10th Winter School on Longitudinal Social Network Analysis
14-16 January 2019

Advanced Siena Users' Meeting (AdSUM-2019)
17-18 January 2019

Academy Building, Room A12

university of groningen

Department of Sociology

Interuniversity Centre for
Social Science Theory and Methodology

Welcome to Groningen! 7 January 2019

As the Winter School attendants stay Monday-Wednesday and the attendants of the Advanced Siena users' meeting will be around Thursday-Friday, we are planning a **joint dinner** for Wednesday evening at 19:00, with the idea that participants from both groups may attend.

Please let us know as soon as you can whether you intend to join this dinner. We then can tell the restaurant (Humphrey's Restaurant, marked with a purple H in the map below) how large a table they need to reserve for us.

Our meetings will take place is Room A12 of the University of Groningen's Academy Building, marked with a red flag in the diagram below.
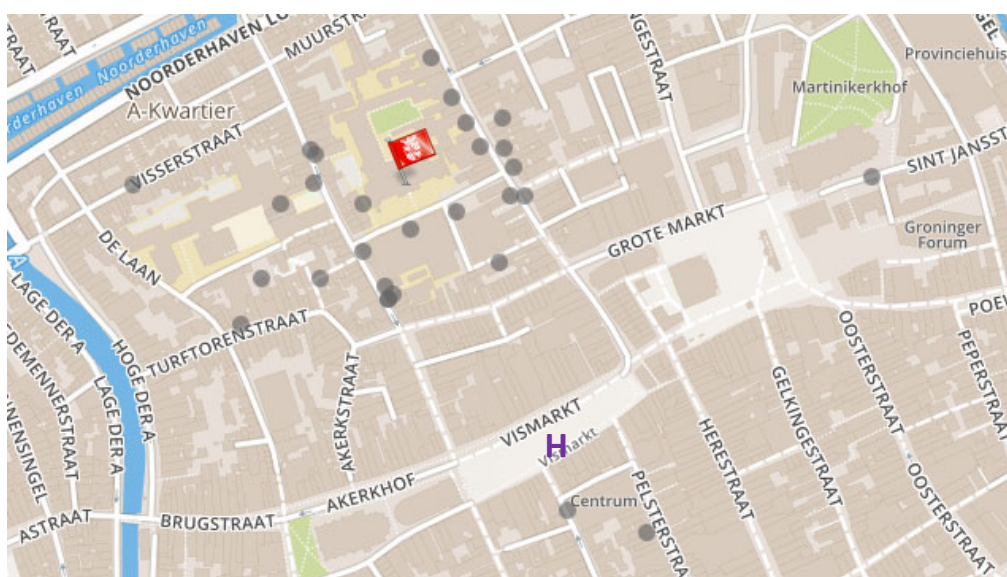
Sessions start each day at 9:00 and end at 17:00, with an ample lunch break on the middle. A detailed schedule of the course days is given below.

We wish you safe travels and hope to see you all next week!

The organisers:	Christian Steglich	c.e.g.steglich@rug.nl
	Robert Krause	r.w.krause@rug.nl
	Christine Timmerman	c.m.timmerman@rug.nl

Sociology Department
Interuniversity Centre for Social Science Theory and Methodology

On the cover page, you see a view of the Piazza del Campo in Siena, and a Winter view of Groningen's Martini Tower from the frozen canal Winschoterdiep.

The 10th Winter School on Longitudinal Social Network Analysis

The winter school takes place Monday until Wednesday. It introduces participants to the analysis of longitudinal, group-centered network data by way of stochastic, actor-based models (Snijders, van de Bunt & Steglich, 2010), and to the analysis of peer influence processes taking place in such dynamically changing networks (Steglich, Snijders & Pearson, 2010). Objective of the winter school is that course participants develop an understanding of the models, familiarise themselves with the use of the RSiena software for model estimation, and learn how to tell a good model specification from a bad one. The winter school is taught by Christian Steglich with support by Robert Krause.

The AdSUM-2019 Advanced Siena Users' Meeting

The advanced users' meeting takes place on Thursday and Friday. It will on the one hand address advanced topics and introduce to new developments in RSiena, such as the multilevel analysis of multi-group data or the treatment of missing network data by multiple imputation techniques. Teachers of this part are Tom Snijders and Robert Krause. On the other hand, there will be a Master Class in which papers of participants are discussed. Paper discussants will be Tom Snijders, Christian Steglich, and the other AdSUM participants.

For both the Winter School and the Advanced Siena Users' Meeting, researchers who are in the process of collecting or analysing own longitudinal data sets are especially welcome to participate and, if possible, bring their own data. For participants without own data, sample data sets will be made available.

Preparation before the courses

In both parts, researchers who bring their own longitudinal data sets should get sufficient opportunity to "get the software running" with some guidance by the instructors.

Course participants are expected to bring their own laptop to the course, with the R statistical software environment and the RSiena & RSienaTest packages already installed. The operating system on the laptops can be Windows, Linux, or Mac OS; in principle, all the software we will work with is designed for platform-independence. For installation, please follow these steps:

1. Install R on your computer; see http://www.r-project.org/
2. Install RStudio; see https://www.rstudio.com/
3. Start R or RStudio while you have an internet connection.
4. Install the latest version of the RSiena package from R-forge by typing `install.packages("RSiena",repos="http://R-Forge.R-project.org")` in the command interface (in RStudio, this typically is the lower left quadrant).
5. Only for AdSUM participants: Install the RUnit package; `install.packages("RUnit")`
6. Only for AdSUM participants: Install the latest version of the RSienaTest package; type `install.packages("RSienaTest",repos="http://R-Forge.R-project.org")`

In steps 4 and 6, Mac and Linux users may need to add inside the brackets: `,type="source"`. The software release should be above version '1.2.12' for our meeting. Please check the version of your installation by typing: `packageVersion("RSiena"); packageVersion("RSienaTest")`.

It also is a good idea to check out the two papers linked to on the top of this page. The main course material (sample data, scripts, and lecture slides) will be distributed during the workshop.

Winter School on Longitudinal Social Network Analysis

— Monday —

9:00	Walk-in welcome with coffee	
9:20	Introduction round participants	
9:40	Network dynamics and actor-oriented models	*lecture*
11:00	Coffee break	
11:20	Getting the software ready	*assisted lab work*
11:30	Hands-on analysis: sex segregation in a school class	*joint lab exercise*
12:30	Simulation, MoM-estimation, and convergence	*lecture*
13:00	Hands-on analysis: straight simulations from a model	*joint lab exercise*
13:30	Lunch break	
15:00	Goodness of fit	*lecture*
15:30	Hands-on analysis: obtaining good fit	*joint lab exercise*
16:00	Coffee break	
16:20	Starting to work with own data / modifying example scripts	*assisted lab work*
17:00	End of the course day	

— Tuesday —

9:00	Adding behaviour dynamics to the model	*lecture*
10:00	Hands-on analysis: co-evolution of alcohol use & friendship	*joint lab exercise*
11:00	Coffee break	
11:20	Goodness of fit for behaviour	*lecture*
11:45	Hands-on analysis: customising fit functions	*joint lab exercise*
12:30	Lunch break	
14:00	Absent data: missingness & composition change	*lecture Mark Huisman*
14:30	Hands-on analysis: handling composition change	*joint lab exercise*
15:15	Coffee break	
15:30	Hands-on analysis: imputing missing behavior data	*joint lab exercise*
16:00	Work with own data / adjusting scripts	*assisted lab work*
17:00	End of the course day	

— Wednesday —

9:00	Analysis of affiliation networks (two-mode / bipartite)	*lecture*
9:30	Hands-on analysis: co-evolution of music tastes & friendship	*joint lab exercise*
10:15	Selection of topics for the remainder of the day from list below	
10:30	Addressing desired topics	*lecture / lab*
11:00	Coffee break	
11:20	Addressing desired topics	*lecture / lab*
12:30	Lunch break	
14:00	Addressing desired topics (see list below)	*lecture / lab*
15:15	Keeping updated and staying connected	*information*
15:30	Work with own data / adjusting scripts	*assisted lab work*
17:00	End of the course day	
19:00	Farewell (Winter School) & Welcome (AdSUM) dinner at Humphrey's Restaurant, Vismarkt 42 (Southern side) – RSVP! The location is marked by the purple letter "H" on the map given above.	

Possible topics (but we are free to add others as they arise):

1. Forward and backward model selection
2. Differences between creation and maintenance of ties
3. Rate effects and models for diffusion of innovations on networks
4. Analysis of undirected networks
5. Moderation: working with interaction effects
6. Multiple networks
7. Networks with ordered values
8. Signed (positive-negative) networks
9. Steps towards effect size

— Relevant weblinks —

➢ Siena website and RSiena manual
➢ StOCNET-RSiena User group (for discussion of applied research)
➢ Journal of Research on Adolescence Special Issue on RSiena applications

Advanced Siena Users' Meeting (AdSUM-2019)

Please note: On Wednesday 19:00, there will be a welcome dinner (at own expense, RSVP) for AdSUM participants who already arrived and want to join – for details, see the Wednesday schedule on the previous page!

⎯ Thursday ⎯

9:00	Walk-in welcome with coffee	
9:15	Introduction round participants	
9:30	Addressing AdSUM desired topics (see list below)	*Tom Snijders*
11:00	Coffee break	
11:20	Better ways of handling missing data	*Robert Krause*
12:30	Lunch break	
14:00	Master class: discussion of submitted papers	*Snijders, Steglich*
15:00	Coffee break	
15:15	Master class: discussion of submitted papers	*Snijders, Steglich*
16:15	Addressing participants' data / scripting questions	*assisted lab work*
17:00	End of the course day	

⎯ Friday ⎯

9:00	More AdSUM desired topics (see list below)	*Tom Snijders*
11:00	Coffee break	
11:20	More AdSUM desired topics (see list below)	*Tom Snijders*
12:30	Lunch break	
14:00	Addressing participants' data / scripting questions	*assisted lab work*
15:00	Coffee break	
15:15	Wrapping up	
17:00	End of the course day	

Possible AdSUM topics:

1. Effects of actor covariates on networks
2. Selection tables and influence tables
3. Multilevel SAOM with `sienaBayes()`
4. Assessment and visualization of the relative size of selection and influence
5. Maximum likelihood estimation

RSiena architecture

sienaAlgorithmCreate

includeInteraction

setEffect

GOFRESULTS

includeEffects

sienaGOF

FITFUNCTION

ESTIMATIONOPTIONS

MODELSPECIFICATION

siena07

RESULTS

getEffects

DATASET

sienaDataCreate

sienaDependent

sienaCompositionChangeFromFile

sienaCompositionChange

varDyadCovar

coDyadCovar

varCovar

coCovar

sienaNodeSet

RSiena functions (required, optional)

RSiena data structures

Input (required, optional)