
Tsinghua University - University of Amsterdam Joint Research Centre for Logic

Annual Report 2014



ABOUT THE CENTER

In 2013, Tsinghua University and the University of Amsterdam (UvA) have set up 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 colleagues at Tsinghua and their collaborators elsewhere in China, to further a broad interdisciplinary view of logic, and act as a bridge between China and the international community.

STATEMENT FROM THE DIRECTORS

After a start-off event in Amsterdam in 2013 at the ILLC, and an international follow-up conference at Tsinghua, the year 2014 has seen the official opening ceremony of the JRC at Tsinghua. Subsequently, we have hosted the 3rd East Asian School in Logic, Language and Computation, which attracted about 80 students from China and abroad. Progress has been made in scientific research and education in pure and applied logic as well as related areas, we have started a graduate program, and academic events have taken place throughout the year, as can be seen in this report. While we are still trying out best practices, and learning from mistakes, we are happy with the wide positive response that we received from colleagues and students in China and abroad, making us confident that our center will be a meeting point and an added value for congenial researchers.

This report summarizes some basic information about our activities in the year 2014. Further information can be found at our website launched in early 2015:

<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 2014:

Logic and Agency

Goal: Logical investigations of reasoning with agents in complex informational settings.

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

Key publications:

1. Johan van Benthem, *Logic in Games*, the MIT Press, 2014
2. Fenrong Liu, Jeremy Seligman, and Patrick Girard, Logical Dynamics of Belief Change in the Community, *Synthese*, 191(11): 2403–2431, 2014

3. Jan van Eijck, Malvin Gattinger, Kaile Su and Johan van Benthem, Symbolic Model Checking for Dynamic Epistemic Logic, (in progress, submitted to IJCAI)
4. Alexandru Baltag, Fenrong Liu and Sonja Smets, Reason-based Belief Revision in Social Networks, (in progress)

Highlight:

Workshop The Logical Dynamics of Information, Agency and Interaction, Oct 2-3, 2014.
Kick-off for a new KNAW exchange project on information exchange in social networks,
(<http://tsinghualogic.net/IRC/?p=269>)

Funding:

1. KNAW exchange grant “The Logical Dynamics of Information Exchange in Social Networks” (2014–2016), led by Alexandru Baltag and Fenrong Liu, with 14 researchers from Tsinghua and UvA.
2. New project “Model-checking Dynamic Epistemic Logic” (2014–2017) funded by the National Natural Science Foundation of China, led by Kaile Su and Fenrong Liu, with Johan van Benthem and Jan van Eijck as further principal investigators.



History of Logic in China

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

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

Key publications:

1. Peter van Emde Boas, Theory-of-Mind Reasoning in Ancient China, in Jakub Szymanik & Rineke Verbrugge eds., *Proc. Workshop RAOM 2014; Reasoning About Other Minds: Logical and Cognitive Perspectives*, CEUR-WS.org/Vol-1208, urn:nbn:de:0074-1208-4, pp. 6–10.
2. Fenrong Liu and Jeremy Seligman, eds., *Five Questions on History of Logic in China*, to appear in 2015 with Automatic Press, Copenhagen.
3. Fenrong Liu, Jeremy Seligman and Jincheng Zhai, *Handbook of the History of Logical Thought in China*, to appear in 2016 with Springer Science Publishers.

Highlight:

- The Third International Conference on the History of Logic in China took place at Nankai University, Tianjin, April 26-28, 2014. (<http://holicnet.net/>)



Logic, Language and Philosophy

Goal: Explore connections 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. International Workshop on “Logic, Modernity and Modernism: Chinese and European Perspectives”. Organized by Wang Lu and Martin Stokhof, October 11–12, 2014, at Tsinghua. (<http://tsinghualogic.net/JRC/?p=273>)
2. Chinese translation of the GAMUT textbook *Logic, Language and Meaning*, written by ILLC members, to appear at the Commercial Press, Beijing

In 2015, the center intends to explore additional research lines involving colleagues in the area of logic, information and computation, where possible, in collaboration with the ILLC and the Center for Mathematics and Computer Science CWI in Amsterdam, and the Institute for Interdisciplinary Information Sciences IIS at Tsinghua. Also, contacts will be explored with Stanford University (CSLI) and the UC Berkeley.



APPOINTMENTS

Some important new appointments have been made in 2014 that help define the JRC.

- Johan van Benthem was appointed by the Chinese Ministry of Education as a Changjiang Professor at Tsinghua
- Fenrong Liu was appointed by the UvA as the first UvA-China Logic Chair
- Martin Stokhof was appointed by Tsinghua as a Weilun Professor
- Junhua Yu, a recent CUNY graduate, became an assistant professor at Tsinghua

VISITOR PROGRAM

The centre maintains a visiting program at both its sites, partly using scholarships provided by the two universities. Visitors 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 2014.

Tsinghua

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| Feb–Mar: | Mamoru Kaneko (Waseda University, Japan) |
| May–June: | Sonja Smets (UvA) |
| May–June: | Paolo Turrini (Imperial College, UK) |
| April: | Martin Stokhof (UvA) |
| May: | Peter van Emde Boas (UvA) |
| June: | Jer-Shiarn Lee (National Yunlin Univ. of Science & Technology, Taiwan) |
| June: | Donald Sturgeon (The University of Hong Kong) |

July:	Johan van Benthem (UvA)
July:	Alexandru Baltag (UvA)
July:	Sonja Smets (UvA)
July:	Zoé Christoff (UvA)
July:	Paolo Galeazzi (UvA)
Sep–Nov:	Martin Stokhof (UvA)
Oct–Nov:	Johan van Benthem (UvA)
Nov:	Mamoru Kaneko (Waseda University, Japan)
Nov–Dec:	Jeremy Seligman (The University of Auckland)
Dec:	Dan Robins (The University of Hong Kong)

ILLC UvA

Sep- Oct:	Fenrong Liu (Tsinghua)
Oct:	Pingzhong Tang (Tsinghua)
Oct:	Kaile Su (Griffith University)
Sep – 2015	Yibin Dai (Tsinghua, visiting PhD scholar)
Sep – 2015	Chanjuan Liu (Peking University, visiting PhD scholar)

In 2015, further researchers will visit the JRC to conduct joint research and teach seminars, including Sven Ove Hansson (KTH Stockholm), Ulle Endriss (ILLC), Christoph Harbsmeier (Oslo), Hiroakira Ono (JAIST), Frank Veltman (ILLC), Lu Wang (Tsinghua), Dag Westerståhl (Stockholm), Jouko Väänänen (ILLC, Helsinki), Junhua Yu (Tsinghua).

EDUCATION

Graduate program. The JRC has started its graduate program with three Ph.D. students, co-supervised at both sites:

- Chenwei Shi (logic and epistemology)
- Malvin Gattinger (computational aspects of dynamic-epistemic logic)
- Kun Xing (logic of agency)

Further Ph.D. and master’s students can act as affiliates, at this stage:

- Chanjuan Liu (logic and game theory)
- Yibin Dai (language and philosophy)

More Ph.D. positions will become available for the JRC at Tsinghua in 2015.

A proposal for a joint Ph.D. degree between the UvA and Tsinghua is under discussion.

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

- Logic of Proofs (Yunhua Ju, Oct)
- Logic, Information and Interaction (Johan van Benthem, Nov)
- Practical Understanding in Wittgenstein’s Later Work (Martin Stokhof, Nov)
- Social Epistemic Logic (Jeremy Seligman, Dec)

In addition, a long-distance pilot seminar “Inquisitive Dynamic Epistemic Logic” was given by Floris Roelofsen and Ivano Ciardelli (ILLC, UvA), 17 April and 8 May 2014.

Moreover, the JRC contributed to several courses at “The Third East-Asian School on Logic, Language and Computation”, held at Beijing, July 3-8.

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

SCIENTIFIC EVENTS

In 2014, the JRC (co-)organized the following conferences and theme-oriented workshops (for a more extensive list, see http://tsinghualogic.net/JRC/?page_id=422):

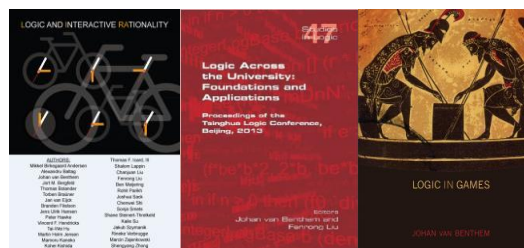
- Mar 1: Decision Making in Games
- Apr 26-28: 3rd International Conference on the History of Logic in China
- Jun 7: On the Methodology of Studies in the History of Logic in China
- Jul 2: Current Trends in Logic
- Jul 3-8: The Third East-Asian School on Logic, Language and Computation
- Oct 2–3: The Logical Dynamics of Information, Agency and Interaction
- Oct 11-12: Logic, Modernity, Modernism: Chinese and European Perspectives

PUBLICATIONS

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

Books

- Z. Christoff, P. Galeazzi, N. Gierasimczuk, A. Marcoci and S. Smets (eds.) – A. Baltag, W. Holliday and F. Liu (collecting eds.), *Dynamics Yearbook: Logic and Interactive Rationality*. Vol. 1, 2, Amsterdam, 2014. (http://www.illc.uva.nl/dg/?page_id=78)
- J. van Benthem, *Logic in Games*, the MIT Press, 2014
- A. Baltag and S. Smets eds., *Trends in Logic, Outstanding Contributions: Johan van Benthem on Logic and Information Dynamics*, Springer, 2014

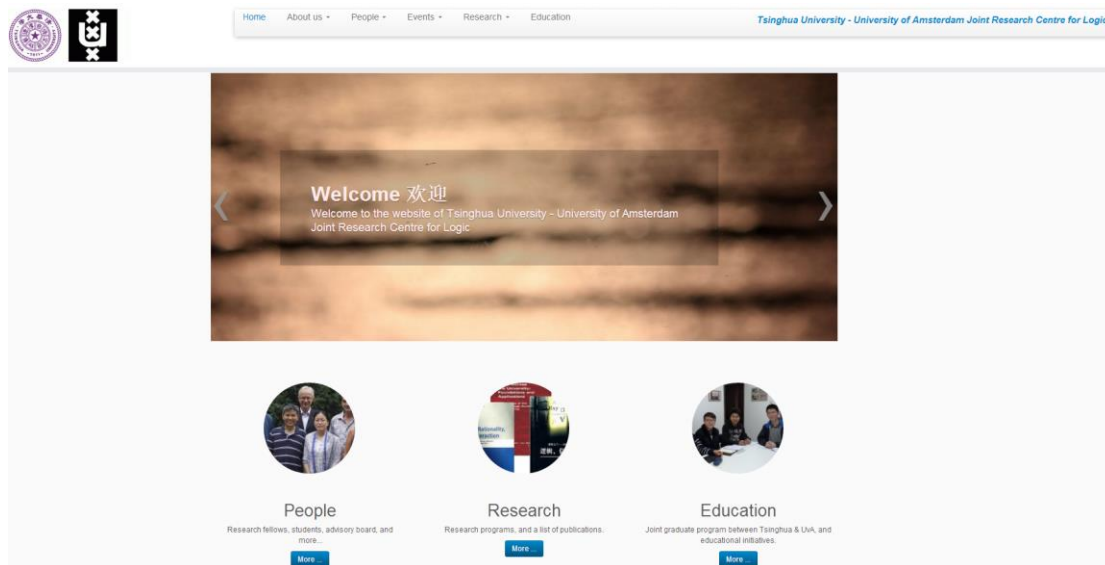


Articles

1. A. Achimescu, A. Baltag and J. Sack. The Probabilistic Logic of Communication and Change. Full paper LOFT 2014. Under review, *Journal of Logic and Computation*
2. A. Baltag, B. Renne and S. Smets. The Logic of Justified Belief, Explicit Knowledge and Conclusive Evidence. *Annals of Pure and Applied Logic*, 165(1): 49-81, 2014
3. A. Baltag, N. Gierasimczuk and S. Smets. Truth-Tracking by Belief Revision. *Studia Logica*, in print. Preprint available at the ILLC Preprint Archive PP-2014-20

4. A. Baltag and S. Smets. Logics of Informational Interactions, *Journal of Philosophical Logic*, in print
5. A. Baltag, V. Fiutek and S. Smets. DDL as an “Internalization” of Dynamic Belief Revision. In *K. Segerberg on Logic of Action*, Springer, 253–280, 2014
6. J. van Benthem. Natural Language and Logic of Agency, *Journal of Logic, Language and Information* 23:3, 367–382, 2014
7. J. van Benthem, Modeling Reasoning in a Social Setting, *Studia Logica* 102:2, 235–265, 2014
8. J. van Benthem, D. Grossi and F. Liu. Priority Structures in Deontic Logic. *Theoria*, 80(2): 116–152, 2014
9. J. van Benthem and F. Liu. Where is Logic Going, *Studies in Logic*, 7:1, 84–99, 2014
10. J. van Benthem and E. Pacuit. Connecting Logics of Choice and Change. In Th. Mueller, ed., *Nuel Belnap on Indeterminism and Free Action*, Springer, 291–314, 2014
11. Q. Chen, Q. Li, K. Su and X. Luo. Quantified Coalition Logic for BDI-Agents: Completeness and Complexity. *PRICAI 2014*: 871-876
12. Q. Chen, K. Su, Y. Hu and G. Hu. Complete Axiomatization and Complexity of Coalition Logic of Temporal Knowledge for Multi-agent Systems. *Canadian Conference on AI 2014*: 269-274
13. P. van Emde Boas, Victorious Warriors; Strategic Theory and Logic in Ancient China; outline, in Liu F., J. Seligman & Zhai J., eds., draft chapters *Handbook of the History of Logical Thought in China*, presented at the HOLIC 3 conference Tianjin, April 26-28 Nankai University, Tianjin China, Section VII, 176–183
14. P. van Emde Boas, Theory-of-Mind Reasoning in Ancient China, in J. Szymanik & R. Verbrugge eds., *Proceedings RAOM 2014: Reasoning About Other Minds: Logical and Cognitive Perspectives*, CEUR-WS.org/Vol-1208, urn:nbn:de:0074-1208-4, 6–10
15. P. Galliani and J. Väänänen. On Dependence Logic, In A. Baltag and S. Smets eds. *Johan van Benthem on Logic and Information Dynamics*, Springer, 2014
16. S. O. Hansson and F. Liu. From Good to Better, using contextual shifts to define preference in terms of monadic value. In A. Baltag and S. Smets eds., *Johan van Benthem on Logic and Information Dynamics*, Springer, 2014. 729–728
17. T. Icard. Higher-Order Syllogistics, *Formal Grammar*, Springer, 2014
18. T. Icard. Toward Boundedly Rational Analysis, *Proceedings of the Annual Meeting of the Cognitive Science Society*, 2014
19. F. Ju and F. Liu. A Dynamic Deontic Logic with Prioritized Moral Sources. (in progress)
20. F. Ju and X. Hu. On Axiomatization of Boolean Modalities. In print, *Studies in Logic*
21. F. Ju and L. Liang. Commands Changing Obligations, to appear in *Journal of Logic and Computation*
22. T.-W. Hu and M. Kaneko. Game theoretic decidability and undecidability. (in progress)
23. C. Liu, E. Zhu, F. Liu and K. Su. Preference Dynamics in Games with Short Sight. *Applied Mathematics and Computation* 244: 493-501, 2014
24. C. Liu and P. Turrini. Opponent Modelling in Games with Short Sight (in progress)
25. C. Liu and P. Turrini. Logic of Preferences in Games with Short Sight (in progress)
26. F. Liu, J. Seligman, and P. Girard. Logical Dynamics of Belief Change in the Community, *Synthese*, 191(11): 2403-2431, 2014

27. C. Luo, S. Cai, W. Wu and K. Su. Double Configuration Checking in Stochastic Local Search for Satisfiability. *AAAI 2014*: 2703-2709
28. M. Stokhof. Report on the Tsinghua Modernity Workshop, to be submitted to *Studies in Logic*
29. M. Stokhof and M. van Lambalgen. What Cost Naturalism? Proceedings BRIDGE-14 Workshop "Bridging Formal and Conceptual Semantics, Düsseldorf, April 2014
30. M. Stokhof. Arguing about Dynamic Meaning. in A. Baltag and S. Smets eds. *Johan van Benthem on Logic and Information Dynamics*, Springer, 749–764, 2014
31. J. Väänänen. Multiverse Set Theory and Absolutely Undecidable Propositions. in J. Kennedy, ed. *Interpreting Gödel*, Cambridge University Press, 2014, 180–208
32. L. Wang. The Sense of "TO ON": An Interpretation of Metaphysics D7, *Journal of Tsinghua University (Philosophy and Social Sciences)*, No.6, 2014
33. L. Wang. "Es ist": An Approach to Understanding the Phenomena of Spirit, *Philosophical Analysis*, No.6, 2014
34. L. Wang. Sentence Scheme: An Approach to Analysis of Language Based on Frege, *Seeking Truth*, No.5, 2014
35. L. Wang. The Translation of Being and its Principles. *Academic Research*, No.10, 2014



<http://www.tsinghualogic.net/IRC>