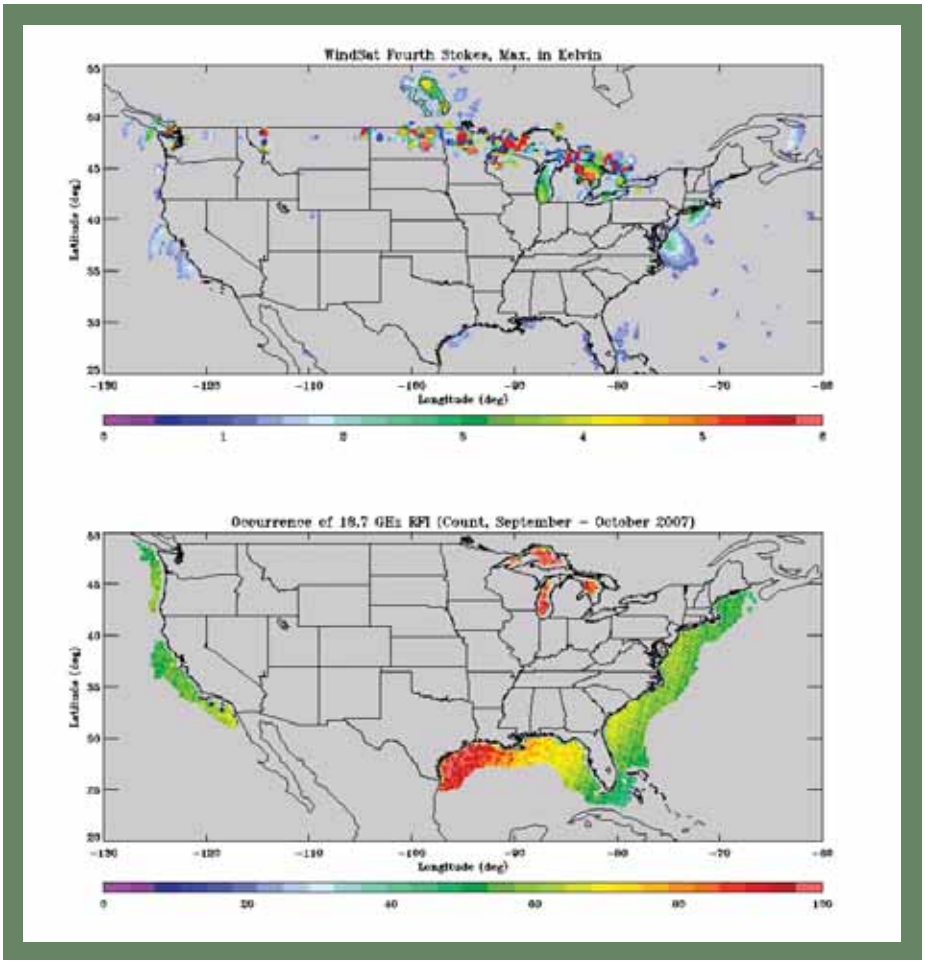
IEEE GEOSCIENCE and REMOTE SENSING Newsletter

http://www.grss-ieee.org/menu.taf?menu=Publications&detail=newsletter

Editor: David Kunkee



Cumulative Issue #149 December 2008 ISSN 0274-6338

Table of Contents

Notice to Potential Advertisers

The IEEE GRS-S Newsletter publishes paid advertisements for job openings, short courses, products, and services which are of interest to the GRS-S membership. The rates for advertisements published in the Newsletter are:

Size	Dimensions	Per Insertion
Full page	7" x 10"	$500.00
Half page		$400.00
Vertical	3.375" x 10"	
Horizontal	7" x 4.875"	
Quarter page	3.375" x 4.875"	$300.00

The Editor reserves the right to reject advertisements. Please address all enquires to:

Ms. Susan Schneiderman
Advertising Sales Manager
IEEE Magazines/Newsletters
445 Hoes Lane
Piscataway, NJ 08855-1331
Tel: +1 732-562-3946
Fax: +1 732-981-1855

Newsletter Input and Deadlines

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

GRS-S Newsletter Schedule

Month	June	Sept	Dec	March
Input	April 15	July 15	Oct 15	Jan 15

IEEE GRS-S AdCom, Officers and Committee Chairs – 2008 GRS-29 (Division IX)

President
Anthony K. Milne
Executive Vice President
Alberto Moreira
Vice President for Technical Activities
Steve Reising
Vice President for Meetings and Symposia
Melba M. Crawford
Vice President for Operations and Finance
Karen M. St. Germain
Vice President for Professional Activities
Jon Benediktsson
Vice President for Information Resources
Jay Pearlman
Secretary
Thomas J. Jackson
Director of Finance
James A. Gatlin
Director of Education
Granville E. Paules III
Director Corporate Relations
William Gail
Awards
Martti Hallikainen
Chapter Activities
Diane Evans
Conference Coordination
Melba Crawford, Paul Smits
Constitution and Bylaws
Alberto Moreira
Fellow Evaluation
Wooil M. Moon
Fellow Search
David M. LeVine
Membership
Steven C. Reising
Nominations
C. Luther, D. Goodenough
Public Relations/Publicity
David Weissman
Standards and Metric
Jon A. Benediktsson
Strategic Planning
Alberto Moreira
Technical Activities
Paul Smits
Transactions Editor
Jon A. Benediktsson
GRS Letters Editor
William Emery
J-STARS Editor
Ellsworth LeDrew
Newsletter Editor
David Kunkee
IGARSS 2007
Ignasi Corbella
IGARSS 2008
John Kerekes
Eric Miller
IGARSS 2009
Harold Annegarn
IGARSS 2010
Paul Smits
Karen M. St. Germain
IGARSS 2011
Motoyuki Sato
IGARSS 2013
Peter Woodgate
PACE
Paul Racette
Social Implications of Technology
Keith Raney
2008 AdCom Members
Melba Crawford
Diane Evans
Karen St. Germain
David G. Goodenough
Steven Reising
Paul Smits
2009 AdCom Members
Adriano Camps
Roger King
David M. LeVine
Wooil M. Moon
Alberto Moreira
Anthony K. Milne
2010 AdCom Members
Jon Benediktsson
William J. Emery
Thomas J. Jackson
Jay Pearlman
Kamal Sarbandi
Motoyuki Sato
Honorary Life Members
Andrew Blanchard
Keith R. Carver
Martti Hallikainen
Kiyo Tomiyasu
Fawwaz T. Ulaby
Werner Wiesbeck

Postal Information and Copyright Notice

IEEE Geoscience and Remote Sensing Newsletter (ISSN 0274-6338) is published quarterly by the Geoscience and Remote Sensing Society of the Institute of Electrical and Electronics Engineers, Inc., Headquarters: 3 Park Avenue, 17th floor, New York, NY 10016-5997. $1.00 per member per year (included in Society fee) for each member of the Geoscience and Remote Sensing Soc.. Printed in U.S.A. Periodicals postage paid at New York, NY and at additional mailing offices. Postmaster: Send address changes to IEEE Geoscience and Remote Sensing Society Newsletter, IEEE, 445 Hoes Lane, Piscataway, NJ 08854.

Editor's Comments

David B. Kunkee, Editor
The Aerospace Corporation
NPOESS Space Systems
PO Box 92957 MS M4-922
Los Angeles, CA 90009-2957
Phone: 310-336-1125
Fax: 310-563-1132
E-mail: David.Kunkee@aero.org

Welcome to the December 2008 GRSS Newsletter. A lot has happened since the September letter went to press.

On the cover this month are two illustrations showing the impact of Radio Frequency Interference to passive microwave measurements over land and the oceans at 18.7 GHz. Over the oceans near North America, the image shows the relative occurrence of anomalies in the retrieval of ocean surface winds as explained in the cover information box below. Although the appearance of RFI over land at 18.7 GHz has been intermittent, occurrence of ocean retrieval anomalies are now persistent and have been related to emissions from geostationary satellites. Similar and more extensive impacts have been seen in measurements at 10.65 GHz near Europe. Overall, the sudden occurrence of persistent RFI impacting 18 GHz is alarming to those concerned with using these data for forecasting and climate studies requiring long term data sets.

Beginning on page 11 you will find two reports from IGARSS'08. The first is from GRSS awards Chair Prof. Martti Hallikainen who has provided a summary of the awards presented at the Thursday evening banquet. The second is from the Conference Co-Chairs, Profs. John Kerekes and Eric Miller providing their views on the many activities in Boston. And finally, a perspective on the IGARSS'08 outreach activities appears earlier in the Newsletter.

At the November meeting of the GRSS AdCom, addition-

(continued on page 8)

President's Message from IGARSS

Anthony K. Milne
University of New South Wales
School of Biological, Earth, and Env. Sciences
Sydney, NSW 2052 AUSTRALIA
Phone: 61-2-9385-8097;
61-2-9451-4628
Fax: 61-2-9451-4628
E-mail: t.milne@unsw.edu.au

Firstly, I would like to congratulate and thank John Kerekes and Eric Miller IGARSS'08 Co-Chairs and their Local Organizing Committee for an outstanding IGARSS held in Boston, 6-11 July last. The theme, Geoscience and Remote Sensing: The Next Generation was designed to highlight the opportunities for the next generation of remote sensing scientists to contribute to the challenges of global responsibility to map and measure the Earth's environment and to realize the benefits of our science and technologies for human well-being. Over 2021 people participated in the Conference with 1886 oral and poster presentations being made. Approximately 100 students from nearby secondary schools attended sessions of the Conference and special education sessions were held to inform members of the public of the benefits of remote sensing and Earth observation. Thanks to all for a job well done!

The first two issues of the new Journal of Selected Topics in Applied Earth Observations and Remote Sensing (J-STARS) have now been published. Issue No 1 (March 2008) focuses on Earth Observations and Renewable Energy (Edited by T. Ranchin and M. Schroedter-Homscheidt). The second issue (June 2008) is on Human Settlements (Edited by P. Gamba). A forthcoming issue will feature Wildland Fire and Biomass Burning. Congratulations to the Editor, Ellsworth F. LeDrew, for getting J-STARS to press.

In October a Memorandum of Understanding (MOU) between the IEEE Geoscience and Remote Sensing Society (IEEE-GRSS) and the African Association of Remote Sensing of the Environment (AARSE) was signed at the AARSE Conference in Accra, Ghana by the Presidents of the two societies. The aim of the MOU is to develop closer relationships between participants in the two organizations that will lead to collaboration in the organization of conferences, training programs and related joint projects that will lead to

(continued on page 4)

Cover Information: Instances of Radio Frequency Interference to the WindSat Radiometer over North America at 18 GHz. Top: 18-GHz fourth Stokes' parameter maximum value in Kelvin, showing RFI over land near the U.S. Canadian border and U.S. coast lines. Bottom: Occurrence of anomalous ocean wind retrievals near the North American shore. The anomalies began with the commencement of transmissions from a new geostationary broadcast satellite near 18.7 GHz on 1 October 2007. (See page 20 for additional details).

(President's Message from IGARSS continued from page 3)

a strengthening of the application of remote sensing technologies in African countries. To start this process, GRSS provided 100 free Associate Memberships to members of AARSE for 2009.

At the November Administrative Committee (AdCom) meeting it was decided that GRSS would become a member of the Joint Board of Geospatial Information Societies (JB GIS). This is a co-operative network of leading international geospatial societies which seeks to speak on behalf of the geospatial profession at the international level, especially to the United Nations and to other global stakeholders. Its second goal is to better coordinate activities within the various geospatial societies and organizations. The Joint Board meets annually.

The AdCom also set up a Seniors Council consisting of Past Presidents of the Society who will assist the President and AdCom and GRSS members by providing corporate memory, addressing controversial issues with lack of bias, and in providing input into strategic planning activities. The Senior Council will report to the AdCom through the President.

Finally, at the IEEE Technical Activities Board (TAB) meeting in New Jersey mid-November considerable attention was given to discussing the likely effects of the current world economic crisis on IEEE and its Societies. IEEE investment funds have taken a tumble which means that a Society like GRSS will lose a substantial amount of its reserves and may have some difficulty in accessing these funds in 2009-10 for new initiatives. However, the budget for 2009 approved in May this year is in good shape and I do not believe we will have to cut back on any services to members. GRSS membership is still growing and there is great interest in IGARSS'09 in Cape Town South Africa next July both of which are encouraging signs.

On behalf of the AdCom, I would like to wish you all a happy and peaceful yuletide.

Sincerely,
Tony Milne
President, IEEE GRSS

Newsletter Editorial Board Members:

David B. Kunkee, Editor
The Aerospace Corporation
NPOESS Space Systems
PO Box 92957 MS M4-922
Los Angeles, CA 90009-2957
Phone: 310-336-1125
Fax: 310-563-1132
E-mail: David.Kunkee@aero.org

William J. Blackwell, Sc.D., Associate Editor for Organizational and Industrial Profiles
MIT Lincoln Laboratory
244 Wood St., Room S3-237
Lexington, MA 02420-9108
Phone: 781-981-5324
Fax: 781-981-7271
E-mail: wjb@ll.mit.edu

Sandra Cruz-Pol, Associate Editor
University Profiles
Electrical and Computer Engineering Dept.
University of Puerto Rico Mayaguez, PR. 00681-9042
TEL: (787) 832-4040 x2444 x3090
FAX: (787) 831-7564
E-mail: SandraCruzPol@ieee.org

Jocelyn Chanussot, Associate Editor for European Affairs
Grenoble Institute of Technology
GIPSA-Lab, ENSE3
BP 46
38402 Saint Martin d Heres cedex, FRANCE
E-mail: jocelyn.chanussot@gipsa-lab.inpg.fr

Akira Hirose, Associate Editor for Asian Affairs
Dept. of Electrical Engineering and Information Systems
Faculty of Engineering
7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, JAPAN
TEL: (81) 3-5841-6695
FAX: (81) 3-5841-7492
E-mail: ahirose@ee.t.u-tokyo.ac.jp

Sonia C. Gallegos, Associate Editor for Latin American Affairs
Naval Research Laboratory
Ocean Sciences Branch,
Oceanography Division
Stennis Space Center, MS 39529, USA
TEL: 228-688-4867
FAX: 228-688-4149
E-mail: gallegos@nrlssc.navy.mil

Tsehaie Woldai, Associate Editor for African Affairs
Department of Earth Systems Analysis
International Institute for Geo-Information Science and Earth Observation (ITC)
Hengelosestraat 99
PO Box 6, 7500 AA Enschede, The Netherlands
TEL: +31-(0)53 4874 279
FAX: +31-(0)53 4874 336
E-mail: Woldai@itc.nl

2008 ADCOM MEMBERS' NAMES AND ADDRESSES

Dr. Anthony K. Milne
President, IEEE-GRSS
University of New South Wales
School of Biological, Earth and Env. Sciences
Sydney, NSW 2052
AUSTRALIA
E-Mail: t.milne@unsw.edu.au

Dr. Alberto Moreira
Exec. VP, IEEE-GRSS
German Aerospace Center (DLR)
Microwaves and Radar Institute
P.O. Box 1116
82230 Wessling/Oberpfaffenhofen
GERMANY
Email: alberto.moreira@dlr.de

Dr. Thomas J. Jackson
Secretary, IEEE-GRSS
USDA-ARS Hydrology
and Remote Sensing Lab
104 Bldg 007 BARC-West
Beltsville, MD 20705 USA
E-Mail: tom.jackson@ars.usda.gov

Dr. Jon A. Benediktsson
VP for Professional Activities, IEEE-GRSS
Transactions Editor IEEE-GRSS
Department of Electrical and Computer Engineering
University of Iceland
Rector's Office
Main Building, Saemundargata 6
Reykjavik ICELAND
E-Mail: benedikt@hi.is

Dr. Melba M. Crawford
VP for Meetings and Symposia, IEEE-GRSS
LARS/Lilly Hall
Purdue University
915 W. State Street
W. Lafayette, IN 47907-2054 USA
E-Mail: mcrawford@purdue.edu

Dr. Jay Pearlman
VP for Information Resources, IEEE-GRSS
The Boeing Company
PO Box 3707 MS 8R-24
Seattle, WA 98124 USA
E-Mail: jay.pearlman@ieee.org

Dr. Steven C. Reising
VP for Technical Activities, IEEE-GRSS
Electrical and Computer Engineering Department
1373 Campus Delivery
Colorado State University
Fort Collins, CO 80523-1373 USA
Email: reising@ieee.org;
steven.reising@colostate.edu

Dr. Karen M. St. Germain
VP for Operations and Finance, IEEE-GRSS
NPOESS Integrated Program Office
8455 Colesville Road, Suite 1450
Silver Spring, MD 20910 USA
E-Mail: Karen.StGermain@noaa.gov

Dr. Adriano Camps
Dept. of Signal Theory and Communication
Polytechnic University of Catalonia,
Campus Nord, D4-016
08034 Barcelona SPAIN
E-mail: camps@tsc.upc.edu

Dr. William J. Emery
Letters Editor, IEEE-GRSS
CCAR Box 431
University of Colorado
Boulder, CO 80309-0431 USA
E-Mail: Emery@colorado.edu

Dr. Diane L. Evans
NASA JPL
4800 Oak Grove Drive
M/S 180-404
Pasadena, CA 91109 USA
email: Diane.L.Evans@jpl.nasa.gov

Dr. Albin J. Gasiewski
Past President, IEEE GRSS
Dept. of Electrical and Computer Engineering
University of Colorado at Boulder
0425 UCB/ ECOT 253
Boulder, CO 80309-0425 USA
E-Mail: al.gasiewski@colorado.edu

Dr. James A. Gatlin
Director of Finance, IEEE-GRSS
Goddard Space Flight Center (Retired)
Greenbelt, MD 20771 USA
E-Mail: j.gatlin@ieee.org

Dr. David G. Goodenough
Nominations Committee Co-Chair, IEEE-GRSS
Pacific Forestry Centre
Natural Resources Canada
506 West Burnside Road
Victoria, BC V8Z 1M5 CANADA
E-Mail: dgoodeno@nrcan.gc.ca

Dr. Roger King
Mississippi State University
Box 5405
Mississippi State, MS 39762-5405 USA
E-Mail: rking@engr.msstate.edu

Dr. Ellsworth LeDrew
J-STARS Editor, IEEE-GRSS
University of Waterloo Dept. of Geography
200 University Ave. West
Waterloo, Ontario N2L 3G1 CANADA
E-Mail: ells@watleo.uwaterloo.ca

Dr. David M. Le Vine
NASA Goddard Space Flight Center
Code 614.6
Greenbelt, Maryland 20771 USA
E-mail: David.M.LeVine@nasa.gov

Dr. Wooil M. Moon
Fellow Evaluations, IEEE-GRSS
University of Manitoba
Geophysics Dept.
Winnipeg, MB R3T 2NT CANADA
E-Mail: wmoon@cc.umanitoba.ca

Dr. Kamal Sarabandi
IEEE Remote Sensing Series Book Editor
Dept. of Electrical Eng. & Computer Science
Ann Arbor, MI 48109-2122 USA
E-Mail: saraband@eecs.umich.edu

Dr. Motoyuki Sato
IGARSS11 General Chairman
Center for Northeast Asian Studies
Tohoku University
980-8576 Sendai JAPAN
E-mail: sato@cneas.tohoku.ac.jp

Dr. Paul Smits
Joint Research Centre Institute for
Env. and Sustainability
TP262 I-21020 Ispra ITALY
E-Mail: paul.smits@ieee.org; paul.smits@jrc.it

Dr. Leung Tsang
Past President, IEEE GRSS
University of Washington
Box 352500
Seattle, WA 98195 USA
E-Mail: tsang@ee.washington.edu

Dr. Andrew J. Blanchard
Honorary Life Member and
Senior Council, IEEE-GRSS
University of Texas Dallas
Johnson School
P. O. Box 830688 EC32
Richardson, TX 75083 USA
E-Mail: ablanch@utdallas.edu

Dr. Keith R. Carver
Honorary Life Member, IEEE-GRSS
University of Massachusetts
Dept. of Electrical & Computer Engineering
Amherst, MA 01003 USA
E-Mail: kcarver@ecs.umass.edu

Dr. Martti T. Hallikainen
Honorary Life Member and
Awards Committee Chair, IEEE-GRSS
Helsinki University of Technology
Dept. of Radioscience and Engineering
P. O. Box 3000
FIN-02015 TKK FINLAND
E-Mail: Martti.Hallikainen@tkk.fi

Dr. Kiyo Tomiyasu
Honorary Life Member, IEEE-GRSS
Retired
890 East Harrison Ave., #30
Pomona, CA 91767 USA
E-Mail: k.tomiyasu@ieee.org;
or ektom2@verizon.net

Dr. Fawwaz T. Ulaby
Honorary Life Member, IEEE-GRSS
The University of Michigan
4080 Fleming Building
Ann Arbor, MI 48109-1340 USA
E-Mail: ulaby@eecs.umich.edu

Dr. Werner Wiesbeck
Honorary Life Member, IEEE-GRSS
University of Karlsruhe
Institute for High Frequency and Electronics
Kaiserstrasse 12
76131 Karlsruhe GERMANY
E-Mail: werner.wiesbeck@ihe.uka.de

Dr. Kuan Shan Chen
Deputy Editor J-STARS
National Central University
Chungli, TAIWAN
E-Mail: dkschen@csrsr.ncu.edu.tw

Dr. Nahid Khazenie
Senior Council, IEEE-GRSS
8509 Capo Ct.
Vienna, VA 22182 USA
E-mail: n.khazenie@ieee.org

Dr. David B. Kunkee
Newsletter Editor, IEEE-GRSS
The Aerospace Corp.
NPOESS Space Systems
P.O. Box 92957, MS M4-922
Los Angeles, CA 90009-2957 USA
Email: David.Kunkee@aero.org

Mr. Charles A. Luther
Nominations Committee Co-Chair, IEEE-GRSS
1113 Villamay Blvd.
Alexandria, VA 22307 USA
E-Mail: chuckluther@aol.com
(Ex-Officio Member)

Mr. Granville E. Paules III
Director of Education, IEEE GRSS
Kelly, Anderson, and Associates Inc.
424 North Washington St.
Alexandria, VA 22314 USA
E-mail: gpaules@kellyanderson.com

Dr. R. Keith Raney
GRSS Rep. Social Implications of Technology
Johns Hopkins Univ. Applied Physics Lab
Space Dept.
Johns Hopkins Rd.
Laurel, MD 20723-6099 USA
E-Mail: keith.raney@jhuapl.edu

Dr. David Weissman
Publicity Chairman, IEEE GRSS
Hofstra University, Dept. of Engineering
104 Weed Hall
Hempstead, NY 11549 USA
Email: eggdew@hofstra.edu

Dr. John Kerekes
IGARSS08 General Co-chair
Rochester Institute of Technology
54 Lomb Memorial Dr.
Rochester, NY 14623 USA
E-Mail: kerekes@cis.rit.edu

Dr. Eric Miller
IGARSS08 General Co-chair
Electrical and Computer Engineering
161 College Ave.
Tufts University
Medford, MA 02155 USA
E-Mail: elmiller@ece.tufts.edu

Dr. Harold Annegarn
IGARSS09 General Chairman
Department of Geog., Environmental
Management & Energy Studies
University of Johannesburg
P O Box 524
Auckland Park 2006 Johannesburg
REPUBLIC OF SOUTH AFRICA
E-Mail: hannegarn@gmail.com

Mr. Peter Woodgate
IGARSS13 General Chairman
Australian Cooperative Research Centre for
Spatial Information (CRCSI)
723 Swanston St
Carlton, Victoria, 3053 AUSTRALIA
Email pwoodgate@crcsi.com.au

Dr. Sonia C. Gallegos
Rep. on Latin American Affairs, IEEE-GRSS
Naval Research Lab
Code 7333
Stennis Space Center, MS 39529 USA
E-Mail : gallegos@nrlssc.navy.mil

Paul Racette
PACE Rep. IEEE-GRSS
NASA/GSFC Code 555
Greenbelt, MD 20771 USA
E-Mail: Paul.E.Racette@nasa.gov

Dr. Liping Di
Data Archiving and Distribution Technical
Committee Chair
Dept. Earth System and Geoinformational
Science
George Mason University
Fairfax, Virginia 22030-4444 USA
E-Mail: ldi@gmu.edu

Dr. Paolo Gamba
Data Fusion Technical Committee Chair
University of Pavia
Dept. Of Electronics
Via Ferrata 1
27100 Pavia ITALY
E-Mail: paolo.gamba@unipv.it

Dr. Joel T. Johnson
Frequency Allocations in Remote Sensing
Technical Committee Chair
The ElectroScience Laboratory
The Ohio State University
1320 Kinnear Rd.
Columbus, OH 43212 USA
Email: Johnson@ee.eng.ohio-state.edu

Dr. Siri Jodha Singh Khalsa
IEEE Standards Committee and ISO TC-211
Representative
UCB 449
Boulder CO 80309-0449 USA
E--mail: sjsk@nsidc.org

Eastwood Im
Instrumentation and Future Technologies
Technical Committee Co-Chair
Jet Propulsion Laboratory, M.S. 180-401
California Institute of Technology
4800 Oak Grove Drive
Pasadena, California 91109 USA
E-mail: eastwood.im@jpl.nasa.gov

Martin Alexander Suess
Instrumentation and Future Technologies
Technical Committee Co-Chair
European Space Technology & Research Centre
Kaplerlan 1, 2200 AG Noordwijk ZH
THE NETHERLANDS
E-mail: martin.suess@ieee.org

H. (Rama) Ramapriyan
Data Archiving and Distribution Technical
Committee Co-Chair
NASA Goddard Space Flight Center
Greenbelt, MD 20771 USA
E-Mail: rama.ramapriyan@nasa.gov

Dr. Jim Stiles
GRSS Rep. IEEE Sensors Council
University of Kansas
Dept. of EECS 2001 Eaton Hall
1520 W. 15th St.
Lawrence, KS 66045-7621 USA
E-mail: jstiles@eecs.ku.edu

Dr. Jocelyn Chanussot
Data Fusion Technical Committee Co-Chair
GIPSA Lab, INP Grenoble
BP-46, 38402 St. Martin d'Heres FRANCE
Email: Jocelyn.chanussot@gipsa-lab.inpg.fr

Dr. Lixin Wu
UARS Technical Committee Co-Chair
China Univ. of Mining and Technology
Beijing Campus
Northeastern University
Beijing CHINA

Dr. Wolfgang-Martin Boerner
Representative for Asian Affairs, IEEE-GRSS
UIC-ECE/CSN, m/c154
900W Taylor St., SEL.W 4210
Chicago, IL 60607-7018 USA
Email: boerner@ece.uic.edu,
wmbiuic@yahoo.com

GRS-S Chapters and Contact Information

Chapter Location	Joint with (Societies)	Chapter Chair	E-mail Address
Region 1: Northeastern USA			
Boston Section, MA	GRS	William Blackwell	wjb@ll.mit.edu
Springfield Section, MA	AP, MTT, ED, GRS, LEO	Paul Siqueira	siqueira@ecs.umass.edu
Western New York	GRS	John Kerekes	kerekes@cis.rit.edu
Region 2: Eastern USA			
Washington DC / Northern VA	GRS	James Tilton	j.tilton@ieee.org
Region 3: Southeastern USA			
Atlanta Section, GA	AES, GRS	Greg Showman	greg.showman@gtri.gatech.edu
Eastern North Carolina Section, NC	GRS	Linda Hayden	haydenl@mindspring.com
Region 4: Central USA			
Southeastern Michigan Section	GRS	Mahta Moghaddam	mmoghadd@eecs.umich.edu
Region 5: Southwestern USA			
Denver Section, CO	AP, MTT, GRS	Michael Janezic	janezic@boulder.nist.gov
Houston Section, TX	AP, MTT, GRS, LEO	Christi Madsen	cmadsen@ee.tamu.edu
Region 7: Canada			
Quebec Section, Quebec	AES, OE, GRS	Xavier Maldague	maldagx@gel.ulaval.ca
Toronto Section, Ontario	SP, VT, AES, UFF, OE, GRS	Sri Krishnan	krishnan@ee.ryerson.ca
Vancouver Section, BC	AES, GRS	Rob Leitch	rleitch@mdacorporation.com
Ottawa Section	OE, GRS	Hilmi Dajani	hdajani@site.uottawa.ca
Region 8: Europe and Middle East			
France Section	GRS	Josselyn Chanussot	Jocelyn.chanussot@lis.inpg.fr
Italy Section 1	GRS	Nazzareno Pierdicca	nazzareno.pierdicca@uniromal.it
Italy Section 2	GRS	Maurizio Migliaccio	maurizio.migliaccio@uninav.it
Germany Section	GRS	Irena Hajnsek	irena.hajnsek@dlr.de
Russia Section	GRS	Anatolij Shutko	anatoli.shutko@email.aamu.edu ashutko@mail.ru
Spanish Section	GRS	J. M. Lopez-Sanchez	juanma@disc.ua.es
Ukraine Section	AP, NPS, AES, ED, MTT, GRS EMB	Alexander I. Nosich	anosich@yahoo.com
United Kingdom and Republic of Ireland Section	GRS, OE	Yong Xue	y.xue@londonmet.ac.uk
Student Branch, Spain Section	GRS	Pablo Benedicto	pablo27@casal.upc.edu
Islamabad Section	GRS/AES	M. Umar Khattak	ukhattak@hotmail.com
Region 9: Latin America			
Student Branch, Colombia Section	GRS	Leyini Parra Espitia	leyiniparra@ieee.org
Region 10: Asia and Pacific			
Beijing Section, China	GRS	Chao Wang	cwang@rsgs.ac.cn
Seoul Section, Korea	GRS	Yisok Oh	yisokoh@hongik.ac.kr
Taipei Section, Taiwan	GRS	Kun-Shan Chen	dkschen@csrsr.ncu.edu.tw
Japan Council	GRS	Yoshikazu Iikura	iikura@cc.kirosaki-u.ac.jp

INTRODUCING INCOMING ASSOCIATE EDITORS

JOCELYN CHANUSSOT, ASSOCIATE EDITOR FOR EUROPEAN AFFAIRS

Jocelyn Chanussot received the M.Sc. degree in electrical engineering from the Grenoble Institute of Technology (Grenoble INP), Grenoble, France, in 1995, and the Ph.D. degree from Savoie University, Annecy, France, in 1998. In 1999, he was with the Geography Imagery Perception Laboratory for the Delegation Generale de l'Armement (French National Defense Department). Since 1999, he has been with Grenoble INP as an Assistant Professor from 1999 to 2005, an Associate Professor from 2005 to 2007, and currently a Professor of signal and image processing. He is conducting his research at the Grenoble Images Speech Signals and Automatics Laboratory (GIPSA-Lab). His research interests include image analysis, multi-component image processing, nonlinear filtering, and data fusion in remote sensing.

Dr. Chanussot is an Associate Editor for the IEEE Transactions on Geoscience and Remote Sensing (TGARS, 2007-) and for Pattern Recognition (2006-2008). He has been an Associate Editor for the IEEE Geoscience and Remote Sensing Letters (2005-2007). He was the Guest Editor of the Data Fusion special issue of TGARS (May 2008, with Paolo Gamba) and is the Guest Editor of the Hyperspectral Image and Signal Processing special issue (November 2010, with Melba Crawford and Bor-Chen Kuo). He is the Co-Chair of the GRS Data Fusion Technical Committee (2005-2008) and a member of the Machine Learning for Signal Processing Technical Committee of the IEEE Signal Processing Society (2006-2008). He is the Founding President of the IEEE Geoscience and Remote Sensing French Chapter.

Jocelyn Chanussot
Grenoble Institute of Technology
GIPSA-Lab, ENSE3
BP 46
38402 Saint Martin d Heres cedex, FRANCE
E-mail: jocelyn.chanussot@gipsa-lab.inpg.fr

AKIRA HIROSE, ASSOCIATE EDITOR FOR ASIAN AFFAIRS

Akira Hirose received his B.E. in electrical engineering in 1985, M.E. in electronic engineering in 1987, and Ph.D. degree in electronic engineering in 1991, all from the University of Tokyo, Tokyo, Japan. In 1987, he joined the Research Center for Advanced Science and Technology (RCAST), the University of Tokyo, as a Research Associate, where he was engaged in research on optical communications and measurement. In 1991, he was appointed as an Instructor at the RCAST, and started neural network research. From 1993 to 1995, on leave of absence from the University of Tokyo, he was with the Institute for Neuroinformatics, University of Bonn, Bonn, Germany. He became an Associate Professor at the RCAST in 1995. Since 2007, he has been a Professor at the Department of Electronic Engineering, the University of Tokyo. He was a Visiting Professor at JAXA (Japan Aerospace Exploration Agency) from 2006 to 2008.

The main fields of his present interest are neural networks, radar systems, and wireless electronics. Dr. Akira Hirose is a member of the IEEE, Institute of Electronics, Information and Communication Engineers (IEICE) and Japanese Neural Network Society (JNNS).

Dr. Akira Hirose
Dept. of Electrical Engineering and Information Systems
Faculty of Engineering
7-3-1 Hongo, Bunkyo-ku, Tokyo 113-8656, JAPAN
TEL: (81) 3-5841-6695
FAX: (81) 3-5841-7492
E-mail: ahirose@ee.t.u-tokyo.ac.jp

GRS-S MEMBER HIGHLIGHTS

GRS-S Members Elevated to the Grade of Senior Member During the Period August – November 2008

August:	Ignasi Corbella	Spain Section
	Marwan Younis	Germany Section
October :	Didier Gueriot	France Section
	Janne Lahtinen	Finland Section
	Stefan Robila	New York Section
	Jean Sequeira	France Section
	Mohammed Shokr	Toronto Section
	Malcolm Vant	Ottawa Section
November:	David Arctur	Central Texas Section
	Hiroshi Kimura	Nagoya Section

Senior membership has the following distinct benefits:

- The professional recognition of your peers for technical and professional excellence.
- An attractive fine wood and bronze engraved Senior Member plaque to proudly display.
- Up to $25.00 gift certificate toward one new Society membership.
- A letter of commendation to your employer on the achievement of Senior Member grade (upon the request of the newly elected Senior Member).
- Announcement of elevation in Section/Society and/or local newsletters, newspapers and notices.
- Eligibility to hold executive IEEE volunteer positions.
- Can serve as Reference for Senior Member applicants.
- Invited to be on the panel to review Senior Member applications.
- Eligible for election to be an IEEE Fellow

Applications for senior membership can be obtained from IEEE website: http://www.ieee.org/web/membership/senior-members/index.html

You can also visit the GRS-S website: http://www.grss-ieee.org

Call for Fellow Nominations

Nominations are being accepted for the IEEE Fellows class of 2010. The rank of IEEE Fellow is the institute's highest member grade, bestowed on an IEEE Senior Member who has had an extraordinary record of accomplishments in any of the IEEE fields of interest. The deadline for nominations is 1 March 2009.

Senior Members can be nominated in one of four categories: application engineer/practitioner, research engineer/scientist, educator, or technical leader.

The Fellows Web pages contain information regarding the history of the IEEE Fellows program, the nomination process, access to the Fellows Nomination Kit, lists of Fellows who are eligible to be references and more about the Fellow program. Please visit the Fellows website at http:/www.ieee.org/fellows.

(Editor's Comments continued from page 3)

al changes to the Constitution and Bylaws (C&B) were discussed. As required by the rules, these changes must first be published in the Newsletter and appear for comment by the membership before they can be enacted. The recently proposed changes appear on pages 27 and 28.

Also in this Newsletter is a report from the Frequency Allocations in Remote Sensing (FARS) Technical Committee on topics from the September Space Frequency Coordination Group (SFCG) in Quebec City, QC.

Also, please don't miss the announcements related to J-STARS, Fellow nominations and IGARSS'09 in Cape Town. Best Wishes for 2009!

IGARSS'08 REMOTE SENSING OUTREACH PROGRAM: THE NEXT GENERATION

Online lectures, public tutorials, distinguished speakers and IGARSS tutorials have been pillars of an effective education strategy for the Geoscience and Remote Sensing Society. Piloting a new dimension of educational outreach John Kerekes, Eric Miller and other members of the local organizing committee selected the conference theme "Geoscience and Remote Sensing: The Next Generation." To reflect this theme, the Co-Chairs for Education and Outreach of the IGARSS'08 Planning Committee, Dr. Linda Hayden (Elizabeth City State University, Elizabeth City, North Carolina) and Dr. Barry Rock (The University of New Hampshire, Durham, New Hampshire) worked aggressively to developed a program that had a special focus on engaging pre-university (K-12), family members of conference attendees, and undergraduates. In all, nearly two hundred students and their teachers participated in education and outreach programs and sessions during the course of the IGARSS'08 meetings.

Kicking off the outreach program was a "behind the scenes" tour of the world-renowned Boston Museum of Science. On "Education Day" an Oral Presentation Session focused on several K-12 and public outreach programs that incorporated various aspects of remote sensing and GIS in classroom and informal educational settings, while the Poster Session included presentations by middle and high school students from the New England-wide Forest Watch Program developed at the University of New Hampshire.

The IGARSS Essay Contest invited students to visit the 2008 Exhibit hall, talk with the vendors and scientists and then describe their experience in essay format with the opportunity for winning essays to be published on the Earthzine Website http://www.earthzine.org. Students in grades 3-12 provided a visual insight into how experiences at IGARSS'08 impacted them during the Remote Sensing Art Contest. Winners of the art contest were able to visualize the sights and scenes they experienced during the conference including the exhibits, registration posters, and interactions with scientists. In another competition, student teams were organized to bring their collective wisdom to the solution of mathematics problems related to remote sensing and climate change.

The conference exhibit hall also took on a new dimension with a number of Outreach Exhibit Booths featuring offerings from NOAA, NASA, the MIT Lincoln Laboratory, CERSER (the Center of Excellence for Remote Sensing Education and Research at Elizabeth City State University), SUNY-Buffalo, Rochester Institute of Technology, Forest Watch, and others.

The middle school and high school students participating in the IGARSS'08 education and outreach activities described the experience as "life changing." Looking forward, the seventh grade students from the Gilmanton Middle School have already begun raising money that they plan to use to pay for their airfare to participate in IGARSS'09, to be held in Cape Town, South Africa. The experience, noted their middle school teacher, "…opened their minds and doors to the future in ways that no other experience could."

A member of the NPOESS Exhibition Team explains how satellites work to younger members of "The Next Generation" at IGARSS'08.

A next generation GRSS member imagining her future at IGARSS'08.

Members of the Outreach Team, along with winners of the Math Contest visit the Cape Town IGARSS'09 exhibit.

A student from Sant Bani High School explains the use of reflectance data from the Landsat TM to monitor forest health in Sanbornton, NH during a poster session.

CHAPTERS CORNER

IEEE GRSS Springfield Chapter Enhancement Activity on Satellite Remote Sensing: Interacting with a SAR Satellite From Down on Planet Earth

Based on a grant from IEEE Geoscience and Remote Sensing Society AdCom in the 2008-2009 academic year, the Springfield Chapter (MA) will be constructing an L-band corner reflector and building an RF (L-band) audio receiver for the purpose of engaging students in remote sensing to related work in the field. All too often, work related to science and engineering is confined to a laboratory and/or a computing workstation. Indeed, this is where a good amount of the work that enhances our field occurs. Yet, in the process, especially as students, the connection with events occurring in the outside world can be lost.

Trihedral reflector deployed in Costa Rica by the author that is similar to the one planned to be built in the GRSS project.

Similarly, as researchers, grant opportunities tend to focus on large-scale projects and advanced research activities that are not normally intended to support bread-and-butter types of projects, such as the deployment of local calibration targets or the measurement of a satellite antenna pattern.

For this reason, the Springfield Chapter of GRSS has decided to combine these two needs into a project that will be rewarding from the scientific point of view, as well as engaging for students interested in the field of remote sensing. By constructing and deploying a corner reflector in the field, students will be exposed to: i) the basic physics of orbiting satellites, ii) fundamental concepts of wave propagation, electromagnetic scattering, and synthetic aperture radar, and iii) interaction with SAR imagery with "RF-eyes" in analyzing data with and without a deployed calibration target.

Furthermore, a simple log-power receiver will be constructed using an L-band horn, a low-noise amplifier, a band-pass filter, and an audio amplifier, that will convert the pulse train from an orbiting SAR (such as JAXA's ALOS/PALSAR) into an audio frequency (1100 – 2500 Hz) that can be heard via a speaker, or recorded onto a computer for further processing for estimating the satellite's along-track antenna pattern. This system will be informative and educational for teaching chapter members concepts such as i) simple RF receiver design, ii) the process that orbiting SAR satellites use for data collection and image formation, and iii) basic concepts related to antenna patterns and aperture synthesis. Of course, the direct interaction of a satellite through both the reception and reflection of its basic signal will be an interesting and engaging activity in its own right, and for this reason, we are looking forward to the great opportunity that this chapter enhancement activity will be providing us in the upcoming year.

GRS-S PUBLICATION AWARDS PRESENTED AT IGARSS 2008 BANQUET

Publication Awards Committee: Martti Hallikainen (Chair), R. Keith Raney, Kiyo Tomiyasu, Yoshio Yamaguchi, Roger Lang, Klaus Seidel

The 2008 IEEE Geoscience and Remote Sensing Society's publication awards were presented at the IGARSS Awards Banquet on Thursday, July 10 in the Peabody Essex Museum in Salem, MA. The Peabody Essex Museum is America's oldest continuously operating museum, founded in 1799. The Banquet guests enjoyed refreshments and beautiful scenery during the ferry trip from Boston to Salem.

The following awards were presented by GRS-S President Tony Milne and GRS-S Awards Co-Chair Martti Hallikainen during the dinner:

- Transactions Prize Paper Award
- Letters Prize Paper Award
- Symposium Prize Paper Award
- Symposium Interactive Prize Paper Award
- Three Student Prize Paper Awards
- Two Certificates of Recognition.

General view of the Awards Banquet.

IEEE GRS-S Transactions Prize Paper Award

The GRS-S established the Transactions Prize Paper Award to recognize authors who have published an exceptional paper in IEEE Transactions on Geoscience and Remote Sensing during the past calendar year. In selecting the paper, other factors considered are originality and clarity of the paper. IEEE membership is preferable. Prize: $3000, equally divided for the authors, and a certificate.

The 2008 **Transactions Prize Paper Award** was presented to Gerhard Krieger, Alberto Moreira, Hauke Fiedler, Irena Hajnsek, Marian Werner, Marwan Younis, and Manfred Zink with the citation:

For a very significant contribution to the field of endeavor of the IEEE GRS Society in the paper entitled "TanDEM-X: A Satellite Formation for High-Resolution SAR Interferometry", coauthored by Gerhard Krieger, Alberto Moreira, Hauke Fiedler, Irena Hajnsek, Marian Werner, Marwan Younis, and Manfred Zink, and published in IEEE Transactions on Geoscience and Remote Sensing, Vol. 45, Issue 11, Part 1, pp. 3317-3341, November 2007.

Gerhard Krieger received the Dipl.-Ing. (M.S.) and Dr.-Ing. (Ph.D.) degrees (with honors) in electrical and communication engineering from the Technical University of Munich,

The Voyager III provided transportation from Boston to Salem for the Awards Banquet attendees.

GRS-S President Tony Milne (left) and Awards Co-Chair Martti Hallikainen presented the awards.

Germany, in 1992 and 1999, respectively.

From 1992 to 1999, he was with the Ludwig-Maximilians University, Munich, where he conducted interdisciplinary research on the neuronal modeling and nonlinear information processing in biological and technical vision systems. In 1999, he joined the Microwaves and Radar Institute (HR) of the German Aerospace Center (DLR), Oberpfaffenhofen, Germany, where he developed signal and image processing algorithms for a novel forward looking radar system employing the principle of digital beamforming on receive. From 2001 to 2007 he led the New SAR Missions Group which devised innovative concepts for future bistatic and multistatic radar systems like the forthcoming TanDEM-X mission as well as innovative multi-channel SAR techniques enabling high-resolution wide-swath SAR imaging. Since 2008, he has been Head of the new Radar Concepts Department of the Microwaves and Radar Institute, DLR, Oberpfaffenhofen, Germany.

Gerhard Krieger has published more than 20 peer-reviewed articles in international journals, about 100 conference papers, and 3 invited book chapters on various topics of multidimensional signal processing and radar remote sensing. His current research interests focus on the development of advanced techniques and signal processing algorithms for future digital beamforming radar systems, the conceptual design of bi- and multistatic SAR missions, and the development of novel interferometric and tomographic remote sensing applications.

Alberto Moreira (M'92, SM'96, F'04) was born in São José dos Campos, Brazil, in 1962. He received the B.S.E.E. and the M.S.E.E. degrees, in 1984 and 1986, respectively, from the Aeronautical Technological Institute ITA, Brazil and the Eng. Dr. degree (Honors) from the Technical University of Munich, Germany, 1993. In 2003, he received a full professorship from the University of Karlsruhe, Germany, in the field of Microwave Remote Sensing.

As its chief scientist and engineer, Prof. Moreira managed from 1996 to 2001 the SAR Technology Department of the Microwaves and Radar Institute at the German Aerospace Center (DLR). Under his leadership, the DLR airborne SAR system, E-SAR, has been upgraded to operate in innovative imaging modes like polarimetric SAR interferometry and SAR tomography. Since 2001, he is the director of the Microwaves and Radar Institute at DLR. The Institute contributes to several scientific programs and space projects for actual and future air- and space-borne SAR missions like TerraSAR-X and Sentinel-1. In 2006, the mission proposal TanDEM-X lead by his Institute has been approved for the realization phase. Prof. Moreira is the Principal Investigator for this mission.

Prof. Moreira is serving as a member of the IEEE GRSS Administrative Committee (1999-2001, 2004-2007, 2008-2009 as Executive Vice-President), was the founder and chair of the German Chapter of the GRSS (2003-2008), was an Associate Editor for the Geoscience and Remote Sensing Letters (2003-2007) and is serving as Associate Editor for the Transactions on Geoscience and Remote Sensing (TGARS). Since 2003 he is also serving as a member of the Board of Directors of the ITG (Information Technology Society) of VDE (German Association for Electrical, Electronic and Information Technologies). In 1995, he was the recipient of the DLR Science Award. He and his colleagues received the GRSS Transactions Prize Paper Awards in 1997 and 2001, respectively. He is also the recipient of the IEEE Nathanson Award (1999) and the IEEE Kiyo Tomiyasu Award (2007). He has contributed to the successful series of the European SAR conferences (EUSAR) since 1996 as member of the Technical Program Committee, Technical Chairman (2000), Awards Chairman (2002-2004), General Chairman (2006) and Co-Chairman (2008).

Prof. Moreira's professional interests and research areas encompass radar end-to-end system design and analysis, innovative microwave techniques and system concepts, signal processing and remote sensing applications.

Hauke Fiedler received his diploma degree in physics in 1994 and his Dr. degree in 2000 in astronomy, both from the Ludwig-Maximilians-Universität of Munich. From 1994, he was working in the cataclysmic binary group at the Institute of Astronomy and Astrophysics with his work focused on hard- and soft X-ray interacting binaries, echo-tomography, accretion disks and related subjects. Since 2001 he is with the Microwaves and Radar Institute (HR) at DLR. He is working on future satellite missions for remote sensing with synthetic aperture radar for the Earth and the Moon, especially on formation and configuration concepts, bi- and multi-static SAR performance analyses and satellite mechanics.

Irena Hajnsek received the Dipl. degree (Honors) in 1996 from the Free University of Berlin, Germany and the Dr. degree (Honors) in 2001 from the Friedrich Schiller University of Jena, Germany. From 1996 to 1999 she was project scientist at the Microwaves and Radar Institute (DLR-HF) of the German Aerospace Center (DLR), in Oberpfaffenhofen, Germany. From 1999 to 2000 she was an EU fellow at the Institut d'Electronique et de Télécommunications de Rennes at the University of Rennes I, France, and at Applied Electromagnetics (AEL) in St. Andrews, Scotland. In 2000 she again joined the Microwaves and Radar Institute (DLR-HF) of the German Aerospace Center (DLR), in Oberpfaffenhofen, Germany. Since 2002 she is leading the Polarimetric SAR Interferometry research group. In 2005 she was visiting scientist at the University of Adelaide, Australia. She is responsible for the polarimetric science exploration of TerraSAR-X and coordinator of the TanDEM-X science team. Her main research interests are in

electromagnetic propagation and scattering theory, radar polarimetry, SAR and Interferometric SAR data processing techniques, environmental parameter modelling and estimation. In 2002 she was awarded with the DLR science award.

Marian Werner was born in 1947 in Traunstein, Germany. He studied at the University of Applied Sciences in Munich (Dipl.Ing. degree in Communications Engineering) and at the Technical University Berlin, (Dipl. Ing. Univ. in Electrical Engineering, Microwave Technology).

Since 1975 he is with the DLR - German Aerospace Center, in the Microwaves and Radar Institute in Oberpfaffenhofen. He was working in the field of radar remote sensing techniques, radar development, system testing, scientific experiments, data processing and was a member of the Space Shuttle payload operations team in four radar missions. He was in charge of the development of the DLR airborne SAR system E-SAR, was the X-SAR project and mission operations manager in the two SIR-C/X-SAR Space Shuttle missions, he was the leader and project manager and mission manager for the X-SAR/SRTM project with its successful mission in February 2000 and he coordinated the X-SAR/SRTM group of international scientists as the project scientist. From 2002 on he was head of the Satellite SAR Systems department in charge of the TerraSAR-X radar satellite and future spaceborne SAR system developments like TanDEM-X, Tandem-L and LEOSAR for the Moon and acted as the deputy director of the Microwaves and Radar Institute. Since 2008 he works as senior advisor for the institute.

Marian Werner received the AESS "Harry Rowe Mimno Award" for his SIR-C/X-SAR publication in the IEEE Aerospace and Electronic System Magazine in 1995 and the Wernher von Braun Ehrung for the SRTM team from the DGLR in Berlin April 2002.

Marwan Younis (S'95, M'05) was born in Las Cruces, U.S.A., in 1970. He received the B.Sc. in electronics and communication engineering from the University of Baghdad, Iraq in 1992. He continued his studies in Germany where he received the diploma (Dipl.-Ing.) and the Dr.-Ing. (Ph.D.) degree in electrical engineering from the University of Karlsruhe (TH), Germany, in 1997 and 2004, respectively.

From 1998 to 2004, he was a research scientist at the Institut für Höchstfrequenztechnik und Elektronik, University of Karlsruhe. In 2005 he joined the Microwave and Radar Institute of the German Aerospace Center (DLR), Germany. He is the author and co-author of over 40 conference papers and 10 reviewed publications. His research fields include synthetic aperture radar (SAR) systems, digital beamforming for radar, bistatic SAR, and antennas.

Dr. Younis is an active member of the Institute for Electrical and Electronics Engineers (IEEE), he has served as Treasurer and Chair of the IEEE Student Branch in Karlsruhe. He is a member of the German Association for Location and Navigation (DGON). He received the Hermann-Billing award for his Ph.D. thesis in 2005. He is a lecturer for Advanced Radio Communication and Spaceborne SAR Remote Sensing at the University of Karlsruhe (TH).

Manfred Zink received the Dipl.-Ing. degree in physics from the Technical University of Graz, Graz, Austria, in 1987, and the Dr.-Ing. degree from the University of Stuttgart, Stuttgart, Germany, in 1993.

In 1988, he was with the Microwave and Radar Institute, German Aerospace Center (DLR). He has pioneered the calibration techniques for both air- and spaceborne SAR sensors and was responsible for building up the Oberpfaffenhofen calibration site. He was the Lead X-SAR Calibration Engineer for both SIR-C/X-SAR missions in 1994 and for the SRTM mission in 2000. In August 2000, he was with the European Space Agency (ESA) and took over the responsibility for the calibration/validation of the ASAR onboard the ENVISAT satellite. After successful in-orbit commissioning of the ASAR, he was appointed as the Principal System Engineer for Phase B of ESA's TerraSAR-L Program. In May 2005, he returned to the Microwaves and Radar Institute, DLR, Oberpfaffenhofen, Germany, where he is currently heading the Satellite SAR Systems Department. He is also managing the TanDEM-X Ground Segment development, which is a joint project performed by DLR's Center of Excellence for Advanced High-Resolution and 3-D SAR Technologies and Applications.

Four recipients of the Transactions Prize Paper Award, Alberto Moreira (left), Marwan Younis, Irena Hajnsek, GRS-S President Tony Milne, and Gerhard Krieger.

IEEE GRS-S Letters Prize Paper Award

The GRS-S established the Letters Prize Paper Award to recognize the author(s) who has published in the IEEE Geoscience and Remote Sensing Letters during the calendar year an exceptional paper in terms of content and impact on the GRS Society. If a suitable paper cannot be identified from among those published during the calendar year, then papers

published in prior years and subsequently recognized as being meritorious may be considered. When selecting the paper, originality, impact, scientific value and clarity are factors considered. IEEE membership is preferable. Prize: $1500, equally divided for the authors, and a certificate.

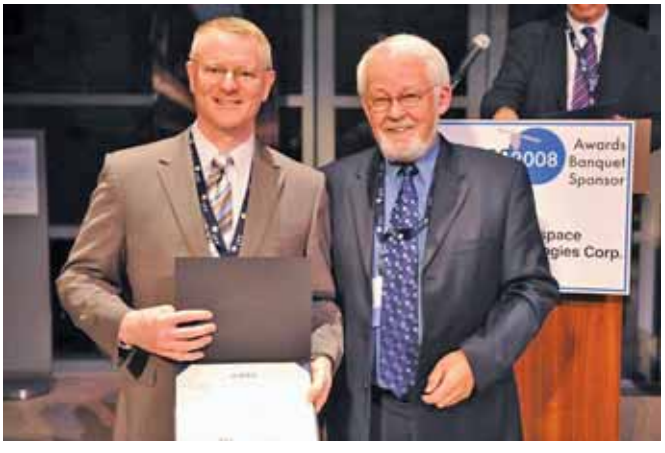
The 2008 Letters Prize Paper Award was presented to Shane Cloude with the citation:

For a very significant contribution to the field of endeavor of the IEEE GRS Society in the paper entitled "Dual-Baseline Coherence Tomography", authored by Shane Cloude, and published in the IEEE Geoscience and Remote Sensing Letters, Vol. 4, No. 1, pp. 127 - 131, January 2007.

Shane Cloude (F'01) obtained his B.S. (Hons) from the University of Dundee, Scotland (1981) and Ph.D., University of Birmingham, England (1987), both in Electronic Engineering. He then held teaching and research positions at the Universities of Dundee in Scotland, York in England and Nantes in France. In 1996 he was awarded a Research Fellowship from the Alexander von Humboldt Foundation in Germany, where he spent a year working as a guest scientist at the German Space Centre, DLR, near Munich.

Between 1997-2004 he was director of Applied Electromagnetics, a defense research company based in Scotland. In 2004 he was appointed to the DSTO chair in Microwave Radar at the University of Adelaide in Australia. In 2006 he returned to Scotland to lead AEL Consultants, offering training courses and applied research for customers in radar remote sensing.

He is a Fellow of the IEEE (2001) and has over 20 years research experience in radar polarimetry and interferometry, having written 13 book chapters, 31 refereed journal articles and over 140 conference and workshop papers.



Recipient of the Letters Prize Paper Award Shane Cloude (left) with GRS-S President Tony Milne.

IEEE GRS-S Symposium Prize Paper Award

The GRS-S established the Symposium Prize Paper Award to recognize the author(s) who presented at the IEEE International Geoscience and Remote Sensing Symposium (IGARSS) an exceptional paper in terms of content and impact on the GRS-S. In selecting the paper, other factors considered are originality, clarity and timeliness of the paper. The published versions of the papers in the Digest shall also be evaluated. Prize: $1250, equally divided for the authors, and a certificate.

The 2008 Symposium Prize Paper Award was presented to Mojtaba Dehmollaian and Kamal Sarabandi with the citation:

For a very significant contribution to the field of endeavor of the IEEE GRS Society in the paper entitled "Refocusing Through Single Layer Building Wall Using Synthetic Aperture Radar," coauthored by Mojtaba Dehmollaian and Kamal Sarabandi, and presented at the IEEE 2007 International Geoscience and Remote Sensing Symposium, July 2007 in Barcelona, Spain, IGARSS'07 Proceedings.

Mojtaba Dehmollaian (S'04) was born in Iran, in 1978. He received the B.S. and M.S. degrees in Electrical Engineering (EE) from the University of Tehran, Tehran, Iran, in 2000 and 2002, respectively, and the M.S. degree in Applied Mathematics and the Ph.D. degree in EE from the University of Michigan, Ann Arbor, in 2007.

He is currently with the Radiation Laboratory, Department of Electrical Engineering and Computer Science, University of Michigan as a research fellow. His research interests are radar remote sensing and electromagnetic wave propagation and scattering.

Kamal Sarabandi (S'87- M'90- SM'92- F'00) received the B.S. degree in EE from Sharif University of Technology in 1980. He received the M.S. degree in EE (1986) and the M.S. degree in Mathematics and the Ph.D. degree in electrical engineering from The University of Michigan, Ann Arbor, in 1989. He is Director of the Radiation Laboratory and a professor in the Department of Electrical Engineering and Computer Science at the University of Michigan. His research areas of interest include microwave and millimeter-wave radar remote sensing, Meta-materials, electromagnetic wave propagation, and antenna miniaturization.

He has 22 years of experience with wave propagation in random media, communication channel modeling, microwave sensors, and radar systems and is leading a large research group including two research scientists, 12 Ph.D. and 2 M.S. students. He has graduated 28 Ph.D. and supervised numerous postdoctoral students. He has served as the Principal Investigator on many projects sponsored by NASA, JPL, ARO, ONR, ARL, NSF, DARPA and a larger number of industries.

Dr. Sarabandi has published many book chapters and more than 150 papers in refereed journals on miniaturized and on-chip antennas, meta-materials, electromagnetic scattering, wireless channel modeling, random media modeling, microwave measurement techniques, radar calibration, inverse scattering problems, and microwave sensors. He has also had more than 380 papers and invited presentations in many national and international conferences and symposia on similar subjects.

Dr. Sarabandi is a member of NASA Advisory Council appointed by the NASA Administrator. He also served as a vice president of the IEEE Geoscience and Remote Sensing Society (GRSS) and a member of the IEEE Technical Activities Board Awards Committee. He is serving on the Editorial Board of The IEEE Proceedings, and served as Associate Editor of the IEEE Transactions on Antennas and Propagation and the IEEE Sensors Journal. Professor Sarabandi is a member of Commissions F and D of URSI and is listed in American Men & Women of Science Who's Who in America and Who's Who in Science and Engineering. Dr. Sarabandi was the recipient of the Henry Russel Award from the Regent of The University of Michigan. In 1999 he received a GAAC Distinguished Lecturer Award from the German Federal Ministry for Education, Science, and Technology given to about ten individuals worldwide in all areas of engineering, science, medicine, and law. He was also a recipient of the 1996 EECS Department Teaching Excellence Award and a 2004 College of Engineering Research Excellence Award. In 2005 he received two prestigious awards, namely, the IEEE GRSS Distinguished Achievement Award and the University of Michigan Faculty Recognition Award. He also received the best paper Award at the 2006 Army Science Conference. In 2008 he was awarded a Humboldt Research Award for Senior U.S. Scientist from The Alexander von Humboldt Foundation of Germany granted to scientists and scholars in all disciplines with internationally recognized academic qualifications. In the past several years, joint papers presented by his students at a number of international symposia (IEEE APS'95, '97, '00, '01, '03, '05, '06, '07; IEEE IGARSS'99, '02, '07; IEEE IMS'01, USNC URSI'04, '05, '06, AMTA'06) have received student paper awards.

Recipient of the Symposium Prize Paper Award Kamal Sarabandi (left) and GRS-S President Tony Milne.

IEEE GRS-S Symposium Interactive Prize Paper Award

The GRS-S established the Symposium Interactive Prize Paper Award to recognize the author(s) who posted at the GRS-S Symposium (IGARSS) an exceptional paper in terms of content and impact on the GRS-S. In selecting the paper, other factors considered are originality, clarity and timeliness of the paper. The published versions of the papers in the Digest shall also be evaluated. Prize: $1250, equally divided for the authors, and a certificate.

The 2008 Symposium Interactive Prize Paper Award was presented to Renato Croci, Franco Fois, Diego Calabrese, Enrico Zampolini, Roberto Seu, Giovanni Picardi, and Enrico Flamini with the citation:

For an exceptional paper posted in the Interactive Session of the IEEE 2007 International Geoscience and Remote Sensing Symposium IGARSS'07 entitled "SHARAD Design and Operation," coauthored by Renato Croci, Franco Fois, Diego Calabrese, Enrico Zampolini, Roberto Seu, Giovanni Picardi, Enrico Flamini, and presented at the IEEE 2007 International Geoscience and Remote Sensing Symposium, July 2007 in Barcelona, Spain, IGARSS'07 Proceedings.

Renato Croci was born in Milan, Italy, in 1959. He graduated P.I. in electronics in 1978 and, after military service, in 1980 joined Contraves Italiana, Rome. There, he worked on the design of RF/analog equipment for radar applications and, later, on radar systems integration.

In 1992 he joined Alenia Spazio, Rome (now Thales Alenia Space Italia), where he was responsible for the RF and electrical design of the radar-altimeter for the Envisat satellite, later covering similar roles on several other space projects. For SHARAD, he was responsible for the functional and electrical design and, after instrument delivery, he was responsible for the overall instrument during spacecraft ground testing and in-flight commissioning and calibration.

Franco Fois was born in Sassari, Italy, on October 4, 1977. He received the Laurea Degree (cum Laude) in Electronic Engineering from the University of Rome, "La Sapienza", in 2003.

He was engaged by the INFOCOM Department of the University of Rome "La Sapienza" in 2003, where he was involved in system analysis and algorithm design for active remote sensing instruments. He was a Co-Investigator in the subsurface sounding radar, MARSIS (ESA Mars Express Mission). His main research fields are statistical scattering modeling, high resolution imaging and subsurface probing techniques. He joined Thales Alenia Space in 2004, where he has worked on the performance analysis of the SHARAD (SHAllow RADar) instrument during the C-D phases with experience in developing mathematical models for sounder designs and data processing. In 2005 he was involved in the definition of a calibration plan for the SHARAD instrument and in 2006 he become responsible for SHARAD's on-ground processing. He is currently engaged by

ESA as a microwave instrument performance engineer for future Earth observation missions.

Diego Calabrese was born in Naples, Italy, in 1973. He received the Masters Degree, summa cum laude, in Telecommunications Engineering from the University of Naples "Federico II", February 2000, in the field of electromagnetic propagation. In 2001 he joined Alenia Spazio, Rome (now Thales Alenia Space Italia), where he was responsible for the MARSIS on board processing and overall MARSIS radar instrument during spacecraft ground testing and the instrument in-flight commissioning and calibration.

He is involved as system engineering on SHARAD project. Currently he has technical responsibility for the calibration and validation activities of the overall COSMO-SkyMed system, and is involved in the design and development of the CALVAL facility and operation during the commissioning phase.

Enrico Zampolini Faustini graduated in Electrical Engineering at the University of Rome "La Sapienza." He has been working at Thales Alenia Space Italia since 1993 in remote sensing system design, development and verification.

Presently, he is responsible for the COSMO-SkyMed system verification, validation and deployment within the Thales Alenia Space business unit of Observation Systems & Radar in Rome.

His experience is in the field of design, development, verification and testing of deep space radar systems acquired during his involvement in (i) ASI program SHARAD (Shallow Radar Sounder), an instrument of NASA mission MRO 2005, as a Project Leader, (ii) ASI program MARSIS (Mars Advanced Radar for Subsurface and Ionosphere Sounding), one of the instruments of the ESA mission Mars Express, as System Engineer/Project Leader, and (iii) ASI/AASI in cooperation with the NASA/JPL program CASSINI, as system analysis and performance evaluation engineer of the Radio Frequency Section of the CASSINI Radar and Radiometer.

He is author of more than 40 papers and published works in the field of deep space remote sensing and system verification.

Roberto Seu was born February 18, 1959. He received the Masters and the Ph.D. degree at the "Universita' degli Studi La Sapienza" of Rome. Since 1992 he is an Assistant Professor at the same university.

His main research activities are related to the application of radar systems to the observation of planetary bodies in the solar system. He has been involved in the European Space Agency feasibility studies on the Rosetta/CNSR (Comet Nucleus Sample Return), MORO (Moon ORbiting Observatory) and INTERMARSNET.

Dr. Seu is, since 1993, a member of the Cassini Radar Science Team with specific responsibilities on the data taken in the altimeter mode; he is Co-Investigator of the CONSERT experiment, a bistatic radar sounder on board the ESA mission Rosetta and of the MARSIS radar sounder on board the ESA Mars Express mission.

Since 2001 Dr. Seu is Team Leader of the SHARAD experiment, a radar sounder on board the NASA mission Mars Reconnaissance Orbiter launched in August 2005. He is referee for Planetary and Space Science and IEEE Transactions on Aerospace and Electronic Systems.

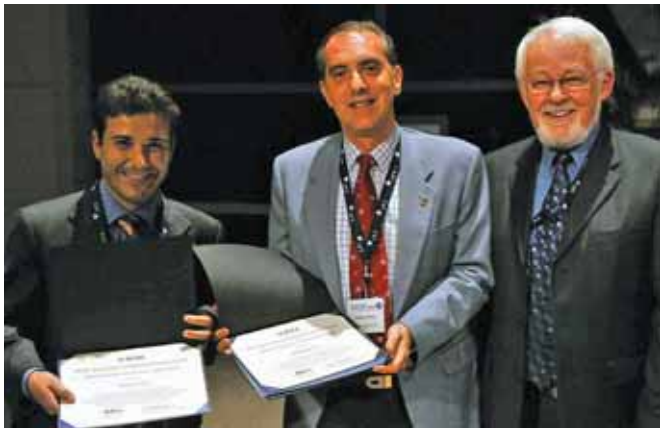
Giovanni Picardi was born in Sarnano (Italy) on December 16, 1936. He graduated in Electrical Engineering and since 1980 he holds the position of Professor at Sapienza Universita' di Roma in the INFOCOM Department, where he has been for several years also the Head, teaching courses related to radar signal processing and radar remote sensing.

Before joining Infocom he has been long working on advanced radar signal processing matters at Selenia S.p.A (now Selex S.I. Italy). He has been responsible for studies funded by several Italian institutes and also by the Italian Space Agency (ASI) and the European Space Agency (ESA) in the field of radar remote sensing. He has been a member of the feasibility science teams of the ESA missions Rosetta, MORO (Moon Orbiting Observatory) and INTERMARSNET. He is currently PI (Principal Investigator) of MARSIS (Mars Advanced Radar for Subsurface and Ionosphere Sounding) on board the ESA Mars Express mission. He is a member of the Cassini Radar Science Team on the joint NASA/ESA/ASI Cassini mission and he is Co-Investigator of the CONSERT experiment on-board the ESA Rosetta mission. He is also a member of the SHARAD (SHAllow RADar) science team, a payload of the NASA mission Mars Reconnaissance Orbiter (MRO) currently orbiting around Mars. He has published more than 130 papers and several books.

Enrico Flamini graduated from Roma University "La Sapienza" in 1977, discussing an experimental thesis on X-Ray analysis using Lunar Apollo Samples. From 1977 to 1983 he was a researcher at the Institute of Astrophysics, Laboratorio di Planetologia, of the National Research Council with the following main research fields: Thermo-dynamical evolution of Martian surface and planetary surface modification after hypervelocity impacts. From 1983 to 1985 he was an ESA Research Fellow at the University of Sussex (UK) with the following main research activities: hypervelocity impacts to study the modification of the Asteroid shapes and the selection of materials for space applications (the mirror and the baffle of the Giotto HMC).

Since 1985 he has been with Agenzia Spaziale Italiana – ASI with the following responsibilities: Parts Materials and Processes Manager for the missions ITALSAT 1&2 , TSS 1 & 1R, MPLM (phase B); Quality Assurance Manager for the mission IRIS-LAGEOS II; Program Manager for the Italian

participation to the Cassini-Huygens Mission, Co-I of H-ASI experiment; Project Manager of VIRTIS and GIADA experiments for the ESA Rosetta Mission; Chairman of the Philae Cometary Lander Steering Committee; Program Manager for the Italian participation to the ESA Mars Express Mission and Sharad on NASA MRO Mission; Principal Investigator of the SIMBIO-SYS experiment on the BepiColombo ESA mission to Mercury. Professor of Planetology at "G. D'Annunzio" University-Chieti, Italy. ASI acting Director of the Observation of the Universe. He has authored more than 100 scientific papers on many scientific publications including JGR, Icarus, Science and Nature.



Two recipients of the Interactive Session Prize Paper Award, Franco Fois (left) and Renato Croci, with GRS-S President Tony Milne.

Student Prize Paper Awards

A total of three prizes were presented including two GRS-S Student Prize Paper Awards (third and second prize) and, for the second time, the IEEE Mikio Takagi Student Prize (first prize).

GRS-S Student Prize Paper Awards

The GRS-S Student Prize Paper Award was established to recognize the best student paper(s) presented at the IEEE International Geoscience and Remote Sensing Symposium (IGARSS). It is believed that early recognition of an outstanding paper will encourage the student to strive for greater and continued contributions to the Geoscience and Remote Sensing profession. The award shall be considered annually.

Ten high-quality papers were preselected by the Student Prize Paper Awards Committee in cooperation with the Technical Program Committee. At IGARSS 2008 in Boston the ten students presented their papers in a special session on Tuesday morning and a jury, nominated by the GRS-S Awards Co-Chair, evaluated and ranked them for the awards.

The Third 2008 GRS-S Student Prize Paper Award was awarded to Marivi Tello with the citation:

For the paper "A Novel Strategy for Radar Imaging Based on Compressive Sensing"

Her advisor is Dr. Jordi J. Mallorqui Franquet from Universitat Politecnica Catalunya, Barcelona, Spain.

Marivi Tello was born in Barcelona (Spain). She received her degree in Telecommunications Engineering from the Universitat Politecnica de Catalunya (UPC) in 2003. Since then she has been with the Remote Sensing Laboratory of the Signal and Communications Department, UPC. Her thesis is focused on the exploitation of time-frequency methods for the interpretation of SAR data, having developed a series of specific algorithms for unsupervised spot detection, edge extraction and texture analysis. She is currently investigating alternative techniques for SAR processing, mainly based on Compressive Sensing theory. She was finalist of the student prize competition in IGARSS'06.

Marivi Tello (left) received her Student Prize Paper Award from GRS-S President Tony Milne.

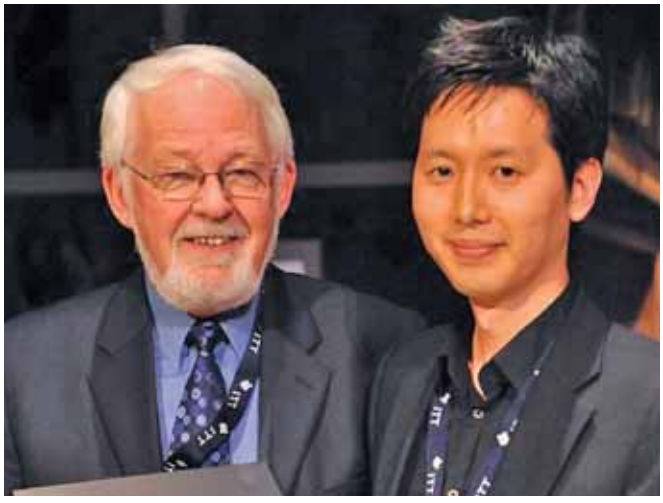
The Second 2008 GRS-S Student Prize Paper Award was awarded to Jung-Hyo Kim with the citation:

For the paper "Investigation of a New Multifunctional High Performance SAR System Concept Exploiting MIMO Technology"

His advisor is Prof. Werner Wiesbeck from the University of Karlsruhe, Germany.

Jung-Hyo Kim received the B.S. degree in Space Science and Radio Engineering from Kyung Hee University and M.S. degree in Electrical Engineering from Yonsei University, Seoul, Korea. From 2001 to 2003 he was with LG Electronics CDMA Laboratory as a RF system researcher. Since 2004, he has been pursuing the Ph.D. degree at the Institut für Höchstfrequenztechnik und Elektronik (IHE) at the University of Karlsruhe, Germany. His research interests

include radar systems, digital beam-forming, microwave devices and antennas, and radar signal processing.



Recipient of the Student Prize Paper Award Jung-Hyo Kim (right) and GRS-S President Tony Milne.

2008 IEEE Mikio Takagi Student Prize

The IEEE Mikio Takagi Student Prize was established in 2006. It is to recognize a student who has presented an exceptional paper at the IEEE Geoscience and Remote Sensing Symposium (IGARSS).

The 2008 Mikio Takagi Student Prize was presented to Saurabh Prasad with the citation:

For the paper "Multiple Kernel Discriminant Analysis and Decision Fusion for Robust Sub-Pixel Hyperspectral Target Recognition"

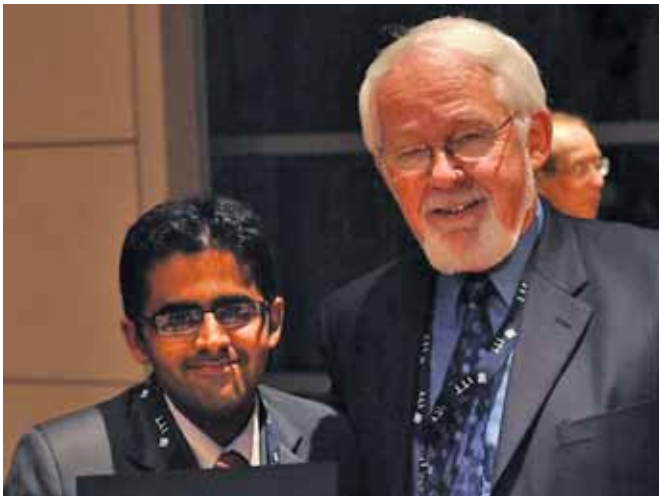
His advisor is Prof. Lori Mann Bruce from the Mississippi State University, Starkville, Mississippi, U.S.A.

Saurabh Prasad received the B.Tech degree in Electrical Engineering from J.M.I., New Delhi, India, in 2003, and the M.S. degree in Electrical Engineering from Old Dominion University, Norfolk, VA, U.S.A., in 2005. He will receive the Ph.D. degree in December 2008 in Electrical Engineering at The Mississippi State University, Mississippi State, MS, U.S.A. His research interests include statistical pattern recognition, adaptive signal processing, kernel classifiers, and their application to medical imaging, automatic target recognition and land cover classification in hyperspectral remote sensing applications. He was awarded the Graduate Research Assistant of the Year award in May 2007, and the office-of-research outstanding graduate student research award in April 2008 at Mississippi State University.

Certificates of Recognition

A Certificate of Recognition was presented to Nahid Khazenie with the citation:

"For her continuous contributions and leadership to the GRSS AdCom and the GRS Society."



Mikio Takagi Student Prize recipient Saurabh Prasad (left) with GRS-S President Tony Milne.

Nahid Khazenie (F'02) received the Ph.D. degree in Mechanical Engineering and Operations Research from the University of Texas at Austin in 1987.

Dr. Khazenie is recognized for building on a successful technical career in remote sensing and applications to collaborate systemically with government, academia and industry and promote ground breaking research and systemic reform within education systems throughout the world. After completing her undergraduate work at Michigan Technological University, she received several graduate degrees from the University of Texas at Austin. She remained at the university as a professor and research scientist, devoted to the advancement of remote sens-

Certificate of Recognition recipient Nahid Khazenie.

ing applications in agriculture and ocean studies. This experience led to a Senior Scientist appointment to the Naval Research Laboratory and eventually to NASA where Dr. Khazenie capitalized on the combination of her technical expertise and education experience as Earth Science Enterprise Education Programs Manager. She currently oversees a suite of programs within the Office of Naval Research's Space and Remote Sensing Division, which investigates the physical and chemical processes that govern active and passive electromagnetic spectrum scattering from the Earth's surface, and propagation through the upper atmosphere and the near space environment.

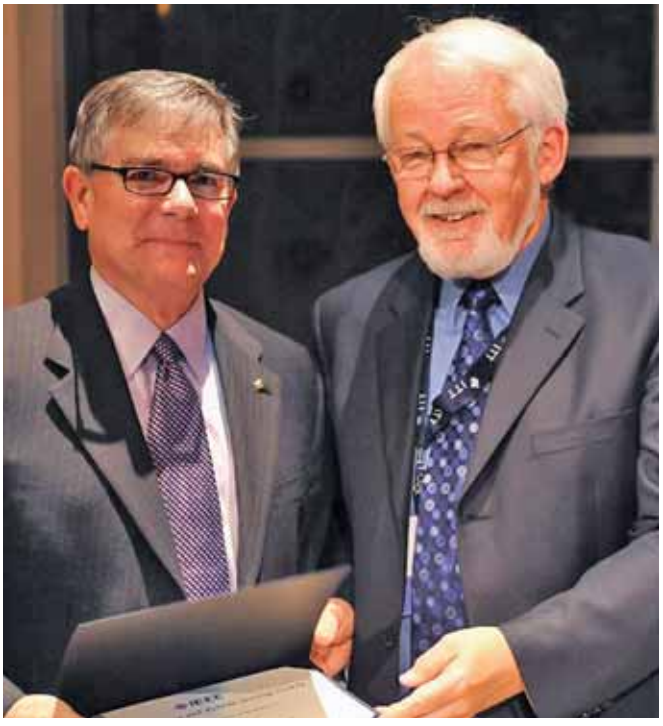
A Certificate of Recognition was presented to Andrew Blanchard with the citation:

"For his continuous contributions and leadership to the GRSS AdCom and the GRS Society."

Andrew J. Blanchard (F'95) received the B.S. degree from the University of Southwestern Louisiana, in 1972, the M.S. degree from Colorado State University in 1974, and the Ph.D. degree from Texas A&M University, College Station, in 1977, all in electrical engineering.

Prior to joining UTD, he was employed in academia, worked in industry and was a consultant to government and industry where he managed multi-million dollar programs. He has held Full Professorships with the Department of Electrical Engineering at the University of Texas at Dallas, the University of Missouri-Columbia, and the University of Texas at Arlington. He was a Research Engineer and recognized as a Research Fellow for outstanding research performance for three years with the Texas Engineering Experiment Station. From 1977 to 1979 he was Group Supervisor of the Remote Sensing Group in the Exploration Research Division of Conoco, Inc., Ponca City, OK. From 1989 to 1995 he worked with the Houston Advanced Research Center (HARC), serving as the Director of the Strategic Technology and Research Center (STAR Center). From 1995 to 2000 he was employed as the Director of Research and Budget for the College of Engineering at the University of Missouri-Columbia. Recently he served as Vice President –Technology, Clean Earth Technologies, where he was responsible for building programs in sensor systems, imaging and network technologies, and weapons and sensor datalinks. He currently serves as the Vice Provost of the University of Texas at Dallas. His areas of technical specialization include mathematical modeling of electromagnetic phenomena; RF systems theory and design, radar system and antenna analysis; Radar Cross Section theory and measurements, tomographic imaging (microwave, optical and acoustic), and electro-optical system design and modeling.

Dr. Blanchard is a member of The Electromagnetics Society, URSI Commission F, IEEE Geoscience Remote Sensing Society (GRSS), and member of the GRS Society Nominations Committee. He is affiliated with AGU, Phi Kappa Phi, Eta Kappa Nu, ASEE and Tau Beta Pi. In 1986 he received the Eta Kappa Nu MacDonald Award as the "Outstanding Electrical Engineering Professor in the United States of America." He is a registered engineer in the State of Texas, No. 48445 and an Institute of Electrical and Electronics Engineers (IEEE) Fellow. His contributions to the IEEE GRSS AdCom since becoming a member in 1986 include Newsletter Editor, Chairman of the Constitution and Bylaws committee, Treasurer, Vice President, President and chair of strategic planning for the Society. Dr. Blanchard was the 1996 Recipient of the IEEE GRSS Outstanding Service Award, and the IEEE Third Millennium Medal.



Andrew Blanchard (left) received his Certificate of Recognition from GRS-S President Tony Milne.

Congratulations to All 2008 Award Recipients

The GRS-S Awards Committee would like to thank the evaluators of IGARSS'07 technical sessions and the Editorial Boards of IEEE Transactions on Geoscience and Remote Sensing and IEEE Geoscience and Remote Sensing Letters, and the GRS-S Student Prize Paper Awards Committee for their valuable inputs to the awards process. We would also like to encourage all GRS-S members to actively participate in the nominations of the GRS-S Major Awards, including the Distinguished Achievement Award, the Outstanding Service Award and the Education Award; see instructions in the Newsletter and GRS-S Home Page.

General Co-Chairs of IGARSS 2008, John Kerekes (right) and Eric Miller hand out some tools to General Chair of IGARSS 2009, Harold Annegarn (left), to help him aim for a successful conference.

Entertainment was provided by the Nor'easters A Cappella Singing Group.

After the Awards ceremony, the General Co-Chairs of IGARSS 2008, John Kerekes and Eric Miller, turned over the responsibility for the IEEE International Geoscience and Remote Sensing Symposium to IGARSS 2009 General Chair Harold Annegarn, with best wishes for a successful conference in Cape Town, South Africa, July 13-17, 2009.

We hope to see you in Cape Town at IGARSS 2009!

Martti Hallikainen

Cover information (continued)

Data analysis from the WindSat radiometer has shown continuing RFI within the 18-GHz band (from 18.3 GHz to 19.1 GHz for WindSat) over both land and ocean. Potential RFI sources includes fixed-satellite (space-to-Earth) and aeronautical mobile communications [1].

The top plate of the cover shows the maximum absolute value of the fourth Stokes' parameter >1.3 K in a two month period from September to October 2007. Contamination of the fourth Stokes' parameter measurements of up to ~6K are clearly visible over land near the U.S. Canadian border. Contamination due to RFI also appears over Lake Michigan, Lake Huron, and Lake Winnipeg, as well as regions near the U.S. coastlines, most likely due to reflection of space-to-Earth transmissions.

The bottom plate shows the flagging of potential anomalies in the WindSat data according to NRL's retrieval algorithm. Blue denotes fewer anomalies and red denotes a higher occurrence of anomalies. The first occurrence of the retrieval anomalies coincides with the activation of the DirecTV 10 geostationary broadcast satellite in early October 2007. The satellite operates within the band 18.3 - 18.8 GHz at 103º West [2]. In late July 2008, DirecTV 11 went online at 99º West [3] with the same coverage area and downlink frequencies as DirecTV 10. The anomalies, found only during the descending phase of WindSat, are attributed to transmissions reflecting off the ocean surface, and correlate precisely with the nationwide coverage maps of DirecTV 10 and DirecTV 11. The WindSat 18.7-GHz descending ocean brightness temperatures within the highlighted region are flagged for RFI if the angle between the WindSat line-of-sight vector and the geostationary downlink specular reflection vector is within 25º [4].

[1] ITU, Radio Regulations, International Telecommunications Union, Geneva, Switzerland, 2001.

[2] Application of THE DIRECTV Group Inc. for authorization to Launch and Operate DIRECTV 10, a partial replacement satellite, at 103º WL. Call Sign: S2191. Harris, Wiltshire & Grannis LLP

[3] Application of THE DIRECTV Group Inc. for authorization to Launch and Operate DIRECTV 11, a partial replacement satellite, at 99º WL. Call Sign: S2133. Harris, Wiltshire & Grannis LLP.

[4] T. Meissner and. F. J. Wentz, "Polarization rotation and the third Stokes parameter: the effects of spacecraft attitude and Faraday rotation," IEEE Trans. Geosci. Remote Sens., Vol. 44, No. 3, pp. 506–515, March 2006.

IGARSS'08 in Boston - Geoscience and Remote Sensing: The Next Generation

by John Kerekes and Eric Miller, General Co-Chairs

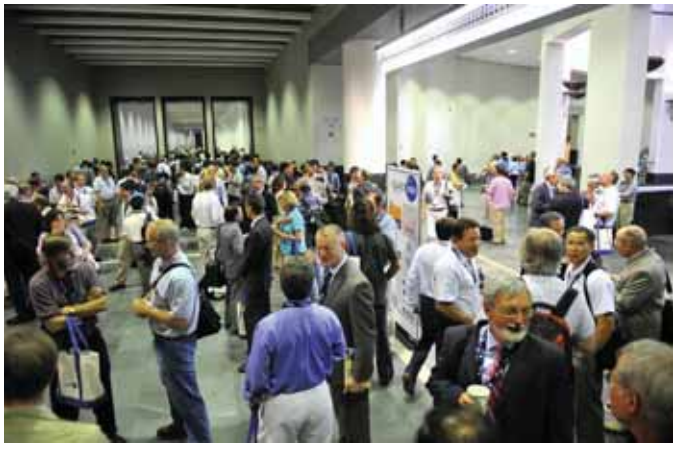
The 2008 IEEE International Geoscience and Remote Sensing Symposium (IGARSS'08) was held this past summer July 6-11 at the Hynes Convention Center in Boston MA, USA. The meeting represented the culmination of four years of concerted effort by a dedicated team of people that began in St. Louis, Missouri, in 2004 when the GRSS AdCom accepted the proposal from the nascent Boston Local Organizing Committee. Over the intervening years, with much support from the AdCom, the committee grew and a new conference management team was added to the mix resulting in a very successful IGARSS experience both from a technical as well as social perspective.

Participation in IGARSS'08 was at a record level, demonstrating the growing recognition and prestige of the symposium and benefiting from the attractive Boston venue. Technical registration numbered 1721, while the total number of attendees including accompanying persons, exhibitors, local pre-college students and workshop participants was 2071.

The heart of IGARSS, the technical program, was assembled over the course of the technical program committee (TPC) meeting held this year in Atlanta GA, USA on February 29. The TPC, formed by 45 people, was expertly and efficiently run by our Technical Program Co-Chairs, Drs. Steven Reising (University of Colorado) and Dara Entekhabi (MIT) with significant support from Mr. Lance Cotton from Conference Management Services. Similar to recent IGARSS, this year 2389 abstracts were submitted. To ensure the quality of the accepted papers, the TPC members obtained an average of 3.4 reviews for each paper. The result of this process was the selection of 1886 papers after a review process involving over 1600 reviewers. The selected papers were presented throughout the week in twelve parallel oral sessions, taking place both in the morning and in the afternoon, as well as in 99 interactive poster sessions. There were a wide variety of subjects, including active and passive remote sensing, microwave and optical technology, image and data processing, electromagnetic theory, emission modeling and many others.

In addition to the regular oral sessions, this year, Drs. Entekhabi and Reising organized four "hot topic" panel discussions on Numerical Weather Prediction, the NASA Missions Arising from the NRC Decadal Survey, Human and Environmental Health, and Baseline Climate Identification and Global Change. During these sessions, leaders in each discipline presented extended talks on emerging science questions in their field that can be addressed by remote sensing researchers.

A special poster session on Remote Sensing Analysis of Recent Natural Disasters was organized by Dr. Melba



Attendees enjoyed the wide hallways equipped with breakout tables for the informal discussions that are such an important part of IGARSS.

The exhibit area was well populated and open to all. Here, researchers from RIT's Center for Imaging Science chat with students from the Forest Watch program.

Crawford less then a month prior to the start of IGARSS'08. This event highlighted the important work of the international remote sensing community to address the results of the Burma cyclone, the Sichuan earthquake, and the floods impacting the US Midwest, all of which occurred in the first half of 2008.

In parallel with the technical sessions, the exhibition area was open from Tuesday to Thursday. A total of 25 leading-edge companies and organizations exhibited their most up-to date products and services. Also, for the first time at IGARSS, a special exhibit area for outreach activities was established and had eight organizations each offering demonstrations or activities designed to appeal to all participants, including children of attendees.

Adjacent to the exhibit area were the poster presentations which were accessible during each entire day Monday through Thursday. Authors of posters were required to be present only during their one and a half hour evening poster session whose participants were treated to a wonderful spread of drinks and appetizers. These sessions were scheduled after the oral sessions, so that no timing conflict occurred.

Conference events began early on Sunday July 6th with a full slate of tutorials organized by Dr. William Blackwell from MIT Lincoln Laboratory. Two full-day and ten half-day tutorials were presented and had strong attendance due to the high quality of the speakers and the subject interest. As was done in previous years, a GEOSS workshop (Air Quality and Costal Management) was held in parallel with the tutorials and was well attended.

The opening ceremony on Monday morning began with a welcome from the IGARSS'08 General Co-Chairs and a greeting from Mr. Ian Bowles, Secretary of Energy and Environmental Affairs from the Commonwealth of Massachusetts. Next, GRSS President Dr. Anthony Milne provided words of introduction and an overview of the IEEE Geoscience and Remote Sensing Society. Following Dr. Milne, the IEEE President-Elect, Dr. John Vig, gave a talk highlighting the "Secret of the IEEE's Success" after which he presented the prestigious IEEE Electromagnetics Award to our own Dr. Werner Wiesbeck, Distinguished Scientist at the Karlsruhe Institute of Technology, Germany. The opening ceremony was concluded with a series of additional IEEE and GRSS awards presented by Dr. Wiesbeck and Dr. Vig as described in the article by Dr. Wiesbeck in the September 2008 GRSS Newsletter.

The keynote speakers of the plenary session were consistent with the theme of the conference "Geoscience and Remote Sensing: The Next Generation." Each of our three speakers provided broad overviews of the impact and opportunities for remote sensing in addressing some of the most challenging problems facing the world. In her talk "Penetrating Neptune's Realm," Dr. Susan Avery (President and Director, Woods Hole Oceanographic Institution), discussed the use of remote sensing observations for understanding a wide range of open questions related to the state of the oceans. Following this presentation, we were honored to hear from Dr. Michael Freilich, (Director, Earth Science Division, Science Mission Directorate, National Aeronautics and Space Administration). In "The Climate Is Changing: NASA and Earth System Science," Dr. Freilich highlighted the accomplishments, plans, and challenges of NASA's Earth System Science program. Finally, Dr. Berrien Moore's (Executive Director, Climate Central) talk "Earth Science: Time Present is the Future" emphasized the centrality of earth remote sensing in addressing the growing problem of global climate change.

The plenary session held Monday morning in the Hynes Auditorium included greetings, major awards and keynote presentations. Here, Michael Freilich of NASA speaks to the attendees on NASA's Earth System Science accomplishments and plans.

Participants in the Career Forum heard about opportunities at several organizations while enjoying fine food and drinks.

Steve Reising (standing) listens to a question during the Young Professionals luncheon.

Participants on the two final teams of the IGARSS 2008 Soccer tournament. After 45 minutes of play in the final match, the red team with players from the US, Japan and the Netherlands came out on top of the grey, who had players from Norway, Switzerland, Nigeria, China, and the US.

In keeping with our next generation theme, two events were organized for the first time at IGARSS focused on our student attendees by our Student Activities Chair, Prof. Stefan Robila, Montclair State University. First, on Monday evening, July 7, a Career Forum was hosted by the conference. Representatives from Ball Aerospace, ITT Visual Information Solutions, ITT Space System Division, Raytheon Integrated Defense Systems, and the Air Force Research Laboratory's Space Vehicle Directorate met with dozens of students and discussed career opportunities in their organizations while enjoying drinks and hot appetizers. The following day, Tuesday, July 8, a Young Professionals Luncheon was also held where more than 50 students heard words of career advice from experienced professionals.

Another aspect of our Next Generation theme was the Outreach program organized by Prof. Barry Rock of the University of New Hampshire and Prof. Linda Hayden of Elizabeth City State University. Please see their accompanying article in this issue of the newsletter for details on the trip to the Boston Science Museum, outreach exhibits, and other activities that engaged over 180 pre-college students (including students from the Boston Public Schools and children of the attendees) in geoscience and remote sensing.

The long standing tradition of the IGARSS soccer match continued on Wednesday evening, when some 40 players and 20 spectators from IGARSS took to the pitch at MIT's soccer field. Five teams were formed and a series of matches on half-fields took place in a three-tier single elimination playoff format. The winning team, wearing red, played three straight 45 minute games, interrupted only by a 30 minute torrential rainstorm, to beat the grey team, 3 to 1. Among the players on the red team were Keith Stuart and Evan Zaugg of BYU, Kuniaki Uto of the Tokyo Institute of Technology, Rhonda Phillips of Virginia Tech and Nick Hamm (not related to Mia) from ITC in the Netherlands! The games were enjoyed by all who participated.

The Nor'easters A Capella singing group from Northeastern University provided enjoyable entertainment while dining at the Awards Banquet.

IGARSS'09 General Chair Harold Annegarn (left) receives best wishes from the IGARSS'08 General Co-Chairs, Eric Miller (center) and John Kerekes (right).

The social program, organized by Dr. Carey Rappaport of Northeastern University, kicked off the conference on Sunday with the traditional ice-breaker held this year on a clear summer evening 50 floors above Boston at Prudential Tower Skywalk where everyone was treated to fine food and spectacular views of the greater Boston area. Several local tours were enjoyed by participants, including a special tour of the Woods Hole Research Organizations on Cape Cod organized by committee member Dr. Vince Leslie of MIT Lincoln Laboratory.

The social program culminated with the awards banquet held this year at the historical Peabody Essex Museum in the port city of Salem, just north of Boston. After enjoying a relaxing ferry ride to Salem which included fine wine and cheeses, the nearly 300 guests were treated to an evening of delicious food and a cappella music provided by Northeastern University's Nor'easters singing group.

The banquet was followed by additional awards presented as described by GRSS Awards Chair Martti Hallikainen in an accompanying article in this issue of the newsletter. At the end of the evening, following tradition, the IGARSS'08 General Co-Chairs passed the responsibility for next year's conference to the IGARSS'09 General Chair, Dr. Harold Annegarn who gave a moving speech concerning the significance of holding a meeting as important as IGARSS on the African continent. Our best wishes for a successful symposium in Cape Town next July.

Nearly 300 guests enjoyed the fine food served at the traditional Awards Banquet held at the Peabody Essex Museum.

IGARSS'08 was generously supported by a number of sponsors including the IEEE, GRSS, NASA, NPOESS, URSI, JAXA, ONR, Ball Aerospace, ITT, ASD, Rochester Institute of Technology, Tufts University, GOES-R program, US Air Force Research Laboratory, Raytheon Integrated Defense Systems, and Lockheed Martin. To all of these supporters we wish to extend our sincerest thanks for their help in making IGARSS'08 a success.

In addition to this financial support, IGARSS 2008 benefitted tremendously from the volunteer efforts of a remarkable local organizing committee. In addition to those already mentioned, we would like to acknowledge and thank Dr. Alan Strahler from Boston University (Finance Chair), Mr. Ron Isaacs from AER (Sponsors and Exhibits Chair), Dr. William Gail from Microsoft Virtual Earth (Industrial Liaison), Dr. Paul Siquiera from UMass Amherst (Web Coordinator and Soccer Match Organizer), Mr. David Sims from the UNH (Media Liaison), Drs. Barry Rock from the University of New Hampshire and Linda Hayden from Elizabeth City State University (Outreach Co-Coordinators), and Dr. Mark Brennan from BAE Systems Nashua (Publicity Chair).

Integral to the success of IGARSS'08 was the help from Ms. Tammy Stein who provided financial services and the wonderful staff at Conference Management Services (CMS) led so ably by Ms. Billene Mercer. We acknowledge the outstanding effort by CMS in providing support to the conference, allowing it to be an enjoyable experience by all participants. Mr. Bryan Stewart was a jack-of-all-trades handling many aspects of the meeting ranging from graphics and artwork to organizing the exhibits and everything in between with patience and good humor. Mr. Lance Armstrong provided truly first rate computer support for all aspects of IGARSS from abstract submission and the TPC through registration. Ms. Gretchen Fudge and Mr. Chris Garza provided much help during the week of the symposium. Nancy Sutta Berns, who came to CMS from the IEEE just prior to IGARSS, brought an intensity and focus to Boston that was invaluable in the execution of this highly complex event. Last but not least, we are grateful to the GRSS AdCom and the Vice President of Meetings and Symposia, Dr. Melba Crawford, for their continuous support and fantastic help over the years leading up to IGARSS'08.

We look forward to seeing you again at IGARSS'09 in Cape Town, South Africa!

Report from the 28th Space Frequency Coordination Group Meeting – SFCG-28

Palace Royal Hotel, Quebec City, Quebec, Canada
September 15-24, 2008
Prof. A.J. Gasiewski
GRSS Representative to SFCG-28
Submitted to:
Prof. Joel T. Johnson
Chair, GRSS Technical Committee on Frequency Allocations in Remote Sensing (FARS)
September 17, 2008

The SFCG-28 meeting was called to order by Dr. Edouardo Marelli, Chair of the Space Frequency Coordination Group (SFCG), on the morning of September 16, 2008. Dr. Marelli specifically welcomed the GRSS to the meeting. The plenary session covered procedures, member space agencies represented at the meeting, and action items to be discussed by the various working groups. The overall purpose of the SFCG meetings is to develop resolutions and recommendations on frequency usage to return to member space agencies for implementation. The GRSS/FARS representative attended the plenary session on Tuesday, September 16 and the SWG-3s working group meeting on Wednesday, September 17.

Several issues at the meeting were of interest to FARS, including proposals to develop commercial networked communication devices coexisting with the passive services in the 57-64 GHz band, footnote recommendations for use of the spectrum above 275 GHz, and issues related to encroachment in the 1400-1427 MHz and the 23.8-24.0 GHz primary allocated bands.

Passive Sensing at Frequencies above 275 GHz. The discussion in SWG-3a of passive sensing frequencies above 275 GHz for temperature and moisture profiling, cloud ice path measurements, and atmospheric chemistry using trace gas measurements focused on harmonizing the bands suggested for footnote protection from material provided by ESA (SF28-04), NASA (SF28-25), JAXA (SF28-50), and CNES (SF28-60). There is generally broad agreement on the bands required for sounding and cloud measurements, although the atmospheric chemistry requirements are complex and as of yet require careful consideration. The development of an input paper for use in WP-7C was set as a goal of SFCG-28. This paper is to be circulated to GRSS members via FARS for their input after SFCG-28. It was suggested that comments to proposed footnote recommendations for 275-1000 GHz be immediately incorporated and the document finalized, although comments would continue to be solicited for the range 1000-3000 GHz due to the relative incompleteness of information on this band. It is noted that the WMO (SFCG28-12) supports the review of footnote No. 5.565 at WRC11. This footnote identifies frequencies between 275 and 3000 GHz that are used for EESS.

Coexistence Issues for Passive Earth Sensing from 57-64 GHz. An informational document from the GRSS (SFCG28-06) on the possibility of harmful interference to the EESS from proposed wireless broadband short range devices (SRDs) operating within the range 57-64 GHz was presented and discussed at SWG-3a. The document concluded that interference is unlikely within the currently proposed IEEE 802.15.3 standard, but possible for a more powerful standard being proposed by WCAI. The SWG concluded that actions toward further development of the more powerful standard should be carefully watched. The SWG expressed their gratitude to FARS for studying the problem and bringing the matter it the attention of the SFCG.

Short Range Radars (SRRs) Operating within 23.8-24.0 GHz. A document from JAXA (SFCG28-19) precluding coexistence between SRRs operating over 22-27 GHz and passive microwave satellites was presented. The JAXA study is being refined to study the impact of attenuation. A discussion of trends toward use of 77 GHz and 24-29 GHz for SRRs was presented by the Netherlands. Although the U.S. has no plans to limit use of 22-27 GHz by SRRs, there is considerable interest by the auto radar community to shift operating frequencies up by 2 GHz so as to preclude interference with EESS. There is also interest in eventually moving to the use of 77 GHz, although it is not expected that this will occur for at least several years even in countries that are supporting the use of this band for SRR.

Other Issues of Interest to FARS. Several other documents submitted by SFCG member space agencies which had relevance to GRSS and FARS members' activities were discussed within SFCG Sub-Working Groups (SWG). These documents and their relevance are discussed below:

SF28-56: It was noted in a document submitted by NOAA that interference from upward-pointing micro-rain radars (MRRs) manufactured by METEK in Germany were observed in Jason-1 and Jason-2 satellite radiometers. The METEK instruments are based on FMCW modulation of a

50-mW transmitted carrier at 24.1 GHz. The operators of the MRRs have been notified of the problem, and are working with the Jason altimeter scientists to resolve the problem.

SF28-38: A draft document prepared by SFCG on the "The Essential Role and Global Importance of Scientific Use of Radio Spectrum" was discussed during the SFCG-28 plenary. The document attempted to place an economic value on remote sensing activities in support of a variety of societal benefits, and repeated the WMO conclusion that the economic benefits exceed the costs by ~10:1. The document was further refined in SWG-3a.

The above is consistent with a subjective observations, wherein the societal value of remote sensing might easily be estimated to be in the $T range. Considering the value of the millions of lives and property saved worldwide since the inception of remote sensing the cost has arguably been less or comparable to a few percent of this amount. Regarding the value of radio allocations to the remote sensing process, remote sensing systems can be considered to be analogous to a chain lifting up a "heavy veil of uncertainty and ignorance" about the environment. Just as in an actual chain, any link is equally important to the overall value of the chain. In this sense frequency allocations are as critical and valuable as any other element of the remote sensing process.

SF18-37: This document discusses the potential interference to L-band soil moisture or salinity sensors operating in 1400-1427 MHz from an extension of the active EESS band to 1300-1395 MHz. A conclusion is that interference would be possible with the band edge so close to that of the protected passive band.

SF28-43: A document submitted by NASA identified the spectral needs to fulfill the mission recommendations of the NRC's Decadal Survey.

SF28-59: A document on "Protection of Passive Sensors Including AMSR-E and AMSR2" was submitted by JAXA at SFCG-27, but was unavailable on the SFCG-28 ftp site. This document was associated with an action item AI27/5.

It was noted that delegates from the CMA (China) and ISRO (India) were absent at SFCG-28, in spite of the significantly increasingly level of activity in space-based remote sensing within the countries of these space agencies.

Respectfully submitted,

Al Gasiewski

ANNOUNCEMENT

The IEEE Geoscience and Remote Sensing Society (GRSS) and the IEEE Committee on Earth Observations (ICEO) are pleased to announce the publication of the new journal entitled "IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing" (J-STARS). It is available both on Xplore (under "Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of") and as hard copy.

Issue 1 of Volume 1 (2008) is focused on "Earth Observations and Renewable Energy" with Guest Editors T. Ranchin of Mines ParisTech and M. Schroedter-Homscheidt of The German Aerospace Centre (DLR).

We invite you to submit individual articles for review at the J-STARS Manuscript Central web site (http://mc.manuscriptcentral.com/jstars). We also welcome proposals for special issues. Details of the proposal process may be obtained by contacting the Editor in Chief or Deputy Editor in Chief. Papers should address current issues and techniques in applied remote and in situ sensing, their integration, and applied modeling and information creation for understanding the Earth. Applications are for the Earth, oceans and atmosphere. Topics can include observations, derived information such as forecast data, simulated information, data assimilation and Earth information techniques to address science and engineering issues of the Earth system. The technical content of papers must be both new and significant.

We invite you to subscribe to this exciting new journal as part of your IEEE membership.

Editor-in-Chief:
Dr. Ellsworth LeDrew, FIEEE, FCASI
Faculty of Environmental Studies,
University of Waterloo,
Ontario, Canada
ells@uwaterloo.ca

Deputy Editor-in-Chief :
Dr. Kun-Shan Chen, FIEEE
Center for Space and Remote Sensing Research
National Central University
Chung-Li, Taiwan, Republic of China
dkschen@csrsr.ncu.edu.tw

AMENDMENTS TO THE GRS-S BYLAWS

Alberto Moreira
Executive Vice President
Constitution and Bylaws Committee
November 8, 2008

The changes to the GRS-S Bylaws detailed below were approved by the Administrative Committee on 5th July and 8th November, 2008. These changes will go into effect within 30 days of publication unless ten percent of Society members object. Copies of the GRS-S Constitution and Bylaws documents are available on the GRS-S website.

Changes to the GRS-S Bylaws for compliance with IEEE "Must Have" policy for Constitution and Bylaws (inclusions are in red color, deletions are with the strikethrough)

I. Nominations (From page 4 of the GRS-S Bylaws)

1. Nominations Committee

On or before February 1 of each year, the President shall appoint a Nominations Committee which shall consist of a Past-President as Chair and two or more members of the Society elected by the AdCom. Chairs shall not be eligible to be elected to the governing body during their term of service. Members of the Nominations Committee are ineligible for nomination by the Nominations Committee for any position under the purview of the Committee until their term of office on the Nominations Committee expires or the member resigns from the Nominations Committee. Resignation must occur before any nominations are made. After resignation a former member of the Nominations Committee ~~A member of the Nominations Committee however~~ may be nominated for any elected position from the floor but not by another member of the same Nominations Committee.

2. Nominations

The Nominations Committee shall submit to the Administrative Committee at least one name of a member of the Society for each vacancy to occur in the Administrative Committee for terms expiring December 31. In addition, the Chair of the Nominations Committee shall cause to be published and distributed to the entire Society membership a Call for Nominations.

A nominating petition carrying a minimum of ~~5~~ 2% of the names of eligible Society members, excluding students, shall automatically place that nominee on the slate. Such nominations must be made at least 28 days before the date of any said election. ~~although the Nominations Committee may choose to include a name on the slate regardless of the number of names of the nominating petition.~~

Prior to submission of a nomination petition, the petitioner shall have determined that the nominee named in the petition is willing to serve, if elected; evidence of such willingness to serve shall be submitted with the petition.

Petition signatures can be submitted electronically through the Society website, or by signing and mailing a paper petition. The name of each member signing the paper petition shall be clearly printed or typed. For identification purposes of signatures on paper petitions, membership numbers or addresses as listed in the official IEEE membership records shall be included. Only signatures submitted electronically through the Society website or original signatures on paper petitions shall be accepted.

III. Meetings (From page 13 of the GRS-S Bylaws)

3. Quorum

The number of Administrative Committee members that constitute a quorum will depend upon the total number of members on the Administrative Committee. ~~A quorum of the AdCom or the Executive Committee will be one third of the membership but not less than 6.~~ A majority of the voting members of the Administrative Committee, ExCom or any sub-committee shall constitute a quorum. ~~members shall constitute a quorum. i.e. normally at least 10 members. An Ex-Offico member is not included in the quorum count.~~

4. Votes on Motions

A majority vote of the Administrative Committee including voting Ex-Offico members attending a meeting shall be necessary in the conduct of its business except as otherwise provided in the Bylaws.

5. Business of the Administrative Committee in a Meeting or by means ~~Phone or Other Means~~ of Telecommunication

~~Except for the Annual Meeting~~ Business of the Administrative Committee, the ExCom or any of its sub-committees may be handled by any means of telecommunications. The normal voting requirements shall apply when action is taken by means of telecommunication equipment allowing all persons participating in the meeting to hear each other at the same time. ~~correspondence, telephone, telegraph, or internet, where in the opinion of the President, matters requiring action can be adequately handled in that manner. A majority vote of the voting members of the Committee is necessary for approval of actions handled in that manner except as otherwise provided in the Bylaws~~.

A. Electronic Voting

The Administrative Committee or any committee may take action without a meeting if applicable (eg email, correspondence, fax) and an affirmative vote of a majority of all of the voting members shall be required to approve the action.

Any electronic motion being proposed by an AdCom member must first be submitted to the President. The President will (i) put the motion on the website (ii) announce that there is a motion that has been posted on the website and refer voting AdCom members to the website for details and (iii)state the final date of the ballot.

If in consultation with the Executive Committee the motion is considered to be inappropriate for electronic voting, the proposer will be informed and the motion will be tabled for discussion at the next AdCom meeting. All discussions, following the posting of the motion on the website are to be carried on at the GRSS web site and not by open e-mail.

Electronic voting will have three choices: Yes, No, and Hold. If more than 50% of those eligible to vote vote yes, the motion is carried. If more than 50% of those eligible to vote vote no, the motion is defeated. If more than 50% of those eligible to vote, vote no or hold, the motion shall be tabled for discussion at the next AdCom Meeting.

The results of the vote shall be confirmed promptly in writing or by electronic transmission. The writings and/or electronic transmissions shall be filed with the minutes of the proceedings of the Administrative Committee or any committee thereof. Individuals holding more than one position on the Administrative Committee or any committee thereof, shall be limited to one vote on each matter being considered by that committee.

Proxy voting is not allowed.

6. President's Vote

The President shall have no vote on the Administrative Committee except if the vote is by secret ballot or unless the President's vote can change the outcome of the vote.

Change to the GRS-S Bylaws due to the implementation of the Senior Council which replaces the Advisory Committee.

II. Elections and Officer Duties (From page 11 of the GRS-S Bylaws)

Old version

22. **Advisory**

Advisors to the Administrative Committee may be appointed by the President. They shall be Ex-officio Members without vote, of the Administrative Committee.

New version

22. **Senior Council**

The senior council serves the AdCom, GRS Society and its membership by providing corporate memory, addressing controversial issues with lack of bias, and organizes and executes open discussion on strategic opportunities. The SC reports to the AdCom through the President. The members of the senior council shall be nominated and appointed by the President and ratified by the Administrative Committee during the AdCom Fall meeting. The SC shall consist of up to 6 past presidents, each with a term of 5 years, which may be renewed at the discretion of the AdCom. The past presidents shall not be members of the senior council during their 3-year terms as member-at-large of the AdCom.

Inclusion to the GRS-S Bylaws due to the implementation of the new Journal J-STARS

II. Elections and Officer Duties (From page 10 of the GRS-S Bylaws)

18. **Editor, Journal of Selected Topics in Applied Earth Observation and Remote Sensing (J-STARS)**

The Editor of J-STARS, if not an Elected Member of the GRS-S AdCom, shall be an Ex-Officio Member of the AdCom with vote. He/she shall be nominated by the J-STARS Steering Committee (JSC), appointed by the President and ratified by the GRS-S AdCom. He/she shall normally serve a three-year term, which may be renewed at the discretion of the JSC and the GRSS AdCom. In the event that the Editor cannot fulfill his/her duties, the JSC shall appoint an Acting Editor in consultation with the Vice-President of Operations and Finance until a replacement is found. The Editor shall appoint or remove technical area Associate Editors as required, subject to approval by the JSC. The J-STARS Editor must be a member of the GRS Society. The Editor is expected to attend GRS-S AdCom meetings. The Editor will provide regular reports to the JSC and GRS-S Vice-President of Operations and Finance on such issues as the pages published, delays incurred, page charges recovered, and letters of praise or complaints received.

IEEE Transactions on Geoscience and Remote Sensing (TGRS) Special Issue on TerraSAR-X: Mission, Calibration and First Results Submission Deadline: January 31, 2009

A Special Issue of the IEEE Transactions on Geoscience and Remote Sensing (TGRS) on TerraSAR-X has been recently approved by the TGRS Editorial Board. The Guest Editors of the TGRS Special Issue are Prof. Alberto Moreira and Prof. Richard Bamler.

Synthetic Aperture Radar (SAR) is an indispensable source of information in earth observation since SAR is the only spaceborne sensor that has high-resolution, all-weather and day-and-night imaging capability. Only recently we entered a new era of spaceborne and airborne SAR systems. New satellite systems like TerraSAR-X, COSMO/Skymed, Radarsat-2, TanDEM-X, and Sentinel-1 provide / will provide radar images with a resolution up to hundred times better than the one of conventional SAR systems. They are also outperforming by far existing systems with respect to their imaging flexibility and interferometric modes. These SAR satellites open new fields for scientific use of radar data. Therefore a Special Issue of IEEE TGRS will be dedicated to the radar satellite TerraSAR-X.

TerraSAR-X has been realized in a public private partnership between DLR and industry. The high-resolution SAR satellite, which was successfully launched in June 15, 2007, delivers high-quality radar images for scientific and commercial applications. TerraSAR-X is the fruit of consistent development of German radar technology over many years and is an example of successful cooperation with the German space industry. More than 25,000 data sets have been acquired and processed since the launch of the satellite. The image product quality is exceeding all specifications and setting new standards for future spaceborne SAR missions.

The TerraSAR-X Special Issue will report the above developments and innovations to a wider community and will document the state of the art in high-resolution spaceborne SAR systems and applications. Scientists and engineers from research, industry and academia, engaged in technologies and techniques, research, data processing and applications of TerraSAR-X, are encouraged to submit papers to this Special Issue.

Topics to be covered by the Special Issue are (but not limited to): TerraSAR-X mission concept, space and ground segments, TerraSAR-X commissioning, system performance and calibration, SAR processing and image roducts, innovative imaging modes and associated processing algorithms (e.g. Spotlight, TOPS-SAR, bi-static, GMTI), innovative applications with high resolution, applications results (e.g. interferometry, differential interferometry with permanent scatterers, GMTI, oceanography, land cover, ship monitoring, geocoding, forestry, polarimetry and polarimetric interferometry, bi-static experiments), follow-on mission TanDEM-X.

Prospective authors should follow the regular guidelines of the IEEE Transactions on Geoscience and Remote Sensing (TGRS), as listed in the back cover of the Transactions. Authors should submit their manuscripts electronically to http://mc.manuscriptcentral.com/tgrs. Instructions for creating new accounts, if necessary, are available on the login screen. Please indicate in your submission that the paper is intended for the Special Issue by selecting "TerraSAR-X Special Issue" from the pull-down menu for manuscript type. Questions concerning the submission process should be addressed to tgrs-editor@ieee.org. For this Special Issue, page charges – including voluntary and mandatory charges – should be paid by the authors' institutions.

Inquires concerning the Special Issue should be directed to the Guest Editors:

Prof. Alberto Moreira
Microwaves and Radar Institute
German Aerospace Center, DLR
82234 Wessling, Germany
Tel.: +49 8153 28 2305
alberto.moreira@dlr.de

Prof. Richard Bamler
Remote Sensing Technology Institute
German Aerospace Center, DLR
82234 Wessling, Germany
Tel.: +49 8153 28 2673
richard.bamler@dlr.de

Updated information about TerraSAR-X is available at http://www.dlr.de/en/desktopdefault.aspx/tabid-4219/

International Conference on Land surface radiation and energy budgets:

Observations, Modeling and Analysis

March 18-20, 2009
Beijing, China

Honorary Chair:
Prof. Guanhua Xu, CAS, China

Co- Chairs:
Dr. William Kustas, USDA ARS, USA
Dr. Xiaowen Li, Beijing Normal University, China
Dr. Shunlin Liang, University of Maryland, USA

Abstract submission:
Before December 30, 2008
Email: LandEnergyBudget@yahoo.com

Register:
Before February 25, 2009

Registration fees:
USD $250

Web Address:
http://www.landenergybudget.org

CALL FOR PAPERS
4th International Conference on
Recent Advances in Space Technologies
Space for the Developing World
RAST 2009
11-13 June 2009, _stanbul, TURKEY
www.rast.org.tr

Organized by: Aeronautics and Space Technologies Institute (ASTIN), Turkish Air Force Academy, Turkey
In Technical Co-operation with:
IEEE Aerospace & Electronic Systems Society
IEEE Geoscience & Remote Sensing Society
AIAA (American Inst. for Aeronautics & Astronautics)

Coverage: RAST (Recent Advances in Space Technologies) Conferences have now become a traditional biennial event with worldwide participation. The fourth RAST Conference or RAST 2009 will be held again in Istanbul on 11-13 June 2009. RAST Conferences are open to all areas of space.

Paper submission: Prospective participants are invited to electronically submit an extended summary (minimum 500 words) of their work, following the instructions available on the web page. Accepted papers will be published in an IEEE proceedings volume (EI indexed) that will be available at the time of the conference. Further information about the conference can be obtained from the web site.

Important Dates:

Submission of summaries:	4 January 2009
Notification of acceptance;	31 January 2009
Camera-ready submission of full papers:	15 March 2009

The 17th International Conference on Geoinformatics

-- The ways to advance GIScience researches and applications

August 12-14, 2009
Fairfax, Virginia, USA

Center for Spatial Information Science and Systems (CSISS), George Mason University

GEOINFORMATICS 2009 Chair:
Liping Di, CSISS, George Mason University

Abstract submission:
Before February 15th, 2009
Submit online: http://www.geoinformatics2009.org

Register:
Before May 1st, 2009

Registration fees:
Regular $435 / CPGIS member $395
Student $395 / Student CPGIS members $325

Web Address:
http://www.geoinformatics2009.org

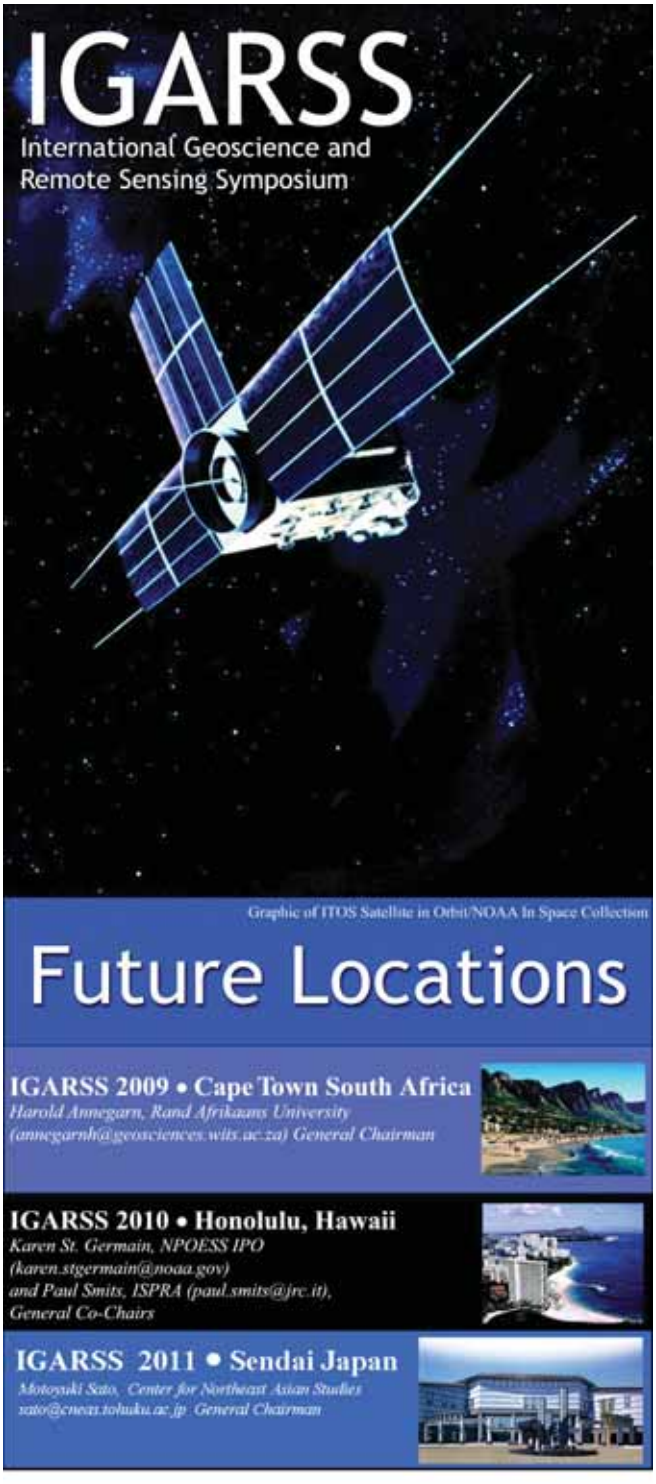
ICST-2009:

International Conference on Space Technology

August 24-26, 2009
Electra Palace Hotel, Thessaloniki, Greece
Greek Ministry of Development
Greek Space Agency
IEEE Geoscience and Remote Sensing Society
IET Hellas and IEEE Hellas
University of Patras

Conference Chair:
G Lampropoulos, Greek Space Agency
Abstract submission:
January 17, 2009
Web address:
http://www.icspacetechnology.com/
Location:
Thessaloniki is the second largest city in Greece, with direct flight connections to many international cities. It is near the beaches of Halkidiki, Olympus mountain and the palaces of Alexander the Great and the Macedonian tombs of Vergina.


CAPE TOWN
IGARSS 09
Earth Observation -
Origins to Applications
13 - 17 July 2009
University of Cape Town
South Africa
www.igarss09.org
Image credit: NASA GFSC


IGARSS
International Geoscience and
Remote Sensing Symposium
Graphic of ITOS Satellite in Orbit/NOAA In Space Collection
Future Locations
IGARSS 2009 • Cape Town South Africa
Harold Annegarn, Rand Afrikaans University
(annegarnhj@geosciences.wits.ac.za) General Chairman
IGARSS 2010 • Honolulu, Hawaii
Karen St. Germain, NPOESS IPO
(karen.stgermain@noaa.gov)
and Paul Smits, ISPRA (paul.smits@jrc.it),
General Co-Chairs
IGARSS 2011 • Sendai Japan
Motoyuki Sato, Center for Northeast Asian Studies
sato@cneas.tohoku.ac.jp General Chairman

UPCOMING CONFERENCES

See also **http://www.techexpo.com/events** or **http://www.papersinvited.com** for more conference listings

Name: **5th IAPR Workshop on Pattern Recognition in Remote Sensing (PRRS 2008)**
Location: Tampa, Florida, USA
Date: December 7, 2008
Contacts: S. Aksoy, N. H. Younan, D. A. Clausi
URL: www.iapr-tc7.org/prrs08/

Name: **InCMARS-2008 Indian Conference on Microwaves, Antenna, Propagation & Remote Sensing**
Location: Jodhpur, Rajasthan (India)
Dates: December 9 – 11, 2008
Contact: O.P.N. Calla
Email: opncalla@yahoo.co.in , info@radioscience.org
URL : www.radioscience.org

Name: **The International LIDAR mapping Forum (LIDAR09)**
Location: New Orleans, LA
Dates: January 26 – 28, 2009
Email: info@intelligentexhibitions.com
URL: www.lidarmap.org/

Name: **International Conference on Land surface radiation and energy budgets: Observations, Modeling and Analysis**
Location: Beijing, China
Dates: March 18 – 20, 2009
Contact: Dr. William Kustas, USDA ARS, USA
Email: LandEnergyBudget@yahoo.com
URL: www.landenergybudget.org

Name: **4th International Conference on Recent Advances in Space Technologies Space for the Developing World RAST 2009**
Location: Istanbul, Turkey
Dates: June 11 – 13, 2009
URL: www.rast.org.tr

Name: **IGARSS'09**
Location: Cape Town, South Africa
Dates: July 13 – 17, 2009
URL: www.igarss09.org

Name: **The 17th International Conference on Geoinformatics**
Location: George Mason University, Fairfax, VA
Dates: August 12 – 14, 2009
Contact: Liping, Di
URL: www.geoinformatics2009.org

Name: **ICST 2009: International Conference on Space Technology**
Location: Electra Palace Hotel, Thessaloniki, Greece
Dates: August 24 – 26, 2009
Contact: G. Lampropoulos, Greek Space Agency
URL: www.icspacetechnology.com

Name: **First IEEE GRSS Conference on Hyperspectral Image and Signal Processing: Evolution in Remote Sensing**
Location: Grenoble, France
Dates: August 26 – 28, 2009
Email: info@ieee-whispers.com
URL: www.ieee-whispers.com

The Institute of Electrical and Electronic Engineers, Inc.
445 Hoes Lane, Piscataway, NJ 08854