

# Course introduction & organisation

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1–5 July 2013 | Harokopio University | Athens, Greece

## Context

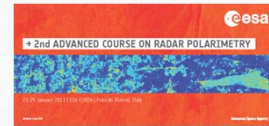
### Why ESA ADVANCED TRAINING COURSES

- Action of SEOM (Scientific Exploitation of Operational Missions) element of EOEP-4 program



### Objectives

- Training the next generation of European and Canadian Principal Investigators (PIs)
- Teaching and demonstrating theoretical principles, processing algorithms, data products and their use in applications
- Introducing tools and methods for the scientific exploitation of EO satellite data
- Stimulating and supporting the scientific exploitation of ESA EO and Third Party operational Missions





## Previous Training in Land RS



<http://earth.esa.int/landtraining07>



<http://earth.eo.esa.int/landtraining09>



<http://earth.eo.esa.int/trainingcourses/LandTrainingCourse2011>



## The organising committee

- Yves Louis Desnos (ESA)
- Michael Foumelis (ESA)
- Andrea Minchella (RSAC c/o ESA)
- Issaak Parcharidis (HUA)
- John Papadakis (GSRT)

### Co-sponsors

- European Space Agency (ESA)
- Harokopio University, Athens, Greece (HUA)
- General Secretariat for Research and Technology, Athens, Greece (GSRT)



## The Teaching Team: SAR Lecturers

**Prof. Alberto Moreira** – DLR, Germany

**Prof. Eric Pottier** – University of Rennes-1, France

**Dr. Kostas Papathanassiou** – DLR, Germany

**Prof. T. Wright** – University of Leeds, United Kingdom

**Prof. Christiane Schmullius** – University of Jena, Germany

**Dr. Hervé Yésou** – SERTIT, France



## The Teaching Team: Optical & Thermal Lecturers

**Prof. Jose Moreno** – University of Valencia, Spain

**Prof. Bob Su** – University of Twente, The Netherlands

**M. Sc. Lichun Wang** – University of Twente, The Netherlands

**Dr. Mickael Savinaud** – CS, France

**Dr. Daniel Odermatt** – Brockmann Consult, Germany

**Prof. Mário Caetano** – ISEGI-UNL, Portugal

**Prof. Lorenzo Bruzzone** – University of Trento, Italy

**Dr. Harris Kontoes** – NOA/ISARS, Greece

**Dr. Gregory Duveiller** – JRC, Italy

**Dr. Tobias Bolch** – University of Zurich, Switzerland



### The participants

<b>Countries</b>	<b>31</b>
EU-ESA member state	61
Non-EU citizen	13

74/220 selected participants

<b>Male</b>	<b>45</b>
<b>Female</b>	<b>29</b>

Gender

<b>PhD Student</b>	<b>44</b>
<b>Researcher</b>	<b>12</b>
<b>MSc</b>	<b>15</b>
<b>MSc candidate</b>	<b>3</b>

Education levels

<b>SAR Group</b>	<b>33</b>
<b>Optical Group</b>	<b>28</b>
<b>Thermal Group</b>	<b>13</b>

3 Training Course groups

Monday 1 July 2013		Tuesday 2 July 2013	
08:30-09:00	<b>REGISTRATION</b>		
	Room: Old Building – Plenary (Ground Floor)	<i>SAR group (a)</i>	<i>Optical &amp; Thermal group (b, c)</i>
09:00 - 09:30	<b>Opening session</b>	Room: New Building - Lab 2.1 (Floor 2, Level -1)	Room: TBC
09:30 - 09:50	<i>Course overview</i>	08:30 - 10:00	<b>D2T1a</b> <i>SAR Basic Concepts</i> K. Papathanassiou
09:50 - 10:20	<i>ESA EO Programmes</i> Y.-L. Desnos		<b>D2T1b</b> <i>Optical Basic Concepts</i> J. Moreno
10:20 - 11:00	<i>Coffee break and Group picture</i>	10:00 - 10:30	<i>Coffee break</i>
11:00 - 11:05	<i>Land Training Course Web streaming Introduction</i> Y.-L. Desnos	10:30 - 12:30	<b>D2T2a</b> <i>Radar Polarimetry</i> E. Pottier
11:05 - 11:45	<i>Optical/Thermal Remote Sensing in Greece</i> C. Cartalis		<b>D2T2b</b> <i>Optical Advanced Concepts</i> J. Moreno
11:45 - 12:30	<i>SAR Applications in Greece</i> I. Parcharidis	12:30 - 14:00	<i>Lunch</i>
12:30 - 14:00	<i>Lunch</i>		Room: Old Building – Plenary (Ground Floor)
14:00 - 16:00	<b>D1T1</b> <i>SAR: Principles &amp; Applications</i> A. Moreira	14:00 - 15:00	<i>Sentinel Missions</i> Y.-L. Desnos
16:00 - 16:30	<i>Coffee break</i>	15:00 - 16:00	<i>Access to ESA EO data</i>
16:30 - 18:30	<b>D1T2</b> <i>Optical/Thermal: Principles &amp; Applications</i> J. Moreno	16:00 - 16:30	<i>Coffee Break</i>
18:30 - 20:00	<b>Ice-breaker (welcome social event)</b>	16:30 - 17:00	<b>D2T3</b> ESA & Third Party Toolboxes: <i>POLSARPRO</i> E. Pottier
		17:00 - 17:30	<b>D2T4</b> ESA & Third Party Toolboxes: <i>ORFEO</i> M. Savinaud
		17:30 - 18:00	<b>D2T5</b> ESA & Third Party Toolboxes: <i>BEAM</i> D. Odermatt
		18:00-18:30	<b>D2T6</b> ESA & Third Party Toolboxes: <i>NEST</i> A. Minchella
		18:30-20:00	<b>POSTER SESSION</b>

ESA and 3 <sup>rd</sup> parties	THEORY	APPLICATION THEORY	PRACTICAL
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Wednesday 3 July 2013			Thursday 4 July 2013		
	SAR group (a)	Optical & Thermal group (b, c)	SAR group (a)	Optical group (b)	Thermal group (c)
	Room: New Building - Lab 2.1 (Floor 2, Level -1)	Room: New Building - Lab 1.1 (Floor 1, Level -2) <b>TBC for Theory</b>	Room: New Building - Lab 2.1 (Floor 2, Level -1)	Room: New Building - Lab 1.1 (Floor 1, Level -2) <b>TBC for Theory</b>	Room: New Building - Lab 1.1 (Floor 1, Level -2)
08:30 - 10:00	<b>D3T1a</b> <i>Radar Polarimetry: Advanced Concept</i> E. Pottler	<b>D3T1b</b> <i>Thermal Basic Concepts</i> B. Su	08:30 - 10:00 <b>D4T1a</b> <i>Floods &amp; Lakes Monitoring</i> H. Yesou	<b>D4T1b</b> <i>Land Use/Cover &amp; Change Detection</i> M. Caetano	
10:00 - 10:30	Coffee break				
10:30 - 12:30	<b>D3P1a</b> <i>POLSARPRO TOOLBOX</i> E. Pottler	<b>D3P1b</b> <i>ORFEO TOOLBOX</i> M. Sauvinaud	10:30 - 11:30 <b>D4P1a</b> <i>Floods &amp; Lakes Monitoring</i> H. Yesou	<b>D4T1b (cont.)</b> <i>Land Use/Cover &amp; Change Detection</i>	
12:30 - 14:00	Lunch				
14:00 - 16:00	<b>D3T2a</b> <i>SAR Interferometry</i> T. Wright	<b>D3T2b</b> <i>Thermal Advanced Concepts</i> B. Su	11:30 - 12:30 <b>D4P1b</b> <i>Land Use/Cover &amp; Change Detection</i> M. Caetano	<b>D4P1b (cont.)</b> <i>Land Use/Cover &amp; Change Detection</i>	
16:00 - 16:30	Coffee Break				
16:30 - 18:30	<b>D3T3a</b> <i>Forest &amp; Agriculture</i> C. Schmullius	<b>D3P2b</b> <i>BEAM TOOLBOX</i> D. Odermatt	12:30 - 14:00 <b>D4P2a</b> <i>NEST TOOLBOX</i> A. Minchella, M. Fomellis	<b>D4T2b</b> <i>Multi-temporal Analysis</i> L. Bruzzone	<b>D4T2c</b> <i>Hot-Spot &amp; Fire Detection</i> H. Kontoes
			14:00 - 15:00 <b>D4P2a</b> <i>NEST TOOLBOX</i> A. Minchella, M. Fomellis	<b>D4P1b (cont.)</b> <i>Land Use/Cover &amp; Change Detection</i>	Room: New Building - Lab 1.2 (Floor 1, Level -2)
			15:00 - 16:00 <b>D4P3a</b> <i>Forest &amp; Agriculture</i> C. Schmullius, A. Minchella, M. Fomellis	<b>D4P2b</b> <i>Multi-temporal Analysis</i> L. Bruzzone	<b>D4P2c</b> <i>Hot-Spot &amp; Fire Detection</i> H. Kontoes
			16:00 - 16:30 <b>D4P3a</b> <i>Forest &amp; Agriculture</i> C. Schmullius, A. Minchella, M. Fomellis	<b>D4P2b</b> <i>Multi-temporal Analysis</i> L. Bruzzone	<b>D4P2c</b> <i>Hot-Spot &amp; Fire Detection</i> H. Kontoes
			Evening	<b>Hosted Social event</b>	

ESA and 3<sup>rd</sup> parties

THEORY

APPLICATION THEORY

PRACTICAL

Friday 5 July 2013					
	SAR group (a)	Optical group (b)	Thermal group (c)		
	Room: New Building - Lab 2.1 (Floor 2, Level -1)	Room: New Building - Lab 1.1 (Floor 1, Level -2) <b>TBC for Theory</b>	Room: New Building - Lab 1.2 (Floor 1, Level -2)		
08:30 - 10:00	<b>D5T1a-1</b> <i>Terrain Motion</i> T. Wright	<b>D5T1b</b> <i>Agriculture</i> G. Duveiller	<b>D5T1c</b> <i>Soil moisture &amp; Water Resource Applications</i> B. Su		
10:00 - 10:30	Coffee break				
10:30 - 12:30	<b>D5T1a-2</b> <b>D5T1a-3</b> <i>Terrain Motion (cont.)</i> T. Wright	<b>D5P1b</b> <i>Agriculture</i> G. Duveiller	<b>D5P1c-1</b> <b>D5P1c-2</b> <i>Earth Observation of Water Resources</i> B. Su, L. Wang		
12:30 - 14:00	Lunch				
14:00 - 15:00	<b>D5P1a</b> <i>Terrain Motion: Interpreting and Modelling Interferograms</i> T. Wright	<b>D5T2b</b> <i>Glacier Mapping and Monitoring</i> T. Bolch	<b>D5T2c</b> <i>Soil moisture &amp; Water Resource Applications</i> B. Su		
15:00 - 16:00		<b>D5P2b</b> <i>Glacier Mapping and Monitoring</i> T. Bolch	<b>D5P2c</b> <i>Soil Moisture Retrieval</i> B. Su, L. Wang		
16:00 - 16:30	Coffee break				
	Room: Old Building - Plenary (Ground Floor)				
16:30 - 17:00	<b>Q &amp; A Session</b>				
17:00 - 18:00	<b>CLOSING CEREMONY</b>				

ESA and 3<sup>rd</sup> parties

THEORY

APPLICATION THEORY

PRACTICAL



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## Web Streaming

→ EUROPEAN SPACE AGENCY ABOUT US OUR ACTIVITIES FOR PUBLIC FOR MEDIA FOR EDUCATORS FOR KIDS

observing the earth 

ESA OBSERVING THE EARTH UNDERSTANDING OUR PLANET SECURING OUR ENVIRONMENT BENEFITTING OUR ECONOMY

→ About Observing the Earth [ESA > Our Activities > Observing the Earth](#) Search here

EO programmes

- The Living Planet
- GMES

ESA's Earth Observing missions

- Envisat overview
- ERS overview
- Earth Explorers overview
- Sentinels overview
- MSG overview
- MetOp overview
- Proba-1 overview



→ **LIVE FROM ATHENS**



Future Earth observation scientists: follow the Advanced Training Course in Land Remote Sensing 1-5 July via live webstream

Image of the week archive

Earth from Space on ESA Web-TV



<https://earth.esa.int/web/guest/landtrainingcourse2013/webstreaming>

1-5 July 2013 | Harokopio University | Athens, Greece


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## Welcome package


- Bag
- Touristic Guides for Athens
- Usb-Necklace, Notebook, Pens
- **Theory and Practical Manuals** (Lectures from Monday to Friday)



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→ 4th ADVANCED TRAINING COURSE IN LAND REMOTE SENSING

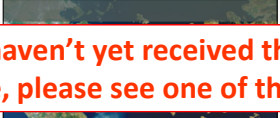


THEORY SESSIONS (Monday, Tuesday, Wednesday)  
01-05 July 2013 | Harokopio University | Athens, Greece


 <http://seom.esa.int>



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→ 4th ADVANCED TRAINING COURSE IN LAND REMOTE SENSING

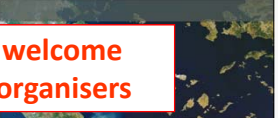


THEORY SESSIONS (Thursday, Friday)  
01-05 July 2013 | Harokopio University | Athens, Greece


 <http://seom.esa.int>

HAROKOPIO UNIVERSITY  

→ 4th ADVANCED TRAINING COURSE IN LAND REMOTE SENSING



PRACTICAL SESSIONS  
01-05 July 2013 | Harokopio University | Athens, Greece

 <http://seom.esa.int>

If you haven't yet received the welcome package, please see one of the organisers

1-5 July 2013 | Harokopio University | Athens, Greece

## Practical classes



1. Contains the instructions for each of the practical classes
2. Organised by day in sections from Wednesday through to Friday
3. Please bring this manual and USB-necklace to the classes on a daily basis
4. Electronic format of the instructions for the practical classes are provided in PCs

## POSTER Session Organisation

### Poster exhibition open at the New Building (floor -2) from Monday to Thursday

- Mounting of posters from Monday 1 July 2013
  - Lunch / PM breaks
- **Final list is in poster area. Please check to find your poster board**
- Boards are labelled, please mount on the correct board
- Please take time to view the posters during the week
- Opportunity to exchange contacts and ideas

### Poster session: 18:30 to 20:00 Tuesday 2 July 2013

- Adjudication by Lecturers and organising committee
- 6 Categories
  - *Terrain Motion*
  - *Water Availability & Floods*
  - *Land Use/ Land Cover*
  - *Forest & Agriculture*
  - *Hot Spots & Glaciers*
  - *Other Applications*
- 1 award for best poster in each category
- **Awards during Friday's closing session**





## On-line Course Evaluation

\*1. Have you used ESA EO data prior to this training course?

YES  
 NO

\*2. Are you likely to use ESA EO data following the course?

YES  
 NO

\*3. How will you go about accessing ESA data and what research will you undertake? (Brief answer required)

\*4. Prior to the course, was the information and material available on the website appropriate / sufficient?

Agree  
 Rather agree

- To provide feed back to improve for the future
- 10 minutes to complete
- The questionnaire is anonymous
- Link to website will be provided by email



## Certificate of attendance



1. To get a certificate, attendance is mandatory for **all** lectures and practical classes
2. Not enough to attend one or two lectures or to pick and choose from the programme
3. Attendance lists will be in circulation
4. Certificates will be awarded during the closing ceremony **Friday 5 July 2013**



## Badges



Colour coded:

- Lectures – blue
- Students – green
- Organisers – red
- Guests – light brown

Helps us to get to know each other's names

Please wear at all times while on site (guests of Harokopio University for the week)

## Restaurants for lunch





### Further info

- Training course material updated on website (by July 2013)
- Web streaming will be available afterword the course also
- The Registration Desk will be open every day during coffee break in the morning for the whole week
- In case of any need please ask the organizing team

***We wish you a pleasant stay in Athens, and a successful Training Course!***