Why SICSS?

Bamberg Summer Institute in Computational Social Science

Carsten Schwemmer, University of Bamberg

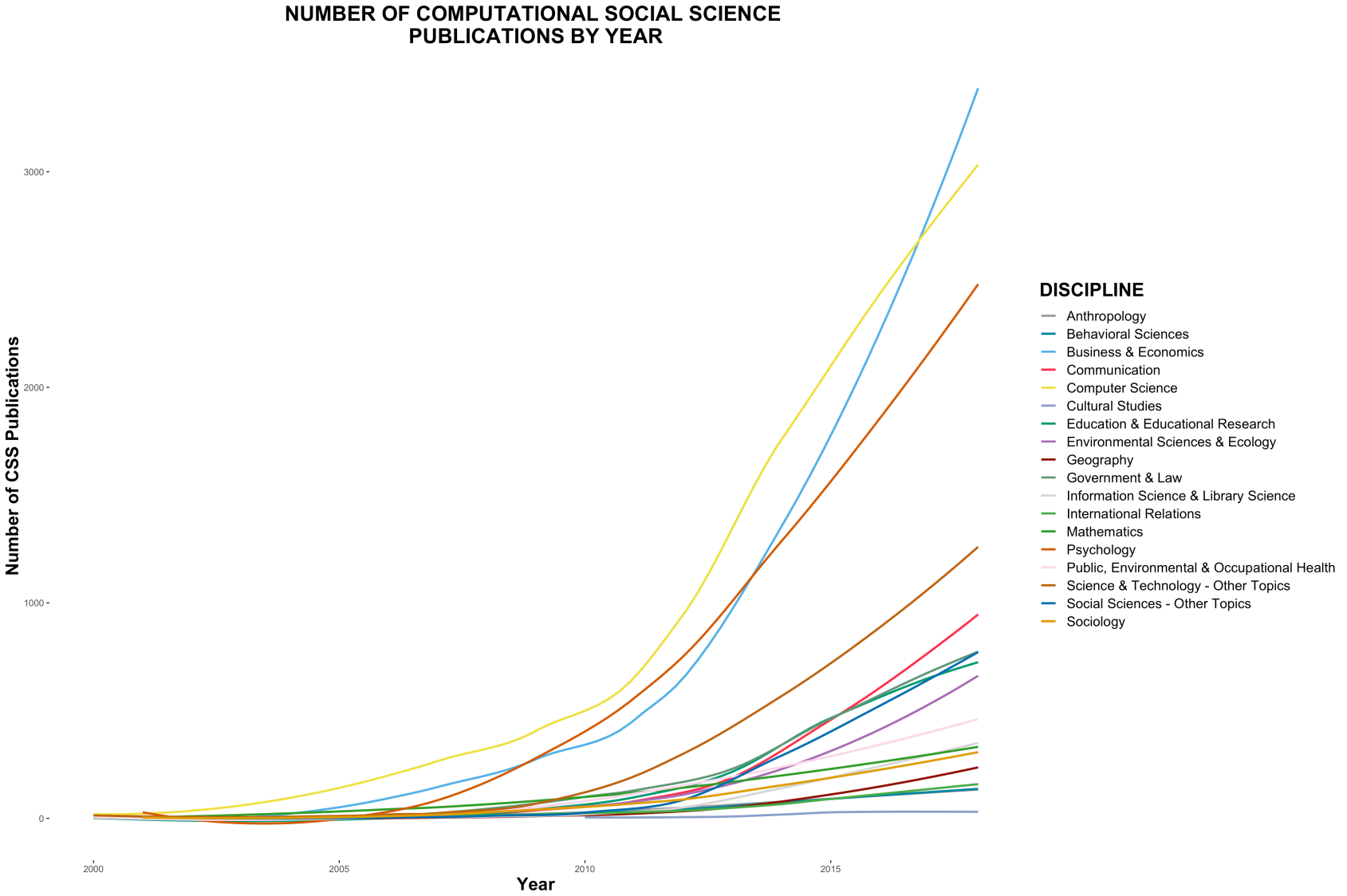
2019-07-29

Many thanks to Chris Bail for providing material for this lecture

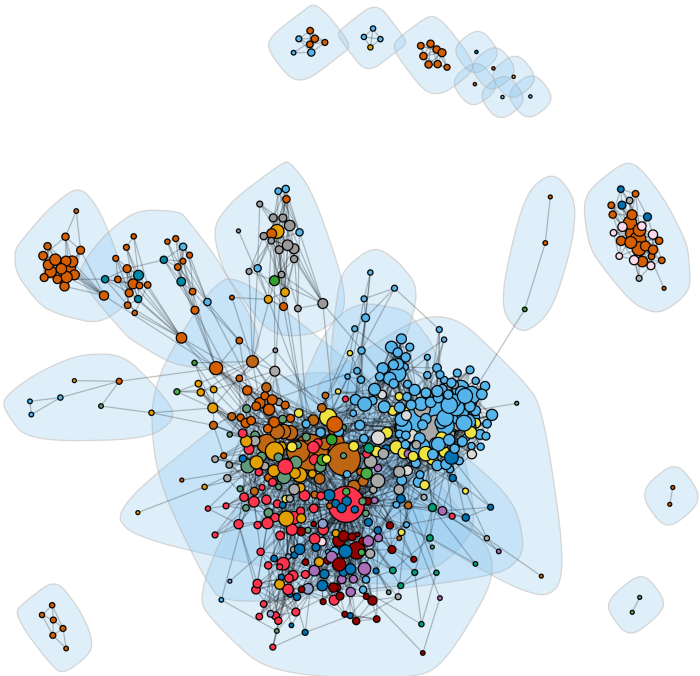
Why SICSS?

Big problems in the world

Our field is growing



Our field is interdisciplinary

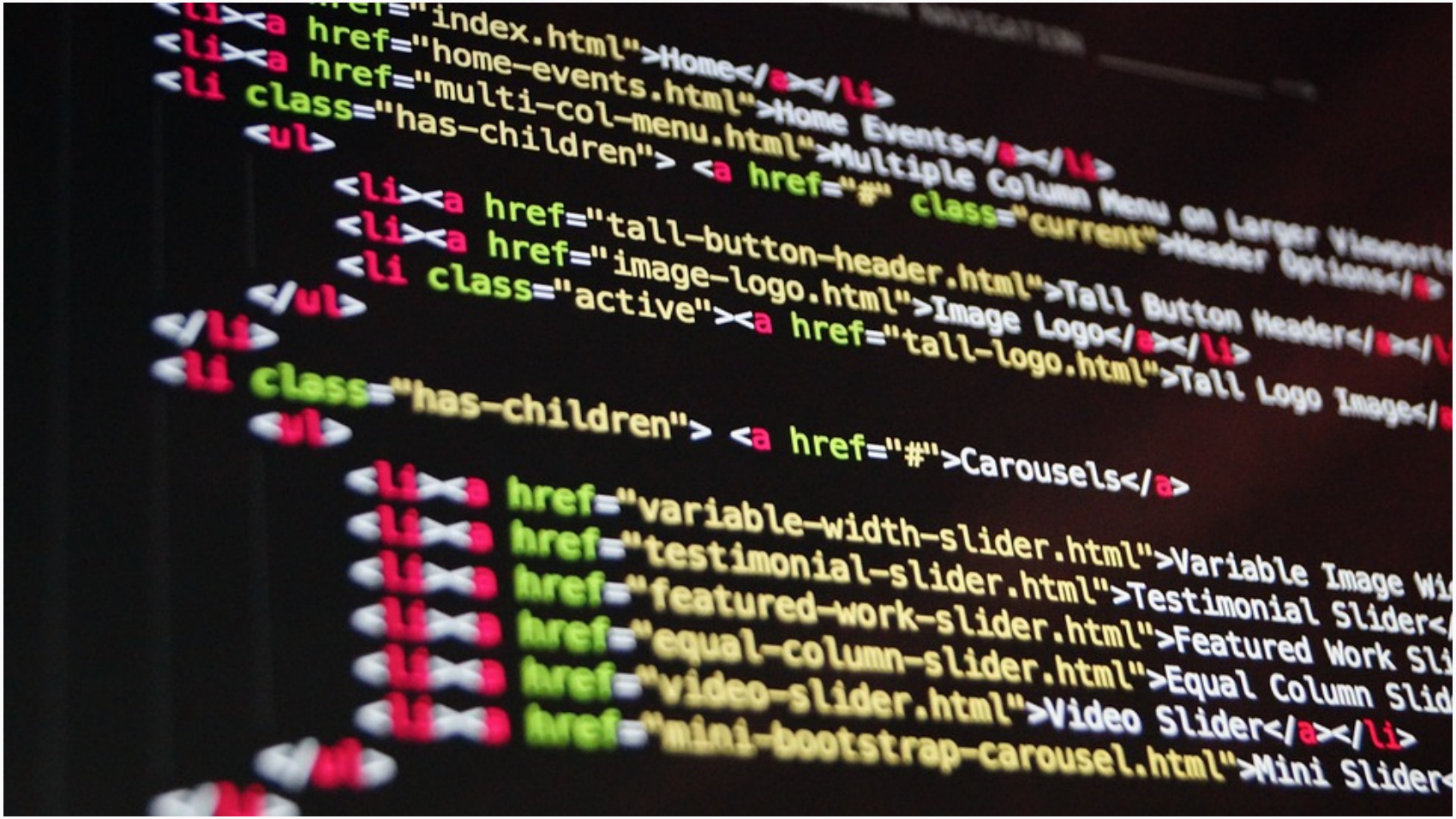


COMPUTATIONAL SOCIAL SCIENCE AS A NETWORK

Nodes colored by first-listed discipline

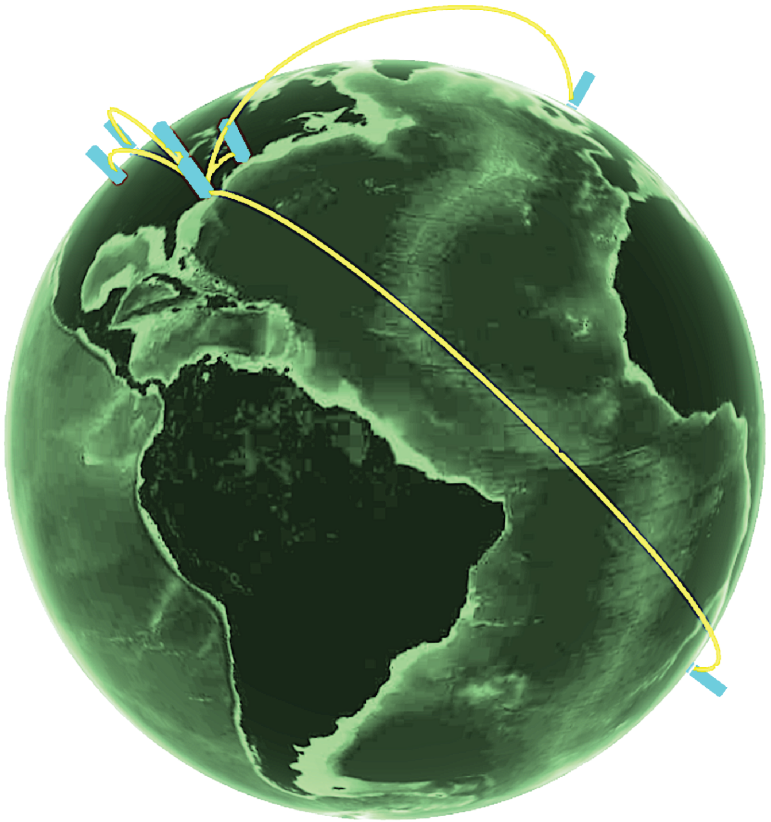
- Business & Economics
- Psychology
- Communication
- Social Sciences – Other Topics
- Science & Technology – Other Topics
- Computer Science
- Government & Law
- Sociology
- Geography
- Anthropology
- Environmental Sciences & Ecology
- Education & Educational Research
- Public, Environmental & Occupational Health
- Information Science & Library Science
- Cultural Studies
- Behavioral Sciences
- International Relations
- Mathematics
- Other

Training opportunities are rare

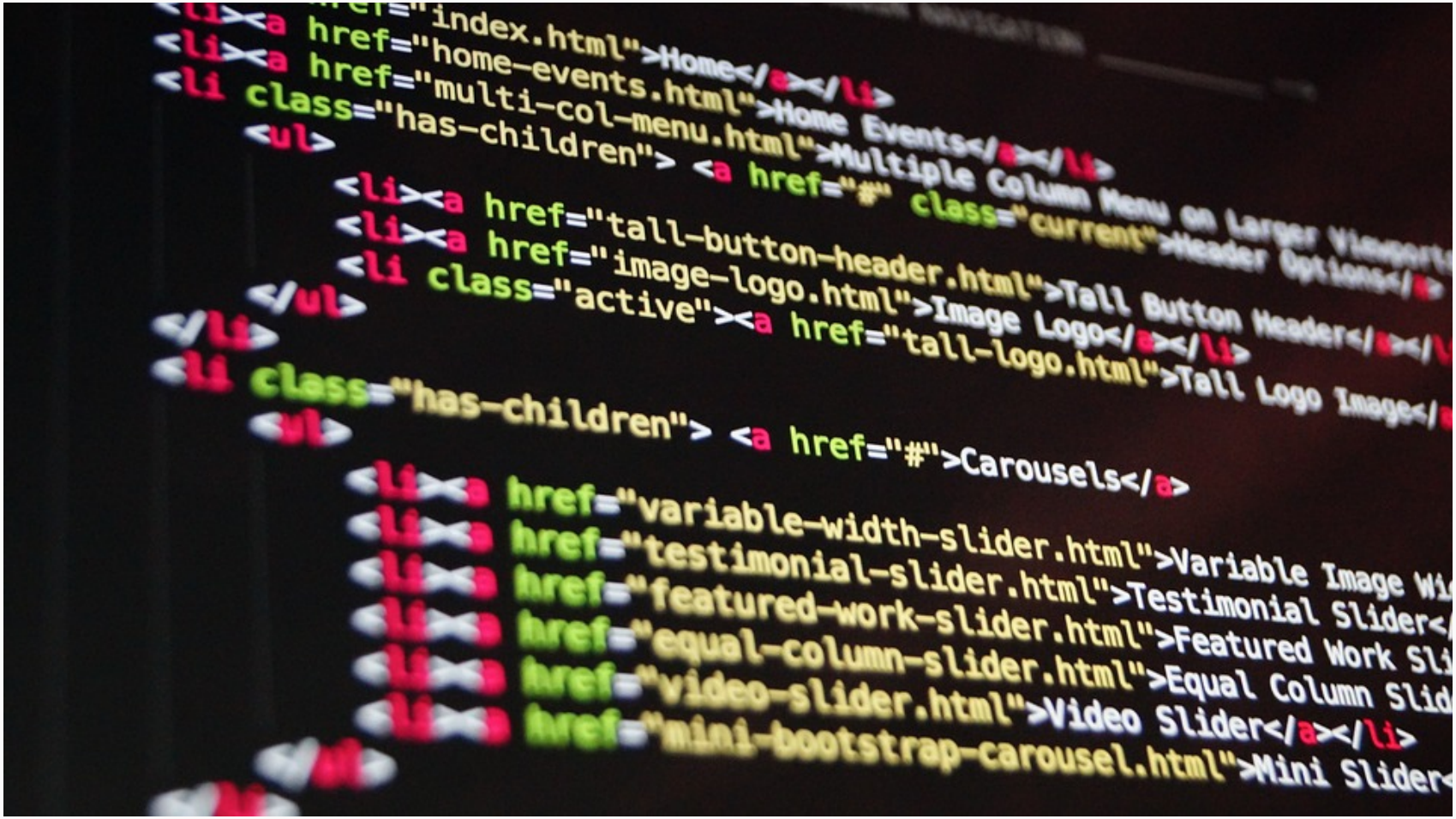


SICSS as a possible solution

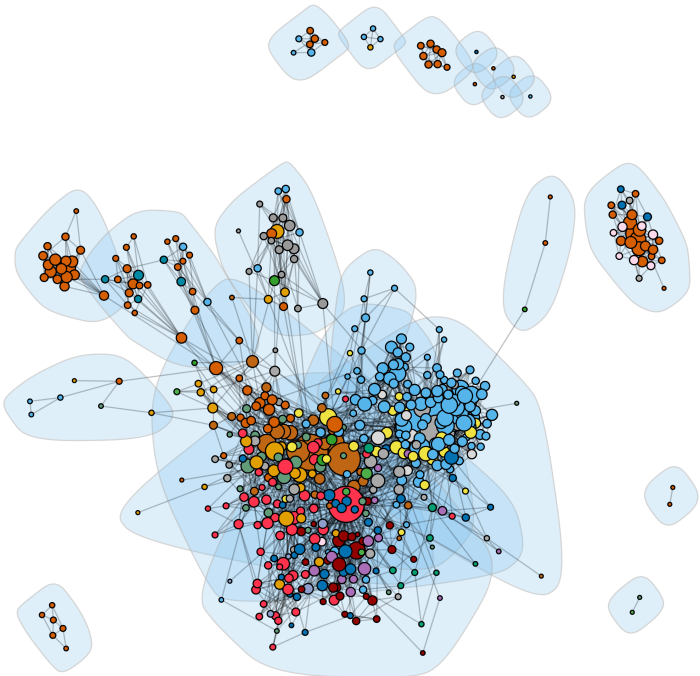
SICSS



Goal 1: provide state-of-the-art training



Goal 2: challenge disciplinary divides



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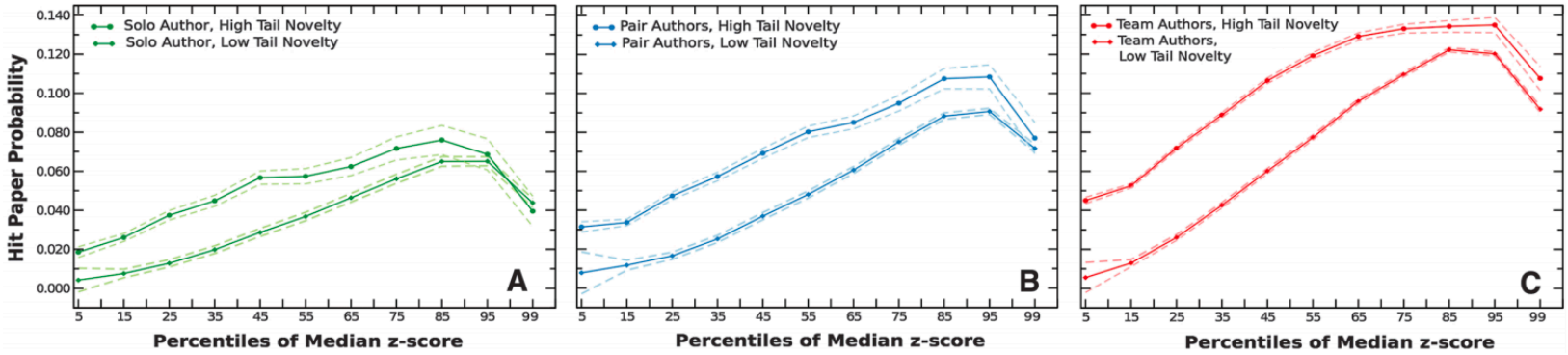

Fig. 4. Novel and conventional combinations in the production of science. (**A** to **C**) The interplay between tail novelty, median conventionality, and hit paper probabilities shows remarkable empirical regularities. First, high tail novelty papers have higher impact than low tail novelty papers at (i) any level of conventionality and (ii) regardless of authorship structure. Second, increasing median conventionality is associated with higher impact up to the 85th to 95th percentile of median conventionality, after which the relationship reverses. Third, larger teams obtain higher impact given the right mix of tail novelty and median conventionality. Nonetheless, at low levels of median convention and tail novelty, even teams have low impact, further emphasizing the fundamental relationship between novelty, conventionality, and impact in science.

https://link.springer.com/chapter/10.1007/978-3-319-45023-0_12

Goal 3: reach a broad audience

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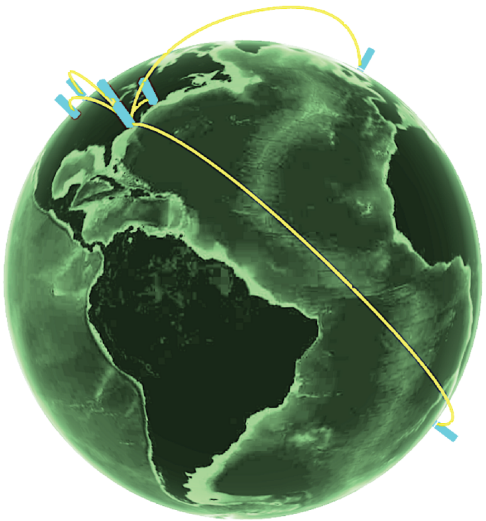
SICSS



SICSS

June 16 to June 29, 2019 | Princeton University

SICSS MONTERREY
Summer Institute in Computational Social Science Partner Site

SICSS ZÜRICH, SWITZERLAND
Summer Institute in Computational Social Science Partner Site

SICSS BAMBERG
Summer Institute in Computational Social Science Partner Site

SICSS UNIVERSITY OF CAPE TOWN
Summer Institute in Computational Social Science Partner Site

SICSS ISTANBUL
Summer Institute in Computational Social Science Partner Site

SICSS RESEARCH TRIANGLE PARK, NC
Summer Institute in Computational Social Science Partner Site

SICSS LOS ANGELES
Summer Institute in Computational Social Science Partner Site

SICSS SILBERMAN SCHOOL OF SOCIAL WORK, HUNTER COLLEGE AT THE CITY UNIVERSITY OF NEW YORK
Summer Institute in Computational Social Science Partner Site

SICSS CHICAGO
Summer Institute in Computational Social Science Partner Site

SICSS OXFORD
Summer Institute in Computational Social Science Partner Site

Goal 4: open-source

All materials for lectures and group activities (slides, images, R Markdown files, data) will be available on Github:

`https://github.com/compsocialscience/summer-institute/tree/master/2019/bamberg/materials`

Goal 5: teach the teachers

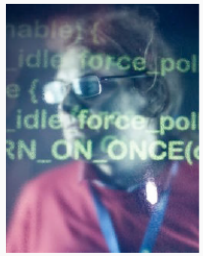




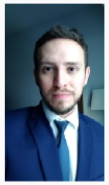






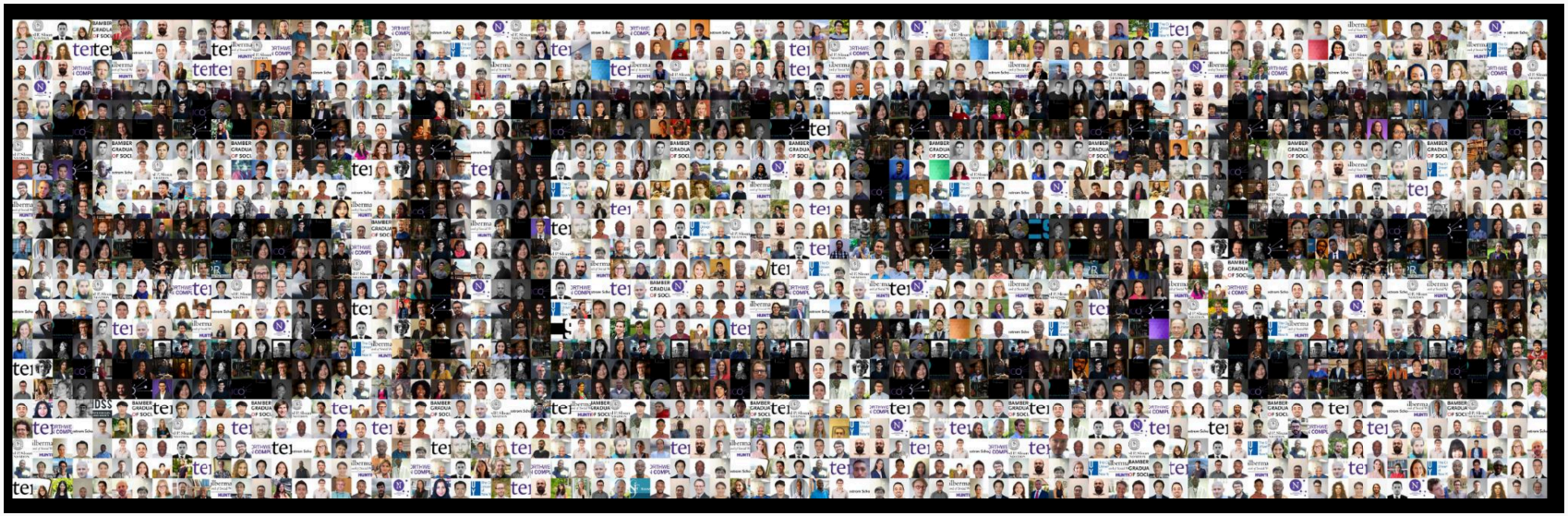




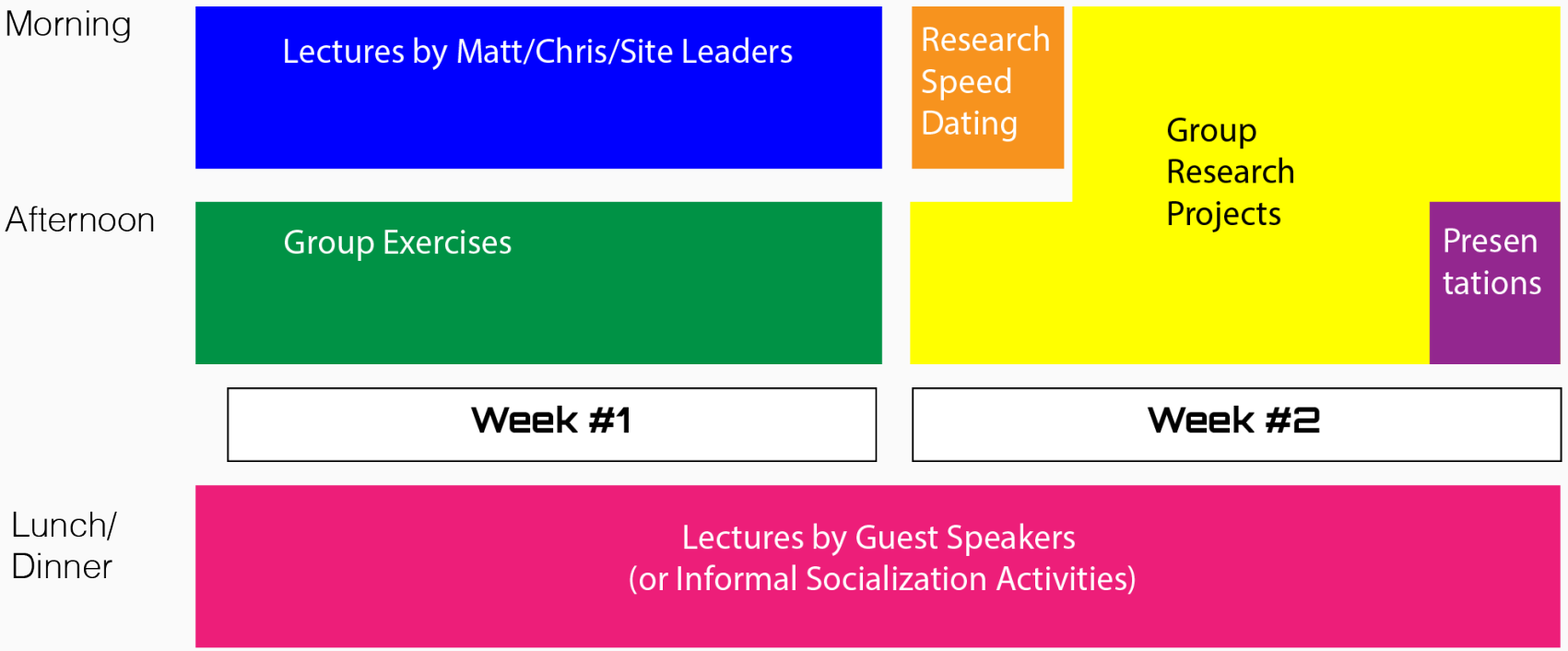


Goal 6: create a diverse community



How SICSS works

Schedule


Morning
Afternoon
Lunch/
Dinner
Lectures by Matt/Chris/Site Leaders
Research
Speed
Dating
Group
Research
Projects
Presen
tations
Group Exercises
Week #1
Week #2
Lectures by Guest Speakers
(or Informal Socialization Activities)

Lectures

Day	Topic	Lecturer
Monday	Intro/Ethics	Carsten
Tuesday	Collecting Digital Trace Data	Carsten
Wednesday	Social Network Analysis	Oliver Posegga
Thursday	Automated Text Analysis	Carsten
Friday	Surveys in the Digital Age	Matt (video lecture)
Saturday	Field Experiments	Matt (video lecture)

Accessing materials

Go to this site:

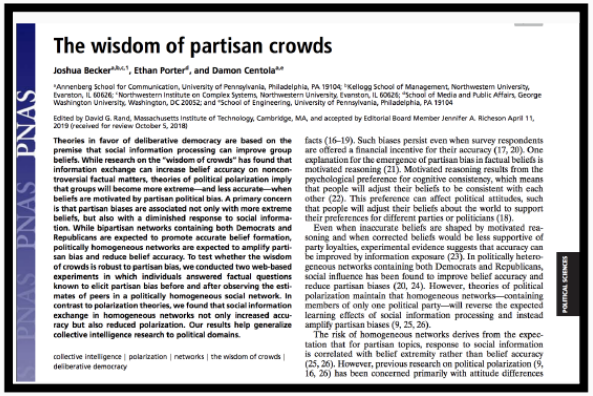
`https://compsocialscience.github.io/summer-institute/2019/bamberg/#schedule`

Guest speakers

Day	Mode	Speaker
Monday (week 1)	Local	Andreas Jungherr
Tuesday (week)	Video	Deen Freelon
Wednesday (week 1)	Local	Fariba Karimi
~~Thursday (week 1)~~	~~Video~~	~~Justin Grimmer~~
Friday (week 1)	Local	Ridhi Kashyap
Monday (week 2)	Local	Martijn Schoonvelde
Tuesday (week 2)	Local	Milena Tsvetkova

All of our local guest speakers will be available for office hours (see programme booklet)

Group projects



PNAS

The wisdom of partisan crowds

Joshua Becker[a,b,c,1], Ethan Porter[d], and Damon Centola[a,e]

[a]Annenberg School for Communication, University of Pennsylvania, Philadelphia, PA 19104; [b]Kellogg School of Management, Northwestern University, Evanston, IL 60626; [c]Northwestern Institute on Complex Systems, Northwestern University, Evanston, IL 60626; [d]School of Media and Public Affairs, George Washington University, Washington, DC 20052; and [e]School of Engineering, University of Pennsylvania, Philadelphia, PA 19104

Edited by David G. Rand, Massachusetts Institute of Technology, Cambridge, MA, and accepted by Editorial Board Member Jennifer A. Richeson April 11, 2019 (received for review October 5, 2018)

Theories in favor of deliberative democracy are based on the premise that social information processing can improve group beliefs. While research on the "wisdom of crowds" has found that information exchange can increase belief accuracy on noncontroversial factual matters, theories of political polarization imply that groups will become more extreme—and less accurate—when beliefs are motivated by partisan political bias. A primary concern is that partisan biases are associated not only with more extreme beliefs, but also with a diminished response to social information. While bipartisan networks containing both Democrats and Republicans are expected to promote accurate belief formation, politically homogeneous networks are expected to amplify partisan bias and reduce belief accuracy. To test whether the wisdom of crowds is robust to partisan bias, we conducted two web-based experiments in which individuals answered factual questions known to elicit partisan bias before and after observing the estimates of peers in a politically homogeneous social network. In contrast to polarization theories, we found that social information exchange in homogeneous networks not only increased accuracy but also reduced polarization. Our results help generalize collective intelligence research to political domains.

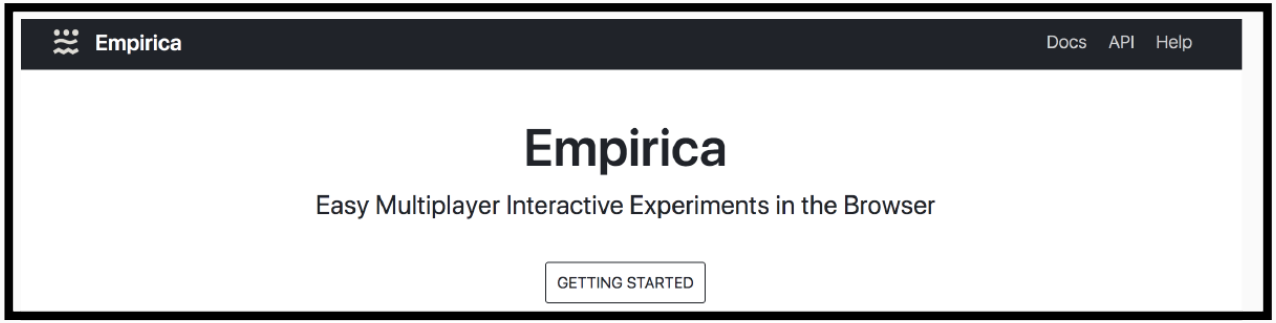
collective intelligence | polarization | networks | the wisdom of crowds | deliberative democracy

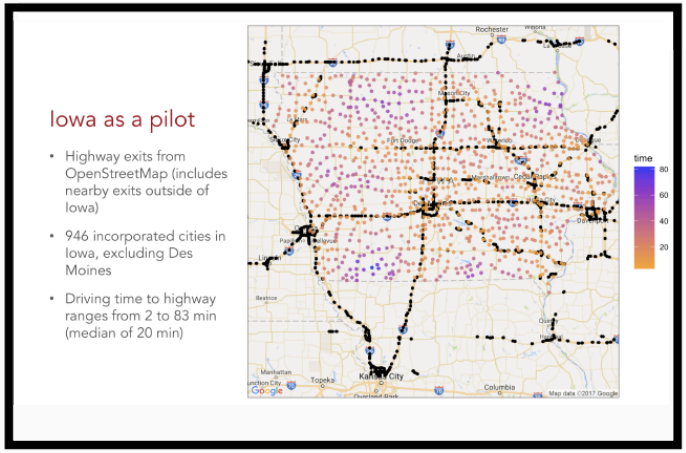
facts (16–19). Such biases persist even when survey respondents are offered a financial incentive for their accuracy (17, 20). One explanation for the emergence of partisan bias in factual beliefs is motivated reasoning (21). Motivated reasoning results from the psychological preference for cognitive consistency, which means that people will adjust their beliefs to be consistent with each other (22). This preference can affect political attitudes, such that people will adjust their beliefs about the world to support their preferences for different parties or politicians (18).

Even when inaccurate beliefs are shaped by motivated reasoning and when corrected beliefs would be less supportive of party loyalties, experimental evidence suggests that accuracy can be improved by information exposure (23). In politically heterogeneous networks containing both Democrats and Republicans, social influence has been found to improve belief accuracy and reduce partisan biases (20, 24). However, theories of political polarization maintain that homogeneous networks—containing members of only one political party—will reverse the expected learning effects of social information processing and instead amplify partisan biases (9, 25, 26).

The risk of homogeneous networks derives from the expectation that for partisan topics, response to social information is correlated with belief extremity rather than belief accuracy (25, 26). However, previous research on political polarization (9, 16, 26) has been concerned primarily with attitude differences

POLITICAL SCIENCES





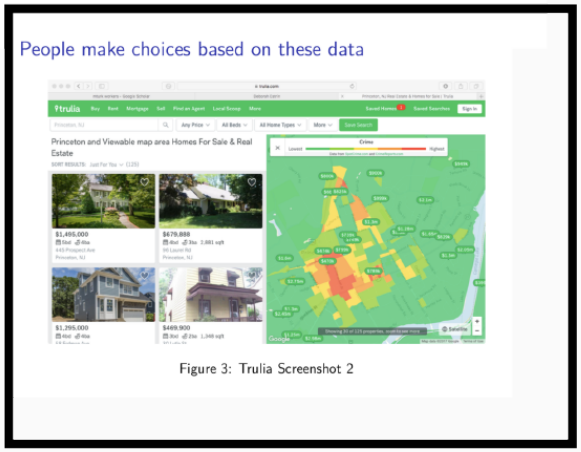


Figure 3: Trulia Screenshot 2

Your responsibilities

- openness
- patience
- togetherness
- generosity

Feedback

Link to a general SICSS feedback form (shared among partner institutes) `https://forms.gle/kZsrPrmu66LPqQME9`

For the first week, we will also have daily feedback forms specific to SICSS Bamberg

Questions?