
Tsinghua University - University of Amsterdam Joint Research Centre for Logic

Annual Report 2015



ABOUT THE CENTER

In 2013, Tsinghua University and the University of Amsterdam (UvA) instituted a joint research centre for logic (JRC), based on a long-standing history of cooperation. The mission of the centre is to create an active interface in research and education between the Institute for Logic, Language and Computation (ILLC) at the UvA and the Logic Group at Tsinghua and collaborators elsewhere in China, in a collegial spirit of public service.

STATEMENT FROM THE DIRECTORS

After its founding events, and an opening ceremony of the JRC at Tsinghua in July 2014, the JRC has started its regular activities in 2015. Progress continues in three research projects, as does education in pure and applied logic, our graduate program is expanding, and several academic events have taken place. This report gives some basic information. Further details can be found at our website: <http://www.tsinghualogic.net/JRC>

RESEARCH PROJECTS

JRC administers three programs involving UvA and Tsinghua participants. The following list contains main active participants, key publications, and funding sources in 2015:

Logic and Agency

Goal: Investigation of reasoning agents in complex informational social settings.

Core group: Alexandru Baltag (ILLC), Johan van Benthem (ILLC), Jan van Eijck (ILLC), Fenrong Liu (Tsinghua), Jeremy Seligman (Auckland), Sonja Smets (ILLC), Kaile Su (Griffith).

Key publications:

1. Johan van Benthem, Oscillations, Logic, and Dynamical Systems, in S. Ghosh & J. Szymanik, eds., 2015, *The Facts Matter*, College Publications, London, 9–22.
2. Fenrong Liu, Some Issues Concerning Belief Revision in Social Networks, *Philosophical Trends*, No. 3, 2015, 84–89. [in Chinese]
3. Jan van Eijck, Malvin Gattinger, Kaile Su and Johan van Benthem, Symbolic Model Checking for Dynamic Epistemic Logic, *Proceedings LORI*, 2015, Taiwan
4. Chanjuan Liu, Fenrong Liu and Kaile Su, A Dynamic-Logical Characterization of Solutions in Sight-Limited Extensive Games. *PRIMA* 2015: 467–480.

Highlight: [KNAW Workshop “Information Flow in a Social World”, Oct 20-21, 2015.](#)

Meeting of the joint project “Logical Dynamics of Information Exchange in Social Networks” with colleagues, to discuss the latest work, and explore new collaborations.



Funding:

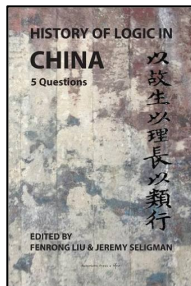
1. KNAW exchange grant “The Logical Dynamics of Information Exchange in Social Networks” (2014–2016, Alexandru Baltag & Fenrong Liu), with 14 researchers.
2. “Model-Checking Dynamic Epistemic Logic” (2014–2017, Fenrong Liu & Kaile Su, Johan van Benthem, Jan van Eijck), National Natural Science Foundation of China.

History of Logic in China

Goal: Bring together Chinese and international researchers working on the history of logic in China, broadly conceived, around the creation of a Handbook and related events.

Core group: Peter van Emde Boas (ILLC), Chad Hansen (Hong Kong), Christoph Harbsmeier (Oslo), Fenrong Liu (Tsinghua), Jeremy Seligman (Auckland), Jincheng Zhai (Nankai).

Key publications and Highlight: Fenrong Liu and Jeremy Seligman, eds., *History of Logic in China: Five Questions*, Automatic Press, Copenhagen, 2015.



“This is a collection of 5 questions presented to some of the most influential and prominent scholars in the field. We hear their views on the field, the aim, the scope, future directions of research and how their work fits in these respects...”

**Logic, Language and Philosophy**

Goal: Interfaces between language, logic, philosophy, and culture.

Core group: Martin Stokhof (ILLC), Frank Veltman (ILLC), Lu Wang (Tsinghua), Fengkui Ju (Beijing Normal University), Chongli Zou (CASS), Dag Westerståhl (Stockholm).

Highlight:

1. Chinese translation of the GAMUT textbook *Logic, Language and Meaning*, written by ILLC members, to appear at the Commercial Press, Beijing
2. First Jin Yuelin Lecture: ‘The Great Detour’, John Perry (Stanford University)

Further research activities

Junhua Yu's visit to the ILLC resulted in a paper on ‘Instantial Neighborhood Logic’ with Johan van Benthem, Nick Bezhanishvili & Sebastian Enqvist. With Hiroakira Ono (JAIST) and Jouko Väänänen (ILLC & Helsinki), Yu is creating courses on proof theory and model theory to complement the teaching available to students in the Beijing region.

Fenrong Liu visited Stanford from April to June 2015 as an invited CSLI Fellow to explore cooperation with China, while lecturing at Stanford and Berkeley. We expect to involve more people, and establish more official Tsinghua-Stanford contacts in the future.

APPOINTMENTS

Current appointments that help define the JRC.

- Johan van Benthem, Changjiang Chair, Chinese Ministry of Education, Tsinghua
- Fenrong Liu, first UvA-China Logic Chair, Amsterdam

- Martin Stokhof, Weilun Professor, Tsinghua
- Junhua Yu, Assistant Professor at Tsinghua

VISITORS

The centre hosts international visitors on a regular basis who engage in joint research, participate in centre events, and may conduct intensive courses and seminars for graduate students. The following list contains international visitors at both sites in 2015.

Tsinghua

Feb: Jeremy Seligman (Auckland), Joint Research
 Apr: Martin Stokhof (UvA), Weilun Professor
 May: Frank Veltman (UvA), Seminar, Joint Research
 May: Hiroakira Ono (JAIST, Japan), Seminar, Joint Research
 May: Ren-June Wang (Chung Cheng University, Taiwan), Joint Research
 Jun: Ulle Endriss (UvA), Seminar, Joint Project
 Sep: Jeremy Seligman (Auckland), Joint Research
 Oct: Sonja Smets (UvA), KNAW Joint Project and Jin Yuelin Conference
 Oct: Alexandru Baltag (UvA), KNAW Joint Project
 Oct: John Perry (Stanford), Jin Yuelin Lecture
 Oct: Olivier Roy (Bayreuth), Joint Research
 Oct: Martin Bentzen (Copenhagen), Jin Yuelin Conference
 Oct: Tomoyuki Yamada (Hokkaido), KNAW Workshop
 Oct-Nov: Martin Stokhof (UvA), Weilun Professor
 Oct-Nov: Jan van Eijck (UvA), KNAW Joint Project
 Oct-Nov: Malvin Gattinger (UvA), Joint Research
 Oct-Nov: Johan van Benthem (UvA), Changjiang Professor
 Dec: Emiliano Lorini (Toulouse), Joint Research

ILLC UvA

Jan-Feb: Junhua Yu (Tsinghua), Joint Research
 Sep: Lu Wang (Tsinghua), Joint Research
 Sep 2014 – Sep 2015: Yibin Dai (Tsinghua), visiting PhD scholar
 Sep 2014 – Sep 2015: Chanjuan Liu (Peking University), visiting PhD scholar
 Sep 2015 – Sep 2017: He Shunan (Beijing Normal University), visiting PhD scholar
 Dec: Christoph Harbsmeier (Oslo), Seminar Lecture, Joint Research

EDUCATION

Graduate program. The JRC now has graduate program with four official Ph.D. students enrolled, co-supervised at both sites, plus a few more affiliate students:

- Chenwei Shi (logic and epistemology)
- Malvin Gattinger (computational aspects of dynamic-epistemic logic)
- Xiaoxuan Fu (temporal logic)
- Chong Wang (language and philosophy)
- Yibin Dai (language and philosophy)
- Kun Xing (intelligent agency)

Seminars. The JRC organized several short-term advanced tutorials at Tsinghua.

- April-May (8 meetings): Philosophy of Semantics (Martin Stokhof)
- May: Logic and Proof Theory (Yunhua Ju, Hiroakira Ono)
- Apr 16: Unified correspondence (Alessandra Palmigiano)
- Sep-Nov (14 meetings): Logic and Agency (Fenrong Liu, Alexandru Baltag, Jan van Eijck & Malvin Gattinger, Johan van Benthem)
- Oct 13-26 (5 meetings): Radical Interpretation, Hermeneutics, and Practice Theory (Martin Stokhof)

The JRC continued its activities as an official hub in the international on-line education project *Logic in Action*, see <http://www.logicinaction.org/>

SCIENTIFIC EVENTS

In 2015, the JRC (co-)organized the following conferences and theme-oriented workshops (for a more extensive list, see http://tsinghualogic.net/JRC/?page_id=548):

Workshops:

May 16: Tsinghua Logic Colloquium – Logic, Language and Philosophy

May 17: Tsinghua Logic Colloquium – Logic, Modality and Proofs

Oct 20-21: Tsinghua Logic Colloquium – Information Flow in a Social World

Conferences:

Oct 17-19: 纪念金岳霖先生诞辰 120 周年学术研讨会

Jin Yuelin Conference on Dao, Logic and Epistemology

Special events:

Oct 19: *First Tsinghua Jin Yuelin Lecture*

‘The Great Detour’, John Perry (Stanford and Berkeley)

October 28-31: The 5th International Workshop on Logic, Rationality and Interaction,

Taipei, <https://www.yoursaas.com/websites/36224472513387025486/>

PUBLICATIONS

The following publications by members and associates demonstrate the JRC’s activities.

Books

Fenrong Liu and Jeremy Seligman, eds., *History of Logic in China: Five Questions*, Automatic Press, Copenhagen, 2015.

Articles

1. Natasha Alechina, Fenrong Liu, and Brian Logan, Efficient Minimal Preference Change, *Journal of Logic and Computation*, first published online May 14, 2015. doi:10.1093/logcom/exv027
2. Alexandru Baltag, Zoé Christoff, Rasmus Rendsvig, and Sonja Smets. Dynamic Epistemic Logics of Diffusion and Prediction in Social Networks. ILLC Technical Report, 2015
3. Alexandru Baltag, Nina Gierasimczuk, and Sonja Smets. On the Solvability of Inductive Problems: A Study in Epistemic Topology. In R. Ramanujam, ed., *Proceedings of Theoretical Aspects of Rationality and Knowledge*, TARK 2015

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4. Alexandru Baltag, Bryan Renne, Sonja Smets, Revisable Justified Belief: Preliminary Report. CoRR abs/1503.08141, 2015
 5. Alexandru Baltag and Sonja Smets, Logics of Informational Interactions, *Journal of Philosophical Logic*, online first 26 April 2015
 6. Johan van Benthem, Oscillations, Logic, and Dynamical Systems, in S. Ghosh & J. Szymanik, eds., 2015, *The Facts Matter*, College Publications, London, pp.9–22
 7. Johan van Benthem, Jan van Eijck, Malvin Gattinger, Kaile Su, Symbolic Model Checking for Dynamic Epistemic Logic. *Proceedings LORI 2015*: 366–378
 8. Johan van Benthem, Chanjuan Liu, Paolo Turrini, Computing Rational Beliefs Under Limited Foresight. CoRR abs/1502.03683, 2015
 9. Johan van Benthem and Fenrong Liu, Deontic Logic and Changing Preference. To appear in Dov Gabbay, John Horty, Ron van der Meyden and Leon van der Torre eds, *Handbook on Deontic Logic and Normative Systems*, College Publications, London
 10. Johan van Benthem and Sonja Smets, Dynamic Logics of Belief Change. In H. van Ditmarsch, J.Y. Halpern, W. van der Hoek and B. Kooi, eds., 2015, *Handbook of Logics for Knowledge and Belief*, College Publications, pp. 313–393
 11. Qingliang Chen, Kaile Su, Yong Hu, Guiwu Hu, A Complete Coalition Logic of Temporal Knowledge for Multi-agent Systems. *Frontiers of Computer Science* 9(1): 75–86, 2015
 12. Qingliang Chen, Kaile Su, Yong Hu, Guiwu Hu: A Complete Coalition Logic of Temporal Knowledge for Multi-agent Systems. *Frontiers of Computer Science* 9(1): 75–86, 2015
 13. Peter van Emde Boas, Pang Juan will Die under This Tree, in Herman Geuvers, Nicole Messink & Freek Wiedijk, *Liber Amicorum Henk Barendregt*, Radboud University, 20151001, pp. 29–30
 14. Peter van Emde Boas and Ghica van Emde Boas, The Rules of Victorious Warriors, Logical and Game Theoretical aspects of Strategy Theory in ancient China, ILLC Report, 2015
 15. Jan van Eijck and Malvin Gattinger, Elements of Epistemic Crypto Logic, Bordini and Elkind and Weiss and Yolum eds., *Proceedings of the 14th International Conference on Autonomous Agents and Multiagent Systems (AAMAS 2015)*.
 16. Malvin Gattinger and Jan van Eijck, Towards Model Checking Cryptographic Protocols with Dynamic Epistemic Logic, *Proceedings LAMAS (LAMAS 2015)*, Istanbul, Turkey, 2015
 17. Xiaowei Huang, Qingliang Chen, Kaile Su, The Complexity of Model Checking Succinct Multiagent Systems. *IJCAI 2015*: 1076–1082
 18. Fengkui Ju and Li Liang, Commands Changing Obligations. *Journal of Logic and Computation*, 2015. [In print]
 19. Fengkui Ju, Nana Cui and Shujiao Li, Trace Semantics for IPDL. In W. van der Hoek, W. Holliday, and Wen-fang Wang, editors, *Proceedings of 5th International Workshop of Logic, Rationality, and Interaction*, volume 9394 of Lecture Notes in Computer Science, pages 169–181. Springer Berlin/Heidelberg, 2015
 20. Fengkui Ju and Xiangmei Hu: On Axiomatization of Boolean Modalities. *Studies in Logic*, 8(1):23–36, 2015

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21. Chanjuan Liu, Fenrong Liu and Kaile Su, A Dynamic-Logical Characterization of Solutions in Sight-Limited Extensive Games. *Proceedings PRIMA 2015*: 467-480.
 22. Fenrong Liu, Some Issues Concerning Belief Revision in Social Networks, *Philosophical Trends*, No.3, 2015, pp. 84-89. [in Chinese]
 23. Fenrong Liu, Preference Change. To appear in Sven Ove Hansson and Vincent Hendricks eds, *Handbook of Formal Philosophy*, Dordrecht: Springer
 24. Minghui Ma, Jeremy Seligman, Algebraic Semantics for Dynamic Dynamic Logic. *Proceedings LORI 2015*: 255–267
 25. Jeremy Seligman, Declan Thompson, Boolean Network Games and Iterated Boolean Games. *Proceedings LORI 2015*: 353–365
 26. Chenwei Shi, Integrating Stability Theory and Truth-tracking theory: A Comparative Study of Two Theories of Knowledge. [under submission]
 27. Martin Stokhof & Wang Lu, Workshop 'Logic, Modernity, Modernism: Chinese and Western Perspectives'. A write-up of first impressions/*Studies in Logic*, vol 8, no 2, 2015, pp. 114–23
 28. Lu Wang, The Meaning of Quantifiers, *Foreign Language Research*, Issue.2, 2015. [in Chinese]
 29. Lu Wang, On Quine's Ontological Commitment, *Seeking Truth*, Issue 5, 2015. [in Chinese]
 30. Jincheng Zhai, Chapter 9, in *5 Questions in the History of Logic in China*, Automatic Press, 2015, pp. 71-78

DISSEMINATION PROJECTS

Logic in Asia The JRC hosts a new Springer book series “Logic in Asia: Studia Logica Library”, a research platform for researchers in Asia and worldwide. Editors-in-chief: Fenrong Liu and Hiroakira Ono. Publications in 2015:

- Shier Ju, Hu Liu & Hiroakira Ono, eds., *Modality, Semantics and Interpretations: The Second Asian Workshop on Philosophical Logic*.
- Chin-mu Yang, Duen-Min Deng, & Hanti Lin, eds., *Structural Analysis of Non-Classical Logics*, Proceedings of the Second Taiwan Philosophical Logic Colloquium.

Short textbooks A new Springer series “Short Textbooks in Logic” has started. Editors-in-chief: Fenrong Liu, Vincent Hendricks and Hiroakira Ono. Aim: to present readers worldwide with clear and concise textbooks, 120 pages average. Topics ranges from mathematical and philosophical logic to logical methods applied to computer science.

Translations We are also active in making works in English available to Chinese readers. Some past and current translation projects include:

- Door to Logic <http://tsinghualogic.net/related-events/workshop-on-door-to-logic-finale/>
- Johan van Benthem, *Modal Logic for Open Minds*, CSLI Publications, 2010
Translator: Xinwen Liu (CASS, Beijing).
- Johan van Benthem, *Logic in Games*, The MIT Press, 2014
Translators: Jidong Li (Nankai University), Jianying Cui (Sun Yat-sen University),
to be published with the Chinese Social Sciences Press.