



**Challenges in Geological
Remote Sensing**
Geological Remote Sensing Group



GRSG 2015 Sponsors:





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Tuesday 8th December 2015: Icebreaker drinks reception: 7pm at Cantina il Pergolato, Via del Castello, 20, Frascati		
Day 1 – Wednesday 9th December 2015		
08:30-09:30	Registration & Coffee	
09:30	Welcome	Welcome + Introduction to the GRSG, GRSG Chairman: Luke Bateson (BGS)
09:40	Keynote: EO at the European Space Agency	Mark Doherty, ESA
AM1	Geological Mapping 1	Session Chair: Luke Bateson
10:10	Automated lithological mapping using airborne hyperspectral thermal infrared data	Martin Black; British Antarctic Survey
10:30	Assessing the potential of WorldView 3 images applied to geological mapping by means of spectral unmixing in the Montsec area (Pyrenees, Spain).	Elisenda Costa; Universitat de Barcelona, REPSOL Exploración
10:50	iMars: Crowd-Sourced Analysis of Imagery for Geological Change on Mars	Jessica Wardlaw; University of Nottingham
11:10-11:40	Coffee Break 1 (+ poster session + exhibition)	
AM2	Oil and Gas	Session Chair: Eric Peters
11:40	Unraveling petroleum plays using reflectance spectroscopy and Remote Sensing data in onshore basins	Professor Carlos Roberto de Souza Filho; State University of Campinas (UNICAMP)
12:00	Reducing exploration challenges with multi sensor, multi-layer datasets	Charlotte Bishop; NPA Satellite Mapping, CGG
12:20	supporting hydrocarbon exploration in new venture areas with optical remote sensing	Marco Gianinetto; Politecnico di Milano
12.40	Integrated remote sensing data for hydrocarbon emanations detection applied in South Portuguese Zone, Portugal	Gabriel Barberes; Universidade de Coimbra
13:00-14:00	Lunch	
PM1	InSAR	Session Chair: Matthew Webster
14:00	The PSIG procedure to wide-area PSI monitoring using C-band Sentinel-1 data	Michele Crosetto; Centre Tecnològic de Telecomunicacions de Catalunya (CTTC)
14:20	GPU4EO challenge 2015: boosting SAR interferometry	Cristoforo Abbattista; Planetek Italia
14:40	Copernicus Service in support of geohazard assessment and regional planning in the region Rhine-Moselle	Corinna Wolf; BGR
15:00	Subsidence phenomena investigation on two archeological sites on the Ionian coast by Earth Observation application	Pierluigi Confuorto; Federico II University of Naples
15:20-15:50	Coffee Break 2 (+ poster session + exhibition)	
PM2	Geohazards	Session Chair: Mark Nightingale
15:50	Landslide inventory mapping for disaster relief and risk management in Nepal and the Caribbean	Stephen Grebby; BGS
16:10	Satellite monitoring of volcanic eruption in Iceland 2014-2015	Ingibjörg Jónsdóttir; University of Iceland
16:30	Preliminary results of ASTER – TIR time series over the Indonesian Lusi eruption site	Stefania Amici; INGV
16:50	Prediction of collapsing karstic events by integrating NDVI Index from Landsat-7 ETM+ imagery and GIS tools. Application to the zone between Salisbury and Winchester, United Kingdom.	Raquel Serrano; University of Aberdeen
17:10	GRSG AGM	The Geological Remote Sensing Group Annual General Meeting (AGM)
17:30	Posters, Exhibition and Networking	
18:40	Buses depart to Wine Reception (Free to attend)	





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Day 2 – Thursday 10 th December 2015		
08:30-09:00	Registration & Coffee	
09:00	Welcome	
09:00	Keynote: Geohazards Thematic Exploitation platform	Philippe Bally: ESA
AM1	Exploitation of Big Data	Session Chair: Dietmar Backes
9:30	Big crowds and big data: how DigitalGlobe's crowdsourcing and cloud processing platforms are enabling better disaster response and management	Alex Gow; DigitalGlobe
9:50	An interactive live-link on ESA big data to monitor oil spills and oil seepages.	Serge Riazanoff; Visio Terra
10:10	Rapid delivery of SAR imagery to Ice Management operations in support of seismic acquisition programs in Northeast Greenland 2015	Carles Debart; KSAT
10:30-11:00	Coffee Break 1 (poster session + exhibition)	
AM2	Mineral Exploration	Session Chair: Dan Taranik
11:00	Automatic interpretation of wv3 imagery over selected exploration targets	Neil Pendock; Consultant
11:20	Mineral Mapping using WorldView-3 "super-spectral" data	Micky Brown; Mappa Mundi Surveys Ltd
11:40	Analysis of hyperspectral imagery for Kupferschiefer style sediment hosted copper in eastern Greenland	David W. Coulter; Overhill Imaging
12:00	Applying hyperspectral field, laboratory and airborne data to delineate hydrothermal alteration zones and gossans in northern Canada	Dr. Kati Laakso; University of Alberta / Specim
12:20	A remote sensing-based discrimination of high- and low potential mineralization of porphyry copper deposits; a case study from Dehaj-Sarduiyeh copper belt, SE Iran.	Mahdieh Hosseinjani Zadeh: Graduate University of Advanced Technology, Kerman, Iran
12:40-13:40	Lunch	
PM1	Hyperspectral	Session Chair: Micky Brown
13:40	The Supervised Vicarious Calibration (SVC) method for hyperspectral orbital sensors	Prof Eyal Ben Dor; Tel Aviv University
14:00	Automated hyperspectral imaging for archival core preservation and enhancement	Brigette A. Martini: Corescan Inc
14:20	Now you see it – Now you don't: Mineral Interpretation across Infrared Wavelength Ranges	Phil Harris: TerraCore
14:40	The role of hyperspectral imagery in diamond mining: Examples from the snap lake, tango extension and fox kimberlites	Michelle Tappert; University of Alberta
15:00	EnGeoMAP v2.0 a tool for hyperspectral spaceborne geological remote sensing.	Christian Mielke: GFZ
15:20-15:50	Coffee Break 2 (poster session + exhibition)	
PM2	Geological Mapping 2	Session Chair: Charlotte Bishop
15:50	The effect of lichens on the reflectance of rock substrates (Case Study: Greenland)	Sara Salehi: GEUS
16:10	Spectroscopic insights of landing sites of interest in the lunar South Pole from NASA's Moon Mineralogy Mapper (M3) hyperspectral data aboard the Chandrayaan-I	Huma Irfan: UCL/Birkbeck, University of London
16:30	Satellite data for a better understanding of water resources in northern Chad	Yves Haerberlin: UNOSAT
16:50	A new version of QUANTOOLS, the spectral tools for mineral mapping	Veronika Kopackova: Czech Geological Survey
17:10-17:30	Coffee Break 3 (poster session + exhibition)	





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PM3	Geohazards 2	Session Chair: Jason Manning
17:30	Self-accelerated Development of Salt Karst during Flash Floods along the Dead Sea Coast, Israel	Gidon Baer; Geological Survey of Israel
17:50	Multitemporal analysis and mapping of shifting dunes in the Negev (Israel) and Sinai (Egypt) Sandfield	Prof. Arnon Karnieli; Ben-Gurion University of the Negev
18:10	Present Day Kinematics of the Dobi Graben using Radar Interferometric Approach in view of Divergent Plate Boundary: Afar Depression, Ethiopia	Zelalem Demissie; Oklahoma State University
18:30	Busses to Conference dinner (Free to attend) Welcome drinks at 18:30 Dinner starts at 19:30	

Day 3 – Friday 11 th December 2015		
08:30-09:00	Registration & Coffee	
09:00	Welcome	Welcome : GRSG Chairman: Luke Bateson
09:00	Keynote: Sentinel 2	Olivier Colin: ESA
AM1	Sentinel	Session Chair: Ola Grabak
9:30	The use of TERRA-ASTER satellite as a simulator of the Sentinel- 2 mission for landslide detection	Filippo Vecchiotti; Austrian Geological Survey
9:50	Preliminary Analysis of Sentinel-1 IW data for Geohazard Monitoring and Mapping	Dr. Fabio Bovenga; National Research Council, CNR-ISSIA,
10:10	Impact of Sentinel-1 data on surface deformation monitoring over large areas	Marco Bianchi; TRE
10:30-11:00	Coffee Break 1 (+ poster session + exhibition)	
AM2	New Processing Techniques	Session Chair: Huma Irfan
11:00	Status of various sensors on small UAV	Marc Goossens; Geosense
11:20	Evaluation of low cost consumer grade UAS systems for 3D reality capture and mapping	Dietmar J. Backes; University College London
11:40	High added-value surface geology database for the oil & gas explorationist and mining engineers using enhanced remote sensing data, 3D GIS digital mapping technics and dedicated geo tool-box.	François Charpentier; TTI Production
12:00	Automated Change Detection and Oil Field Monitoring Technology Innovation'	Andrew Tewkesbury; Airbus Defence and Space
12:20	IMAGINE Operational Radar	Simone Colla; Hexagon Safety & Infrastructure
12:40-13:40	Lunch	
PM1	Mine Operations	Session Chair: Marc Goossens
13:40	Processing hyperspectral imagery for mapping potential asbestos contamination in Northern Cape, South Africa	Stephane Chevrel; BRGM
14:00	RESEM - REMote SENSing supporting surveillance and operation of Mines.	Corine Davids; Norut
14:20	Monitoring of mines by COSMO-SkyMed PSP SAR interferometry	Mario Costantini; E-Geos
14:40	Analysis of iron and steelwork by-products using reflectance spectroscopy and hyperspectral imaging: A multi scale approach	Michael Denk; Martin Luther University Halle-Wittenberg
15:00	Mapping Acid Mine Drainage at different scales using hyperspectral airborne and simulated multispectral and hyperspectral spaceborne data	Simone Zepp; DLR
15:20	Conference closing remarks	





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Posters – Displayed over all three days		
Dedicated poster session Wednesday 9 th December at 17.30		
Franck Eitel Kemgang Ghomsi	Contribution of the Geophysics to the Structural Study of the Mbere Basin using GOCE Gravity Measurements: Implication to the Regional Tectonics.	The University of Yaounde, Cameroon
Rudolf Greku	Geomorphology and tectonic structure with the satellite data for regions of Ukraine and Antarctica	Institute of Geological Sciences, Ukraine
Gabriel Barberes	Remote sensing applied to the geoconservation of Amazonia: the Serra do Divisor National Park (Acre State, Brazil)	University of Coimbra, Italy
Benedetta Marsilio	Estimation of a probability index for landslides after wildfire occurrence.	Sapienza University of Rome, Italy
Maria Kaskara	Radar Remote sensing applications for the detection of deformation in urban sites in Greece, exploiting the ENVISAT data archive.	National Observatory of Athens, Greece
Claudia Spinetti	Landslides susceptibility mapping of the Sorrentina Peninsula coastal areas, Southern Italy	Istituto Nazionale di Geofisica e Vulcanologia, Italy
Mathew Webster	Exploring the potential of the Sentinel-1 mission for mapping the surface velocity of Icelandic glaciers	University of Southampton, UK.
Ibrahim Labaran Bashar	Application of VIS/NIR in the identification of Weak Layers in the London Clay Formation– A case study from Whitecliff Bay Isle of Wight, UK.	University of Portsmouth, UK
Dieudonné Rirabe	Contribution of the image fusion (Landsat 8 and PALSAR) for the lithostructural mapping of the Precambrian basement of Guera: case of Mongo.	Centre Universitaire de Recherche et d'Application en Télédétection, Cote d'Ivoire.
Aminu A. Isyaku	Geological mapping in the Bornu (Chad) Basin north-east Nigeria, using Optical-Radar-DEM data integration	University of Portsmouth, UK
Alena Ivanchukova	Remote sensing data applications for mine subsidence monitoring	National Centre of Space Researches and Technologies, Kazakhstan
Mike King	Offshore seep validation	NPA Satellite Mapping, CGG
Esmat Rashedi	Coastline detection using GSA based classification algorithm, Persian Gulf, Iran	Graduate university of Advanced Technology, Iran
Muhammad Haneef	Fault system identification and earthquake risk assessment of Karachi region, Pakistan, using geospatial techniques.	Institute of Space Technology, Pakistan
Muhammad Luqman	Investigating Factors of Slope Failure for Different Land sliding sites in Murree Area, Using Geomatics Techniques	Pakistan
Cornelia Gläßer	Mapping mining heaps using multi- and hyperspectral remote sensing: A case study in the Mansfelder Land region in Central Germany	Martin Luther University Halle-Wittenberg, Germany
Barnaby E. Gordon	Mineral Spectral Analysis from the Recently Launched WorldView-3 Satellite for Mapping Carbonatite Dyke Compositions in Kunene Region, Namibia	University College London, UK
Nghargbu K'tso	Geospatial mapping for Iron Mineralization around Muro, North Central Nigeria	Nasarawa State University, Keffi, Nigeria
Bijal Chudasama	Palaeochannel detection using night time TIR remote sensing: A case study in the Tubas palaeochannel system, Namibia	Centre of Studies in Resources Engineering, Indian Institute of Technology, India
Sanchari Thakur	Remote estimation of dielectric properties of palaeochannel-fill sediments in Tubas Area, Namibia: implications for surficial uranium exploration	Centre of Studies in Resources Engineering, Indian Institute of Technology, India
Sara Del Conte	InSAR monitoring in heavy oil operations	TRE, Italy
Sara Del Conte	InSAR applied to urban tunnelling: examples and recent advances	TRE, Italy
Amine Jellouli	Lithological mapping using OLI and ASTER data in the Moroccan Anti Atlas belt	University of Sultan Moulay Slimane, Morocco
Mohcine Chakouri	Using of Support vector machines and Spectral Angle Mapper classification for lithological mapping from Hyperion hyperspectral imagery	Faculty of Sciences and Techniques of Beni Mellal, Morocco
Andre Kalia	Concept of a national Copernicus surface motion monitoring service	BGR, Germany
Martin Schodlok	Synergetic VNIR-SWIR-TIR information extraction from a hyperspectral flight campaign in the Northern Cape South Africa	BGR, Germany

