The 20th Annual Meeting of the Geological Remote Sensing Group (GRSG)

15-17 December 2009
The Geological Society, Burlington House, Piccadilly, London W1J OBG

‘Exploration Remote Sensing’

Preliminary Meeting Programme

• Mineral Exploration
• Oil and Gas Exploration
• Planetary, Environment and Risk
• Technology and Commercial Systems
• Geological Applications of the Thermal Infrared (TIR)

Plus

Student Award Presentations
- Laboratory Studies Award
- Field Studies Award
- Innovation Award

Social/Sponsor Programme
- ‘Icebreaker’ December 14th
- Wine reception December 15th
- 20th Anniversary dinner December 16th

Early-Bird Registration Ends November 16th

Registration and Student Award application forms are posted at www.GRSG.org
The Hotel Cavendish (www.thecavendish-london.co.uk) is conveniently located near the Geological Society venue or search London accommodation at www.LateRooms.com
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Exploration Remote Sensing
The 20th Annual Meeting of the Geological Remote Sensing Group (GRSG)
15-17 December 2009

Preliminary Meeting Programme and Talk/Poster List

Monday 14 December – Icebreaker, 6:00pm, Captains Cabin, 2nd Floor, 4-7 Norris Street SW1Y 4RJ

Tuesday 15 December – The Geological Society, Burlington House, Piccadilly W1J 0BG

8:30am Registration Opens
9:15 Welcome and Opening Remarks - Dan Taranik, GRSG Chairman, Anglo American plc
9:30 Mineral Exploration I - Fred Kruse, University of Nevada Reno
11:00 Coffee and Tea
11:30 Oil, Gas and Energy - Richard Eyers, Shell Exploration and Production
1:00 Lunch
3:30 Coffee and Tea
4:00 Commercial Systems I - Gareth Crisford, ITT Visual Information Solutions
5:30 GRSG Annual Meeting and Student Awards - Dan Taranik, GRSG Chairman
6:00 Wine Reception

Wednesday 16 December - The Geological Society, Burlington House, Piccadilly W1J 0BG

8:30am Registration Opens
9:25 Welcome and Opening Remarks - Dan Taranik, GRSG Chairman, Anglo American plc
9:30 Commercial Systems II – Tara Byrnes, GeoEye
11:00 Coffee and Tea
11:30 Planetary, Environment and Risk - Gareth Morgan, Imperial College
1:00 Lunch
2:00 Geological Mapping II - Jason Manning, ARUP
3:30 Coffee and Tea
4:00 Mineral Exploration II - Jim Taranik, University of Nevada Reno
5:30 End of Programme
7:00 20th Anniversary Dinner - New China Restaurant, 48 Gerrard Street, Chinatown W1D 5Q

Thursday 17 December - The Linnean Society, Burlington House, Piccadilly W1J 0BF
(on Piccadilly across the arched entryway to The Geological Society)

9:15am Registration Opens
9:45 Welcome and Opening Remarks - Dan Taranik, GRSG Chairman, Anglo American plc
9:50 EARSel TIR Special Interest Group – History, Goals, Community, Claudia Kuenzer, DLR
10:00 Overview Thermal Infrared for Exploration - Dan Taranik, Anglo American plc
10:15 Coffee and Tea
10:30 Exploration TIR - Dan Taranik, Anglo American plc
12:00 Lunch
1:00 Field & Lab TIR Spectroscopy - Stuart Marsh, British Geological Survey
2:30 Coffee and Tea
3:00 Airborne TIR Systems – Chris Hecker, ITC Enschede
4:30 End of Programme
5:00 Afterglow - Captains Cabin, 4-7 Norris Street SW1Y 4RJ, open seating

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Annual Meeting Talk/Poster List (as of 28 October 2009)

Mineral Exploration

Session Chairs: Fred Kruse, University of Nevada and Jim Taranik, University of Nevada

- “Mineral Mapping Using VNIR/SWIR Spectroscopy at Outcrop, Drill Core, and Prospect Scales” by Fred Kruse et al, University of Nevada
- “Hyperspectral Analysis of Drill Core for Understanding Hydrothermal Systems and Providing Vectors to Mineralisation.” by Bob Agar, AGARRS
- “Core Imaging Spectral Geology, Examples from Columbia” by Paul Linton, AngloGold-Ashanti
- “Remote Sensing: It’s More Than Just Satellites; Examples from the Platinum Exploration Perspective” by Jim Crotty, Anglo Platinum
- “Remote Sensing for Mineral Exploration” by John Berry, Berry Associates
- “Characterisation and Reconstruction of a Dissected Epithermal System from Airborne Hyperspectral Data” by Dave Coulter, ASTERImages
- “Lithological Mapping with ASTER Imagery Using ENVI Logical Operator Formulae” by Michael A. Brown, Mappa Mundi

Oil and Gas Exploration

Session Chair: Richard Eyers, Shell Exploration and Production

- “Spectral Remote Sensing of Onshore Hydrocarbon Seepage, Zagros Oil Field, Iran” by Sanaz Salati et al, ITC Enschede
- “Satellite Monitoring of Ice Conditions in the Oil and Gas Industry” by Kim Partington, Polar Imaging
- “Time Series Analysis of Surface Deformation for Oil and Gas Production by SAR-Interferometry: A Case History” by T. Onuma, K. Okada, Y. Kannari, & T. Nishidai, JGI, Inc. 1-5-21, Otsuka, Bunkyo-ku, Tokyo 112-0012, Japan (nishidai@jgi.co.jp)

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Geological Mapping


• “Improvement on Landsat Lithological Classification Using Rule-based System”, Na Li, LMU Munich

• “Variable Geology Projects – One Mapping Approach’, Bernd Schulte et al., GAF AG

• “Spatial Distribution of Alteration Minerals in La Josefina Epithermal Deposit, Deseado Massif, Southern Argentina”, Pablo Andrada de Palomera et al, ITC Enschede


• “Detailed Lithological Mapping Using Airborne LiDAR Topographic Data: Application to Troodos Ophiolite, Cyprus”, Stephen Grebby et al, University of Leicester

• “Reducing Exploration Risk: Developing 3-D Models in Yemen by Defining Regional Structure, Fault Style, Horizon Mapping and Migration Pathways”, Dan Brown, Aline Bertran and Mike Oehlers, Fugro NPA Ltd, Crockham Park, Edenbridge, Kent, TN8 6SR

• “The use of Multispectral Imagery and Airborne Geophysics in Mapping Geology of Western Burkina Faso”, Václav Metelka, Universite Paul Sabatier Toulouse

• “Fracture Systems in Fault Related Folds, Zagros Fold Belt, Southern Iran, Robert Barnes, Royal Holloway University of London

Commercial Systems

Session Chairs: Tara Byrnes, GeoEye and Gareth Crisford, ITT Visual Information Solutions

• “High Resolution Satellite: Current Offerings, Future Plans, and Industry Trends.” Tara Byrnes, GeoEye

• “Google Earth Positional Accuracy, Temporal, and Image Integrity”, Mark Nightingale, Shell

• “Field Spectrometry Geological Applications” Ian Laidlaw, ASD

• “New Developments in Radar”, Michael Hall, InfoTerra

• “Raster Data Management Capabilities”, Geoff Wade, ESRI

• “South American Examples of the Pegasus Scanner”, Guillermo de ReKuhl, Alto Americas

• “High-Resolution Broad-Spectrum Imaging from Space”, Gary Crews, Spatial Energy

• “Design of Optics for Capturing High Resolution Images Incorporating NANO Satellites”, Rishitosh Kumar Sinha, SRM University Chennai India

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• “Achieving LiDAR – Like DEM Accuracy and Resolution with a Geophysical Stereo Satellite Elevation Processing System”, Gerry Mitchell et al, PhotoSat

• “Stereo Satellite Elevation Mapping Accuracies of better than 50cm RMSE Confirmed with Thousands of Ground Survey Points in Eritrea and Mexico”, Gerry Mitchell et al, request as poster

Planetary, Environment and Risk

Session Chair: Gareth Morgan, Imperial College

• “Processing Omega Hyperspectral Imagery for Mineral Mapping of the Nili Fossae Area on Mars”, Wim Baker et al, ITC Enschede

• “Mapping Medusae Fossae Formation Outlier Materials in Southern Highlands, Mars”, Samantha Harrison, Open University

• “Remote Sensing of the Internal Layering of the North Polar Layered Deposits on Mars”, Nana Karlsson, University of Hull / British Antarctic Survey

• “Remote Detection of Geo, Bio, and Physical Parameters for the Analysis of Mass Movements Along the Xiangxi River a Tributary of the Yangtze River”, Michaela Frei et al, Universitat Potsdam

• “Acid and Influences on Hydrochemical Properties of Residual Lakes (Lignite mining) and Mineral Detection in the Environment of Salt Dumps”, Cornelia Glaesser, Martin Luther University of Halle

• “Spectroradiometric Mineral Mapping at the Teutschenthal Potash Salt Mining, Central Germany”, Cornelia Glaesser et al, Martin Luther University of Halle

Geological Applications of Thermal Infrared

Session Chairs: Chris Hecker, ITC Enschede, Claudia Kuenzer, DLR, Stuart Marsh, British Geological Survey, and Dan Taranik, Anglo American plc

• “EarSEL TIR Special Interest Group – History, Goals, Community, Tasks”, Claudia Kuenzer, DLR

• “TIR Remote Sensing of Feldspars”, Chris Hecker, ITC Enschede

• “TIR Characterisation of Field Samples”, Chris Hecker, ITC Enschede

• “Day/Night Airborne Thermal Hyperspectral Imagery Acquisition Campaign over the Kootenays, British Columbia”, Jason Howse and Stephen Achal, ITRES

• “Infrared Spectral Characterisation of Volcanic Rocks During Preview Project Validation Campaign on Mt Teide (Canary Islands, Spain) on September 2007 Subtitle: In Situ Emissivity Measurement and Satellite Thermal Map”, Stefania Amici et al, Instituto Nazionale di Geofisica, Italy

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- “Use of Night Time Thermal Infrared (NTIR) for Mineral Exploration; Examples with ASTER and Other Satellite Data”, Vicki Stamoulis, Chrysoar Exploration
- “Emissivity Measurements with a Portable FTIR Spectrometer”, Martin Wooster, King’s College
- “Mapping Epithermal Gold Deposits on the Island of Milos, Greece, using an integrated Spectral reflectance and Spectral Emissivity Dataset.”, Graham Ferrier, University of Hull
- “Rapid Characterisation of Athabasca Oil Sand Properties from Hyperspectral Near-Infrared and Thermal Infrared Reflectance Spectra Using Derivative Gaussian Wavelengths”, Benoit Rivard, University of Alberta
- “Aisa Owl TIR Sensor Development and Geological Applications”, Anna Aranda Gonzalez, SpecIM
- “On Using SEBASS as a Mineral Exploration Tool”, Nielson Schulenburg et al, Aerospace Corporation
- “A Short History of Geological and Exploration Applications in the Thermal Infrared”, Dan Taranik, Anglo American plc

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