

SIMIS-TSIMF INTERDISCIPLINARY SERIES

International Workshop on Logic, Cognition, and Philosophy of Mathematics

SPONSORS:

Tsinghua Research Center for Logic
Shanghai Institute for Mathematics and Interdisciplinary Sciences (SIMIS)

ORGANIZERS:

Fengrong LIU (Tsinghua University)
Jun ZHANG (SIMIS and University of Michigan)

This workshop will bring together experts in logic, philosophy, mathematics, and cognitive sciences to discuss pioneering topics at the intersections of their fields. Key areas of focus will include the exploration of Kripke and topological semantics in modal logic, the examination of neighborhood semantics, and the integration of logic with game theory and graph theory. Participants will look into the implications of these topics for cognitive science, fostering a collaborative environment for advancing interdisciplinary research.

Workshop Format This invitation-only workshop will be organized in a "Dagstuhl" style, which promotes a free and dynamic environment for discussions, interactions, and collaborations. This format will allow participants to engage deeply with various focused topics through informal and fluid session structures. Such an approach is designed to foster innovative solutions across the interdisciplinary fields involved.

Time: April 29- May 3, 2024

Location: Tsinghua Sanya International Mathematics Forum (TSIMF),
100 Tsinghua Road, Sanya, Hainan Province

PROGRAM

April 29 Guests arrive in Sanya and check in at TSIMF
(TSIMF address: 海南省三亚市天涯区清华路 100 号,
about 3km from the Phoenix Airport.)

April 30

Morning:

8:00-8:30 BREAKFAST

8:30-9:00 *Speed Dating*

9:00-9:40 **SHI Chenwei** Introduction to modal logic

9:40-10:00	Break/discussion	
10:00-10:40	ZHANG Guoqiang	On temporal ensemble logic (via Zoom)
10:40-11:00	Break/discussion	

11:30-12:30 LUNCH

Afternoon:

Parallel discussion sessions on specific topics

Discussions led by **Jeremy Seligman** Insights from solving Sudoku puzzles

Discussions led by **FU Xiaoxuan** On logic of preference

Presentation by **LI Dazhu** On mereology

17:30-18:30 DINNER

May 1

Morning:

8:00-9:00 BREAKFAST

9:00-9:40 **ZHANG Jun** On closure operators

9:40-10:00 Break/Discussion

10:00-10:40 **SUN Wen** On knowledge space

10:40-11:00 Break/Discussion

11:30-12:30 LUNCH

Afternoon:

Parallel discussion sessions on specific topics

Research exploration led by **Jun Zhang** Neighborhood semantics

17:30-18:30 DINNER

May 2

Morning:

8:00-9:00 BREAKFAST

9:00-9:40 **WU Jie** Embedded homology of hypergraphs

9:40-10:00 Break/Discussion

10:00-10:40 **ZHANG Guoqiang** (Zoom discussion)

10:40-11:00 Break/Discussion

11:00-12:00 **XIE Kaibo** On logic of causal reasoning

12:00-12:20 **CHEN Yixiang** A logical approach to stable domain

12:30-13:30 LUNCH

Afternoon: General free discussions

17:30-18:30 DINNER (optional)

Participants and their affiliations:

Jeremy Seligman 谢立民 Professor, University of Auckland; Jin Yuelin Professor Tsinghua University

Valentin Goranko 高万霆 Professor, Stockholm University; Zheng Gang Fellow, Tsinghua University

Alexandru Baltag 巴踏歌 Professor, University of Amsterdam; Zheng Gang Fellow, Tsinghua University (Cancelled)

Sonja Smets 司麦慈 Professor, University of Amsterdam; Zheng Gang Fellow, Tsinghua University (Cancelled)

Chen Yixiang 陈仪香 Professor, School of Software, East China Normal University

Feng Qi 冯琦 Professor, Department of Philosophy and Research Center for Logic, Tsinghua University

Fu Xiaoxuan 付小轩 Assistant Professor, Institute of Logic, China University of Political Science and Law

He Qingyu 何清瑜 PhD candidate, Department of Philosophy and Research Center for Logic, Tsinghua University

Liang Zhen 梁真 Assistant Professor, Department of Philosophy, Guizhou University

Liu Fenrong 刘奋荣 Professor, Department of Philosophy and Research Center for Logic, Tsinghua University

Li Dazhu 李大柱 Associate Professor, Institute of Philosophy, Chinese Academy of Sciences

Li Jingyan 李京艳 Assistant Scientist, Beijing Institute of Mathematical Sciences and Applications (BIMSA)

Shi Chenwei 石辰威 Assistant Professor, Department of Philosophy and Research Center for Logic, Tsinghua University

Sun Wen 孙文 Assistant Professor, School of Mathematics and Statistics, Minnan Normal University

Wang Wei 王威 PhD candidate, Department of Philosophy and Research Center for Logic, Tsinghua University

Wu Jie 吴杰 Professor, Beijing Institute of Mathematical Sciences and Applications (BIMSA)

Xie Kaibo 谢凯博 Assistant Professor, School of Philosophy, Wuhan University

Yan Jialiang 闫佳亮 Postdoc, Department of Philosophy and Research Center for Logic, Tsinghua University

Yang Sisi 杨思思 PhD candidate, Department of Philosophy and Research Center for Logic, Tsinghua University

Zhang Guoqiang 张国强 Professor, Department of Health Data Science and Artificial Intelligence, University of Texas UTHealth Houston (**online**)

Zhang Jun 张俊 Professor, Shanghai Institute for Mathematics and Interdisciplinary Sciences (SIMIS) and Professor (on leave), Department of Psychology and Department of Statistics, University of Michigan Ann Arbor