

Computational Social Science (CSS) is an emergent field of growing scientific importance and public interest. A meanwhile nearly ubiquitous trend towards the digitalisation of society and the public and private life therein forces the social science to keep up with a rapidly changing society. Driving forces are technological advancements including, the progressive development of computer systems, the rise of artificial intelligence, changing habits of communicative behaviour that adopt digital options on a large scale, and the promises and demands of an open science which calls for public instead of commercial inhouse science in this field.

Basic research demand arises from an imbalance of shares in CSS. Today CSS is, despite its designation, less social science than computer science. But the social sciences are particularly strong in: theory and methodology. At the same time data science affords the prospect of solutions to well -known data- analysis problems in social science methodology. The goal for CSS should be to work against the imbalance of shares and to combine the knowledge and skills from the two major research fields social science and computer science to achieve synergy effects.

The Workshop thus projects to counteract the imbalance in a joint effort of experienced social scientists and data scientists. The participants come from computer science, mathematics and statistics, communication science, political science, sociology, psychology, cultural science, and linguistics. The focus of the workshop is behaviour in digital environments. If people surf the Internet, they leave their mark in the shape of tracks, connections and possibly published content (textual and visual material). In addition, people use 'smart' technologies such as smartphones, smart watches, fitness tracker, intelligent clothing, and all the emerging smart technologies around one's home and car. People leave their mark on both computer-mediated social interaction and everyday behaviour outside the Internet and hence exactly the behavioural traces which subsequently are subject to CSS research. The workshop also aims at exploring and initiating arrangements of international research collaboration.

WORKSHOP-PROGRAM

Thursday, November 8

13:00 - 13:15	Welcome	Uwe Engel (University of Bremen, Germany)
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Computational Social Science (CSS) – Opening session	Moderation: Uwe Engel (University of Bremen, Germany)
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13:15 - 13:45 14:00	Theories and Methods in CSS	Claudio Cioffi-Revilla (George Mason University, Fairfax, United States)
14:00 - 14:20 14:30	Analytical Sociology and Computational Social Science	Peter Hedström and Marc Keuschnigg (Linköping University, Linköping, Sweden)

14:30 - 14:50 | 15:00 Social Network Science and the Notion of Position Ulrik Brandes (ETH Zurich, Switzerland)

15:00 - 15:30 *Break*

Networks

Moderation: Michael Scharkow (Zeppelin University, Germany)

15:30 - 15:50 | 16:00 Collapse of an Online Social Network: Burning Social Capital to Create It László Lőrincz, Júlia Koltai, Anna Győr, Károly Takács (Hungarian Academy of Sciences, Budapest, Hungary)

16:00 - 16:20 | 16:30 When does Abuse and Harassment Marginalize Female Political Voices on Social Media? Yannis Theocharis (University of Bremen, Germany), Maarja Luhiste (Newcastle University, United Kingdom), Zoltan Fazekas (University of Oslo, Norway), Sebastian Adrian Popa (Newcastle University, United Kingdom) Pablo Barberá (London School of Economics and Political Science, United Kingdom)

16:30 - 16:50 | 17:00 Analyzing Gender Inequality Through Large-scale Facebook Advertising Data David Garcia (Medical University of Vienna, Austria)

Theory, Modelling, Simulation

Moderation: Alexander Gattig (University of Bremen, Germany)

17:00 - 17:20 | 17:30 Data-driven agent-based modeling as an approach in computational social science Jan Lorenz (Jacobs University Bremen, Germany)

17:30 - 17:50 | 18:00 Gender, Resources, and Status: An Empirically Grounded Model of Status Construction Theory André Grow (KU Leuven, Belgium)

Friday, November 9

Theory, Modelling, Simulation (cont.)

Moderation: Miriam Reußner (University of Bremen, Germany)

8:30 - 8:50 | 9:00 Advancing Social Theory with Agent-based Modeling and Simulation: Examples from Public Sphere Research Annie Waldherr (University of Münster, Germany)

9:00 - 9:20 | 9:30 Large-scale Multi-agent Simulation and Crowd Sensing with Humans in the Loop Stefan Bosse (University of Bremen, Germany)

Linkage

Moderation: Lars Lyberg (Stockholm University and Inizio, Sweden)

9:30 - 10:00 | 10:15 An Overview of population size estimation where linking registers results in incomplete covariates Peter van der Heijden (Utrecht University, The Netherlands)

10:15 - 10:45 *Break*

10:45 - 11:05 | 11:15 Combining imprecise information for valid statistical inference Thomas Augustin (LMU Munich) and Martin Spieß (University of Hamburg, Germany)

Survey plus

Moderation: Lars Lyberg (Stockholm University and Inizio, Sweden)

11:15 - 11:35 | 11:45 Nonresponse Error in Passive Mobile Measurement Florian Keusch, Sebastian Bähr, Georg-Christoph Haas, Frauke Kreuter, Mark Trappmann (University of Mannheim, Institute for Employment Research, University of Bamberg (Germany) and University of Maryland, United States)

11:45 - 12:05 | 12:15 CSS and inequality. Insights from multi-method research on online usage and digital fragmentation Merja Mahrt (Heinrich Heine University Düsseldorf, Germany)

12:15 - 13:15 *Lunch break*

Big Data: Methodology, Statistics, Analytics

Moderation: Claudia Wagner (GESIS, Germany)

13:15 - 13:45 | 14:00 Holistic Data Science and the Seven Deadly Sins of Big Data Richard D. De Veaux (Williams College, Williamstown, MA, United States)

14:00 - 14:20 | 14:30 Normalizing Digital Trace Data Andreas Jungherr (University of Konstanz, Germany)

14:30 - 15:00 | 15:15 Total Error in a Big Data World: Adapting the TSE Framework to Big Data Ashley Amaya, Paul Biemer, and David Kinyon (RTI International, Research Triangle Park, NC, United States)

15:15 - 15:35 | 15:45 Subgroup Discovery based on Structural Equation Modeling Axel Mayer and Florian Lemmerich (RWTH Aachen University, Aachen, Germany)

15:45 - 16:15 *Break (walk to CARTESIUM rotunda)*

Round Table on current, future and possible joint CSS research

Grant Blank (Oxford Internet Institute, Oxford, United Kingdom) and Uwe Engel (University of Bremen, Germany)

Introductory Notes

16:15 - 16:25	The Fourth Paradigm: Opportunities and challenges in Doing Computational Social Science	Craig A. Hill (RTI International, Research Triangle Park, NC, United States)
16:25 - 16:35	Self-presentation practices in social media: Context, Life Course, and the Attention Economy	Anabel Quan-Haase (University of Western Ontario, Canada)
16:35 - 16:45	Computational Communication Science en route: Desiderates & Challenges	Stephanie Geise and Annie Waldherr (University of Münster, Germany)
16:45 - 18:00	<i>Round Table</i>	

Saturday, November 10

Text Analysis

Moderation: Klaus Boehnke (Jacobs University Bremen, Germany)

8:30 - 8:50 9:00	How useful is topic modeling for social scientists? Tracing changes in the sociological field with tools from NLP	Raphael Heiberger (University of Bremen, Germany) and Sebastian Munoz-Najar Galvez (Stanford University, United States)
9:00 - 9:20 9:30	Tracing utterance: Approaching sentence-level semantics in computational content analysis	Gregor Wiedemann (University of Hamburg, Germany)
9:30 - 9:50 10:00	Analyzing Discourse Structure on Social Media	Tatjana Scheffler (University of Potsdam, Germany)
10:00 - 10:30	<i>Break</i>	

10:30 - 10:50 11:00	Potentials of automatizing discourse analysis – lessons learned from studying the phenomenon „Telemedizin“	Gertraud Koch and Lina Franken (University of Hamburg, Germany)
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Perspectives on Artificial Intelligence and Social Robots

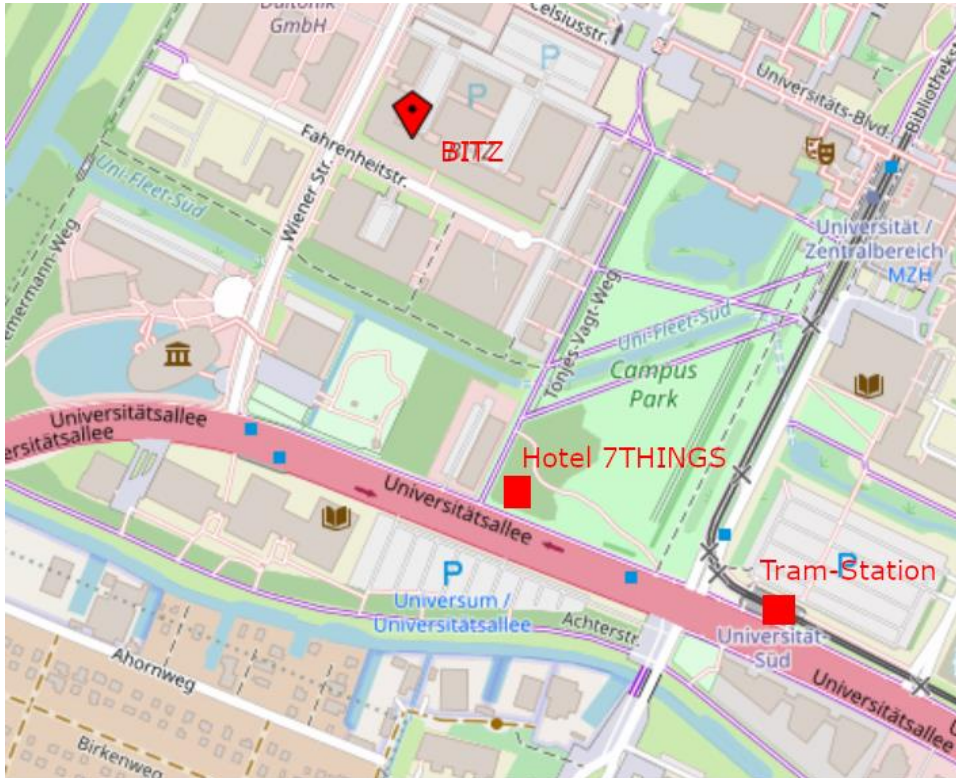
Moderation: Uwe Engel (University of Bremen, Germany)

11:00 - 11:30 11:45	Social Dynamics of Human-Social Robots Interaction	Sunny Xun Liu (Stanford University, United States)
11:45 - 12:05 12:15	The Robotics Innovation Center Bremen	Sirko Straube (Robotics Innovation Center Bremen, Germany)
12:15 - 13:30	<i>Lunch break</i>	
13.30 - 13:50 14:00	Service Robots learning from Humans	Mona Abdel-Keream (University of Bremen, Germany)
14:00 - 14:20 14:30	The Benefits of Computer Vision for CSS	Suat Can (University of Bremen, Germany)
14:30 - 14:45	<i>Farewell</i>	

Research group meetings

14:45 - 15:30	Challenges for Europe	Moderation: Alexander Gattig (University of Bremen, Germany)
14:45 - 15:30	Artificial Intelligence and Social Robots	Moderation: Uwe Engel and Suat Can (University of Bremen, Germany)

LOCATION



**BITZ - Bremer
Innovations- und
Technologiezentrum**

Fahrtheitstraße 1
28359 Bremen
(Germany)