



## GEOBIA 2012 : Oral Sessions

### DAY 2 - TUESDAY 08/05/2012

#### 10h50 - 12h30 FOREST ANALYSIS (Auditorium Segovia 2)

*Chair: Margueritte Madden*

10h50 - 11h10	René Beuchle, JRC, Italy	Updating an object-based pan-tropical forest cover change assessment by automatic change detection and classification
11h10 - 11h30	Flore Devriendt, Ghent University, Belgium	Classification of unmanaged forest reserves in Flanders (Belgium) at the tree crown level using airborne hyperspectral and LiDAR data
11h30 - 11h50	Frieke Van Coillie, Ghent University, Belgium	Directional local filtering assisting individual tree analysis in closed forest canopies using VHR optical and LiDAR data
11h50 - 12h10	Maciel Zortea, Norw. ComputerCenter, Norway	Object-based cloud and cloud shadow detection in Landsat images for tropical forest monitoring
12h10 - 12h30	Sidnei Sant 'Anna, INPE, Brazil	A comparison of maximum likelihood classifier and object-based method based on multiple sensor datasets for land-use/cover classification in the Brazilian Amazon

#### 10h50 - 12h30 AQUATIC & COASTAL ECOS. (Auditorium Segovia 3)

*Chair: Cristina Bentz*

10h50 - 11h10	Javier Leon, Univ. of Queensland, Australia	Data fusion for mapping coral reef geomorphic zones - Possibilities and limitations
11h10 - 11h30	Stefen Lang, Univ. of Salzburg, Austria	Object-based class modeling for assessing habitat quality in riparian forests
11h30 - 11h50	Allan Arnesen, INPE, Brazil	Flood extent monitoring of the Amazon River floodplain using ScanSAR/ALOS data
11h50 - 12h10	Hermann Kux, INPE, Brazil	Identification of mangrove fragments at a northern section of São Luis (MA), Brazil using WorldView-II images and the OBIA approach
12h10 - 12h30	Leonhard Süchenwirth, Tech. Univ. of Berlin, Germany	Combining object-based image analysis and data mining for carbon assessment in floodplains

#### 10h50 - 12h30 CHANGE DETECTION (Auditorium Segovia 4)

*Chair: Geoffrey Hay*

10h50 - 11h10	Andrew Gardiner, Ordnance Survey, UK	A semi-automatic method for detecting changes to Ordnance Survey topographic data in rural environments
11h10 - 11h30	Marcel Ziem, Univ. of Hannover, Germany	Semi-automatic update and quality control of road databases
11h30 - 11h50	Aleksandra Mazur, Univ. of Gdansk, Poland	Baltic Sea ice extent and concentration changes during Winter 2010
11h50 - 12h10	Stéphane Dupuy, CIRAD, UMR/TETIS, France	Land-cover dynamics in Southeast Asia: Contribution of object-oriented techniques for change detection
12h10 - 12h30	Arie Seijmonsbergen, IBED, Netherlands	Geomorphological change detection using object-based feature extraction from multi-temporal LiDAR data



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#### 14h00 - 15h40 SEGMENTATION 1 (Auditorium Segovia 2)

*Chair: Norman Kerle*

14h00 - 14h20	Abdul Syed, Rochester Inst. of Technology, USA	Encoding of topological information in multi-scale remotely sensed data: Applications to segmentation and object-based image analysis
14h20- 14h40	Patrick Happ, PUC-Rio, Brazil	Assessment of optimization methods for automatic tuning of segmentation parameters
14h40 - 15h00	Christoff Fourie, DLR Germany	Combining the heuristic and spectral domains in semi-automated segment generation
15h00 - 15h20	Anne Puissant, Univ. of Strasbourg, France	Automated mapping of coastline from high resolution satellite images using supervised segmentation
15h20 - 15h40	Carlos Volotão, INPE, Brazil	Image segmentation with image and shape phase analysis

#### 14h00 - 15h40 FEATURE EXTRACTION 1 (Auditorium Segovia 3) *Chair: Kasper Johansen*

14h00 - 14h20	Hong Tang, Beijing Normal University, China	An object-oriented clustering algorithm for multi-spectral images using the Latent Dirichlet Allocation
14h20- 14h40	Ersin Karaman, METU, Turkey	A new algorithm for automatic road network extraction in multispectral satellite images
14h40 - 15h00	Irene Walde, University of Jena, Germany	Graph-based mapping of urban structure types from high resolution satellite image objects
15h00 - 15h20	Dirk Tiede, Univ. of Salzburg, Austria	Implementation of an interactive WebGIS-based OBIA geoprocessing service
15h20 - 15h40	Hendrik Herold, LIEURD & Technical University of Dresden, Germany	Towards adaptive image processing - Automated extraction of railroad tracks from extremely high resolution aerial imagery

#### 14h00- 15h40 LANDSCAPE&ECOLOGICAL APP.(AuditoriumSegovia4) *Chair:Peter Hofmann*

14h00 - 14h20	José Peña, IAS-CSIC, Cordoba, Spain	Object-based approach for crop row characterization in UAV images for site-specific weed management
14h20- 14h40	Sebastian d'Oleire, Univ. of Salzburg, Austria	Object-based landform mapping at multiple scales from digital elevation models (DEMs) and aerial photographs
14h40 - 15h00	Marcos Freitas, INPE, Brazil	Landscape hierarchical zoning using object-oriented image analysis
15h00 - 15h20	Hadi Fadaei, Agency for Marine-Earth Sc., Japan	Estimation tree density as object-based in arid and semi-arid regions using ALOS
15h20 - 15h40	Elisabeth Addink, Utrecht University, Netherlands	Extrapolation of high-resolution classification with low-resolution objects. An example of burrow system and rodent habitat mapping in Kazakhstan



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#### 16h20 - 18h00 ACCURACY ASSESSMENT (Auditorium Segovia 2) *Chair: Frieke van Coillie*

16h20 - 16h40	Timothy Whiteside, Env. Research Inst., Australia	Site-specific area-based validation of classified objects
16h40 - 17h00	Guillermo Castilla, Univ. of Calgary, Canada	An integrated framework for assessing the accuracy of GEOBIA land cover products
17h00 - 17h20	Eduardo Marinho, JRC, Italy	Spatial assessment of categorical maps: A proposed framework
17h20 - 17h40	Christian Becker, Univ. of Hannover, Germany	Automatic quality assessment of GIS data based on object coherence

#### 16h20 - 18h00 GEOMORPHOLOGICAL HAZARDS (Auditorium Segovia 3) *Chair: Hermann Kux*

16h20 - 16h40	Norman Kerle, ITC, Netherlands	Extracting gully features and its dynamics from high spatial resolution imagery using object-based image analysis
16h40 - 17h00	Andre Stumpf, Univ. of Strassbourg, France & ITC, Netherlands	Adaptive sampling and object-feature selection for landslide mapping using Random Forests
17h00 - 17h20	Norman Kerle, ITC, Netherlands	Creation of event-based landslide inventory from panchromatic images by object-oriented analysis
17h20 - 17h40	Andre Stumpf, Univ. of Strassbourg, France & ITC, Netherlands	Mapping landslide surface fissures with matched filtering and object-oriented image analysis
17h40 - 18h00	Guruh Samodra, Univ. Gadjah Mada, Indonesia & Kyushu Univ., Japan	Application of GEOBIA-multinomial logistic regression for landslide vulnerability assessment in Kayangan catchment area, Indonesia

#### 16h20-18h00 URBAN APPLICATIONS 1 (Auditorium Segovia 4) *Chair: Elisabeth Addink*

16h20 - 16h40	Ursa Kanjir, Academy of Sciences, Slovenia	Using VHR satellite imagery to estimate populations in informal settlements
16h40 - 17h00	Paolo Gamba, Univ. of Pavia, Italy	Urban climate zone detection and discrimination using object-based analysis of VHR scenes
17h00 - 17h20	Geoffrey Hay, Univ. of Calgary, Canada	Geospatial object-based mosaicing of high-resolution thermal airborne imagery (TABI 1800) to improve roof shape and thermal statistics
17h20 - 17h40	Barbara Ribeiro, INPE, Brazil	Evaluation of WorldView-2 imagery for urban land cover mapping using the InterIMAGE system
17h40 - 18h00	Adel Moussa, Univ. of Calgary, Canada	Shape oriented object-based classification of aerial/satellite images of urban areas



## GEOBIA 2012 : Oral Sessions

### DAY 3 - WEDNESDAY 09/05/2012

#### 10h50 - 12h30 LIDAR & SAR APPL. (Auditorium Segovia 2) *Chair: Arie Seijmonsbergen*

10h50 - 11h10	Kasper Johansen, Univ. of Queensland, Australia	Object-based monitoring of gully extent and volume in North Australia using LiDAR data
11h10 - 11h30	Norman Kerle, ITC, Netherlands	Identification of vegetated landslides using only a LiDAR-based terrain model and derivatives in an object-oriented environment
11h30 - 11h50	Stéphane Dupuy, CIRAD, UMR/TETIS, France	OBIA for combining LiDAR and multispectral data to characterize forested areas and land cover in a tropical region
11h50 - 12h10	Cristina Bentz, Petrobras (Braz. Oil Company)	Classification of oil spills and meteo-oceanographic events detected in SAR images
12h10 - 12h30	Cláudia Almeida, INPE, Brazil	A knowledge-based approach applied to airborne SAR images for classifying land cover/land use in the Brazilian Amazon

#### 10h50 - 12h30 MULTITEMPORAL ANALYSIS (Auditorium Segovia 3) *Chair: Thomas Blaschke*

10h50 - 11h10	Peter Hofmann, Academy of Sciences, Austria	Object-based change detection using temporal linkages
11h10 - 11h30	Guilherme Mota, RJ State Univ., UERJ, Brazil	Estimation of transition possibilities for fuzzy Markov chains applied to the analysis of multitemporal image sequences
11h30 - 11h50	Kurtulus Gormus, Bülent Ecevit Univ., Turkey	Verification of temporal analysis of coastline using object-based image classification derived from Landsat-5 images of Karasu, Turkey
11h50 - 12h10	Alzir Antunes, Fed. Univ. of Paraná, UFPR, Brazil	Characterization of the growth of urban areas by means of QuickBird images through object-oriented segmentation
12h10 - 12h30	Dirk Tiede, Univ. of Salzburg, Austria	Object-based change detection and classification improvement of time series analysis

#### 10h50-12h30 URBAN APPLICATIONS 2 (Auditorium Segovia 4) *Chair: Stefan Lang*

10h50 - 11h10	Aycan Marangoz, Bülent Ecevit Univ., Turkey	Detection of urban features and map updating from satellite images using object-based image classification methods and integration to GIS
11h10 - 11h30	Hendrik Herold, LIEURD & Technical University of Dresden, Germany	A GEOBIA approach to map interpretation – Multitemporal building footprint retrieval for high resolution monitoring of spatial urban dynamics
11h30 - 11h50	Kouros Khoshelham, ITC, Netherlands	Role of dimensionality reduction in segment-based classification of damaged building roofs in airborne laser scanning data
11h50 - 12h10	Geoffrey Hay, Univ. of Calgary, Canada	Geospatial object-based heat metrics to support urban energy efficiency programs
12h10 - 12h30	Norman Kerle, ITC, Netherlands	Local ontologies for object-based slum identification and classification



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#### 13h45 - 15h25 SEGMENTATION 2 (Auditorium Segovia 2)

*Chair: Gilson Costa*

13h45 - 14h05	Torsten Büschenfeld, Univ. of Hannover, Germany	Edge preserving land cover classification refinement using mean shift segmentation
14h05 - 14h25	Patrick Happ, PUC-Rio, Brazil	A parallel image segmentation algorithm on GPUs
14h25 - 14h45	Elisabeth Addink, Utrecht University, Netherlands	Reducing the effect of seed locations during segmentation. Applying the edge-preserving smoothing filter to increase robustness of segmentation
14h45 - 15h05	Rodrigo Ferreira, PUC-Rio, Brazil	A multiscale, multicriteria approach for image segmentation
15h05 - 15h25	Roeland de Kok, JRC, Italy	Contrast analysis in high-resolution imagery for near and far neighborhoods

#### 13h45 - 15h25 CLASSIFICATION (Auditorium Segovia 3)

*Chair: Guillermo Castilla*

13h45 - 14h05	Paulina Riedel, SP State Univ., UNESP, Brazil	Land cover mapping using object-based image analysis for pipelines monitoring
14h05 - 14h25	Jie Yang, Shanghai Jiao Tong University, China	An experimental comparison of graph based semi-supervised learning for multispectral image classification
14h25 - 14h45	Cristiane Francisco, Flum. Fed. Univ., UFF, Brazil	Data mining techniques and GEOBIA applied to land cover mapping
14h45 - 15h05	Alessandra Lisita, Univ. of Brasília, UnB, Brazil	Detecting potential sites of Cannabis Sativa plantations by object-based, SPOT 5 HRG image classification
15h05 - 15h25	Marcos Freitas, INPE, Brazil	Land use/land cover in the Uruguay river basin considering the GEOBIA paradigm

#### 13h45 - 15h25 FEATURE EXTRACTION 2 (Auditorium Segovia 4) *Chair: Christian Heipke*

13h45 - 14h05	Nils Wolf, Ruhr-Univ. Bochum, Germany	Machine learning for the exhaustive evaluation of object-based feature spaces
14h05 - 14h25	Mauricio Acuña, Univ. of São Paulo, USP, Brazil	Texture-based fuzzy system for rotation-invariant classification of aerial orthoimage regions
14h25 - 14h45	Stefen Lang, Univ. of Salzburg, Austria	Identifying and evaluating hotspots of climate-related indicators in the Sahel making use of object-based regionalization techniques
14h45 - 15h05	Ekin Gedik, METU, Turkey	A new robust method for bridge detection from high resolution electro-optic satellite images
15h05 - 15h25	Luis Ignacio, Univ. of Extremadura, Spain	A new tool for evaluating spectral unmixing applications for remotely sensed hyperspectral image analysis