Invitation to the International Summer school on Modelling Interation in Landscape Archaeology

2018-06-10, Kiel

Moin Summer School

- Venue: Leibniz-Straße 1, Room 205, University of Kiel
- Date: August, 20-24th, 2018
- Topic: Developing an R Package for network modelling
- Target group: Ranging from students to postdocs

What is it about?

Connecting points, creating patterns, understanding processes. It is often the most exciting task after an intensive phase of data acquisition to start thinking about the dynamics that are inscribed in these data and that wait for their discovery. Distribution maps, diagrams, and typology charts are the tools we use to develop our first narratives that describes or even explains our data. After these first steps we usually move on to more elaborate tools of data analyses that ensure the soundness of our interpretations, objectives the approach to allow comparisons, and enables its reproducibility. During the Summer school we want to **present**, **discuss**, and **develop** one of these methods: a tool to reconstruct, weigh, and model spatial interactions:

Presenting and Discussing spatial interactions

International experts will give introductory talks and use case on they reconstructed spatial interaction and which tools they employed or developed.

We are happy to welcome:

- Emeritus Professor Dr. Ray Rivers, Imperial College London who developed, together with Tim Evans and Carl Knappett, a comprehensive ana-

lytical approach to model and reconstruct (maritime) interaction networks (check the numerous publications on his RG page
- Clara Filet, Sorbonne University Paris who uses a extended gravity model approach example publication with references to reconstruct spatial interactions that help to gain insights into economic flows and urbanization processes during LaTéne period.
- Dr. Francesco Carrer, Newcastle University who is an expert in analysing settlement patterns and Ethnoarchaeology.

Developing a spatial interaction model

Together with you we want to create a package for the open-source software environment for statistical computing and graphics **R** that:

- offers different algorithms to model interactions and flows in space;
- can be used by any researcher aiming to investigate spatial interactions;
- enables comparisons between different studies and due to this allows us to investigate the very nature of interactions and flows in landscape archaeology.

In addition to this, we will learn about and contribute to reproducible research, a field that gains continuously more importance and will change the practice of planning, conducting, and publishing scientific results in the not too far future see e.g. this example by Ben Mariwck, one of the leading archaeologists in this debate.

Dates and Fees

- The Summer school will take place in August, 20-24th.
- Talks, discussion, and joint work takes place at the CAU Kiel in direct vicinity to the Graduate School "Human Development in Landscapes", Leibnizstr. 1, 24118 Kiel, Germany
- There are **no fees** to participate in event. However, since we want to have an intensive *work*shop atmosphere there are only limited seats available. First come, first serve.
- The Summer School is organized by:
  - CRC 1266
  - Institute for Pre- and Protohistory at Kiel University
  - ISAAK
- and funded by:
  - International Center at Kiel University

How to apply?

Everybody can enrol who already has some experiences with R and knows the basics of spatial analyses.

If you want to participate, please write a (very short) Email to Daniel with the following information:

- Why do you want to participate?
- What is your level of expertise (in your subject and in R)?
- What is the current project you are working on?
- At which institution are you hosted?
- What is your status (ranging from student to postdoc)?
- Do you already published on the subject "interaction"?

We, i.e. Oliver Nakoinz, Martin Hinz and Daniel Knitter, are looking forward to your application and hope to see you this summer in Kiel!

Moin Program

- Monday, August 20
  - 09:00-10:00 Lecture: Oliver Nakoinz, Modelling Interaction
  - 10:00-10:30 Introduction of the participants, defining working groups
  - 10:30-12:30 Lecture: Daniel Knitter, Introduction to package development with R
  - 12:30-13:30 Lunch
  - 13:30-16:00 Coding in groups
  - 16:00-17:00 Report of the working groups and discussion
- Tuesday, August 21
  - 09:00-10:30 Lecture: Ray Rivers, Trip Distribution Models
  - 10:30-12:00 Lecture: Clara Filet, Archaeology of Trip Distribution Models
  - 12:00-13:30 Lunch
  - 13:30-16:00 Coding in groups
  - 16:00-17:00 Report of the working groups and discussion
  - 19:00 Evening at Traumfabrik
- Wednesday, August 22
  - 09:00-10:00 Lecture: Oliver Nakoinz, Cultural Distance for weighting Networks
  - 10:00-12:30 Coding in groups
  - 12:30-13:30 Lunch
  - 13:30-16:00 Coding in groups
  - 16:00-17:00 Report of the working groups and discussion
- Thurdsay, August 23

  - 09:00-10:00 Lecture: Oliver Nakoinz, Cultural Distance for weighting Networks
  - 10:00-12:30 Coding in groups
  - 12:30-13:30 Lunch
  - 13:30-15:00 Coding in groups
  - 15:00-16:00 Lecture: Francesco Carrer, Testing with Point Pattern Analysis
  - 16:00-17:00 Report of the working groups and discussion
  - 18:00 Barbecue at Falkensteiner Strand
- Friday, August 24
  - 09:00-12:30 Coding in groups
  - 12:30-13:30 Lunch
  - 13:30-14:00 Report of the working groups and discussion
  - 14:00-15:00 Talk: Martin Hinz, Summing Up
  - 15:00-16:00 Discussion: Evaluation and Further steps
  - 16:00 Farewell