



B I B R A C T E

***International Workshop TRAIL 2011***

**Training and research  
in the archaeological  
interpretation of LiDAR**



**Bibracte – European Archaeological Centre - Glux-en-Glenne  
14-15-16 March 2011**

***Workshop organized in partnership with :***



**AARG**

**Training and research in the archaeological interpretation of LiDAR**  
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LiDAR data, which permit the creation of **high resolution and large scale Digital Terrain Models**, has been available in Europe for half a dozen years. Archaeology was quickly recognized as a pertinent field of application and the number of data collection campaigns dedicated to **archaeological applications** continues to grow. In spite of this growing body of experience, the preparation of a campaign to collect and exploit LiDAR data is not without difficulties.

The objective of these days is to create a **forum for discussion** for professionals, researchers and students who have previously worked with LiDAR or are currently involved in the preparatory or active phase of a project using LiDAR. The exchanges at this workshop aim to show the **potential of the technology** for archaeological applications, to discuss possibilities for coordination, method sharing and to outline research perspectives at the European level, with special reference to the ArchaeoLandscapes Project (UE, FPP7).

This workshop will be organized in two phases:

- Two half-day sessions targeted for **archaeologists who are not LiDAR specialists** but who are interested in the potential archaeological applications ;
- Two half-day sessions targeting **archaeologists already familiar with the technology**.

### **The organizers and partners**

**LEA ModelTER** (*European Laboratory for Modelling of Landscapes and Territories over the Long Term*) is a Franco-Slovene collaboration, whose aim is to develop concepts and tools in support of the study of the relationship between humans and their environment over the long term. Its principal partners are the *Maison des Sciences de l'Homme et de l'Environnement* (CNRS, Université de Franche-Comté) and the Institute for Anthropological and Spatial Studies of the Slovenian Academy of Sciences and Arts.

<http://ModelTER.zrc-sazu.si/>

**Bibracte** is a public institute of cultural exchange in charge of the development of the Gallic heritage site, situated on mont Beuvray, in the heart of the Morvan, in Bourgogne. The institute facilitates an important international research program and supports year-round seminars and colloquia held at the European Research Centre.

[www.bibracte.fr](http://www.bibracte.fr)

**ArcLand** / ArchaeoLandscapes Europe is a project of the European Union within the framework of the programme "Culture 2007-2013". The aims of the project are to create conditions for the regular use of aerial and remote-sensing techniques across the Continent as a whole and to address the methodological imbalance between countries.

<http://www.archaeolandscapes.eu>

**ISA**, The Network for Spatial Data and Archaeology brings together, at a national level in France, developers and users of spatial information in archaeology. This network is based on the application of geomatics, new cartographic tools, GIS and remote sensing in archaeology.

[www.univ-tours.fr/isa](http://www.univ-tours.fr/isa)

**AARG** (*the Aerial Archaeology Research Group*) provides a forum for the exchange of ideas and information for all those actively involved in aerial photography, photo interpretation, field archaeology and landscape history. This also includes the use of aerial photography in defining preservation policies for archaeological sites and landscapes.

[www.univie.ac.at/aarg/php/cms/](http://www.univie.ac.at/aarg/php/cms/)

## PROGRAMME

### **Monday 14 March (afternoon) : introduction to LiDAR**

The goal of this day is to provide information useful for either developing or assessing a new project involving LiDAR data.

- Technological and methodological basics ;
- Planning a data acquisition project: specifications, tendering, project management;
- Cost-benefit assessment.

#### *Target audience :*

- Researchers and professionals who plan to develop a project, or evaluate projects using LiDAR.
- Researchers and students in the early stages of a project using LiDAR data.

### **Tuesday 15 March (morning) : case studies**

Using several research and cultural heritage case studies, the objective is to illustrate the state of the art and present a variety of possible applications within archaeology.

#### *Target audience :*

- Researchers and professionals who plan to develop a project, or evaluate projects using LiDAR;
- Researchers and students involved in a project using LiDAR data.

### **Tuesday 15 March (afternoon) : workshops**

These small group workshops led by experienced researchers are dedicated to teaching skills needed for the treatment and interpretation of LiDAR: practical aspects of photo-interpretation, visualization methods, topographic modelling (DTM, DSM), data management strategies.

The goal of these workshops is to share expertise and teach good practice to students and new LiDAR users. If you already have LiDAR data from your own projects, you are encouraged to bring it with you and work with it in this session. If you do not have your own data, practice datasets will be available.

Workshops will run for approximately 2 X 2h. The following themes are planned :

1. LiDAR data visualization : complementary techniques ;
2. Integration of aerial photography and LiDAR data: methodological and technical challenges, interpreting LiDAR data from an aerial photographic perspective ;
3. Processing of raw LiDAR data and terrain modelling ;
4. LiDAR data interpretation : data management strategies, digitalization and databases.

#### *Target Audience :*

- Researchers and students involved in projects using LiDAR.  
NB : Space is limited for these workshops. If you would like to participate, please apply by filling out the 'Motivations' section of the form.

### **Wednesday 16 March (morning) : workshops**

Workshops from the afternoon of the 15 March will continue. This session provides an opportunity to attend a second workshop. There will also be time for informal discussion.

## REGISTRATION FORM

Please return to Joëlle CUNNAC, Secrétariat Recherche,  
Centre archéologique européen, F-58370 Glux-en-Glenne  
[recherche@bibracte.fr](mailto:recherche@bibracte.fr), fax : +33 (0)3 86 78 65 70, tel : +33 (0)3 86 78 69 12

Surname ..... Name.....

Status.....

Organisation .....

Address.....

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Postal Code ..... Country .....

Email.....

Telephone..... Mobile tel. ....

### Participation

14 March  (afternoon – introductory technical session)

15 March  (morning – general session)  (afternoon - workshops)

16 March  (morning - workshops)

### Expression of interest in the workshops

1.  LiDAR data visualization : complementary techniques

2.  Integration of aerial photography and LiDAR data: methodological and technical challenges, interpreting LiDAR data from an aerial photographic perspective

3.  Processing of raw LiDAR data and terrain modelling

4.  LiDAR data interpretation : data management strategies





## REGISTRATION FORM

### Practical Information

#### Transport

- Driving to the research centre  
For a map showing how to reach the centre, please see [www.bibracte.fr](http://www.bibracte.fr)
- By train

A shuttle will transport participants to and from the TGV Le Creusot–Montchanin station :

#### Arriving on the 14 March

- from Paris (departing Paris 9h54 / arriving at Creusot TGV 11h15)
- from Lyon (departing Lyon 10h00 / arriving at Creusot TGV 10h41)

#### Arriving on the 15 March

- from Paris (departing Paris 9h54 / arriving at Creusot TGV 11h15)
- from Lyon (departing Lyon 10h00 / arriving at Creusot TGV 10h41)

#### Departing the 15 March

- for Paris (departing Creusot TGV 13h48 / arriving at Paris 15h05)
- for Lyon (departing Creusot TGV 15h19 / arriving at Lyon 15h57)

#### Departing the 16 March

- for Paris (departing Creusot TGV 13h48 / arriving at Paris 15h05)
- for Lyon (departing Creusot TGV 15h19 / arriving at Lyon 15h57)

#### Meals and Lodging (payment on confirmation of your registration)

*At the Centre archéologique européen in one or two bed rooms (linens provided)*

<input type="checkbox"/>	lunch	Monday 14 March	10.00 €
<input type="checkbox"/>	dinner	Monday 14 March	10.00 €
<input type="checkbox"/>	lodging	Monday 14 to Tuesday 15 March	15.00 €
<input type="checkbox"/>	breakfast	Tuesday 15 March	1.20 €
<input type="checkbox"/>	lunch	Tuesday 15 March	10.00 €
<input type="checkbox"/>	dinner	Tuesday 15 March	10.00 €
<input type="checkbox"/>	lodging	Tuesday 15 to Wednesday 16 March	15.00 €
<input type="checkbox"/>	breakfast	Wednesday 16 March	1.20 €
<input type="checkbox"/>	lunch	Wednesday 16 March	10.00 €

Total .....

*A list of local hotels is also available on the Bibracte website.*