

SCIENTIFIC PROGRAM

MONDAY, MARCH 16, 2009

09:00 – 10:00	Opening Session	Large Auditorium
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GREETINGS

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| 09:00 | Prof. Eyal Ben-Dor
Chair, 6th EARSeL SIG IS Workshop |
| 09:10 | Prof. Dany Leviatan
Rector, Tel Aviv University |
| 09:20 | Dr. Michael Rast
Head, Programming Planning Office, ESA - Earth Observation
Programmes, ESRIIN |
| 09:25 | Dr. Zvi Kaplan
Director General, Israel Space Agency |
| 09:30 | Dr. Wouter Dorigo
ISPRS Commission VII |
| 09:35 | Dr Rainer Reuter
Vice Chairman, EARSeL |
| 09:40 | Mr. Andreas Müller
DLR, Germany, Chair, EARSeL SIG IS |

10:00 – 11:00	Keynote Lectures	Large Auditorium
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| 10:00 | THE TRANSITION FROM REMOTE SENSING TO REMOTE
MEASUREMENT WITH IMAGING SPECTROSCOPY
R.O. Green , Jet Propulsion Laboratory, Pasadena, CA, USA |
| 10:30 | IMAGING SPECTROSCOPY FOR GEO-ENVIRONMENTAL STUDY:
INDIAN EXPERIENCES
P.S. Roy , ISSA, National Remote Sensing Agency, India |
| 11:00 | Group Photo |
| 11:15 | <i>Coffee Break, Poster and Exhibition Viewing</i> |

MONDAY, MARCH 16, 2009 (continued)

11:45 – 13:25 **Session in honour of Klaus Itten** Large Auditorium

Chair: **M. Rast**, ESA-ESRIN, Italy

- 11:45 TERRESTRIAL IMAGING SPECTROSCOPY – SOME FUTURE PERSPECTIVES
K. Staenz, Alberta Terrestrial Imaging Centre, University of Lethbridge, Alberta, Canada
- 12:05 SIGNAL OR NOISE - TOWARDS QUANTITATIVE MEASUREMENTS IN AIRBORNE IMAGING SPECTROSCOPY
A. Müller, DLR, Germany
- 12:25 REVIEW OF ENMAP SCIENTIFIC POTENTIAL AND PREPARATION PHASE
H. Kaufmann, K. Segl, L. Guanter, S. Chabrillat, S. Hofer, H. Bach, P. Hostert, A. Müller, C. Chlebek, GFZ German Research Centre for Geosciences, Germany
- 12:45 IMAGING SPECTROSCOPY IN THE EARTH SYSTEM SCIENCES
M.E. Schaepman, S.L. Ustin, A.J. Plaza, T.H. Painter, J. Verrelst, S. Liang, Centre for Geo-Information, The Netherlands
- 13:05 THE EMERGENCE OF IMAGING SPECTROMETRY IN EUROPE
K.I. Itten, Remote Sensing Laboratories, Dept. of Geography, University of Zurich, Switzerland
- 13:25 *Lunch Break and Exhibition Viewing*

MONDAY, MARCH 16, 2009 (continued)

14:30 – 16:00 Session I Large Auditorium

RESULTS FROM NEW AND LARGE SCALE HSR MISSIONS

Chair: **M.E. Schaepman**, RSL University of Zurich, Switzerland

- 14:30 THE MOON AS A SPECTRAL MANIFOLD: RESULTS FROM THE MOON MINERALOGY MAPPER ON CHANDRAYAAN-1
J.W. Boardman, C.M. Pieters, R.O. Green, J.M. Sunshine, A. Senthil Kumar
Analytical Imaging and Geophysics, LLC, Boulder, CO, USA
- 14:45 FIRST TEST RESULTS OF THE AIRBORNE DISPERSIVE PUSHBROOM IMAGING SPECTROMETER APEX
K.I. Itten, K. Meuleman, M. Schaepman, **E.A. Alberti**, B. Bomans, F. Dell'Endice, P. D'Odorico, A. Hueni, J. Nieke, D. Schläpfer, G.J. Ulbrich
Remote Sensing Laboratories, Dept. of Geography, University of Zurich, Switzerland
- 15:00 EO-1 HYPERION ONBOARD PERFORMANCE OVER EIGHT YEARS: HYPERION CALIBRATION
E.M. Middleton, L. Ong, S.G. Ungar, P.K.E. Campbell, NASA, Greenbelt, MD, USA
- 15:15 FORWARD SIMULATION OF HYPERSPECTRAL REMOTE SENSING IMAGES IN THE FRAME OF THE ENMAP MISSION
K. Segl, L. Guanter, H. Kaufmann, GFZ German Research Centre for Geosciences, Germany
- 15:30 AN OVERVIEW OF THE CHRIS HYPERSPECTRAL MISSION
M.A. Cutter, Survey Satellite Technology Ltd, UK
- 15:45 THE PRISMA MISSION
C. Galeazzi, C. Ananasso, R. Loizzo, System Engineering and Technical Management ASI, Rome, Italy
- 16:00 *Coffee Break and Exhibition Viewing*

MONDAY, MARCH 16, 2009 (continued)

16:30 – 18:15	Session 2	Large Auditorium
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ASPECTS IN THE ATMOSPHERE

Chair: **L. Guanter**, GFZ, Germany

- 16:30 RECENT DEVELOPMENTS IN OPERATIONAL ATMOSPHERIC AND
RADIOMETRIC CORRECTION OF HYPERSPECTRAL IMAGERY
D. Schlöpfer, R. Richter, A. Hueni, ReSe Applications, Wil, Switzerland
- 16:45 REMOVAL OF SUN GLINT FROM HYPERSPECTRAL SHALLOW WATER
IMAGERY
E. Vahtmäe, T. Kutser, Estonian Marine Institute, Tallinn, Estonia
- 17:00 ADJOINT RADIOSITY BASED ALGORITHMS FOR RETRIEVING TARGET
REFLECTANCES IN URBAN AREA SHADOWS
C.C. Borel, K. Ewald, M. Manzardo, C. Wamsley, J. Jacobson,
Ball Aerospace & Technologies Corp., Fairborn, OH, USA
- 17:15 MINERAL MAPPING OF SURFACE AND ATMOSPHERE DUST
PROPERTIES OF BODELE DEPRESSION, CHAD USING HYPERION
HYPERSPECTRAL SENSOR ONBOARD EO-1 SPACE CRAFT
A.A. Chudnovsky, E. Ben-Dor, I. Koren, Dept. of Environmental Sciences,
Weizmann Institute, Rehovot, Israel
- 17:30 EFFICIENT RADIATION TRANSFER CALCULATION AND SENSOR
PERFORMANCE REQUIREMENTS FOR THE AEROSOL RETRIEVAL BY
AIRBORNE IMAGING SPECTROSCOPY
F. Seidel, D. Schlöpfer, K.I. Itten, Remote Sensing Laboratories, University of
Zurich, Switzerland
- 17:45 A PARALAX BASED METHOD FOR REMOTE SPECTRAL ANALYSIS OF
GAS PLUME
K. Wolowelsky, Z. Figov, L. Weizmann, Rafael, Israel
- 18:00 MONITORING OF SO₂ EMISSIONS FROM STACKS USING
MULTISPECTRAL IMAGING IN THE UV AND VISIBLE SPECTRAL BANDS
E. Agassi, E. Hirsch, Israel Institute for Biological Research, Nes Ziona,
Israel
- 18:30 *Welcome Reception sponsored by the RSL –University of Zurich Switzerland
in honour of Prof. Klaus Itten
Foyer, Diaspora Museum, Beth Hatefutoth*
- 19:30 *Tour of the Beth Hatefutoth, the Museum of Jewish Diaspora*

TUESDAY, MARCH 17, 2009

09:00 – 10:30

Parallel Session 3

Large Auditorium

GEOLOGY APPLICATIONS

Chair: **A. Müller**, DLR, Germany

- 09:00 ANALYSIS OF HYMAP DATA OF THE SARFARTOQ CARBONATITE COMPLEX, WEST GREENLAND
E. Bedini, T. Tukiainen, T.M. Rasmussen, Geological Survey of Denmark and Greenland (GEUS), Institute of Geography and Geology, Denmark
- 09:15 SPECTRAL IDENTIFICATION OF PYRITE MUD WEATHERING PRODUCTS: A FIELD AND LABORATORY EVALUATION
A. Riaza, E. Garcia-Melendez, **A. Müller**
Instituto Geologico y Minero de España, Spain
- 09:30 A NEW LIBRARY OF THERMAL INFRARED REFLECTANCE SPECTRA OF ROCK-FORMING MINERALS AND ROCKS
M.C. Schodlok, A. Green, J. Huntington, L. Whitbourn
CSIRO Division of Exploration and Mining, North Ryde, NSW, Australia
- 09:45 REMOTE SENSING TECHNIQUES FOR GOLD AND COPPER PROSPECTING IN THE LOWER CAUCASUS OF AZERBAIJAN
Y. Zur, N. Margalit, A. Tvalchrelidze, M. Vanecek, Elbit Systems
Electro-optics-Elop Ltd., Israel
- 10:00 REMOTE SENSING OF LOESS SURFACES AS A TOOL FOR REVEALING PROXIMAL LOESS SOURCES IN DESERTS
O. Crouvi, A. R. Gillespie, R. Amit, Y. Enzel, Geological Survey of Israel,
Jerusalem, Israel
- 10:15 AN APPLICABLE METHOD FOR CORRECTING THE SPECTRAL CURVATURE EFFECT (SMILE) IN HYPERION IMAGES: A CASE STUDY IN DANA GEOLOGY NATIONAL PARK, JORDAN
A. Dadon, E. Ben-Dor, A. Karnieli, The Remote Sensing Laboratory, Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev,
Israel
- 10:30 *Coffee Break, Poster and Exhibition Viewing*

TUESDAY, MARCH 17, 2009 (continued)

09:00 – 10:45 Parallel Session 4 Small Auditorium

WATER: INLAND, COASTAL AND OCEAN APPLICATIONS

Chair: **A.G. Dekker**, CSIRO, Australia

09:00 GLOBAL OBSERVATION OF DIFFERENT CYANOBACTERIA AND OTHER PHYTOPLANKTON GROUPS USING PhytoDOAS ON HIGH SPECTRALLY RESOLVED REMOTE SENSING DATA

A. Bracher, T. Dinter, B. Schmitt, J. Burrows, Alfred-Wegner-Institute for Polar and Marine Research, Bremerhaven, Germany

09:15 SATELLITE MONITORING OF CHLOROPHYLL - A CONCENTRATION IN INLAND AND ESTUARINE WATERS

A.A. Gitelson, W.J. Moses, S. Berdnikov, Y. Yacobi, School of Natural Resources, University of Nebraska Lincoln, NE, USA

09:30 REMOTE ESTIMATION OF CHLOROPHYLL-A CONCENTRATION IN THE WATER BODIES OF THE DNEIPER AND DON RIVER BASINS - SUCCESSES AND CHALLENGES

W.J. Moses, B. Sergey, **A.A. Gitelson**, Center for Advanced Land Management Information Technologies, University of Nebraska, Lincoln, USA

09:45 TOWARDS A GLOBAL SEAGRASS AND MACRO-ALGAL SPECTRAL LIBRARY TO ENHANCE GLOBAL APPLICATIONS OF SHALLOW WATER HABITAT MONITORING AND MANAGEMENT

A.G. Dekker, J.M. Anstee, H. Botha, Y.J. Park, R. Mount, S. Phinn, C. Roelfsema, C. Auricht, CSIRO, Australia

10:00 A SEASONALLY ROBUST EMPIRICAL ALGORITHM TO RETRIEVE SPM CONCENTRATIONS IN THE SCHELDT RIVER

E. Knaeps, S. Sterckx, VITO, Belgium

10:15 LONG-TERM VALIDATION OF MERIS ALGORITHMS FOR PREALPINE LAKES

D. Odermatt, V. Kiselev, H. Thomas, M. Kneubühler, J. Nieke, K.I. Itten, University of Zurich, Remote Sensing Laboratories, Switzerland

10:30 ENVIRONMENTAL INFLUENCE OF IN SITU REFLECTANCE MEASUREMENTS IN SHALLOW WATER

N. Pinnel, **P. Gege**, Murdoch University, Perth, Australia

10:45 *Coffee Break and Exhibition Viewing*

TUESDAY, MARCH 17, 2009 (continued)

11:15 – 12:45 Parallel Session 5 Large Auditorium

Fluorescence EXplorer (FLEX)

Chair: **J.F. Moreno**, Universtiy of Valencia, Spain

- 11:15 MAPPING VEGETATION PHOTOSYNTHESIS FROM SPACE
J.F. Moreno, Y. Goulas, E. Middleton, F. Miglietta, P. North, W. Verhoef, U. Rascher, M. Berger, S. Svanberg, B. Carnicero, M. Drusch, L. Guanter, F. Magnani, University of Valencia, Spain
- 11:30 RETRIEVAL OF SOLAR-INDUCED VEGETATION FLUORESCENCE AT O2A AND O2B SPECTRAL WINDOWS FROM FLEX-LIKE HIGH SPECTRAL RESOLUTION MEASUREMENTS
L. Guanter, K. Segl, H. Kaufmann, W. Verhoef, L. Alonso, L. Gomez-Chova, J. Moreno, J. Fischer, R. Preusker, F. Gascon, B. Carnicero
GeoForschungsZentrum Potsdam, Potsdam, Germany
- 11:45 RETRIEVAL OF VEGETATION FLUORESCENCE FROM HYPERSPECTRAL DATA FOR THE ANALYSIS OF PLANT STATUS
M. Meroni, M. Rossini, S. Cogliati, M. Migliavacca, C. Panigada, G. Seufert, **R. Colombo**, Remote Sensing Laboratory, DISAT, University of Milano, Italy
- 12:00 IMAGING AND IMAGINING THE SPATIO-TEMPORAL VARIATIONS OF PHOTOSYNTHESIS
U. Rascher, A. Damm, A. Schickling, A. Moersch, F. Miglietta
Research Centre Jülich, Germany
- 12:15 DIURNAL AND SEASONAL DYNAMICS OF CHLOROPHYLL FLUORESCENCE AND SPECTRAL REFLECTANCE INDICES IN A CORNFIELD DURING THE 2008 GROWING SEASON
E.M. Middleton, Y-B. Cheng, L.A. Corp, K.F. Huemmrich, P.K.E. Campbell, Q.Y. Zhang, W.P. Kustas, A.L. Russ, NASA, USA
- 12:30 REMOTE ESTIMATION OF BIOPHYSICAL CHARACTERISTICS OF VEGETATION: CHALLENGES AND SOLUTIONS
A.A. Gitelson, School of Natural Resources, University of Nebraska Lincoln, NE, USA
- 12:45 *Lunch*
- 14:00 – 15:00 POSTER SESSION

TUESDAY, MARCH 17, 2009 (continued)

11:15 – 12:30	Parallel Session 6	Small Auditorium
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**COMPACT HIGH RESOLUTION IMAGING SPECTROMETER-
PROJECT FOR ON-BOARD AUTONOMY (CHRIS PROBA)**

Chair: **B. Hoersch, ESA, Italy**

- 11:15 STUDY ON THE EFFECT OF MULTI-ANGULAR NARROWBAND DATA FOR WHEAT CROP LAI RETRIEVAL USING CHRIS/PROBA DATA AND PROSAIL MODEL
S. Panigrahy, **S.S. Ray**, R. Antony, Indian Space Research Organization, India
- 11:30 APPLICATION OF PROBA-1/CHRIS DATA TO DETERMINE DEGRADATION INDICATORS WITHIN THE SEMI-ARID WETLAND AREA (NATIONAL PARK LAS TABLAS DE DAIMIEL, SPAIN)
T.F. Schmid, J.A. Domínguez, J. Solana, J. Gumuzzio, M. Koch, Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT), Spain
- 11:45 USE OF SUPERRESOLUTION ENHANCED CHRIS/PROBA IMAGES FOR LAND-COVER CLASSIFICATION AND SPECTRAL UNMIXING
J.C. Chan, J. Ma, L. Demarchi, T. Van de Voorde, F. Canters, Vrije Universiteit Brussel, Belgium
- 12:00 COASTAL ZONE MONITORING BY CHRIS/PROBA: FROM CAL/VAL ACTIVITIES TO BIOGEOPHYSICAL PARAMETERS ASSESSMENT
D. Guzzi, A. Barducci, **I. Pippi**, P. Marconi, C.N.R. - I.F.A.C., Florence, Italy
- 12:15 THE CHRIS TOOLBOX: ALGORITHMS FOR THE PRE-PROCESSING OF CHRIS/PROBA DATA IN THE BEAM SOFTWARE
L. Alonso, L. Gomez-Chova, J. Moreno, **L. Guanter**, C. Brockmann, N. Fomferra, R. Quast, Peter Regner, GFZ German Research Centre for Geosciences, Germany
- 12:45 *Lunch*
- 14:00 – 15:00 POSTER SESSION

TUESDAY, MARCH 17, 2009 (continued)

15:00 – 16:45

Parallel Session 7

Large Auditorium

NEW SENSORS AND ECONOMY PERSPECTIVE

Chair: **A. Held**, CSIRO, Australia

- 15:00 PERFORMANCE AND EXAMPLES OF MEASUREMENTS OF A MID INFRARED INTERFEROMETRIC HYPERSPECTRAL IMAGER
D. Cabib, CI Systems, Israel
- 15:15 NEW HYPERSPECTRAL AISA SENSORS IN LONG WAVE INFRARED REGION AND FOR UNMANNED AIRBORNE VEHICLES
P. Pellikka, K. Alanko-Huotari, J. Okkonen, Spectral Imaging Ltd., Department of Geography, Univ. of Helsinki, Finland
- 15:30 DESIGN AND CHARACTERIZATION OF A HYPERSPECTRAL CAMERA FOR LOW LIGHT IMAGING WITH EXAMPLE RESULTS FROM FIELD AND LABORATORY APPLICATIONS
J. Hernandez-Palacios, I. Baarstad, T. Løke, L.L. Randeberg, T. Skauli Norsk Elektro Optikk, Lørenskog, Norway
- 15:45 A HIGHLY INTEGRATED PAYLOADS SUITE FOR ACTIVE AND PASSIVE OPTICAL OBSERVATION
M.M.E. Esposito, S. Hanneman, S. Moon, D. Lampridis, M. Collon, M. Beijersbergen, Cosine Research BV, Leiden, The Netherlands
- 16:00 EXPLORING THE DEMANDS ON HYPERSPECTRAL DATA PRODUCTS FOR URBAN PLANNING: A CASE STUDY IN THE MUNICH REGION
W. Heldens, T. Esch, U. Heiden, A. Müller, S. Dech, Department of Remote Sensing at the Institute for Geography, University of Wuerzburg, Germany
- 16:15 FROM COMPLEXITY TO SIMPLICITY – A NEW INTEGRATED PLATFORM FOR SCIENTIFIC AND COMMERCIAL AIRBORNE HYPERSPECTRAL REMOTE SENSING
K. Alanko-Huotari, T. Hyvärinen, J. Okkonen, D. Leber, **P. Pellikka**, Specim Spectral Imaging Ltd., Finland
- 16:30 THE ECONOMY OF HYPERSPECTRAL REMOTE SENSING APPLICATION
O. Braun, Elbit Systems Electro Optics – Elop, Israel
- 16:45 *Coffee Break, Poster and Exhibition Viewing*

TUESDAY, MARCH 17, 2009 (continued)

15:00 – 16:30 Parallel Session 8 Small Auditorium

BRDF APPLICATIONS

Chair: **T.J. Malthus**, University of Edinburgh, UK

- 15:00 SPECTRODIRECTIONAL MINNAERT-K RETRIEVAL USING CHRIS/PROBA
J. Verrelst, M.E. Schaepman, J.G.P.W. Clevers, Centre for Geo-Information, Wageningen University and Research Centre, Wageningen, The Netherlands
- 15:15 DIRECT RETRIEVAL OF THE SHAPE OF LEAF SPECTRAL ALBEDO FROM MULTIANGULAR HYPERSPECTRAL EARTH OBSERVATION DATA
M. Möttöus, M. Rautiainen, Tartu Observatory, Estonia
- 15:30 TOWARDS AN AUTOMATED DETECTION OF AVALANCHES USING THEIR DIRECTIONAL REFLECTANCE PROPERTIES
Y. Buehler, A. Hueni, T.W. Kellenberger, K.I. Itten, Remote Sensing Laboratories, University of Zurich, Switzerland
- 15:45 TOWARDS OPERATIONAL BRDF CORRECTION FOR IMAGING SPECTROMETRY DATA
T. Feingersh, D. Schlapfer, E. Ben-Dor Remote Sensing Laboratory – Tel-Aviv University, Israel
- 16:00 FOREST STRUCTURE RETRIEVAL USING HYPERSPECTRAL MULTI-ANGULAR SATELLITE DATA AND RADIATIVE TRANSFER MODELING
M. Schlerf, ITC, The Netherlands
- 16:15 THE EFFECT OF TWO FIELD SPECTRORADIOMETER'S FIELD OF VIEW AND DIRECTIONAL RESPONSE FUNCTION ON DERIVED BIOCHEMICAL AND BIOPHYSICAL INDICES AND DATA PRODUCTS
A.A. Mac Arthur, T.J. Malthus, NERC FSF, University of Edinburgh, UK
- 16:45 *Coffee Break, Poster and Exhibition Viewing*

TUESDAY, MARCH 17, 2009 (continued)

17:15 – 18:15

Parallel Session 9

Large Auditorium

HYPERSPECTRAL MISSIONS AND SENSORS

Chair: **K. Staenz**, University of Lethbridge, Canada

- 17:15 HYRESSA AND EUFAR JOIN FORCES ON AIRBORNE RESEARCH IN FP7
I. Reusen, M. Bachman, E. Ben-Dor, J. Biesemans, J-L. Brenguier,
P. Brown, S. Chabrilat, J.A. Gomez-Sanchez, S. Groom, J. Hanus,
G. Heuvelink, S. Holzwarth, A. Hueni, K.I. Itten, H. Kaufmann,
M. Kneubühler, T. Malthus, **K. Meuleman**, E. de Miguel Llanes, A. Müller,
P. Purcell, S. Roessner, T. Ruhtz, M. Schaale, M. Wendisch
Flemish Institute for Technological Research (VITO), Remote Sensing and
Earth Observation Processes, Mol, Belgium
- 17:30 SENSING EARTH SURFACE WITH THE APEX AIRBORNE IMAGING
SPECTROMETER
F. Dell'Endice, K.I. Itten, RSL - University of Zürich, Switzerland
- 17:45 SPECTRAL COMPARISON OF CHRIS/PROBA AND AHS
HYPERSPECTRAL IMAGERY IN THE FRAMEWORK OF NATURA 2000
HABITAT MONITORING
B. Haest, P. Kempeneers, J.C-W. Chan, J. Van den Borre, L. Kooistra,
S. Mùcher, B. Deronde, VITO, Flemish Institute for Technological Research,
Belgium
- 18:00 A REVIEW OF AHS PERFORMANCE
A. Fernández-Renau, E. de Miguel, **J.A. Gómez-Sanchez**,
O. Gutiérrez de la Cámara, C. Doñamayo, M. Jiménez, F. Muñoz,
E. Prado, R. Rodríguez, Remote Sensing Laboratory, Instituto
Nacional de Técnica Aeroespacial, Spain
- 18:30 *Buses leave for hotels*
- 20:00 *Mediterranean Dinner*
Please check bus transportation time-table for departure times from your
hotel

TUESDAY, MARCH 17, 2009 (continued)

17:15 – 18:00

Parallel Session 10

Small Auditorium

DATA FUSION

Chair: **B. Zagajewski**, University of Warsaw, Poland

- 17:15 AIRBORNE IMAGING SPECTROSCOPY AND LASER SCANNING AS AN AID FOR ARCHAEOLOGICAL RESEARCH AND SITE RECONSTRUCTION IN THE RAGANELLO CATCHMENT (ITALY)
L. Bertels, V. De Laet, E. Paulissen, M. Van Leusen, B. Deronde, M. Ruts, K. Meuleman, H. Feiken, E. Knaeps, VITO, Belgium
- 17:30 PREDICTING QUERCUS GARRYANA DISTRIBUTION IN THE SOUTHERN GULF ISLANDS, CANADA, USING ASD FIELDSPEC3, AISA AND MARK II DATA FUSION
T.G. Jones, N.C. Coops, T. Sharma, University of British Columbia, Canada
- 17:45 FUSION OF HYPERSPECTRAL IMAGES AND LIDAR DATA FOR CIVIL ENGINEERING APPLICATIONS
A. Brook, E. Ben-Dor, R. Richter, Remote Sensing and GIS Laboratory, Tel Aviv University, Israel
- 18:30 *Buses leave for hotels*
- 20:00 *Mediterranean Dinner*
Please check bus transportation time-table for departure times from your hotel

WEDNESDAY, MARCH 18, 2009

09:00 – 10:30

Parallel Session 11

Large Auditorium

SENSOR PROBLEMS + CAL/VAL

Chair: **K. Meuleman**, VITO-TAP, Belgium

- 09:00 EFFECTS OF SPATIAL AND SPECTRAL STRAY LIGHT ON
RADIOMETRIC CALIBRATION OF A HYPERSPECTRAL PUSHBROOM
SENSOR
K. Lenhard, DLR IMF-EV, Germany
- 09:15 A NEW LABORATORY FOR THE CHARACTERISATION OF
HYPERSPECTRAL AIRBORNE SENSORS
P. Gege, German Aerospace Center (DLR), Germany
- 09:30 ENMAP HYPERSPECTRAL IMAGING SENSOR
ON-BOARD CALIBRATION APPROACH
V. Mogulsky, S. Hofer, B. Sang, J. Schubert, T. Stuffer, A. Müller,
C. Chlebek, H. Kaufmann, Kayser-Threde GmbH, Munich, Germany
- 09:45 AUTOMATIC IMAGE REGISTRATION OF MULTI-ANGLE IMAGERY FOR
CHRIS/PROBA
J. Ma, J. Cheung-Wai Chan, F. Canters, Cartography and GIS Research
Group, Geography Department, Vrije Universiteit, Brussels, Belgium
- 10:00 AN XML-BASED FORMAT FOR THE EXCHANGE OF
SPECTRORADIOMETRIC DATA
T.J. Malthus, NERC Field Spectroscopy Facility, School of Geosciences,
University of Edinburgh, Edinburgh, UK
- 10:15 HAZARDS IN INTERPRETING IMAGING SPECTROGRAPH
SPECIFICATIONS
C. Anger, **S. Achal**, ITRES Research Limited, Calgary, Canada
- 10:30 *Coffee Break, Poster and Exhibition Viewing*

WEDNESDAY, MARCH 18, 2009 (continued)

09:00 – 10:30

Parallel Session 12

Small Auditorium

CLASSIFICATION AND MAPPING METHODS

Chair: **J.W. Boardman**, Boulder, CO, USA

- 09:00 CLASSIFICATION OF HYPERSPECTRAL DATA USING SUPPORT VECTOR MACHINES AND ADAPTIVE NEIGHBORHOODS
Y. Tarabalka, J.A. Benediktsson, J. Chanussot, GIPSA-lab, Grenoble Institute of Technology, Domaine Universitaire –Saint-Martin-d’Hères, France
- 09:15 CHANGE DETECTION IN COMPLEX INDUSTRIAL AND URBAN SCENES USING VNIR AND TIR HYPERSPECTRAL IMAGERY
M. Shimoni, R. Heremans, D. Borghys, C. Perneel, Royal Military Academy, Belgium
- 09:30 SVM REGRESSION FOR HYPERSPECTRAL IMAGE ANALYSIS
S. van der Linden, **T. Udelhoven**, A. Rabe, A. Damm, P. Hostert, CRP – Gabriel Lippmann, Belvaux, Luxembourg
- 09:45 HYPERSPECTRAL IMAGE CLASSIFICATION BASED ON A FAST BREGMAN SPARSE MULTINOMIAL LOGISTIC REGRESSION ALGORITHM
J. Li, J.M. Bioucas Dias, A.J. Plaza, Instituto de Telecomunicações, Instituto Superior Técnico, Lisbon, Portugal
- 10:00 IMPROVING ACCURACY AND RELIABILITY OF CLASSIFICATION OF HYPERSPECTRAL DATA BASED ON WAVELET DECOMPOSITION
O. Almog, M. Shoshany, V. Alchanatis, Technion, Israel Institute of Technology, Haifa, Israel
- 10:15 PROCESSING EXTENSION FOR THE SPECTRAL DATABASE SPECCHIO
A. Hueni, J. Nieke, J. Schopfer, M. Kneubühler, K.I. Itten
University of Zurich, Dept. of Geography, Remote Sensing Laboratories, Zurich, Switzerland
- 10:30 *Coffee Break, Poster and Exhibition Viewing*

WEDNESDAY, MARCH 18, 2009 (continued)

11:00 – 12:45 Parallel Session 13 Large Auditorium

SPECTRAL INFORMATION AND ANALYSIS

Chair: **D. Schläpfer**, University of Zurich - RSL / ReSe, Switzerland

- 11:00 **HYPER-SPECTRAL IMAGING COMPRESSION**
A. Averbuch, M. Guttman, Tel Aviv University, Israel
- 11:15 **ASSESSING THE INFLUENCE OF SPECTRAL BAND CONFIGURATION ON AUTOMATED RADIATIVE TRANSFER MODEL INVERSION FOR TEMPERATE GRASSLAND CHARACTERIZATION**
W. Dorigo, R. Richter, T. Schneider, M. Schaepman, A. Muller, W. Wagner, Institute of Photogrammetry and Remote Sensing, Vienna University of Technology, Vienna, Austria
- 11:30 **ON THE SPECTRAL RESOLUTION REQUIREMENTS FOR THE DERIVATION OF LEAF AREA INDEX FROM HYPERSPECTRAL REMOTE SENSING DATA**
T. Peisker, D. Spengler, K. Segl, H. Kaufmann, GFZ German Research Centre for Geosciences, Potsdam, Germany
- 11:45 **INCREASING AND EVALUATING THE RELIABILITY OF MULTIPLE ENDMEMBER SPECTRAL MIXTURE ANALYSIS**
M. Bachmann, A. Müller, S. Dech, DLR-DFD German Aerospace Center, German Remote Sensing Data Center, Wessling, Germany
- 12:00 **SPARSE HYPERSPECTRAL UNMIXING**
M-D. Iordache, J. Bioucas-Dias, A. Plaza
Instituto de Telecomunicações, Instituto Superior Técnico, Lisbon, Portugal
- 12:15 **QUANTITATIVE ASSESSMENT OF MINERAL COMPONENTS OF SELECTED MINERAL POWDER MIXTURE SETS USING VSWIR SISUROCK IMAGING SPECTROMETER AND FIEDSPEC PORTABLE SPECTROMETER**
V.V. Kuosmanen, J.L. Laitinen, R. Bars, Geological Survey of Finland, Espoo, Finland
- 12:30 **SIGNIFICANT MISREGISTRATION OF HYPERSPECTRAL BANDS NEAR ABSORPTION LINES**
D.E. Bar, K. Wolowelsky, O. Yaron, Z. Figov, Rafael, Israel
- 12:45 *Lunch*

WEDNESDAY, MARCH 18, 2009 (continued)

11:00 – 12:45 Parallel Session 14 Small Auditorium

SOIL APPLICATIONS

Chair: **S.L. Ustin**, University of California Davis, USA

- 11:00 MAPPING OF DESERT BIOLOGICAL SOIL CRUST USING
HYPERSENSITIVE WATER BANDS
M.L. Whiting, **S.L. Ustin**, Center for Spatial Technologies and Remote
Sensing (CSTARS), University of California, Davis, CA, USA
- 11:15 MONITORING SOIL ORGANIC CARBON IN CROPLANDS USING
IMAGING SPECTROSCOPY
A. Stevens, B. van Wesemael, T. Udelhoven, A. Denis, B. Tychon,
R. Liy, University of Louvain, Belgium
- 11:30 SOIL MOISTURE IMPACT ON LAB MEASURED REFLECTANCE OF BARE
SOILS IN THE OPTICAL DOMAIN [0.35 - 15 μ m]
A. Lesaignoux, S. Fabre, X. Briottet, A. Olioso, ONERA, Toulouse, France
- 11:45 ESTIMATION OF CLAY AND ORGANIC MATTER CONTENT USING
LABORATORY, FIELD AND AIRBORNE HYPERSPECTRAL
MEASUREMENTS ON AGRICULTURAL FIELDS OF THE TEST SITE
DEMMIN
H. Gerighausen, E. Borg, G. Menz, German Remote Sensing Data Centre,
German Aerospace Centre (DLR), Germany
- 12:00 STUDYING SOIL THREATS USING VISIBLE AND NEAR INFRARED
SPECTRAL ANALYSIS
S. Moretti, Università degli Studi di Firenze, Earth Science Department, Italy
- 12:15 SPATIAL ASSESSMENT OF SOIL DEPTH FROM LABORATORY
REFLECTANCE MEASUREMENTS
T. Jarmer, M. Vohland, Transportation & GeoInformation Engineering Unit,
Technion, Israel Institute of Technology, Haifa, Israel
- 12:30 REFLECTANCE SPECTROSCOPY AS A RAPID TOOL FOR QUALITATIVE
MAPPING AND CLASSIFICATION OF HYDROCARBONS SOIL
CONTAMINATION
G. Schwartz, E. Ben-Dor, G. Eshel, Tel Aviv University, Israel
- 12:45 *Lunch*

WEDNESDAY, MARCH 18, 2009 (continued)

14:00 – 15:30 Parallel Session 15 Large Auditorium

PRECISION AGRICULTURE

Chair: **A. Karnieli**, Ben Gurion University of the Negev, Israel

- 14:00 BASING DECISION SUPPORT SYSTEM FOR IMPROVING WHEAT GRAIN QUALITY ON AIRBORNE HYPERSPECTRAL OR SATELLITE MULTISPECTRAL IMAGES
D.J. Bonfil, A. Pimstein, I. Herrmann, E. Ben-Dor, A. Karnieli
Dept. of Geography and Human Environment, Tel Aviv University, Israel
- 14:15 DETERMINATION OF CEREAL TYPE AND GROWTH STAGE FROM HYPERSPECTRAL REMOTE SENSING DATA
D. Spengler, T. Peisker, H. Kaufmann, Hemholtz Centre Potsdam - GFZ
German Research Centre for Geosciences, Germany
- 14:30 GROUND AND AERIAL HYPERSPECTRAL DATA RELATIONS TO NITROGEN CONTENT AND DRY WEIGHT OF POTATO PLANTS
I. Herrmann, A. Karnieli, D.J. Bonfil, Y. Cohen, V. Alchanatis, The Remote Sensing Laboratory, Jacob Blaustein Institutes for Desert Research, Ben-Gurion University of the Negev, Israel
- 14:45 EVALUATING IMAGE-BASED ESTIMATES OF BIOPHYSICAL PARAMETERS IN MEDITERRANEAN CONIFER FOREST IN DECLINE USING AIRBORNE IMAGERY
R. Hernández-Clemente, R. Navarro-Cerrill, J.E. Frieyro de Lara, P.J. Zarco-Tejada, L. Suárez, A. Hayas-Lopez, G. Sepulcre-Cantó
Universidad de Córdoba, Spain
- 15:00 DETECTING WATER STRESS IN ORCHARD CROPS USING PRI FROM AIRBORNE IMAGERY
L. Suárez, P.J. Zarco-Tejada, V. González-Dugo, J.A.J. Berni, E. Fereres
Instituto de Agricultura Sostenible (IAS). Consejo Superior de Investigaciones Científicas (CSIC), Spain
- 15:15 NITROGEN EVALUATION IN POTATO PLANTS BASED ON SIMULATED BANDS AND IMAGES OF THE VEN μ S SATELLITE
Y. Cohen, V. Alchanatis, Y. Zusman, Z. Dar, D. Bonfil, A. Karnieli, A. Zilberman, A. Moulin, V. Ostrovsky, A. Levi, R. Brikman, M. Shenker
Institute of Agricultural Engineering, Volcani Center, Beth Dagan, Israel
- 15:30 – 17:00 POSTER SESSION
Coffee Break and Exhibition Viewing

WEDNESDAY, MARCH 18, 2009 (continued)

14:00 – 15:30

Parallel Session 16

Small Auditorium

VEGETATION, ECOLOGY AND ENVIRONMENT

Chair: **A.A. Gitelson**, University of Nebraska-Lincoln, USA

- 14:00 **MAPPING HIGH RESOLUTION FOREST CHEMISTRY WITH AISA**
D.G. Goodenough, K.O. Niemann, A. Dyk, P. Gordon, G. Quinn
Natural Resources Canada, Canada
- 14:15 **MAPPING OF PIONEER VEGETATION IN POST MINING AREAS BY**
MEANS OF HYPERSPECTRAL FIELD MEASUREMENTS
A. Jung, C. Götze, C. Gläßer, Martin-Luther-Universität Halle-Wittenberg,
Germany
- 14:30 **MODELING VASCULAR PLANT DIVERSITY IN NAMIBIAN DRY LANDS**
USING HYPERSPECTRAL DATA
J. Oldeland, L. Lieckfeld, M. Schmidt, N. Juergens, Department of Biology,
University of Hamburg / DLR-DFD, Germany
- 14:45 **THE ROLE OF HYPERSPECTRAL REMOTE SENSING IN ESTIMATING**
NET PRIMARY PRODUCTIVITY OF FOREST AND GRASSLAND
ECOSYSTEMS
A. Psomas, S. Huber, M. Kneubuehler, N.E. Zimmermann, Swiss Federal
Research Institute WSL, Switzerland
- 15:00 **REMOTE SENSING OF BIOLOGICAL SOIL CRUST UNDER SIMULATED**
CLIMATE CHANGE
S.L. Ustin, M.J. Santos, S.C. Kefauver, M.L. Whiting, Center for Spatial
Technologies and Remote Sensing University of California, Davis, CA, USA
- 15:15 **USING THE RIGHT SLOPE OF THE 970 NM ABSORPTION FEATURE FOR**
ESTIMATING CANOPY WATER CONTENT
J.G.P.W. Clevers, L. Kooistra, M.E. Schaepman, Wageningen University,
The Netherlands
- 15:30 – 17:00 **POSTER SESSION**
Coffee Break and Exhibition Viewing

WEDNESDAY, MARCH 18, 2009 (continued)

17:00 – 18:15	Session 17	Large Auditorium
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ENMAP AND PRISMA PROGRAMMES

Chair: **H. Kaufmann**, GFZ, Germany

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| 17:00 | ENMAP - GERMANY'S HYPERSPECTRAL EARTH OBSERVATION MISSION: OUTLINE AND OBJECTIVES OF THE ENMAP MISSION
G. Rossner , P. Schaadt, C. Chlebek, A. Von Bargen, German Space Agency, Germany |
| 17:15 | DESIGNING THE GROUND SEGMENT OF ENMAP: ELEMENTS, ORGANISATION, AND CHALLENGES
A. Müller , A. Braun, H. Mühle, R. Müller, H. Kaufmann, T. Storch, U. Heiden, J. Gredel, A. von Bargen, German Aerospace Center (DLR), German Remote Sensing Data Center (DFD), Wessling, Germany |
| 17:30 | ENMAP – SPACE SEGMENT - INSTRUMENT AND MISSION PARAMETERS
T. Stuffer , S. Hofer, M. Leipold, K-P. Förster, B. Sang, J. Schubert, B. Penne, H. Kaufmann, A. Müller, C. Chlebek, Kayser-Threde GmbH, Germany |
| 17:45 | PROCESSING CHAIN FOR THE FUTURE HYPERSPECTRAL MISSION EnMAP
T. Storch, A. de Miguel, G. Palubinskas, R. Müller, R. Richter, A. Müller , L. Guanter, K. Segl, H. Kaufmann, German Aerospace Center (DLR), Germany |
| 18:00 | OVERVIEW OF THE PRISMA SYSTEM
C. Galeazzi , G. Varacalli, F. Longo, E. Lopinto, L. Garramone, R. Capentiero ASI, Italy |

18:15 – 19:15	Session 18	Large Auditorium
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ENMAP ROUND TABLE

Chair: **M. Berger**, ESA, Italy

Panelists:

A. Held, CSIRO, Australia
H. Kaufmann, GFZ, Germany
G. Rossner, GSA, Germany
K. Staenz, ATIC/ University of Lethbridge, Canada

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| 19:15 | Summary
E. Ben-Dor , Chair, 6 th EARSeL SIG IS Workshop |
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