

# EARSel



June 2015  
No. 102

# NEWSLETTER



European Association of Remote Sensing Laboratories

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## EARSeL Newsletter

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## EARSeL Annual Membership Fee

Individual observer	330€
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## Editorial

Dear members,

Special Interest Groups (SIGs) are vital parts of EARSeL. A call for EARSeL SIG chairperson candidacies or for new SIG proposals is due till late September.

A call for participation at the 3rd EARSeL SIG Forestry Workshop at Krakow, Poland in mid-September as well as the early October abstract submission for the Proba-V Symposium in late January at Ghent, Belgium are also included.

EARSeL eProceedings feature with a wealth of new remote sensing research publications, while book releases include two highly respected remote sensing books.

A series of EARSeL SIG events is underway including the 10th EARSeL SIG Forest Fire Workshop in Cyprus, the 5th EARSeL SIG ReSeArCH Workshop in Frascati, the 3rd EARSeL SIG Forestry Workshop in Krakow. The 36th EARSeL Symposium and 39th General Assembly will be held in Bonn, Germany as well as later in 2017 the 10th EARSeL Workshop on Imaging Spectroscopy in Zurich.

A list of conferences, training courses and summer schools to attend in the near future appear towards the end of the Newsletter.

Do not hesitate to send us your proposals on articles for publication as well as to receive your feedback for the EARSeL Newsletter.

Enjoy reading the 102nd issue along with a restful summer vacation!

The Editors

## News from EARSel

### Call for EARSel SIG chairperson candidacies

Dear colleagues,

Special Interest groups (SIGs) are the places where the main scientific efforts of EARSel are concentrated. These SIGs form the foundation of the activities of EARSel and its "raison d'être". They encourage co-operation and foster innovative applications of remote sensing. The science is at its highest level, the state-of-the-art is well established and advances are being made and are foreseen.

Starting from 2015, EARSel will hold, every 4 years, elections for Special Interest Group Chairpersons. You can find the list of existing SIGs in the folder "Special Interest groups" of the EARSel website <http://www.earsel.org>.

This call is also an opportunity for the EARSel members to submit a new SIG. The management of a SIG by two Co-Chairpersons is encouraged.

The rules for the submission of candidacy, and the election process, are described in the following text.

The **deadline for the submission of applications** to the EARSel Secretariat ([secretariat@earsel.org](mailto:secretariat@earsel.org)) is **September 30, 2015**.

On behalf of the EARSel Bureau

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EARSel Secretary General



### **EARSeL SIG chairperson election process (July 2015)**

Every 4 years, EARSeL holds elections for Special Interest Group chairpersons representing very important groups of remote sensing within the EARSeL member laboratories.

- Each candidate has to be an EARSeL laboratory member.
- The submission of a common candidacy by two applicants is also encouraged.
- The candidate(s) is asked to send the following documentation to the EARSeL Secretary ([secretariat@earsel.org](mailto:secretariat@earsel.org)) until the 30th of September:
  - half-page motivation letter indicating Special Interest Group of interest,
  - half-page plan outlining planned Special Interest Group activities for the four-year electoral term,
  - one-page CV containing achievements in connection with the field of remote sensing and a photo.
- The EARSeL Secretary prepares a list of candidates (including motivation letter, action plan and CV of each candidate) and sends it to the EARSeL Council member official e-mails (listed on the EARSeL web pages) until the 31st of October,
- Each EARSeL Council member can vote for two candidates for each specific Special Interest Group. All votes have to be returned until the 31st of December
- The EARSeL Secretary prepares ranking lists of all candidates for all EARSeL SIGs one week in advance of the EARSeL Council meeting held in winter.
- All SIG chairpersons have to be accepted by EARSeL Council and Bureau members during the EARSeL Council meeting to be held in winter (each EARSeL Council and Bureau member has one vote in the election process during the EARSeL Council meeting).
- The four-year electoral term starts on the 1st June.
- The four-year electoral term is renewable. A criterion for a re-election is a successful activity (updated web pages, bi-annual SIG Workshops or yearly thematic sessions during Symposia, support or nomination of SIG members to local organisers of Symposia, e.g. chairing, reviewing and organising thematic sessions, publications of SIG contributions, e.g. thematic papers, special issues in EARSeL journals, EARSeL Books).



## 3rd EARSeL SIG Forestry Workshop

### “Breaking dimensions and resolutions of forest remote sensing data”

September 15-16, 2016, Krakow, Poland



### Aims & Scope of the 3rd Workshop

The 3rd Workshop of the Special Interest Group on Forestry aims at setting up the common forum for the environment research community and people involved in the forestry sector, where both the operational techniques as well as developing methodologies can be presented and understood in order to improve the inventory methods, monitoring and management or protection practices used in the forests. Proposed papers and posters should focus on the following topics:

- from 2D to 3D forest inventory/management using digital Photogrammetry - image based stereo-matching; LiDAR (ALS, TLS, MLS) and Radar for tree/forest parameter derivation (e.g. volume, age/height, tree species, forest type, biodiversity, horizontal/vertical structure, etc);
- forest change: 4D time detection of multi-temporal and multi-source information;
- forest mapping technologies using very high ground resolution imageries;
- applications of hyperspectral sensors (hand held, UAV, aircraft, spaceborne applications);
- automation of data processing (e.g. GEOBIA, LiDAR classification and vegetation metrics)
- state-of-the-art remote sensing technologies: spaceborne satellite sensors, UAV-LiDAR and hyperspectral mapping, TLS, etc.;
- multi-source RS data integration;
- mapping of forest decline/degradation/disasters; REDD+ issues
- modeling application on forest biomass;
- monitoring of protected forests, biodiversity and forest service's- related image analysis;



- forest parameter derivation for global monitoring and modelling issues (carbon stock, biomass, evapotranspiration, etc.)
- physical reflection/growth model integration, parameter estimation by inversion.

## Organisers

The workshop will be organised by SIG on Forestry of the European Association of Remote Sensing Laboratories (EARSel) and University of Agriculture in Krakow, Faculty of Forestry, Institute of Forest Resources Management, Department of Forest Management, Geomatics and Forest Economics. Contact person: Piotr Wezyk, Assoc. Prof. (e-mail: [p.wezyk@ur.krakow.pl](mailto:p.wezyk@ur.krakow.pl)) - Chairman of the SIG on Forestry, EARSel. Shipping address: al. 29 Listopada 46, 31-425 Krakow; room 108.

## Useful links

<http://www.sigforestry2016.eu>

<http://www.earsel.org/SIG/Forestry/index.php>

<https://www.facebook.com/SIGonForestry>

# News from Other Organisations

## Proba-V Symposium

**Ghent, Belgium, 26-28 January 2016**

The European Space Agency (ESA) and the Belgian Science Policy Office (BELSPO) are pleased to announce that registration and abstract submission are now open for the **Proba-V Symposium** to be held in Ghent (Belgium) from 26 to 28 January 2016.

The strict deadline for abstracts' submission is **09 October 2015**.

You can submit your abstract at the following link:

<http://congrexprojects.com/2016-events/16c01/abstracts>

You can register at the conference here:

<http://congrexprojects.com/2016-events/16c01/registration>

More information about the event is available at:

<http://congrexprojects.com/2016-events/16c01/introduction>

Kind regards  
The Proba-V Symposium Organising Committee

## EARSeL eProceedings



### Volume 14, Special Issue: 1st Student Workshop on Ecology and Optics of the White Sea, 2014

#### Formation of hydrogen sulfide in isolated basins at the Karelian White Sea coast

Galina Losyuk, Nataliya Kokryatskaya, and Elena Krasnova

##### Abstract

Read full paper online: <http://www.eproceedings.org>

The results of a study of the formation of hydrogen sulfide in isolated basins, which are at different stages of isolation in Kandalaksha Bay of the White Sea, are presented. It has been demonstrated that hydrogen sulfide has developed in higher degrees in a basin mostly isolated from the sea. This basin shows pronounced features of meromixis. Accumulation of hydrogen sulfide in lakes, where the salt water periodically flows in from the sea, is connected with the development of seasonal stratification and anaerobic conditions in the bottom waters. The concentration of hydrogen sulfide increases from the surface to the near-bottom layer, where the highest concentrations of H<sub>2</sub>S were determined in all basins.

#### Influence of temperature and salinity on the survival of some benthic invertebrates in laboratory conditions

Igor Izyurov, Marina Krylova, Alina Murtazina, Igor Kruchinin, and Maria Mardashova

##### Abstract

Read full paper online: <http://www.eproceedings.org>

Separating sea bays create a complex habitat forcing its denizens to quickly adapt to changing conditions different from those in the sea: salinity, temperature, chemical composition etc. Animals vary in tolerance of changing life conditions. Thus, investigating the borders of adaptive abilities in the animals living in these waters is extremely interesting and allows us to better understand the functioning of both marine and continental water ecosystems.

In this study, we have chosen several marine, brackish and freshwater inhabitants in order to study their adaptation potentials under laboratory conditions. The animals were kept in water mixtures with a salinity range of 0-24 psu and at different temperatures. Three Gammaridae species showed different salinity preferences: *G. lacustris* only survived in fresh and slightly brackish water, *M. obtusatus* did not tolerate any freshening, while *G. oceanicus* showed a wide range of salinity tolerance.

*Chironomus salinarius* showed high mortality in the laboratory. Coleopterans demonstrated no preferences in salinity. Amphipods survived better at low temperatures, chironomides and beetles at room temperature. High temperatures (30°C) are detrimental to all subjects regardless of salinity. At low temperatures, (0...4°C), amphipods stand a greater range of salinities than at higher temperatures.

**Distribution of Adder's Tongue (*Ophioglossum vulgatum* L.) in the vicinity of the White Sea Biological Station of Moscow State University (Kandalaksha Gulf)**

Alexey Kosenkov, and Maria Mardashova

**Abstract**Read full paper online: <http://www.eproceedings.org>

*Ophioglossum vulgatum* L., a potential indicator of separating water reservoirs, has a wide distribution all over the world. However, this Pteridophyte rarely grows in large populations, its colonies generally consist of only a few or single plants and therefore this fern is considered a protected species in most of the regions.

In the vicinity of the White Sea Biological Station (WSBS) of Moscow State University, Adder's tongue is found in great density near Kislo-Sladkoye lake. In the early 2000's this species was found growing in mass in some areas around the lake. In July 2014, we found a small population near the Lower Ershovskoye lake estuary. In order to clarify the distribution of *Ophioglossum* over Kindo peninsula, a coastline registration survey was conducted in order to map the fern's populations and reveal its growth conditions.

Three new populations were found corresponding to proposed characteristic plant associations and abiotic factors supposedly limiting the fern's distribution. *Ophioglossum vulgatum* grows on slightly sloping coastal meadows near separating sea bays. It requires sufficient light, moderate moisture with low salinity (0.5-5.0 psu) and a pH of 7.37-8.65. Adder's tongue is accompanied by *Poa pratensis* L., *Blysmus rufus* (Huds.) Link., *Rhinanthus minor* L., and *Parnassia palustris* L. The population is limited by a *Dianthus superbus* L. zone from one side and *Lathyrus japonicus* Willd. with *Cornus suecica* L. from the other side.

**Simultaneous determination of temperature and salinity of natural waters by Raman spectra using artificial neural networks data analysis**

Alexey Vervald, Ernest Mazurin, and Ivan Plastinin

**Abstract**Read full paper online: <http://www.eproceedings.org>

A method of simultaneous determination of temperature and salinity of water by Raman spectra was tested and validated on natural waters from the White Sea area. The basis of the method is the solution of this multi-parametric inverse problem by a modern technique of pattern recognition: artificial neural networks. Testing of the presented method was carried out on natural waters of unique meromictic lakes of the White Sea coast. The accuracy of determination of natural water parameters is 0.1°C for temperature and 0.2 psu for salinity in laboratory conditions in the investigated ranges of variation of parameters.

**A simple method to demonstrate that ice formation creates stratification in salt meromictic lakes**

Anna Voronova, Elena Krasnova, and Dmitry Voronov

**Abstract**Read full paper online: <http://www.eproceedings.org>

One of the possible factors determining the vertical stratification of the water column in the coastal meromictic Arctic lakes is the ice formation. When seawater is freezing, the salt brine concentrates in

the ice pores and is later released under the ice. The aim of this research was to verify the hypothesis that ice formation is an important mechanism explaining water stratification in salty meromictic lakes of the Arctic coast.

Seawater samples were frozen at a temperature of  $-10^{\circ}\text{C}$  for 12-24 hours, and then slowly thawed at room temperature during 1-2 days. Freezing/thawing was performed in 1.5 l and 2 l plastic bottles. In all bottles with initial salinity of 30 psu, a diluted layer with salinities between 3 and 15 psu (average 7 psu) was formed at the surface. Close to the ice/water interface, the salinity varied between 6 and 14 psu. At the bottom a thin layer with a salinity of 40-50 psu was created. These vertical salinity differences were preserved after a period of 24 h. Additional experiments showed that similar water stratification occurred for samples with initial salinities of 27, 24, 20, 15, 10, 6 and 1 psu. The observed phenomena resemble the formation of brine fingers in Antarctic waters.

### **Salt lakes separated from the White Sea**

Elena Krasnova, Dmitry Voronov, Natalia Frolova, Anatoly Pantyulin, and Timofey Samsonov

#### **Abstract**

Read full paper online: <http://www.eproceedings.org>

Many lakes at different stages of separation from the sea were formed along the coast of Kandalakshsky Gulf of the White Sea because of a rapid glacioisostatic lifting. The natural stage of their hydrological evolution is the meromixis. Five stratified lakes at different stages of isolation were studied in 2010-2014. The studies included echo-sounding of bottom topography, measurements of hydrological parameters: temperature, salinity, pH, redox potential, oxygen content, as well as registration of organoleptic properties of water, and in situ illumination measurements at different depths. Data from four years of observation are generalized, the vertical structure of the lakes was determined, as well as its seasonal and interannual variations. The lakes are ranked by chronology of their separation from the sea.

### **Quantitative benthic distribution in Kislo-Sladkoye Lake**

Ekaterina Malyshko, Elena Nesmeyanova, Stella Ilchenko, Nadezhda Volovich, Maria Mardashova, Elena Krasnova, and Larisa Menshenina

#### **Abstract**

Read full paper online: <http://www.eproceedings.org>

Water bodies separating from the sea have recently been an object of increasing interest among specialists in various fields. Kislo-Sladkoye Lake situated near the White Sea Biological Station of Moscow State University is one of the model separating water reservoirs. The lake is under monitoring for hydrological, hydrochemical, and microbiological characteristics. Bacterial and phytoplankton communities are also a focus of attention. However, some aspects are still poorly understood. In this work first results of a quantitative survey of macrobenthos are presented.

The work is dedicated to the quantitative evaluation of the macrobenthic community of Kislo-Sladkoye Lake. Thirty samples were taken from 16 stations at the following depths: 0.5, 1, 1.5, 2, 2.5, 3, 4 m. Ten species of macrobenthic invertebrates were found in the dredge samples: Insecta: Diptera - 4 taxa (larvae and adults); Mollusca: Gastropoda - 2 taxa; Oligochaeta - 1 taxon, there were also Nematoda, Chironomidae as well as houses of *Pectinaria koreni* and debris of *Dynamena pumila*. The largest quantities are reached by *Hydrobia ulvae* and *Chironomus salinarius*; nematodes, oligochaetes, chironomids and other beetles are sufficient, too. Benthic biomass in this lake varies

from 0.59 to 202.62 g/m<sup>2</sup> with the highest amount of *Hydrobia ulvae*, *Chironomus salinarius*, *Oligochaeta* (at greater depths) and *Ephydriidae* gen. sp.

## **New Publications in Vol. 14 (1), 2015**

### **Monitoring municipal solid waste small magnitude landfill settlement with DInSAR**

Pietro Milillo, Eric J. Fielding, Salvatore Masi, Paul Lundgren, and Carmine Serio

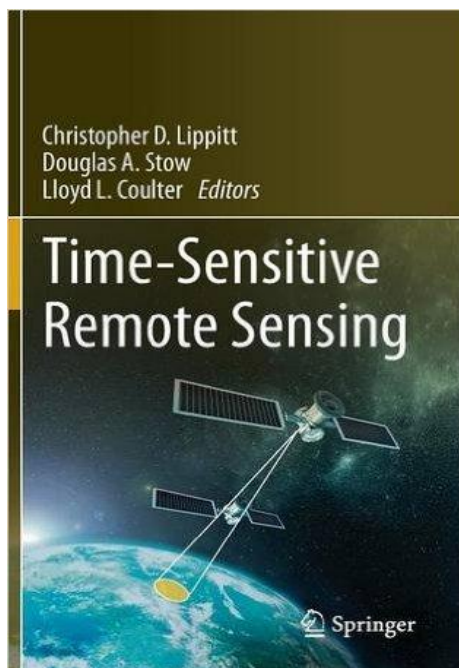
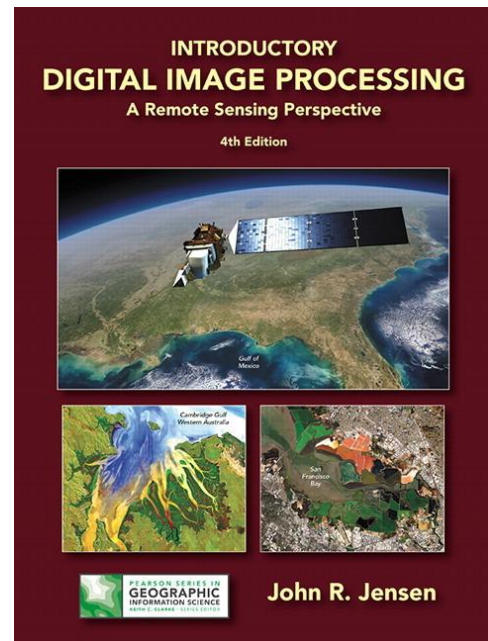
#### **Abstract**

Read full paper online: <http://www.eproceedings.org>

Municipal solid waste landfill has been suffering from well-documented, post-closure settlement over a long period of time. Settlement may lead to various undesirable phenomena such as cracks, failure of the cover system and surface ponding contamination surrounding areas and the aquifer. In this paper we highlight how differential synthetic aperture radar (SAR) Interferometry (DInSAR) is capable of monitoring landfill settlements on different spatial and temporal scales. We focus our attention on the Montegrosso-Pallareta landfill (Potenza, Italy) using COSMO-SkyMed interferometric data. Results are compared with a solid waste landfill settlement model, showing good agreement between measurements and expected deformation.

## Book Releases

The fourth edition of **Introductory Digital Image Processing - A Remote Sensing Perspective** written by John R. Jensen and published by Pearson focuses on digital image processing of aircraft- and satellite-derived, remotely sensed data for Earth resource management applications. Extensively illustrated, it explains how to extract biophysical information from remote sensor data for almost all multidisciplinary land-based environmental projects. The book is a part of the *Pearson Series Geographic Information Science* and provides up-to-date information on analytical methods used to analyse digital remote sensing data. Each chapter contains a substantive reference list that can be used by students and scientists as a starting place for their digital image processing project or research. A new appendix provides sources of imagery and other geospatial information.



**Time-Sensitive Remote Sensing (2015<sup>th</sup> Edition)** by Christopher Lippitt, Douglas Stow and Lloyd Coulter documents the state of the art in the use of remote sensing to address time-sensitive information requirements. Specifically, it brings together a group of authors who are both researchers and practitioners, who work towards or are currently using remote sensing to address time-sensitive information requirements with the goal of advancing the effective use of remote sensing to supply time-sensitive information. The book addresses the theoretical implications of time-sensitivity on the remote sensing process, assessments or descriptions of methods for expediting the delivery and improving the quality of information derived from remote sensing, and describes and analyses time-sensitive remote sensing applications, with an emphasis on lessons learned. This book is intended for remote sensing scientists, practitioners (e.g., emergency responders or administrators of emergency response agencies), and students, but will also be of use to those seeking to understand

the potential of remote sensing to address a range of pressing issues, particularly natural and anthropogenic hazard response.

## **Forthcoming EARSeL Conferences**

### **10th EARSeL SIG Forest Fire Workshop**

Organised by EARSeL, Cyprus Remote Sensing Society, Cyprus University of Technology and Aristotle University of Thessaloniki

2 – 5 November 2015, Limassol, Cyprus

[More info](#)

Further information can be found at the Workshop website at: <http://www.ffsig2015.com/node/8>

### **5th EARSeL SIG ReSeArCH Workshop**

Organised by EARSeL SIG ReSeArCH (Dr. Rosa Lasaponara)

12 – 13 November 2015, Frascati (Rome), Italy

[More info](#)

Further information can be found at: <http://congrexprojects.com/2015-events/15m38/introduction>

### **3rd EARSeL SIG Forestry Workshop**

Organised by the University of Agriculture in Krakow, Faculty of Forestry, Institute of Forest Resources Management

15 – 16 September 2016, Krakow, Poland

[More info](#)

Further information on the Workshop can be found in this issue at the **'News from EARSeL'** section.

### **36th EARSeL Symposium and 39th General Assembly**

Organised by the University of Bonn, (Gunter Menz)

19 – 24 June 2016, Bonn, Germany

[More info](#)

Further information on the 36th EARSeL Symposium will be provided at the next issue of the EARSeL Newsletter.

### **10th EARSeL Workshop on Imaging Spectroscopy**

2017, Zurich, Switzerland

Further information on the 10th EARSeL Workshop on Imaging Spectroscopy will be provided at the forthcoming issues of the EARSeL Newsletter.



## Other Conferences



26-31 July, 2015: [International Geoscience and Remote Sensing Symposium 2015 \(IGARSS 2015\)](#)

Milan, Italy



21-22 August, 2015: [ICA-ISPRS Workshop on Generalisation and Multiple Representation](#)

Rio de Janeiro, Brazil



30 August - 2 September, 2015: [UAV-g 2015 Unmanned Aerial Vehicles in Geomatics](#)

Toronto, Canada



2-4 September, 2015: [Royal Geographical Society Annual International Conference 2015](#)

Exeter, United Kingdom



07-11 September, 2015: [Photogrammetric Week 2015 Excellence in Photogrammetry, Computer Science and Geoinformatics](#)

Stuttgart, Germany



14-18 September, 2015: [Summit on Earth Observation Business](#)

The Westin, Paris



21-24 September, 2015: [SPIE Remote Sensing Symposium](#).

Toulouse, France



23-25 September, 2015: [8th Geosymposium of Young Researchers "Silesia 2015"](#)

Ustron, Poland



24-25 September, 2015: [ISPRS Working Group IV/8 Meeting](#)

Berlin, Germany



28 September - 3 October, 2015: [Geospatial Week 2015: enabling geospatial communities to meet, to exchange, and cross-fertilize](#)

La Grande Motte, France



19-20 October, 2015: [EUROSDR/ISPRS WORKSHOP ON 'OBLIQUE CAMERAS AND DENSE IMAGE MATCHING'](#)

Southampton, United Kingdom



19-23 October, 2015: [ACRS 2015 - The 36th Asian Conference on Remote Sensing](#)

Quezon City, Philippines



21-22 October, 2015: [International conference of Geospatial Techniques in Geosciences](#)  
Taza, Morocco



23-24 October, 2015, [International Conference on Intelligent Earth Observing and Applications](#)  
Guilin, China



26-29 October, 2015: [15th International Scientific and Technical Conference - From imagery to map: digital photogrammetric technologies](#)  
Cancun, Mexico



28-30 October, 2015: [Joint International Geoinformation Conference 2015](#)  
Kuala Lumpur, Malaysia



3-6 November, 2015: [International Conference on Advances in Geographic Information Systems](#)  
Seattle, United States



10-12 November, 2015: [EuroCarto 2015 - the 1st ICA European Symposium on Cartography](#)  
Vienna, Austria



11-13 November, 2015: [International Land Use Symposium \(ILUS\) 2015](#)  
Dresden, Germany



16-19 November, 2015: [Pacific Islands GIS\RS User Conference 2015](#)  
Suva, Fiji Islands

## Summer Schools and Advanced Courses



PANDA European summer school “Remote sensing of the Atmosphere, Emissions and Modeling”

23-29 August 2015, University of Bremen, Bremen, Germany

Registration closed.



4th ESA ADVANCED TRAINING COURSE ON OCEAN REMOTE SENSING

7-11 September 2015, French Research Institute for Exploitation of the Sea, Brest, France

Registration closed.



6th ESA ADVANCED TRAINING COURSE ON LAND REMOTE SENSING

14-18 September, University of Agronomic Science and Veterinary Medicine, Bucharest, Romania

Registration closed.



ESA-MOST DRAGON 3 COOPERATION - Advanced Training Course on Land Remote Sensing

16-21 November, College of Urban and Environmental Sciences, Tianjin Normal University, Tianjin, China

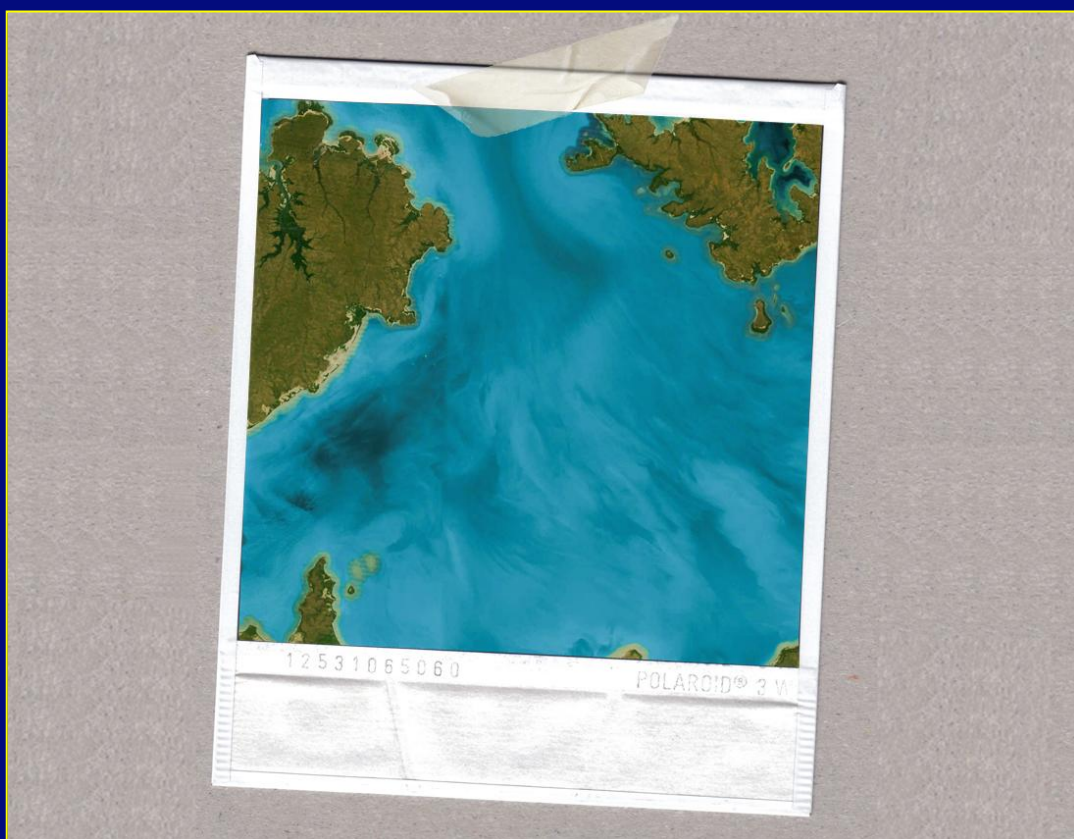
Registration deadline: **30 August 2015**

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**Back Cover** – Remote sensing summer memories. CNES/SPOT image.

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