



## Topic

Ranging from exchange to urban networks, interaction systems are a basic component of every society, from the prehistoric to the modern. The Research School 'MOSAICnet: Networks in archaeological research' aims at bringing together young and senior researchers around this transdisciplinary issue of networks. The Research School offers the state of the art of several methodological approaches (such as Social Network Analysis, Spatial Network Analysis, etc.), resulting from the dialogue between the Human and the Exact Sciences. It also intends to discuss their contributions to the research on past social, cultural and economic interactions.

The Research School will last 6 days, and will address the matters of the theoretical context of the research on interaction systems, the empirical data we can rely on to grasp them, as well as provide an overview of several available methods of system analysis and reconstruction. Those tools will be applied using the Rstudio software.

## Contact

[et-aoroc-bibracte4@ens.fr](mailto:et-aoroc-bibracte4@ens.fr)

## Websites

<http://www.archeo.ens.fr/>

<https://www.ufg.uni-kiel.de/en/news/events-ufg/conferences-exhibitions>

## Institutes

Bibracte European Research Centre  
Laboratoire AOROC ENS Paris  
Université Franco-Allemande  
Deutsch-Französische Hochschule

CNRS

Institute of Pre- and Protohistoric Archaeology  
Johanna Mestorf Academy - Kiel University

## Scientific Committee

**Oliver Nakoinz**, Privat-docent, Institute of Pre- and Protohistoric Archaeology, Kiel University, Germany

**Katherine Gruel**, Research Director CNRS  
Ecole Normale Supérieure, France

**Clara Filet**, PhD candidate  
Paris 1 University, France

**Franziska Faupel**, PhD candidate  
Kiel University, Germany

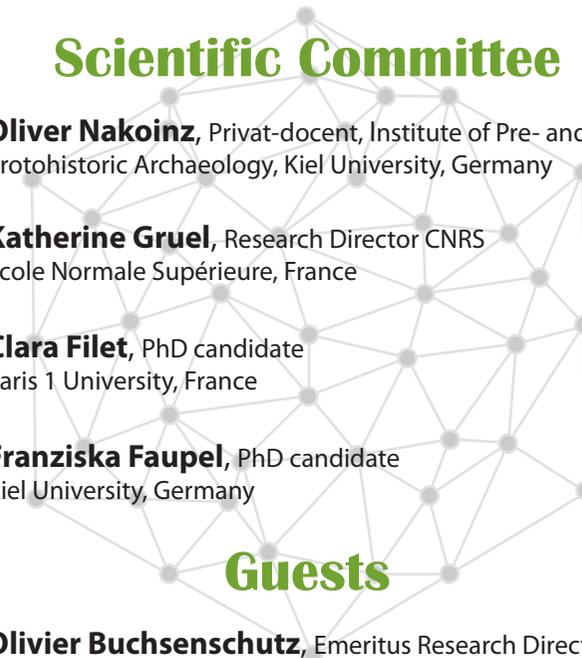
## Guests

**Olivier Buchsenschutz**, Emeritus Research Director  
CNRS, Ecole Normale Supérieure, France

**Patrice Brun**, University Professor  
Paris 1 University, France

**Catalin Popa**, Post-doctorant  
Leiden University, Netherlands

**Fabrice Rossi**, University Professor  
Paris 1 University, France



International 'Ecole Thématique'  
in partnership with the Franco-German University

## Networks in Archaeological Research

Research School AOROC - Bibracte 4

**(8) - 9 - 13th october 2018**

Bibracte Research Centre  
Glux en Glenne (France)



aoroc  
UMR8546  
CNRS-ENS  
archéologie  
& philologie



Université  
franco-allemande  
Deutsch-Französische  
Hochschule

B I B R A C T E

## Organisation Committee :

Katherine Gruel, Oliver Nakoinz, Vincent Guichard,  
Clara Filet and Franziska Faupel

Monday 8

Tuesday 9

Wednesday 10

Thursday 11

Friday 12

Saturday 13

Languages

The theoretical training is given in English. Workshops will have support in three languages: French, German and English.

Accommodation and Meals

Accommodation and meals are fully covered at the Bibracte Research Centre (see below).

Fees

Courses + accommodation + meals + shuttle from/to train station

300 € Researchers/Professionals with position

100 € PhDs and Postdocs without position

Applications

Applications are open to senior and young researchers (PhD and Post-docs) as well as all scholars and professionals in archaeology working on communication or exchange networks.

While interest in the application of network analyses from the participants is expected, expert knowledge about the methodology or the software will not be necessary.

Application forms available on:

<http://www.archeo.ens.fr/>

Return to the address below :  
[et-aoroc-bibracte4@ens.fr](mailto:et-aoroc-bibracte4@ens.fr)

Application Dead-line : 15/05/2018

Bibracte and the European Research Centre

Bibracte site obtained the "Grand site de France" label, for its exceptional archaeological heritage. Situated in the heart of the Morvan Regional Nature Park in today's central France, the site was the location of one of the first cities of continental Europe, between the 2nd cent. BCE and the 1st cent. CE.

The training will take place at the European Research Centre, adjacent to the archaeological site. The Centre possesses a documentation centre on European Protohistory (200 000 volumes), which is open 24 hours a day.

9am

		<b>Block 2</b> Theory Social Network Analysis	<b>Block 3</b> Theory Exchange systems in space	<b>Block 4</b> Theory F. Rossi Organisation of exchange systems	<b>Block 5</b> C. Popa Relevance and usefulness of network analyses in archaeology
	Spatial objects and basic statistics with R				Discussion

Block 0 (optional)

Introduction to R

First calculation and plots with R

Block 1

Welcome and introduction  
P. Brun  
Theoretical context of archaeological networks

O. Buchsenschutz  
Archaeology of exchange systems: which data?

Workshop Social Network Analysis with R (1/2)	Workshop Exchange systems in space (1/2)	Workshop Organisation of exchange systems (1/2)
Workshop Social Network Analysis with R (2/2)	Workshop Exchange systems in space (2/2)	Workshop Organisation of exchange systems (2/2)

Visit of Bibracte

6:30pm

Welcome drink

Diner at Le Chaudron

**Block 0 : Introduction to R and Rstudio (optional)**

(O. Nakoinz, C. Filet and F. Faupel)

An introductory course on the use of the R language, intended for participants who have no practical experience of this programming language and of the use of scripts.

**Block 1 : Networks in Archaeology: considerations and challenges**

(O. Nakoinz, P. Brun and O. Buchsenschutz)

Presentations on the theoretical context of the research on interactions and networks in past societies. Several types of networks and the means to identify and reconstruct them, as well as non-computerbased approaches on spatial interactions are considered.

**Block 2 : Social Network Analysis**

(O. Nakoinz)

Introduction to Social Network Analysis methods. Different centrality indices are introduced to quantify comparisons between several organization structures of networks from several areas and periods.

**Block 3 : Exchange systems in space**

(F. Faupel)

Past interactions are constrained by the distance between actors. The course will focus on travel itineraries, by considering the analysis of the road structure, the identification of factors that influence the location of a path, and the method of least cost path analysis.

**Block 4 : Approaching the organization of exchange systems**

(C. Filet, F. Rossi)

Most of past interactions, their actors and their intensity are not known to archaeologists. The course will be dedicated to ways of approaching the organization of past exchange systems in the absence of written sources. For this purpose an introduction to spatial interaction models and the study of distribution patterns of archaeological artefacts will be given.

**Block 5 : Benefits and usefulness of network analyses in archaeology**

(C. Popa and participants)

Critical review of the applicability and limits of each method.