山大·世界逻辑日系列活动

WORLD LOGIC DAY @SDU

January 8, 2026

Invited Talk

Thomas Ågotnes (University of Bergen, Norway)

“Anonymous Public Announcements”

January 12-13, 2026

Graduate Seminar

January 14, 2026

Workshop on Logic and AI

山东大学概念与推理研究所

World Logic Day 2026 @SDU

Venue: Zhixin Building, Central Campus, Shandong University

Timezone: All times listed are Beijing Time (UTC+8)

Organizers

School of Philosophy and Social Development
Shandong University

Institute of Concept and Reasoning
Shandong University

For questions please contact:

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Event Schedule

Date	Event	Location
8 January	**Invited Talk:** "Anonymous Public Announcements" **Speaker:** Thomas Ågotnes	Room 115
12–13 January	**Graduate Seminar** **Speakers:** Gaole Fan, Qingyuan Fang, Ziqi Feng, Binghe Gong, Zitong Hao, Keyun Huang, Yuxuan Huang, Bin Li, Huajie Liang, Lufeng Rong, Fanzhen Su, Junxin Tan, Jialu Xie, Jingjing Yu, Lixiang Zhang	Room 1618
14 January	**Workshop on Logic and AI** **Speakers:** Jiahong Guo, Beishui Liao, Mingzheng Lu, Ching Hui Su, Leendert van der Torre, Wen-fang Wang, Yì N. Wáng, Jiachao Wu, Minghui Xiong	Room 1618

Venue: Room 115, Zhixin Building, Central Campus
Time: 15:00 – 17:00, 8 January 2026

Anonymous Public Announcements

Thomas Ågotnes

Department of Information Science and Media Studies, University of Bergen
School of Philosophy, Shanxi University

Abstract: I formalise the notion of an anonymous public announcement in the tradition of public announcement logic. Such announcements can be seen as in-between a public announcement from "the outside" (an announcement of ϕ) and a public announcement by one of the agents (an announcement of $K_a\phi$): we get more information than just ϕ, but not (necessarily) about exactly who made it. Even if such an announcement is prima facie anonymous, depending on the background knowledge of the agents it might reveal the identity of the announcer: if I post some thing on a message board, the information might reveal who I am even if I don't sign my name. Furthermore, like in the Russian Cards puzzle, if we assume that the announcer's intention was to stay anonymous, that in fact might reveal more information. In this talk I first look at the case when no assumption about intentions are made, in which case the logic with an anonymous public announcement operator is reducible to epistemic logic. I then look at the case when we assume common knowledge of the intention to stay anonymous, which is both more complex and more interesting: in several ways it boils down to the notion of a "safe" announcement (again, similarly to Russian Cards). Main results include formal expressivity results and axiomatic completeness for key logical languages. The talk is based on joint work with Rustam Galimullin, Ken Satoh and Satoshi Tojo.

Graduate Seminar

Date: 12–13 January 2026 **Venue:** Room 1618, Zhixin Building, Central Campus

Program Schedule

The graduate seminar features presentations from 15 graduate students. Most presentations last 20 minutes followed by a 15-minute Q&A, except for the 11:30 session on 13 January, which lasts 15 minutes including Q&A.

Date	Time	Speaker	Topic
12 January 2026	09:00	Qingyuan Fang	The Contradictory Nature of Language: On the Unity of the Proposition and the Limits of Language
	09:35	Keyun Huang	Is Grice's cancellability a misnomer?
	10:10		BREAK
	10:30	Yuxuan Huang	An Analysis on the Epistemic Step of the Scalar Implicature
	11:05	Zitong Hao	Catuṣkoṭi through Iterated Negation: A Dialectical Account of Stepwise Rejection in Nāgārjuna's MMK
	11:40		LUNCH BREAK
	14:30	Ziqi Feng	Conditionals in Mandarin: A Study from the Perspective of Thematic Structure
	15:05	Junxin Tan	Acceptance in Two-Stage: A Topic-Sensitive Reply to the Triviality Problem for the Ramsey Test
	15:40		BREAK
	16:00	Lixiang Zhang	The Logic for Rational Imagination
	16:35	Bin Li	Counterfactual Desirability and Causal Decision Theory
13 January 2026	10:00	Lufeng Rong	Bisimulation in Weighted Epistemic Logic
	10:35	Jialu Xie	Axiomatization of the Game Description Language
	11:10		BREAK
	11:30	Jingjing Yu	Attempts at the Path of Embedding Fittingness into Practical Reasoning
	11:45	Fanzhen Su	Can Virtuous Motivation Ground the Normativity of Action? —A Critical Analysis Centered on Hursthouse's Theory of Motivation
	12:00	Gaole Fan	Why Can Consistency Be Normative? — A Response Based on Allan Gibbard's Expressivism
	12:15		LUNCH BREAK
	15:00	Binghe Gong	Priest's Non-Wellfounded Golden Lion
	15:35	Huajie Liang	The Redundancy Account of Supervenient Causation and its Challenges
	16:10		Closing

Workshop on Logic and AI

Date: 14 January 2026 **Venue:** Room 1618, Zhixin Building, Central Campus

Program Schedule

Formal Argumentation and Its Application to Logical, Ethical and Explainable AI

09:00 – 09:40

Speaker(s): Beishui Liao

Affiliation: School of Philosophy, Zhejiang University

Abstract: In this talk, I present formal argumentation as a logical foundation for building logical, ethical, and explainable AI. I introduce key models in abstract and structured argumentation, and show how they support justification, conflict resolution, and principled explanation. I then demonstrate how argumentation enhances large language models by embedding structured and defeasible reasoning. Finally, I outline argumentation-based approaches to ethical AI, enabling moral deliberation, stakeholder conflict resolution, and interpretable decision-making. I conclude by highlighting future directions in integrating causality, interactive explanation, and neuro-symbolic reasoning.

Input/Output Logic at 25

10:00 – 10:40

Speaker(s): Leendert van der Torre

Affiliation: Department of Computer Science, University of Luxembourg

Abstract: In this talk I will survey the origins of input/output logic to formalize normative reasoning, and I will present some new results in formalizing trust based belief. The new results are based on joint work with Xu Li and Liuwen Yu and will be presented at AAAI26.

Valid Attacks in Higher-Order Argumentation Framework

11:00 – 11:40

Speaker(s): Jiachao Wu

Affiliation: School of Mathematics and Statistics, Shandong Normal University

Abstract: A higher-order argumentation framework (HO-AF) extends Dung's classical argumentation framework (AF) by allowing attacks on attack. In general, the semantics are built in two ways: In one approach, the extensions contain both arguments and attacks. And in the other approach, the extensions contains arguments only. In both approaches, when checking the semantics of an HOAF, it necessarily to find out valid attacks first. In this report, we will show some of our recent works about the valid attacks. On one hand, we discuss the validity of attacks w.r.t. a set of arguments. On the other hand, we identify the valid attack sets by translating an HOAF into an AF.

Extending First-Order Non-Normal Modal Logic: Equality and Varying Domains in Neighborhood Semantics

13:30 – 14:10

Speaker(s): Mingzheng Lu & Jiahong Guo

Affiliation: School of Philosophy, Beijing Normal University

Abstract: This paper extends the work of Arló-Costa and his later joint work with Pacuit, who developed first-order non-normal modal logic without equality and with constant domains, by introducing equality and varying domains under neighborhood semantics. Unlike traditional Kripke semantics, neighborhood semantics offers greater flexibility for modeling non-normal modalities, which play a key role in deontic reasoning, epistemic logic, and multi-agent coalition systems. We define the syntax and semantics for systems with constant and varying domains, both with and without equality, and propose corresponding axiomatic systems. Using modified canonical and Henkin constructions, we establish soundness and strong completeness results relative to several classes of neighborhood frames, including unit-containing, monotonic, and intersection-closed frames. Several illustrative applications demonstrate the framework's expressive power in handling quantified deontic reasoning, actual and necessary identities, and accidental existence, thereby highlighting its advantages over normal modal logics for philosophical analysis.

Verifying Competence with Uncertain Data: Linking Weighted Logic to the Attribute Selection Problem

14:30 – 15:10

Speaker(s): Yì N. Wáng

Affiliation: School of Philosophy and Social Development, Shandong University

Abstract: Assessing competence in real-world settings is complicated by imperfect and uncertain data. This talk introduces a novel Weighted Epistemic Logic designed to model and solve this problem. By incorporating fuzzy skill sets and weights, our logic accurately captures uncertainty in both an agent's abilities and the underlying data relations. We show that the challenge of skill assessment –determining if an agent meets a required competency level – is equivalent to a special case of the attribute selection problem from data mining. This connection transforms a complex reasoning task into a computationally feasible data analysis problem. We discuss the computational complexity of our approach and provide a complete logical system for formal reasoning about competence under uncertainty.

Counterfactual Reasoning: Where AI, IC, and SEM Converge

15:30 – 16:10

Speaker(s): Ching Hui SU

Affiliation: School of Philosophy and Social Development, Shandong University

Abstract: Recent research in robotics has revealed the crucial role that the concept of affordance plays in the development of Artificial General Intelligence. One way to understand affordance is through the concept of counterfactuals. In other words, the affordance of an object shows how it would behave or what it would do if certain conditions were met. However, so-called Inconsistent Consequents pairs ('If Bizet and Verdi were compatriots, they would be Frenchmen' and 'If Bizet and Verdi were compatriots, they would be Italians') demonstrate the need for a more robust theory of counterfactuals, as most existing theories fail to satisfactorily explain IC pairs. In the late 20th century, Judea Pearl and many others—known as interventionists—attempted to provide a semantics for counterfactuals within Structural Equation Models. Recently, novel approaches based on SEM have been proposed to address issues concerning conditionals. The present paper is devoted to providing a better semantics of conditionals based on SEM, which may shed some light on AI research.

The Inclosure Schema, the Sorites Paradox, and Priest's Dialetheist Solution

16:30 – 17:10

Speaker(s): Wen-fang Wang

Affiliation: School of Philosophy and Social Development, Shandong University

Abstract: NLP is important for AI, but natural languages are vague and paradox-generating. The present talk focuses on the sorites paradox originating from the vague nature of natural languages. Priest (2009, 2010) proposed a dialetheist solution to the sorites paradox according to which both the sorites paradox and the liar's paradox, and many others as well, are instances of what he calls inclosure schema and therefore should have the same kind of solution according to the principle that paradoxes of the same kind should have the same kind of solution, and the best solution according to Priest's suggestion is his dialetheist solution. I will argue three points in this talk. First, Priest's proof that "the sorites paradox and the liar's paradox both belong to the inclosure schema" is defective. Second, even if his proof were sound, paradoxes of the same kind would not necessarily need to have the same kind of solution. Lastly, even if paradoxes of the same kind should have the same kind of solution, the dialetheist solution is not the best solution to inclosure paradoxes.

Why Is It Impossible for LLMs to Conduct Logical Reasoning?

17:30 – 18:10

Speaker(s): Minghui Xiong

Affiliation: Guanghua Law School, Zhejiang University

Abstract: Strictly speaking, logical reasoning belongs to pure formal reasoning. As Carnap, a representative figure of the Vienna Circle, said, it excludes all pragmatic elements. The large language models (LLMs), as natural language processing models, are built on the basis of natural languages and neither can nor should they exclude all pragmatic elements. Therefore, it is obviously unfair to accuse large language models (LLMs) of having significant deficiencies in logical reasoning ability. However, to reduce the hallucinations generated by large language models, the large reasoning model solution based on argumentation technology proposed by Chris Reed, Bart Verheij and others might be a good choice.

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