Ramona Roller

Quantitative
social scientist

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✉ Weinbergstrasse 56/58,
Switzerland

🌐 https://www.sg.ethz.ch/team/
people/rroller/

@ rroller@ethz.ch

About me

Social scientist with a strong quantitative background. Fascinated by complex systems and their mathematical descriptions. Currently working on reconstruction methods for historical letter correspondence networks. Future aim: Develop spatio-temporal null models for historical letter correspondence networks.

Skill

Python

Social network analysis

Socio-historical data analysis

Data visualisation

Agent-based modeling

(*)[The skill scale is from 0 (Fundamental Awareness) to 5 (Expert).]

Education

since 01/2018	**Ph.D.** candidate in data-driven modeling of social systems *ETH Zurich, CH* • *Develop quantitative statistical methods to analyse socio-historical data.* • *Construct and visualise temporal network models.* • *Expected graduation: November 2021.*
09/2018	Participant at EPFL's Reproducibility in Computational Science Summer School *Magliaso, CH* • *Acquired profound skills in writing reproducible research papers and data management. Specific tools include Git, R Shiny, and Renga.*
09/2015 - 12/2017	M.Sc. Computational Science *University of Amsterdam. NL* • *Thesis: Optimising Resource Allocation in Socio-economic Systems with the Minority Game: A Case Study on Electric Cars in Amsterdam.*
06/2017 - 07/2017	Participant at SFI's Complex Systems Summer School *Santa Fe Institute, USA* • *Passed highly competitive world-wide application process.* • *Deepened numerical and computational methods for the analysis of complex systems.*
10/2011 - 07/2014	B.Sc. Psychology with Cognitive Science *University of Sussex, UK* • *Thesis: Differences between conscious and unconscious learning of social rules.*

Research and Work Experience

11/2014 - 06/2015	Intern at Netherlands Organisation for Applied Scientific Research (TNO) *Soesterberg, NL* • *Developed a Linked Data model to cope with power cuts caused by flooding.* • *Applied qGIS to visualise power stations and water levels.*
06/2013 - 06/2014	Junior research associate at Department of Informatics *University of Sussex, UK* • *Developed a novel method to quantify and visualise cognitive chunks based on the sequences of participants' drawings of electrical circuit diagrams.*

Publications

- Roller, R, 2021: Vectorizing maps to generate geo-spatial data on territories of the Holy Roman Empire. *socarxiv*. doi=10.31235/osf.io/y9v68.

Conference attendances and research visits

03/2021	Geography meets Digital Humanities: Neuere Ansätze raumbezogener Modellierung *Erlangen (online), DE* • *Talk: 'Räumliche Aspekte der Konfessionalisierung: Vektorisierte Territorien des HRR erstellen und nutzen'.* • *Access talk at `https://www.sg.ethz.ch/team/ramona_roller/data/2020-03-12_Erlangen.pdf`*
10/2020	Theorytellings Workshop der DHd AG Theorie *Leipzig, DE* • *Talk: 'Warum wurde Luther protestantisch? Erklärungsnarrative mit statistischen Modellen entwickeln und zur Theoriebildung nutzen'.* • *Access talk at `https://www.sg.ethz.ch/team/ramona_roller/data/2020-10-09_Leipzig.pdf`*

09/2020	CUDAN Satellite at NetSci	Rome (online), IT

• *Talk: 'Letter network to test theory'.*
• *Access talk at `https://www.sg.ethz.ch/team/ramona_roller/data/2020-09-11_Rome.pdf`*

03/2020	Digital Humanities im deutschsprachigen Raum	Paderborn, DE

• *Talk: 'Wie steuert geografische Distanz das Briefkorrespondenznetzwerk der Reformatoren? Eine Netzwerkanalyse'.*
• *Access talk at `https://www.sg.ethz.ch/team/ramona_roller/data/2020-03-05_Paderborn.pdf`*

09/2019	European Conference on Social Network Analysis (EUSN)	Zurich, CH

• *Talk: 'Statistical inference for letter network of Reformation'.*
• *Access talk at `https://www.sg.ethz.ch/team/ramona_roller/data/2019-09-11_Zurich.pdf`*

07/2019	International Conference on Computational Social Science (IC^2S^2)	Amsterdam, NL

• *Talk: 'Network regression reveals factors driving the letter correspondence of 16th century reformers'.*
• *Access talk at `https://www.sg.ethz.ch/team/ramona_roller/data/2019-07-18_Amsterdam.pdf`*

06/2019	Research visit at Austrian Centre for Digital Humanities	Vienna, AU

• *Enlarged skills on vectorisation of raster maps and management of spatial data.*
• *Talk: 'A workflow for automated vectorisation of raster maps'.*
• *Access talk at `https://www.sg.ethz.ch/team/ramona_roller/data/2019-06-17_Vienna.pdf`*

01/2019	Research Visit at Heidelberg Academy of Sciences and Humanities	Heidelberg, DE

• *Talk: 'Das Briefkorrespondenznetzwerk der Reformatoren'.*
• *Access talk at `https://www.sg.ethz.ch/team/ramona_roller/data/2019-01-21_Heidelberg.pdf`*

Organisation of scientific events

since 01/2021	Co-organiser of the workshop 'Opportunities in computerised analyses of historical letter correspondences'	Heidelberg, GER

• *Teamed-up with project 'Theologenbriefwechsel im Südwesten des Reichs in der Frühen Neuzeit (1550-1620) led by Prof. Strohm in Heidelberg.*
• *Organised talks, discussion groups and accomodations for 30 participants.*
• *Speakers include international researchers from the humanities, computer- and data sciences.*
• *Planned date: Spring 2022*

06/2018	Co-organiser and participant at Big Data in the Field Weekend Seminar	Berlin, GER

• *Organised talks, workshops, discussion rounds, and accommodation for 50 participants and 6 speakers.*
• *Speakers included German Data Science professors and representatives of German companies that apply Big Data-based technologies.*

Awards

01/2020	Travel grant for DHd conference (Digital Humanities im deutschsprachigen Raum)
02/2012 - 12/2017	Member of German National Academic Foundation
07/2014	Stuart Sutherland Prize for an outstanding undergraduate dissertation in psychology at the University of Sussex