

## The Marie Curie Series of Events METIER

"METHODs in Interdisciplinary Environmental Research" is a series of seven graduate training courses and one final conference addressing cutting-edge methods of interdisciplinary environmental research such as remote sensing, environmental modelling, scenario development and forecasting, geo-visualization, and information management. The series is offered by the PEER network and supported by the European Community.

## The network PEER

"Partnership for European Environmental Research" is an initiative of seven large European centres of environmental research. It was founded in 2001 in order to perform common research activities, including graduate training courses and capacity building.



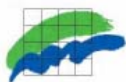
Green World Research Centre

University of Leicester, UK



Centre for Agriculture & Environmental Engineering Research

Joint Research Centre - Institute for Environment and Sustainability



National Environmental Research Institute

Finnish Environment Institute



Centre for Environmental Research



# PEER

Partnership for European Environmental Research

## METIER Graduate Training Course

### Remote Sensing of the Land Surface

23-27 April 2007

University of Leicester, UK

ALTEERRA

University of Leicester

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**METIER:**  
Marie Curie Series of Events "METHODs in Interdisciplinary Environmental Research"



## You are invited to the METIER Graduate Training Course No. 3 "Remote Sensing of the Land Surface" from 23-27 April 2007 at the University of Leicester, UK.

**Remote sensing** offers key tools for earth and environmental observation as well as assessments of effects caused by climate change or global change processes related to urbanisation, migrations, or land-use change. It is needed in all environmental disciplines. Remote sensing is a methodology for data collection, analysis and the parameterization of environmental models. Remote sensing is more than just collecting and analysing satellite data. It requires profound interdisciplinary knowledge to be able to interpret the data, e.g. for use in Geographical Information Systems or land surface models.

This course provides a comprehensive overview of **remote sensing** in relation to **processes and models of the land surface**. This requires different methodological approaches and will be intended to benefit PhD students and early-stage researchers from a range of disciplines including geography, environmental sciences, biology, physics and hydrology.

### Topics

- **Ecological disturbances and climate feedbacks in the boreal biome:** (i) Fire scar mapping using short-wave infrared and mid-infrared channels, (ii) Near-real-time fire monitoring using heat emissions, (iii) Fire radiative energy estimation using thermal channels, (iv) The Global Burned Area 2000 project
- **Global land cover mapping:** (i) Overview of global land cover products and GLC 2000 approach, (ii) Major land cover types of Northern Eurasia, (iii) Spectral signatures and spectral-temporal metrics of land cover types, (iv) Classification method to map Northern Eurasia's land cover in GLC 2000, (v) Steps forward on land cover mapping using time-series analysis of moderate-resolution satellite data
- **Estimating biophysical vegetation properties from space:** (i) Forest canopy reflectance modelling using the FLIGHT model, (ii) Reflectance model inversion for retrieving biophysical parameters (e.g. chlorophyll content), (iii) The CHRIS-PROBA sensor
- **3D Vegetation structure and biomass:** (i) Airborne and Spaceborne Synthetic Aperture Radar and vegetation structure, (ii) Airborne imaging LIDAR, (iii) Spaceborne profiling LIDAR, (iv) Vegetation indices
- **Land surface processes and land use change:** (i) Geographic objects in GIS databases, (ii) Detecting land use change using multi-temporal imaging techniques, (iii) Uncertainty and land use change, (iv) Land surface modelling and feedbacks to climate

University of  
Leicester



METIER

### Schedule

The training course will run for one week from Monday morning (9.30) until Friday afternoon (15.30). Time for a limited amount of short presentations by participants will be given. Participants are encouraged to bring a poster on their work.

### Lecturers

Lead Scientist: Prof. Heiko Balzter (University of Leicester, United Kingdom)  
Prof. Mike Barnsley (University of Wales at Swansea, United Kingdom)  
Dr. Sergey Bartalev (Russian Academy of Sciences, Moscow, Russia)  
Dr. Karsten Schulz (Environmental Research Centre UFZ Halle-Leipzig, Germany)

### Venue

The University of Leicester is one of the UK's leading research and teaching universities. In the 2001 Research Assessment Exercise 84% of the staff were in units of assessment of national and international excellence. The course will be held at the Geography Department. Both physical and human geography have been rated by students as the top in the UK for student satisfaction (THES, 25th August 2006).

The University has 18,005 students including 8,514 at postgraduate level. Its student completion rate is in the top 10 nationally.

Leicester is home to two Centres of Excellence in Teaching and Learning and plays an important part in a third. The department has a large, vibrant and friendly postgraduate community housed in modern facilities with dedicated computer access. Currently over 50 students are registered on our postgraduate programmes which include environmental management, physical and human geography and geographical information science (GIS) and satellite remote sensing. Leicester is known as the curry house capital of the UK, and offers a wide range of international cuisine. The Halls of Residence are situated near the University Botanical Gardens at Oadby, which is a suburb of Leicester, and are always a popular choice with new and returning students.



### Further details and online application

20 part-funded student places are available. To be considered for financial support, please register online at <http://peer-initiative.org/html/obj138.html> before 31 January 2007.

**Contact:** <http://www.le.ac.uk/geography/>  
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