

Welcome to the Summer School Institute in Computational Social Sciences (SICSS) – Saarbrücken

September 8 to September 19, 2025



INTERDISCIPLINARY
INSTITUTE
FOR
SOCIETAL
COMPUTING ■

Meet the Organizers

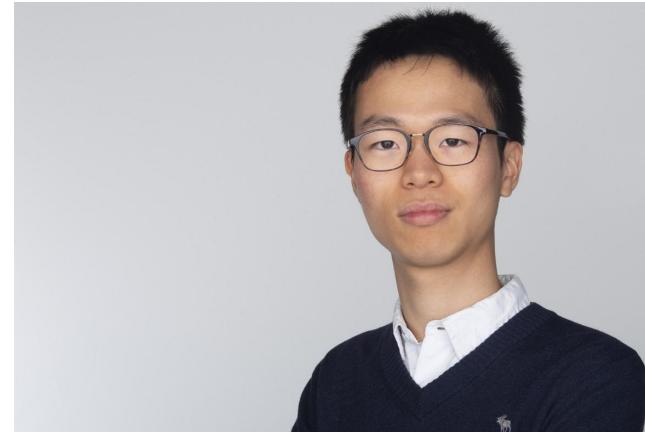
Organizers



Brahmani Nutakki



Carolina Coimbra Vieira



Jianlong Zhu



Katja Raak



Ingmar Weber



Computing of Society

Measurement of different social phenomena, in particular using non-traditional data sources



Computing for Society

Working with partners on implementing solutions to help address societal challenges

Our Research Areas

Migration and Mobility

Digital Inequalities

Politics and Society

Information
Communications
and Technologies

Computational Humanity

Climate Change and Forestry

Our Team



Prof. Dr. Ingmar
Weber



Prof. Dr. Daniela
Braun



What's up?



TEDx Saarbrigge

June 14, 2025 from 13-18 PM @ Dock 11, Neumarkt 15, 66117,
Saarbrücken, Germany

Project analysing society and the economy with new data sources garners millions in state funding



SOUNDS

Prof. Dr. Ingmar Weber (left) and Prof. Dr. Daniela Braun (right), © Universität des Saarlandes/Thorsten Mohr

Satellite images, social media and barcode scanners in shops offer a wealth of data that has so far been little used in the social sciences. New AI-supported methods are helping with the evaluation, but they require a great deal of IT expertise and legal and ethical consideration. This interdisciplinary expertise is now to be pooled in a competence centre called 'Societal Observatory Using Novel Data Sources (SOUNDS)'.

The state government is providing 29 million euros from the Transformation Fund to support this initiative, with the aim of generating scientific insights and concrete economic impetus for transforming the Saarland economy.



i2SC at the Saarland University Open Day event, May 2025



Saarland Informatics Campus

saarland-informatics-campus.de

Sept 2025

SIC Saarland Informatics Campus



The SIC Members

1. 3 Saarland University Departments

(Computer Science, Mathematics, Language Science & Technology)



2. Max Planck Institute for Informatics (MPI – INF)

3. Max Planck Institute for Software Systems (MPI – SWS)



4. German Research Center for Artificial Intelligence (DFKI)

5. Center for Bioinformatics (CBI)

– in close vicinity:

CISPA Helmholtz Center for Information Security

– In the greater region:

Schloss Dagstuhl – Leibniz-Zentrum für Informatik GmbH



The Saarland Informatics Campus by the numbers



4 informatics institutes and 3 collaborating departments on campus



46 ERC Grants



7 Gottfried Wilhelm Leibniz Prize winners



Around 2800 students from 81 countries



24 informatics study programs



77 research groups, 300 doctoral candidates

Extraordinary Thematic Breadth: Research Areas



Algebra



Algorithms



Applied Analysis



Artificial Intelligence and
Machine Learning
(Foundations and
Application)



Computational Biology and
Life Sciences



Computational Linguistics



Data Science



Didactics of Computer
Science and Mathematics



Formal Methods



Human-Computer Interaction



Mathematical Data Analysis



Numerical Mathematics



Security and Cryptography



Software and Hardware
Systems



Stochastics



Visual and Geometric
Computing



For broader coverage of this topic, see [Quantitative social research](#).

Computational social science is an interdisciplinary academic sub-field concerned with computational approaches to the [social sciences](#). This means that computers are used to model, simulate, and analyze social phenomena. It has been applied in areas such as [computational economics](#), [computational sociology](#), computational media analysis, [cliodynamics](#), [culturomics](#), [nonprofit studies](#).^[1] It focuses on investigating social and behavioral relationships and interactions using [data science](#) approaches (such as [machine learning](#) or rule-based analysis), [network analysis](#), [social simulation](#) and studies using interactive systems.^[2]

Definitions [edit]



This section needs to be **updated**. The reason given is: The definition on a rapidly emerging area is 8 years old, the list of activities seems to be out-of-date. Please help update this article to reflect recent events or newly available information. (March 2024)

There are two terminologies that relate to each other: **social science computing (SSC)** and **computational social science (CSS)**. In literature, CSS is referred to the field of social science that uses the computational approaches in studying the social phenomena. On the other hand, SSC is the field in which computational methodologies are created to assist in explanations of social phenomena.

Computational social science revolutionizes both fundamental legs of the [scientific method](#): [empirical research](#), especially through [big data](#), by analyzing the [digital footprint](#) left behind through social online activities; and [scientific theory](#), especially through [computer simulation](#) model building through [social simulation](#).^{[3][4]} It is a multi-disciplinary and integrated approach to social survey focusing on information processing by means of advanced information technology. The computational tasks include the analysis of social networks, social geographic systems,^[5] social media content and traditional media content.

Computational Social Science: Then and Now on Wikipedia

Computational social science

Article Talk

From Wikipedia, the free encyclopedia

This is an old revision of this page, as edited by Mwatson10 (talk | contribs) at 14:28, 23 September 2015. The present address (URL) is a permanent link to this revision, which may differ significantly from the current revision.
[\(diff\)](#) ← Previous revision | Latest revision [\(diff\)](#) | Newer revision → [\(diff\)](#)

Computational social science refers to the academic sub-disciplines concerned with computational approaches to the **social sciences**. This means that computers are used to model, simulate, and analyze social phenomena. Fields include **computational economics** and **computational sociology**. It focuses on investigating social and behavioral relationships and interactions through social simulation, modeling, network analysis, and media analysis.^[1]

Computational social science revolutionizes both fundamental legs of the **scientific method**: **empirical research**, especially through **big data**, by analyzing the **digital footprint** left behind through social online activities; and **scientific theory**, especially through **computer simulation** model building through **social simulation**.^{[2][3]} It is a multi-disciplinary and integrated approach to social survey focusing on information processing by means of advanced information technology. The computational tasks include the analysis of social networks and social geographic systems.^[4]

References

1. ^ <https://computationsocialscience.org/>
2. ^ DT&SC 7-1: Introduction to e-Science: <https://www.youtube.com/watch?v=9x3d75ZMuYU>. From the DT&SC online course at the University of California: <https://canvas.instructure.com/courses/949415>
3. ^ Hilbert, M. (2015). e-Science for Digital Development: ICT4ICT4D. Centre for Development Informatics, SEED, University of Manchester. http://www.seed.manchester.ac.uk/mediabinary/IDPM/working_papers/di-di-wp60.pdf
4. ^ Cioffi-Revilla, Claudio (2010). "Computational social science". *Wiley Interdisciplinary Reviews: Computational Statistics*. 2 (3): 259–271.

2015

Computational social science

Article Talk

From Wikipedia, the free encyclopedia

For broader coverage of this topic, see [Quantitative social research](#).

Computational social science is an interdisciplinary academic sub-field concerned with computational approaches to the **social sciences**. This means that computers are used to model, simulate, and analyze social phenomena. It has been applied in areas such as **computational economics**, **computational sociology**, computational media analysis, **cliodynamics**, **culturomics**, **nonprofit studies**.^[1] It focuses on investigating social and behavioral relationships and interactions using **data science** approaches (such as **machine learning** or rule-based analysis), **network analysis**, **social simulation** and studies using interactive systems.^[2]

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There are two terminologies that relate to each other: **social science computing (SSC)** and **computational social science (CSS)**. In literature, CSS is referred to the field of social science that uses the computational approaches in studying the social phenomena. On the other hand, SSC is the field in which computational methodologies are created to assist in explanations of social phenomena.

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2025

Wikipedia changes summarized by ChatGPT



Category	2015	2025
Scope & Focus	Modeling, simulation, network & media analysis; mainly sociology & economics	Broader: economics, media, cliodynamics, culturomics; includes ML & rule-based analysis
Methodology	Simulations, network analysis, modeling	data-driven, method-driven , model-driven, digital society-focused, social theory perspective
Research Trends	Digital footprints, big data, social networks	Historical & social media analysis, periodic structures, interdisciplinary , large global databases

The Summer Institutes in Computational Social Science



- Trained more than 1200 young scholars and over 120 research collaborations since inception in 2017.
- Tons of helpful resources.

We provide state-of-the-art training in a range of different areas in computational social science from ethics to text analysis and mass collaboration.

Bootcamp

Main Curriculum

Partner Location Materials

Programming Languages

- CSS
- Python
- R

Location

- HSE
- Taiwan

Authors

Abe Handler and Shufan Wang

Search videos

Search

Video Title	Length
Welcome to Boot Camp	2:44
Installing R and RStudio	14:01
R Basics	17:36
Data "Wrangling"	22:45
Visualization	30:54
Basic Programming	28:32
Modeling	
Communicate and	
Slipping to the Extreme:	

The Summer Institutes in Computational Social Science



- Trained more than 1200 young scholars and over 120 research collaborations since inception in 2017.
- Tons of helpful resources.
- Huge community of researchers at the intersection of social science and data science.

A screenshot of a Slack channel titled '# general'. A message from Chris Bail at 12:20 AM links to a postdoctoral fellowship at the University of Notre Dame's Department of Sociology. The message includes the ASA Career Center logo and the text: "post-doc at Notre Dame for someone working on networks/spatial data: <https://careercenter.asanet.org/job/1310854/postdoctoral-fellowship/>".
A screenshot of the SICSS People page, which features a network graph background. The title 'People' is at the top, followed by the text 'Search our community of nearly 2,000 graduate students, post-docs, professors, and scholars outside academia'.

Now, some logistics about SICSS-Saarbrücken

SLACK Channel



All communication will take place on Slack.
Please join our channel if you haven't done so yet!



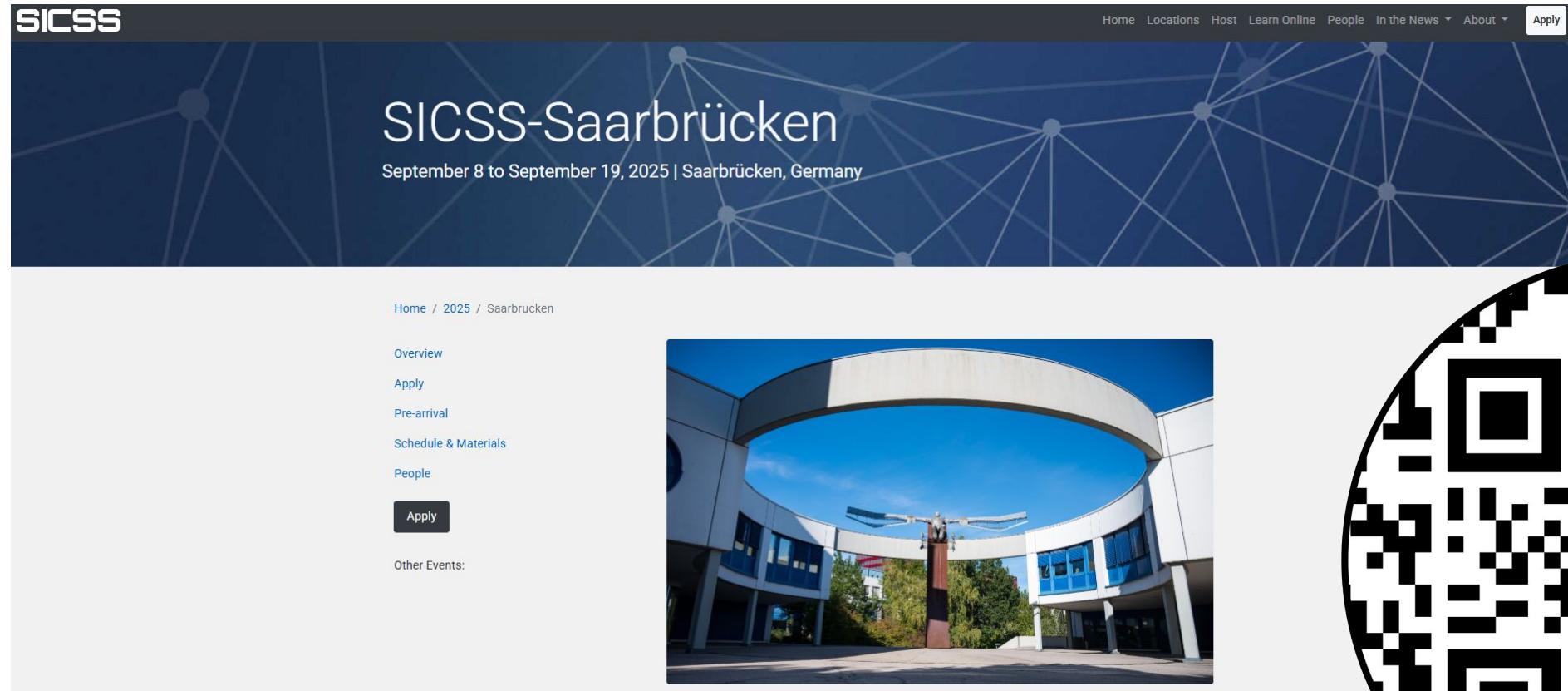


All the material (slides, datasets, and code)
will be available on GitHub.

Please take a look!



Our website



The screenshot shows the homepage of the SICSS-Saarbrücken website. The header features the 'SICSS' logo on the left and a navigation menu with links to Home, Locations, Host, Learn Online, People, In the News, About, and an 'Apply' button on the right. The main title 'SICSS-Saarbrücken' is displayed prominently, along with the event dates 'September 8 to September 19, 2025 | Saarbrücken, Germany'. Below the title is a large, abstract network graphic. The sidebar on the left includes links for Overview, Apply, Pre-arrival, Schedule & Materials, People, and another 'Apply' button. A photograph of a modern building with a curved roofline and a central entrance is shown below the sidebar.

<https://sicss.io/2025/saarbrucken/>



Pre-arrival material

Reading recommended by speakers:

Tuesday (09.09): Savvas Zannettou

Radford, A., Kim, J.W., Hallacy, C., Ramesh, A., Goh, G., Agarwal, S., Sastry, G., Askell, A., Mishkin, P., Clark, J., and Krueger, G., 2021, July. Learning transferable visual models from natural language supervision. In International Conference on machine learning (pp. 8748-8763). PmLR.

Thursday (11.09): Georg Wenzelburger

Grimmelikhuijsen, S., & Meijer, A. (2022). Legitimacy of algorithmic decision-making: Six threats and the need for a calibrated institutional response. *Perspectives on Public Management and Governance*, 5(3), 232-242. <https://doi.org/10.1093/ppmgov/gvac008>

König, P. D., & Wenzelburger, G. (2021). The legitimacy gap of algorithmic decision-making in the public sector: Why it arises and how to address it. *Technology in society*, 67, 101688. <https://doi.org/10.1016/j.techsoc.2021.101688>

König, P. D., & Wenzelburger, G. (2020). Opportunity for renewal or disruptive force? How artificial intelligence alters democratic politics. *Government Information Quarterly*, 37(3), 101489. <https://doi.org/10.1016/j.giq.2020.101489>

Friday (12.09): Bernie Hogan

Hogan, B. (2021) Networks are a lens for power: A commentary on the recent advances in the ethics of social networks special issue. *Social Networks* 67, 9-12. <https://doi.org/10.1016/j.socnet.2020.12.003>

Birkett, M., Melville, J., Janulis, P., Phillips II, G., Contractor, N., & Hogan, B. (2021). Network Canvas: Key decisions in the design of an interviewer-assisted network data collection software suite. *Social Networks*, 66, 114-124. <https://doi.org/10.1016/j.socnet.2022.01.006>

Schedule

WEEK 1				
Date	Week day	Morning (10:00 - 12:00)	Afternoon I (13:00 - 15:30)	Afternoon II (16:00 - 17:30)
08.09.25	Monday	Introduction and Lightning Talks (Organizers)	Lightning Talks by Participants	Welcome Event at Eden Restaurant
09.09.25	Tuesday	Lecture Savvas Zannettou: "Computational Methods for Multimodal Analysis: a deep dive on computational methods that can be used for multimodal content analysis for content shared on social media platforms."	Hands-On Savvas Zannettou: "Computational Methods for Multimodal Analysis: a deep dive on computational methods that can be used for multimodal content analysis for content shared on social media platforms."	Lightning Talks by researchers at UdS and RPTU Landau
10.09.25	Wednesday	Lecture Emilio Zagheni: "Measuring and understanding bias in digital trace data"	Hands-On Tom Theile: "Measuring and understanding bias in digital trace data"	Keynote 1 and Informal meeting Uwe Albrecht: "Right-wing extremism in Germany - ideology, strategies, and actors."
11.09.25	Thursday	Lecture Abhisek Dash: "Content Moderation in Decentralized Platforms : A Case Study of Bluesky"	Hands-On Abhisek Dash: "Content Moderation in Decentralized Platforms : A Case Study of Bluesky"	Keynote 2 and Informal meeting Georg Wenzelburger: "Promises and Pitfalls of the use of AI by the state: A perspective from political science and theories of democracy"
12.09.25	Friday	Lecture Bernie Hogan: "Network Canvas – Measuring social structure through self-reported visual network surveys"	Hands-On Bernie Hogan: "Network Canvas – Measuring social structure through self-reported visual network surveys"	Research speed dating
13.09.25	Saturday	Weekend Activity: „Völklinger Hütte“ and Early Dinner at NOYA in Saarbrücken		
14.09.25	Sunday	Break		
WEEK 2				
Date	Week day	Morning (10:00 - 12:00)	Afternoon I (13:00 - 15:30)	Afternoon II (16:00 - 17:30)
15.09.25	Monday	Lecture Daniela Braun and Rosa Navarrete: "Computing of Society: Why is it necessary? How can it be done (traditional and more innovative examples from our research)?"	Hands-On Giuseppe Carteny and Alexander Hartland: "Computing of Society: Why is it necessary? How can it be done (traditional and more innovative examples from our research)?"	Keynote 3 and Informal meeting Ridhi Kashyap: "Gender Inequalities in a Digital World"
16.09.25	Tuesday	Group Work	Group Work	Keynote 4 and Informal meeting Kevin Baum: "Ethical Reasoning in the Dark: How to Make Justifiable Decisions When You Don't Know What's Right"
17.09.25	Wednesday	Group Work	Check-in with project advisors	Group Work
18.09.25	Thursday	Group Work	Group Work	Keynote 5 and Informal meeting Ingmar Weber: "Computational Social Science from Space: Seeing the World Through Satellite Images"
19.09.25	Friday	Group Work	Presentations	Farewell Event at Ausländer Café

Logistics

- Today at 12:00: Group picture 
- Lunch from 12:00 to 13:00
 - Lunch will be at the Mensa on weekdays*
 - **Don't forget to collect your coupons from us!**
- Coffee break from 15:30 to 16:00
 - Snacks and coffee will be available
- Weekend activity
 - Saturday: Völklinger Hütte + Early Dinner at NOYA
 - If you are unable to join us, please let any of the organizers know.
- Today at 17:00! Welcome event at Eden Restaurant
- Last day of SICSS: Farewell Event at Ausländer Café

All the above expenses are included in the schedule and will be covered by SICSS-Saarbrücken

- There are a couple of cafes around the campus, feel free to ask us for more information.

* except today and the last day of SICSS. We will provide a light lunch at I2SC.

Weekend Event

- 11:30- Meet at Saarbrücken Hbf (Optional).
- 12:00- Meet at Völklinger Hütte.
- 16:15- Leave to Saarbrücken Hbf.
- 17:00- Dinner at NOYA.

Schedule: Week 1

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14.09.25	Sunday	Break		

Schedule: Week 2

WEEK 2				
Date	Week day	Morning (10:00 - 12:00)	Afternoon I (13:00 - 15:30)	Afternoon II (16:00 - 17:30)
15.09.25	Monday	Lecture Daniela Braun and Rosa Navarrete : " <i>Computing of Society: Why is it necessary? How can it be done (traditional and more innovative examples from our research)?</i> "	Hands-On Giuseppe Carteny and Alexander Hartland : " <i>Computing of Society: Why is it necessary? How can it be done (traditional and more innovative examples from our research)?</i> "	Keynote 3 and Informal meeting Ridhi Kashyap : " <i>Gender Inequalities in a Digital World</i> "
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People

Make sure you all have a profile, including picture and bio, on our website.

If anything is missing or incorrect, please reach out to one of the organizers.

SICSS-Saarbrücken

September 8 to September 19, 2025 | Saarbrücken, Germany

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[People](#)

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[Other Events:](#)

People

Faculty



Ingmar Weber

Ingmar Weber is an Alexander Humboldt Professor for AI, and holds the chair for Societal Computing at Saarland University. His research looks at how non-traditional data sources, such as social media and satellite images, can be used to study societal phenomena, and to strengthen social development. Topics of interest include monitoring migration and mobility, tracking digital gender gaps, and understanding democratic processes.



Carolina Coimbra Vieira

Carolina Coimbra Vieira is a PhD Student in Computer Science at Universität des Saarlandes (UdS) also affiliated to the Max Planck Institute for Demographic Research (MPIDR) and the Max Planck Institute for Software Systems (MPI-SWS). She received her B.Sc. and M.Sc. in Computer Science from Federal University of Minas Gerais (UFMG) in Brazil. Carolina's research focuses on interdisciplinary topics at the intersection of computer science and the use of digital trace data to study culture, migration, and algorithmically-mediated user engagement on social media platforms.



Brahmani Nutakki

Brahmani Nutakki is a PhD Student in Computer Science at Universität des Saarlandes (UdS). She received her Bachelors and Masters in Computer Science from University of Hyderabad in India. Her research focuses on understanding the dynamics of online communities and the society at large, mainly on Politics, Hate Speech and Misinformation.



Jianlong Zhu

Jianlong Zhu is a PhD Student in Computer Science at Saarland University. He holds an MSc in Social Data Science from the University of Oxford and a BA in Liberal Arts from Sarah Lawrence College. His current research focus is on the application of large language models in enhancing critical thinking and decision-making processes, with a particular interest in civic education.

Meet the Participants

Informal introduction round

Name

Country of origin

Favorite food

Cat or Dog person?

Tea or Coffee drinker?

Other fun things you want to mention about yourself

Informal introduction round

Form groups of 3-4 and write down as many characteristics you all share as possible.

Informal introduction round

Form groups of 3-4 and come up with a joint publication name (the funnier the better)

Questions?



INTERDISCIPLINARY
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Enjoy your time with us in Saarbrücken

