COMPUTATIONAL Social Science@CUHK

WHEN SOCIAL SCIENCE MEETS COMPUTER SCIENCE...

2026 Computational Social Science Mini-Conference

23 April 2026 (Thu) | 09:00 - 17:00
UG06, Sino Building, The Chinese University of Hong Kong

SPEAKERS

Prof. YANG Tianren
Department of Urban Planning and Design
The University of Hong Kong

Prof. ZHANG Dong
Division of Social Science
The Hong Kong University of Science and Technology

AGENDA

Morning Session

- Keynote Address 1 by Prof. YANG Tianren
  Urban Spatial Behaviour as System Evidence: Reframing Planning in the Computational Era
- Presentations by CSS Postgraduate students (part 1)

Afternoon Session

- Keynote Address 2 by Prof. ZHANG Dong
  Applying Computational Methods to Social Media Research
- Presentations by CSS Postgraduate students (part 2)

Registration

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Computational Social Science Laboratory (CSSL@CUHK)

The 2026 Computational Social Science Mini-Conference
Programme Rundown

23 April 2025 | 09:00 - 12:00, 14:00 - 17:00
UG06, Sino Building, The Chinese University of Hong Kong

Time	Session
09:00 – 09:15	Opening Remarks (Prof. Hai LIANG, Co-director, CSS Lab)
09:15 – 10:00	**Keynote Address 1** Prof. YANG Tianren, Assistant Professor in the Department of Urban Planning and Design, The University of Hong Kong **Urban Spatial Behaviour as System Evidence: Reframing Planning in the Computational Era**
10:00 – 10:30	Q & A and Recess
10:30 – 11:00	**Group 4 Presentation** LIU Shaoqiang, SONG Qiwei, CHEN Sifan, CHEN Silu, ZHENG Lingwei, ZHANG Wenting (Supervisors: Prof. LIU Yan & Prof. QIU Lin) **Considering Locality: An Approach to Calibrating Environmental Perception Bias With LLM-Enabled Synthetic Samples** **Abstract:** Given the significance of visual perception regarding urban environment, a large amount of literature has focused on environmental perception of cities using big data and machine learning techniques. Nevertheless, due to the low quality of subjective and visual data, limited scopes of study areas and sample sizes, annotated visual datasets may encounter potential bias such as data bias and perception bias. The former bias resides in data quality, while the latter can be subject to participants' demographics, personality traits, prior experience, and cultural backgrounds. Existing research has found that local residents in a city could evaluate the street view imageries differently from those of foreign cities. This kind of perception bias may be learned by machine learning

	models, amplifying bias in environmental perception and derogating subsequent analysis. This study aspires to address perception bias using LLM-enabled synthetic samples, with considering characteristics of human participants (i.e., demographics, personality traits, residential locations, and cultural backgrounds). We utilize visual language models (e.g., Qwen-VL model family) to simulate human raters to predict environmental perception by providing corresponding characteristics of human participants. To approximate environmental perception of human participants, we compare various techniques including zero-shot prompting, in-context (few-shot) learning, and supervised fine tuning. Based on the optimal model, we can efficiently predict reliable environmental visual perception in extensive datasets with limited budget and unavailable human samples.
11:00 – 11:30	**Group 2 Presentation** ZHENG Yuxuan, QIN Xuanlong, TAN Qiang, LI Yue (Supervisors: Prof. QIU Lin & Prof. LIU Yan) **The Illusion of Abstract Semantic Geometry in LLMs: Evidence from Cross-Domain Conceptual Mapping** **Abstract:** As computational social science increasingly utilizes Large Language Models (LLMs) as "silicon samples", distinguishing between surface-level behavioral alignment and genuine mechanistic isomorphism is critical. Research shows that when humans map concepts across domains (e.g., "if a nurse were an animal, what it would be?"), they rely on abstract semantic dimensions such as Evaluation, Potency, and Activity (EPA). This study investigates whether LLMs develop similar grounded semantic geometry. We evaluated six LLMs (across GPT, Llama, and Qwen families) using a three-condition "cognitive stress test" that manipulates the required level of abstraction. Employing mixed-effects regressions, we pitted human cognitive predictors directly against distributional text statistics. Results reveal that while LLMs exhibit striking behavioral alignment with human response distributions and entropy, including their projections in EPA space, their underlying mechanisms diverge significantly. LLM choices are overwhelmingly driven by baseline probability (frequency/typicality) and word association. However, abstract semantic similarity (EPA) never positively predicted LLM selections across any condition. We conclude that LLMs create an "illusion" of abstract semantic geometry, achieving human-like outputs through fundamentally different computational routes based on statistical regularities rather than structural isomorphism. This highlights the risk of building social simulation theories on distributional mirages rather than grounded human cognition.

11:30 – 12:00	Discussant (Prof. YANG Tianren) and Q & A
Lunch break: CC Staff Canteen (Pre-registration required)	
Time	**Session**
14:00 – 14:45	**Keynote Address 2** Prof. ZHANG Dong, Associate Professor in the Division of Social Science, The Hong Kong University of Science and Technology **Applying Computational Methods to Social Media Research**
14:45 – 15:15	Q & A and Recess
15:15 – 15:45	**Group 1 Presentation** HU Xinyue, DU Feixinyu, QI Jiyuan, SHEN Linfeng, CHEN Jiangyue (Supervisors: Prof. ZHU Ling & Prof. LIANG Hai) **The Multi-Modal State: The Hybrid Strategy of Chinese Digital Propaganda on Douyin** **Abstract:** Digital-age state propaganda faces dual challenges within a fragmented and competitive digital information environment. Recent studies find that while "hard" propaganda signals regime's power and "soft" propaganda capture attention, neither alone explains sustained state propaganda competitiveness. To address this puzzle, this study argues that a "hybrid strategy" — coordinated through China's M-form bureaucracy — integrates diverse content to maximise both audience appeal and ideological efficacy. By leveraging a cross-level division of labour, the state mitigates the inherent weaknesses of individual propaganda types while compounding their strengths to maintain information dominance. This study empirically demonstrates the existence and efficacy of this strategy using a novel measurement powered by Video Language Models (VLMs) and Large Language Model (LLM) word embeddings in an unsupervised approach, analysing over 20,000 propaganda videos from regime-affiliated accounts on Douyin. This study thus contributes theoretically and methodologically to the understanding of information governance in China, illuminating not only which distinctive strategies are adopted, but also how they are organised and sustained by the state's institutional architecture.
15:45 – 16:15	**Group 3 Presentation** GUO Yufan, CAI Siman, CHEN Junru, YUE Xiaoqian, TIAN Runhui (Supervisors: Prof. LIANG Hai & Prof. ZHU Ling)

	Political Gatekeeping in Action: How Negative Coverage Enters China's Local Newspapers **Abstract:** Despite political pressure on news selection, negative coverage of governance failures and misconduct continues to appear in restricted media systems. To explain this persistence in China's local press, this study reconceptualizes political gatekeeping not as a single act of censorship but as a multi-gate, multi-actor system in which gatekeeping authority is distributed across institutional levels and activated by distinct political logics. Drawing on a large-scale corpus of China's local newspapers spanning from 2000 to 2025, we document three institutional pathways through which negative coverage enters: *central authorization*, where local newspapers reproduce Xinhua-attributed scripts under central directive; *central following*, where local papers track national media coverage; and *translocal supervision*, where newspapers publish critical content targeting other jurisdictions to displace political risk spatially. Using LLM-assisted annotation, we test how each pathway varies by newspaper type, issue sensitivity, time period, and region. Our findings reveal that these gatekeeping mechanisms operate conditionally and shift over time as political constraints tighten. This study offers a systematic account of how restricted media systems manage the controlled circulation of negativity, highlighting the complexities of governmental influences on news selection.
16:15 – 16:45	Discussant (Prof. ZHANG Dong) and Q & A
16:45 – 17:00	Closing Remarks (Prof. Ling ZHU, Co-director, CSS Lab)