

# ILLC Magazine

13

December 2013

In this issue amongst others:

Introducing the Tsinghua-ILLC Joint Research Centre

'Knowledge is Everywhere!', a Guest Column by Rohit Parikh  
Interview with Karine Gigengack on ILLC's move to SP107

**ILLC and Tsinghua Open Joint Research Centre in Logic**

The names for some a sequence of public activities highlighting and consolidating ILLC's expanding interface with China. Following the opening of the academic year devoted to the US study and expanding China from a first research centre in logic, was inaugurated at the ILLC on September 24th a meeting chaired by ILLC's director Yde Venema, and attended by some 50 people, including official visitors from China as well as the Editor and President of the ILLC.

The event celebrated the long-standing cooperation between ILLC and Tsinghua University in Beijing, which has been the primary venue for a large number of exchange visits of various kind, as well as several publications. The meeting was held in the presence of the Chinese President, but also in the presence of ILLC's director Yde Venema, and of other members of the ILLC. The meeting was a platform for people to meet, exchange ideas, and discuss future cooperation in logic and computer science.

**More than a puzzle**

More than a puzzle, the meeting was a platform for people to meet, exchange ideas, and discuss future cooperation in logic and computer science.

**Knowledge is Everywhere!**

It is obvious that NSA, the National Security Agency of the United States, is keen to acquire knowledge. They want to know when Jack called Ann, how long they talked and how often they talked. They are interested in the personal affairs of the president of Brazil. Surely we can only admire this thirst for knowledge, and it is fitting to have a government agency taking such a keen and healthy interest in our lives.

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**Karine Gigengack on ILLC's move to SP107**

The ILLC has moved around three and a half times in the last ten years. The move to SP107 is the most recent. Karine Gigengack, who has been part of the ILLC since its inception, shares her thoughts on the move and the challenges it presents.

*'After this first visit I felt really sad when I was biking home, for what could we make out of this?'*

The move to SP107 is the most recent. Karine Gigengack, who has been part of the ILLC since its inception, shares her thoughts on the move and the challenges it presents.

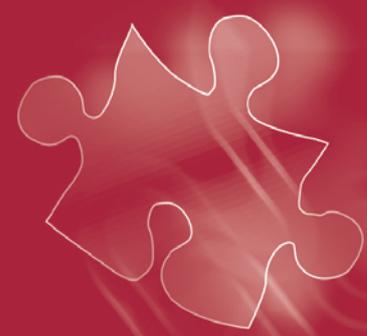


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COLOPHON

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Foreword

Dear friends of the ILLC,

We are delighted to present the new issue of our beloved ILLC magazine covering highlights of our institute's life in the past two years or so.

As you may have noticed, with this edition we have beaten all previous records for lateness of the magazine, for which of course we humbly apologize. But we have an excellent reason for this delay: the 13th edition had to appear in the 13th month of 2013!

This issue features an article by Johan van Benthem and Jenny Batson on the Tsinghua-UvA/ILLC Joint Research Centre; a *Guest Column* by Rohit Parikh on the omnipresence of knowledge; two *Inspiring Research* columns written by Krzysztof R. Apt and Rens Bod on economics, and history of the humanities; and a *Research Highlight* section with descriptions of the 11 personal research grants awarded to ILLC researchers since the last issue.

In addition to these pieces, you will further find an interview with Karine Gigengack about our recent move to our new location; an interview with two ILLC *alumni* Floris Roelofsen and Simon Paww about life before and/or after the ILLC; a questionnaire addressed to some new PhD students and postdocs; and last but not least the traditional ILLC photo.

In the following pages you will read about many intriguing topics including news star Edward Snowden and his relation with president Obama, but also classics like Shakespeare or Sibawayh, and less classic (but therefore not less important) topics like buses and unicorns. We hope you will enjoy the reading!

*Maria Aloni,*  
 for The editorial team

PS We would like to thank all contributors for their columns, interviews and photos, all mistakes are of course entirely their responsibility ©

### Projects awarded, March 2011 - October 2013

#### ERC Starting Grant for Sonja Smets (2011)

Sonja Smets received an ERC Starting Grant for her project: The Logical Structure of Correlated Information Change. As well as her own position, the grant also funds two PhD positions for four years, and one postdoc for three years.

#### European Science Foundation (ESF) Grant for Robert van Rooij (2011)

Robert van Rooij was awarded a grant for his project 'Communication in Context' as part of the EUROCORES programme Eurounderstanding (of the European Science Foundation, ESF). This project finances a postdoc for three years.

#### NWO CATCH 2010 grant for Jaap Kamps (2011)

Jaap Kamps was awarded a grant from NWO for his project: Web Archive Retrieval Tools as part of the NWO CATCH (Continuous Access to Cultural Heritage) programme. The grant finances a PhD student for four years.

#### NWO VC grant for Ulle Endriss (2011)

Ulle Endriss received a grant for his project: Aggregation of Preferences over Uncertain Outcomes. The grant finances a postdoc position for two years.

#### KNAW grant for Henkjan Honing (2011)

Henkjan Honing (together with the Meertens Institute and Fryske Academy) was awarded a grant for the project: Tunes & Tales: Modeling Oral Transmission as part of the KNAW Computational Humanities programme. The grant finances a PhD student for four years.

#### NWO CATCH 2010 grant for Henkjan Honing (2011)

Henkjan Honing (together with the UU, Meertens and Sound & Vision) was awarded a grant from NWO for his project: COGITCH as part of the NWO CATCH (Continuous Access to Cultural Heritage) programme. The grant finances a Postdoc for three years.

#### UvA-FGw grant for Henkjan Honing (2011)

Henkjan Honing was awarded a grant from UvA's FGw for his research in music cognition. The grant finances a PhD student for three years.

#### KNAW Computational Humanities grant for Henkjan Honing (2011)

Henkjan Honing was awarded 220 kEuro for his Tunes and Tales: Modeling Oral Transmission project, as part of the KNAW Computational Humanities programme.

#### KNAW Computational Humanities grant for Rens Bod (2011)

Rens Bod (together with the Huygens-ING and Fryske Academy) was awarded a grant for his project: The Riddle of Literary Quality as part of the KNAW Computational Humanities programme. The grant finances a PhD student for 4 years (at ILLC), a Postdoc for 4 years (both at ILLC and Huygens-ING) and a scientific developer for 4 years (at Huygens-ING).

#### FGw-Speerpunt Digital Humanities grant for Rens Bod (2011)

Rens Bod received a grant for two postdoc positions for the UvA-FGw Digital Humanities programme.

#### Five NWO VENI grants at ILLC in 2011

NWO awarded VENI grants to five ILLC scientists, funding their position as postdoc for three years:

- Christian Schaffner, for his project Quantum Cryptography beyond Key Distribution
- Michael Franke, for his project Models of Language Evolution and the Topology of Semantic Space: The Case of Gradable Adjectives
- Aline Honingh, for her project Representing Music: a New Basis for Computational Musicology
- Floris Roelofsen, for his project Interpreting Questions - fine-grained compositional semantics
- Bryan Renne, for his project Evidence-Based Belief Revision.

#### Four members of ILLC were awarded NWO Open Competition grants in the Spring of 2012:

- Harry Buhrman was awarded a grant (Exact Sciences / Multidisciplinary) for his project: *Quantum Position-Based Cryptography*. This grant funds a PhD position for four years at CWI.
- Khalil Sima'an was awarded a grant (Exact Sciences / Computer Science) for a project entitled: *Statistical Translation of Novel Constructions*. This grant funds a PhD position for four years.
- Yde Venema was awarded a grant (Exact Sciences / Computer Science) for a project entitled: *Logic and Automata: a Coalgebraic perspective*. This grant funds a PhD position for four years.
- Jelle Zuidema was co-applicant with Clara Levelt and Carel ten Cate at Leiden University for the project *Segments and rules: a comparative study into the computational mechanisms underlying language acquisition* (Humanities). The project was awarded 3 PhDs in total, one of which will work for four years on Jelle's sub-project, Modeling Artificial Language Learning.

#### NWO Roadmap, CLARIAH (2012)

Rens Bod and co-applicants from KNAW, UU, RUG, RU, VU, UL, received 1 million euro seed money for preparing a full-fledged proposal during the period 2012-2014.

#### EU MC grant for Luca Spada (2012)

Luca Spada received funding from the EU Marie Curie programme for a two-year postdoc position, to carry out his project 'ADAMS: A dual approach to many-valued semantics'.

#### STW grant for Khalil Sima'an (2012)

Khalil Sima'an was awarded a project grant by the Technology Foundation STW. The project 'Data-Powered Domain-Specific Translation Services on Demand' (DatAptor) is being carried out in cooperation with five industrial partners. DatAptor funds two postdocs (3 years each), one PhD student and a programmer.

#### NWO Horizon grant for Henkjan Honing (2012)

Henkjan Honing, together with colleagues from the University of Amsterdam (UvA), Leiden University (UL), Utrecht University (UU) and the Meertens Institute received a grant worth 2 million euros from NWO as part of the Horizon programme. The research money has been earmarked for the four-year project: Knowledge and culture, led by Johan Rooryck (UL). Aim of this project is to examine the extent to which restrictions are placed on cultural expressions in music, language, and visual art by nonhuman-specific congenital core knowledge systems for object representation, number and geometry. It also looks at how these core knowledge systems interact with congenital systems that are specific to humans such as language and musicality.

**EU MC ITN grant for Khalil Sima'an (2012)**

The EXPERT (EXPloiting Empirical appRoaches to Translation) Initial Training Network (ITN) involves nine research centres from six countries, coordinated by the University of Wolverhampton (UK). Its grant funding amounts to approximately four million euro for four years and funds 12 PhD students and 3 postdocs. Two PhD students will be recruited at the ILLC under supervision of Khalil Sima'an.

**NWO Gravity grant to 'Language in Interaction' (November 2012)**

Together with the Max Planck Institute for Psycholinguistics and the F.C. Donders Institute, both in Nijmegen, ILLC is partner in the 'Language in Interaction' project, which was granted a total of 27.6 million euro for a period of 10 years, as part of a huge investment by NWO's Gravity (Zwaartekracht) programme. Johan van Benthem is co-applicant, and Rens Bod (workpackage leader) and Michiel van Lambalgen are also involved. Project Summary: Human language is the most powerful communication system that evolution has produced to date. In all its manifestations - over 6000 languages are spoken worldwide - it is the basis of our social and cultural life. At the same time, language is firmly embedded in our brain. In order to understand this characteristic fully, we need to examine language from the level of genes and the brain, to the level of social interaction and linguistic structures.

**NWO VENI for Jakub Szymanik (2012)**

Jakub Szymanik received an NWO VENI granty for his project 'What makes social interactions hard? A computational study of intentions, knowledge, and beliefs', which provides funding for three years' appointment as researcher.

**COST Action IC1205 on Computational Social Choice, Ulle Endriss (2012)**

Ulle Endriss chairs a new European research programme in the field of computational social choice, launched by COST (European Cooperation in Science and Technology) in Brussels on 30 November 2012. COST has a budget of around 150k euro per year, for the coming four years, to support coordination, networking and dissemination activities in Europe, and will be run from the premises of the ILLC

**EU MC ITN grant for Robert van Rooij (2013)**

The ESSENCE (Evolution of Shared Semantics in Computational Environments) Initial Training Network involves seven research centres from 6 countries, and is coordinated by the University of Edinburgh (UK). The funding amounts to approximately four million euro for four years, and funds 11 PhD students and 4 postdocs. Two PhD students and one postdoc will be recruited at the ILLC under supervision of Robert van Rooij.

**Google RPF grant for Ivan Titov (2013)**

Ivan Titov received funding from Google for a PhD student for two years for his project 'Knowledge Graphs and Compositionality in Web-scale Natural Language Understanding'.

**NWO VICI for Khalil Sima'an (2013)**

Khalil Sima'an received an NWO VICI grant for his project 'Machine Translators: Teaching Computers to Translate Using Their Own Words'. The project will run for five years and give employment to 3 PhD student and 2 Postdocs, as well as to Khalil Sima'an.

**NWO VENI grant to Nina Gierasimczuk (2013)**

Nina Gierasimczuk has received a Veni grant from the Netherlands Organisation for

Scientific Research (NWO) for her project 'Learning from each other'. The Veni grant will fund her position as postdoc for three years.

**CREATE**

UvA invests 2.14 million euro in Amsterdam's cultural industries, by supporting Rens Bod, Lia van Gemert, Jaap Kamps, Joep Leerssen and Julia Noordegraaf's combined proposal 'CREATE - Creative Amsterdam: An e-Humanities Perspective'. (2013)

**Prizes and awards****Johan van Benthem appointed Distinguished International Expert by Chinese Ministry of Education (June 2011)**

In 2009, the Chinese Ministry of Education initiated a highly competitive national programme of Distinguished International Experts. The first such expert to be appointed at Tsinghua University (the top-ranked university in China) is Johan van Benthem, University Professor of Logic at the ILLC, UvA. His task is to further contacts in his field between Tsinghua, the UvA, and other major universities in his field.

**Katrin Schulz awarded Onderwijsprijs FGw 2011 (June 2011)**

The BA course *Logische analyse* taught by Katrin Schulz was awarded the Onderwijsprijs FGw 2011. The aim of the Onderwijsprijs is to highlight successful methods of teaching. In 2011 the jury awarded two prizes, for the best BA course, which went to Katrin Schulz, and for the best MA course, which went to Norval Smith.

**FGw Onderwijsprijs (best course prize) 2012 for Michiel van Lambalgen (June 2012)**

The Faculty of Humanities prize for the best master course went to Michiel van Lambalgen for the course 'Rationality,

cognition and reasoning', which is also part of the Master of Logic curriculum.

**Birkhoff - von Neumann Prize for Sonja Smets (July 2012)**

Sonja Smets was awarded the 'Birkhoff-von Neumann Prize' for her work on quantum logic.

**Phong Le won the STIL Thesis Prize for his MSc thesis 'Learning Compositional Semantics' (MSc AI, August 2012).****Henkjan Honing awarded Distinguished Lorentz Fellowship 2013/2014**

Henkjan Honing (music cognition) was awarded the fifth Distinguished Lorentz Fellowship. Honing will explore what insights cognitive science and biology can provide on the origins of music and musicality.

**Rens Bod was awarded the NIAS 'Guest of the Rector' Fellowship 2012-2013.****Elliott Wagner awarded 2012 Popper Prize (December 2012)**

The 2012 Sir Karl Popper Prize was awarded to Elliott Wagner for his paper 'Deterministic Chaos and the Evolution of Meaning.' This prize is awarded for the best paper appearing in the British Journal for the Philosophy of Science concerned with topics in the philosophy of science to which Sir Karl made a significant contribution.

**Appointed as professor**

- Ronald de Wolf, CWI & FNWI, LoCo, 1 March 2011, Chair: Theoretical Informatics, in particular Algorithmics and complexity
- Rens Bod, FGw & FNWI, LaCo, 1 August 2011, Chair: Computational and Digital Humanities
- Pieter Adriaans, FNWI (with Iv) LoCo, 1 November 2011,

Chair: Learning and Adaptive Systems

- Jan van Eijck, CWI & FNWI, *LoCo*, 1 November 2011, Chair: Computational Semantics
- Henkjan Honing, FGw & FNWI, *LaCo* 1 March 2012, Chair: Music Cognition
- Arianna Betti, FGw, *LoLa*, 1 September 2013, Chair: Philosophy of Language
- Robert van Rooij, FNWI, *LoLa*, 1 September 2013, Chair: Logic and Cognition, in particular in relation to the formal analysis of language

### Other appointments (excluding Postdocs and PhDs, see page 27)

- Alexandru Baltag, UHD/associate professor, FNWI, *LoCo*, 1 April 2011
- Julian Kiverstein, UD/assistant professor, FGw, *LoLa*, 1 May 2011
- Jenny Batson, manager ILLC, FNWI, 16 May 2011
- Sonja Smets, UHD/associate professor, FNWI, *LoLa*, 1 January 2012
- Jelle Zuidema, UD, FGw, *LoLa*, 1 september 2012
- Marijn Koolen, UD/assistant professor, 1 January 2013
- Jakub Szymanik, UHD/associate professor, FGw, *LaCo*, 16 January 2013
- Ivan Titov, UD/assistant professor, FNWI, *LoCo*, 1 April 2013
- Cheryl Moolhuijzen, secretary, FNWI, 1 May 2013
- Ellen Gaus, secretary, FNWI, 1 September 2013
- Chris Dekker, programmer, FGw, *LoLa*, 1 September 2013
- Benno van den Berg, UD/assistant professor, *LoCo*, 1 September 2013
- Christian Schaffner, UD/assistant professor, FNWI, *LoCo*, 1 September 2013
- Floris Roelofsens, UD/assistant professor, FNWI, *LoLa*, 1 September 2013
- Maria Panteli, research assistant, *LaCo*, 15 September 2013

### Personnel departed

- Ingrid van Loon, FNWI, 1 June 2011
- Junte Zhang, FGw, 1 Juli 2011
- Lauri Keskinen, FNWI, 1 September 2011
- Stefan Minica, FNWI, 1 September 2011
- Dimitris Gakis, FGw, 1 October 2011
- Yurii Khomskii, SNWI, 1 October 2011
- Lena Kurzen, FNWI, 1 December 2011
- Raul Leal, FNWI, 1 December 2011
- Markos Mylonakis, FNWI, 1 January 2012
- Sara Uckelman, FNWI, 1 January 2012
- Jacob Vosmaer, FNWI, 1 February 2012
- Bernhard Fisseni, FNWI, 7 February 2012
- Vincenzo Ciancia, FNWI, 1 April 2012
- Marlies Aldewereld, FGw, 1 July 2012
- Stéphane Airiau, FNWI, 1 September 2012
- Pietro Galliani, FNWI, 15 October 2012
- Umberto Grandi, FNWI, 15 October 2012
- Stephanie Solt, FGw, 1 November 2012
- Gábor Háden, FGw, 1 October 2013
- Kohei Kishida, FNWI, 15 August 2013
- Elliott Wagner, FGw, 1 September 2013
- Raf Guns, FGw, 1 April 2013
- Cheryl Moolhuijzen, FNWI, 1 September 2013
- Alessandra Palmigiano, FNWI, 1 June 2013
- Theo Janssen, FNWI, 1 August 2013
- Simon Pauw, FNWI, 1 February 2013
- Reinhard Blutner, FNWI, 16 May 2013

## Research Evaluation ILLC

The ILLC was visited by an international committee chaired by Prof. dr. Ewan Klein (University of Edinburgh) in November 2012 for its periodical research evaluation over the period 2006-2011. The institute is very pleased with the outcome of the evaluation, which was published in the summer of 2013. In particular, we are proud that the committee accentuates the reputation of the ILLC as 'internationally leading', and judges both quality and productivity as 'excellent', explicitly mentioning the vigour of our graduate programme. The committee was impressed by the way that the transition of ILLC's scientific leadership to a new generation of researchers is being managed. On the Standard Evaluation Protocol (SEP) quality scale of 1 (unsatisfactory) to 5 (excellent), the ILLC scored 5 for Quality, Productivity, Relevance and Leadership, and 4 for Viability & Feasibility. The overall quantitative assessment was 5, excellent.

The committee made a number of explicit recommendations (response ILLC):

1. The main priority with respect to the establishment of the new Amsterdam Faculty of Science is that the organizational integrity of the ILLC should be vigorously protected. (*ILLC could not agree more!*)
2. The ILLC should keep the division of the institute into *LoLa*, *LoCo* and *LaCo* under review, and encourage cross-programme collaboration. (*The institute actively fosters internal cooperation, e.g. an expanding group of researchers from all three ILLC programmes are actively working on the theme of Cognition*)
3. The committee would like to see the Chair of Computational Linguistics renewed. (*The ILLC considers this area such a priority that we have requested installment of a new Chair in Computational Linguistics at the Faculty of Science, and are making every effort to maintain a presence in Computational Linguistics at the Faculty of Humanities.*)
4. Given the centrality of logic to the ILLC, the committee finds it essential to appoint either a senior established figure or a rising star to the vacant position in mathematical logic. (*The ILLC has selected an excellent young researcher who can reinvigorate the outstanding UvA tradition in the foundations of mathematics*)
5. The committee encourages ILLC to represent theoretical computer science at a senior level. (*Currently, this area is represented by three full professors with a part-time position, and one UHD (associate professor) with a full-time appointment. In addition, the institute has just hired an excellent young researcher on a UD (assistant professor) position, and we are making every effort to ensure that this area remains well-represented.*)
6. The committee would like the Faculty of Humanities to find some means for giving Honings chair a permanent status.' (*The reputation and scientific contributions of Honing, who has for instance just been awarded the prestigious 'Distinguished Lorentz Fellowship', more than justify a permanent chair.*)

JOHAN VAN BENTHEM AND JENNY BATSON

# ILLC and Tsinghua Open Joint Research Centre in Logic

This autumn has seen a sequence of public activities highlighting and consolidating ILLC's longstanding interface with China. Following the opening of the academic year devoted to the UvA's lively and expanding China focus, a joint research centre in logic was inaugurated at the ILLC on September 3<sup>rd</sup> in a meeting chaired by ILLC's director Yde Venema, and attended by some 50 people, including official visitors from China as well as the Rector and President of the UvA.

This centre institutionalises the long-standing cooperation between the ILLC and Tsinghua University in Beijing (the premier university in China) which has, during the past years, resulted in a large number of exchange visits of senior staff, as well as joint publications and co-organized events. More generally, many Chinese students have spent time at the ILLC as part of their graduate studies, and five of them have obtained professorships at key universities in Beijing forming the core of a growing logic community in China. The joint centre will be a platform for people from both sides to engage in longer-term strategic collaboration in research, teaching, and other activities, and will serve as an umbrella for fundraising (KNAW, NWO, ERC, EU Horizon 2020, Chinese national science and social science foundations).

A joint research centre like this is a new format for intensive interuniversity collaboration that

has already attracted quite some attention. It was a highlight during the Amsterdam City Visit to Beijing on September 25th, where the UvA President Louise Gunning, Amsterdam's Mayor Eberhard van der Laan, and Holland's ambassador to China Aart Jacobi met with the President of Tsinghua to firm up cooperation. In October, the centre was then advertised at Tsinghua in the form of two main events: an international conference 'Logic Across the University' showing logic in the broad ILLC sense at work, and a special workshop 'Tsinghua Meets the ILLC (UvA)' exploring new research lines and new personal contacts.

The new centre starts from a number of existing collaborative research projects. One of these is 'Social Agency, Games and Computation', involving Alexandru Baltag, Johan van Benthem, Fenrong Liu, Jeremy Seligman, Sonja Smets, Kaile Su, and Pingzhong Tang, which

**Martin Stokhof**

Working with students at Tsinghua is working with talented young people, who display the kind of affection for the discipline that motivates. And working with colleagues there likewise is an inspiring experience, in which shared interests are mixed with differences in perspective.



**Sonja Smets**

It has been a most wonderful experience for me to meet and discuss different research topics in logic with our colleagues and students in China. It didn't take me long before I felt truly at home, especially during some of the work-sessions in which we would gather in front of a whiteboard to discuss while we were offered excellent tea and coffee. This new research centre opens up many opportunities for all of us, besides establishing an official environment to host our already on-going joint work, it gives us a chance to reach out to a new community of students



and at the same time it allows us to explore and mark new research directions for the future.



has so far received funding from Australia, China, and the European Community. A second project is 'Logic, Philosophy, and Language' whose participants so far are Martin Stokhof, Wang Lu and Frank Veltman, though other ILLC and Tsinghua researchers in semantics and related fields may soon join. A third current project is 'History of Logic in China', involving Johan van Benthem, Peter van Emde Boas, Fenrong Liu, and Jeremy Seligman, which has already resulted in several workshops and a new Handbook of the History of Logic in China with Springer Science Publishers. The centre will gradually add projects, aiming for organic growth. Three topics on the near horizon are Modal and Algebraic Logic (Dick de Jongh, Yde Venema), Computational Social Choice (Ulle Endriss), and Quantum Information and Complexity (Harry Buhrman, John de Wolf), the latter partly in collaboration with the Institute for Interdisciplinary Information Sciences at Tsinghua University founded by Professor Andrew Yao. But there is also a clear interest at Tsinghua in forging links in the area of logic, computational linguistics, and cognitive science (Rens Bod, Robert van Rooij).



**Fenrong Liu**

Building a joint research centre is a natural step for researchers on both sides who have been involved in collaborations. Having this platform will make our life a lot easier. I hope it will serve as a bridge not only for logic research, but also for cultural interactions. Given our good experiences in the past, I am confident that things will go well in the future'.



An additional plan is to start a joint Master's and joint Ph.D. programme in the future, linked tightly to ILLC's Master of Logic and graduate school. This will create a generation of alumni equally at ease in the Western and Chinese academic worlds. After all, just as at the ILLC, obtaining insights and publications from research is one aim, but an equally important aim is international community building.



**Zoé Christoff**

I feel like the new joint research center opens a wide space of exchange and collaboration possibilities! It is exciting not only in terms of research but also in terms of cultural experiences and open-minded sharing.



These aims are supported concretely by both universities involved. The UvA has earmarked two Ph.D. positions for the centre, as well as a dedicated excellence scholarship for a master's student, while also offering a visiting position that will allow us to bring senior Chinese visitors to the ILLC on a year-round basis. Tsinghua has decided to match these offers, while also giving us a postdoc and a set of offices, and also making the joint research centre a university-level one, a rare distinction. In addition, several personal unions have been forged. The UvA has appointed

Fenrong Liu as a visiting professor at the ILLC, while Martin Stokhof from the ILLC will receive a visiting professorship at the Department of Philosophy at Tsinghua. Moreover, Johan van Benthem is a China national Changjiang Professor at Tsinghua.

The directors of the joint research centre are Johan van Benthem and Fenrong Liu. The Advisory Board consists of Wang Lu, Junren Wan, Martin Stokhof and Yde Venema, while there will also be a Supervisory Board with representatives of other logic centres in China and Asia.







**Chenwei Shi**

*It feels like magic that yesterday I still sat in a classroom at Tsinghua listening to talks by researchers from the ILLC and was immersed in the sunshine of Beijing, while today I have already been taking the same courses with students at the UvA and been drenched in the rain of Amsterdam. However, this is only one small part of the grand magic made by logic, which connects different spaces and times, different traditions and cultures. It is really inspiring to be a witness and even a part of such connections.*

This breadth is intentional. While the academic focus may sound exclusive to the ILLC and Tsinghua, the new centre will also welcome associate researchers from other universities for its projects. Eventually, its aim is to become part of an emerging international league of logic centres worldwide, including other prominent places in Europe and the US.

What is up next? In the months to come, the centre will start filling the positions it has obtained, while also seeking to extend its range of projects and related grant proposals. In addition, it will continue with its programme of outreach activities. The next major public event coming up is the Third East Asian Summer School of Logic, Language and Computation, a counterpart of ESSLLI in Europe and NASSLLI in North-America, which will be held in Beijing in July 2014, with the involvement of Fenrong Liu, ILLC's Jouko Väänänen, and other researchers from our community.

For people interested in further details, a preliminary brochure is available with information about earlier collaborative projects as well as people involved. The centre will also have its own website, which should go on air by the end of this year.

**Kaile Su**

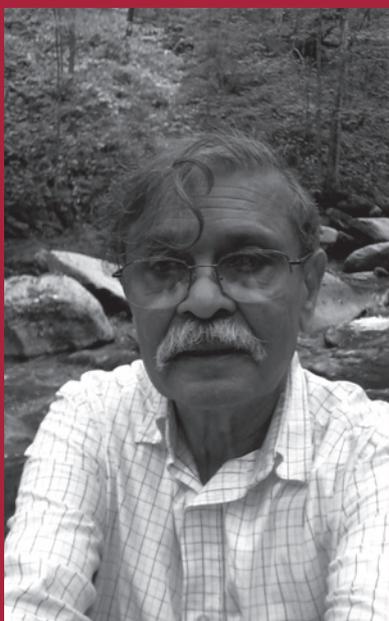
*I visited ILLC in Feb 2013 and met so many internationally leading logicians. I was very happy to meet some of them in Tsinghua Logic Conference in Oct 2013. The joint logic center will make more such chances for me and my PhD students (in Peking University) to meet and share research advancement with them.*



ROHIT PARIKH (CITY UNIVERSITY OF NEW YORK)

# Knowledge is Everywhere!

GUEST COLUMN



It is obvious that NSA, the National Security Agency of the United States is keen to acquire knowledge. They want to know when Jack called Ann, how long they talked and how often they talked. They are interested even in the personal affairs of the president of Brazil. Surely we can only admire this thirst for knowledge, and it is flattering to have a government agency taking such a keen motherly interest in our lives.

But acquisition of knowledge can also be balanced by a desire to deny knowledge to others. When Edward Snowden informed us all about this motherly interest of NSA, President Obama was horrified since all this knowledge could clearly not be good for us.

As Hayek pointed out in 1945, the information which a social planner wants to have is possessed by many agents and to be able to plan properly, he needs to have access to this information, at least as statistical data. But it isn't just knowledge. An election does not test what the voters know but what they prefer. So the BDI (belief desire intention) theory predicts that our actions will be governed not only by our beliefs but also by our desires.

And both beliefs and desires can be communicated to others, either by just speaking to them, or via subtle signals like a frown or a smile. But there are subtle issues in the way this communication can take place.

In Shakespeare's *Much Ado About Nothing*, Beatrice and Benedick have the right desires, they both love each other. What they lack is knowledge of this fact. The plotting by Don Pedro, Benedick's boss, and by Hero, Beatrice's cousin, reveals this knowledge to them. There is a strategic element here. Why doesn't Benedick just say to Beatrice, 'I love you?' The reason is that if Beatrice does not love him back, he will lose face. The strategems by Don Pedro and Hero bypass this strategic difficulty through a trick.

Steven Pinker carries out a similar analysis of why a young man at the end of a date says to her, 'Would you like to come to my apartment and see my sketches?' The invitation may well be one to sleep with him but the way it is phrased saves him from embarrassment, or even anger, if either the girl is not interested or perhaps wants for the moment to pretend not to be interested.

Tamar Gandler points out that in addition to our conscious *beliefs* we

also have, perhaps unconscious, *aliefs* which govern our actions and which are less subject to rational judgment. Daniel Kahneman in his recent book *Thinking Fast and Slow* sounds a similar note. Thinking fast is, well fast, and usually successful, but it does rely on our aliefs and can cause us to perform actions which we had not consciously intended. Successful advertising relies not only on access to and perhaps changing our beliefs, it also must and does address our aliefs. Even a subliminal message can affect shopping behavior.

A somewhat different, social issue has been emphasized by Searle and others. We live in society where we are bound by rules which we, in fact *accept*. If Searle gets up at 5 AM in the morning and drives to San Francisco airport, it is not so much because he has the *desire* to get up at 5 AM. Rather he has made a promise to give a talk in New York that afternoon, and the promise binds him in a way which overcomes his desire. Humans seem to be unique in having formal rules which they willingly obey. An alpha male among baboons is obeyed by others, but only from day to day, and the ones who obey him know no rules, only power. But Obama is the alpha male in the US because the rules say he is and he does not have to defeat Boehner in arm wrestling in order to remain president. The fact that we can rely on others obeying the rules makes society run better, to all our benefit.

The formal development of a theory of knowledge has gone on for a long time and both Amsterdam and CUNY have made important contributions. But as we increasingly come to see, knowledge, desire, and rules are intimately intertwined. And to understand society we will need to develop a larger, more generous theory, not just a theory of knowledge but a theory of this complex trio.

INSPIRING RESEARCH: KRZYSZTOF R. APT

# Don't be afraid to take another bus

Photo by Alma Apt



Having been interested for several years in learning economics, I bought some twenty years ago the hefty and famous book 'Economics' by Paul Samuelson that has been for a long time the most successful introductory textbook for university students, and decided to read it from cover to cover. The book was almost completely devoid of any math and read extremely easily. Unfortunately, having read some 200 pages, I realized that I forgot what I had read at the beginning, while I still had no clue what economics was about. So I gave up.

Sometime later, during my extended stay in Singapore, in the period 2002-2005, I finished writing my book on Constraint Programming and was looking for a new research topic. I thought 'How about Economics'? The visitors to the University lived close to the campus reachable by two shuttle buses. One day, at the beginning of a semester, I decided to take the other shuttle bus which went to the Business, Administration and Economics Departments. As an outcome of this visit I decided to follow a course on Intermediate Microeconomics, a topic offered to the third year students. The teacher, Professor Parkash Chander, kindly agreed that I attend the class.

There I learned what a strategic game is and even understood the 'prisoner's dilemma' (at the age of 50+ ... better late than even later). The course required a moderate knowledge of mathematics and referred to some economics concepts, like 'market' or 'exchange', though always formalized.

After I finished this course I looked again into the textbook of Samuelson and all of a sudden understood the chapters on microeconomics! Many questions came to my mind. To some of them I still do not have satisfactory answers. For example, do the first year students of economics actually understand economics after having studied such textbooks? And what does 'understand' really mean?

Moreover, do we lose something when we pass from informal description of some concepts in English (like a 'preference' or 'competition') to their formalizations used in the intermediate course? I also understood all of a sudden how economics is taught. First, one introduces the concepts informally and illustrates them by many examples, and then a year or two later one returns to the subject and retells the story but now using mathematical concepts. How

different from teaching mathematics or computer science!

Some time later I met Adam Brandenburger, a prominent researcher in the area of game theory, told him of my experiences and asked him how he became a professor working at the Stern School of Business at New York University. He replied that his tutor in Cambridge told him that to learn economics one just has to learn first enough mathematics and the rest will follow naturally. Well, that was a relief, as it was compatible with my experience.

During one of his first lectures Parkash Chander introduced the concept of strictly dominated strategies and gave an example of a simple strategic game that can be solved using iterated elimination of such strategies. This made me think whether the order of such an elimination is relevant (it isn't). The question turned out to have been answered (in 1990) but I did not know this. Fortunately, my approach was generic as it relied on the so-called Newman's Lemma, a classic result in the theory of abstract reduction systems that I knew from various lectures of my colleague Jan Willem Klop. So I could apply it to many other concepts of dominated strategies. This led to my first (45 pages long!) paper that was published in 2004 in an economics journal.

Parkash Chander was very helpful and occasionally I had a lunch with him. On one occasion he mentioned to me that there is a subject of so-called cooperative games. I had never heard of such games, and following his suggestion, used a book of Guillermo Owen to learn about them. Once I returned to Amsterdam, in 2005, I gave for three years in a row a course on cooperative games. Had the students known that I had heard of these games for the first time only two years earlier!

Game theory turned out to be a black hole. Like many others I was sucked into it and never left the subject. In conclusion, I can offer this advice to the reader: don't be afraid to take another bus.

INSPIRING RESEARCH: RENS BOD

# The Unreasonable Effectiveness of the World History of the Humanities

The comparative history of the humanistic disciplines is a research topic I find particularly inspiring. This is a neglected area of study, but immensely rewarding and inspiring. It triggered me many years ago when I wanted to read a book on the world history of the humanities. Since I couldn't find any such book, I decided to write one myself in 2008, which occupied me for about two full years. When I was comparing the history of linguistics, musicology, philology and logic from different

parts of the world (from China to the Arab world and from India to Europe), it appeared to me that there were basically two grand traditions: a rule-based one and an example-based one. This opposition was visible in all disciplines, but it was particularly spelled out in linguistics. I became especially inspired by the example-based tradition that started with the eighth-century Persian linguist Sibawayh (c. 760-793) in his *Al-Kitab*. According to this tradition, humans produce and comprehend sentences by combining fragments from previous sentences without any notion of hierarchical structure or rules. I had already been working on models that were based on similar assumptions (Data-Oriented Parsing, or DOP), but my models still assumed hierarchical structure of sentences (phrase-structure trees), as well as a recursive combination operation (substitution).

While my DOP models were considered to be wild, Sibawayh's *Kitab* made me realize that things could be much wilder. Of course I saw all kinds of limitations of Sibawayh's approach, but I wanted to give it a try. Thus starting out with nothing but flat sentences and trying to model exactly the same stages in child language learning, as I had done before with hierarchy-based DOP models (using child-produced speech from the CHILDES database), it turned out that children's language learning could indeed be simulated without assuming *any* hierarchical structure. This disturbing result – as it goes against current linguistic

assumptions – was obtained on the basis of research carried out with a postdoc in my group (Stefan Frank) and a colleague from Cornell (Morten Christiansen). When it was published last year in one of the most prestigious journals in the field (*Proc. of the Royal Society B*), it triggered such controversy that a famous MIT linguist referred to us as 'our biggest nightmare'. Yet no one could refute our results.

Now that the dust seems to have settled, what I find most interesting is that the discussion of whether we need fully formalized rules or just examples in understanding (and learning) language is still far from being settled. Both options must be fully investigated, from both a computational and neurobiological perspective – which we are going to do in the national NWO gravitation project 'Language in Interaction'. It might turn out that formal linguistic rules are only part of the scientific discourse but that such rules have no neurobiological reality. This is an empirical question, which goes beyond linguists' rhetoric. Time will tell what's the right story (if there is any), but for me it remains incredibly surprising and even more rewarding that diving into the world history of the humanities can be so effective.

By investigating this history one gets new ideas for free, from forgotten authors in a remote past – in my case the 8<sup>th</sup>-century Persian Sibawayh. It is a shame that Sibawayh's *Kitab* has never been translated into English – though translations in French and German exist.

## Literature:

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- Stefan Frank, Rens Bod and Morten Christiansen, 2012. How Hierarchical is Language Use? *Proceedings of the Royal Society B*, 297(1747), 4522-4531.
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# Research highlights

This research highlights section provides descriptions of eleven personal research grants awarded to ILLC researchers in the last two and a half years.



**Raquel Fernandez**  
NWO MEERVOUD  
project: **Computing  
Implicatures in  
Incremental  
Dialogue Processing**

Raquel's research falls within the area of 'Dialogue Modelling', a research field at the interface of Linguistics, Artificial Intelligence, and Cognitive Science. Her MEERVOUD project addresses two deep problems in Dialogue Modelling in a combined manner: the problem of computing pragmatic inferences (in particular, implicatures) and the incremental nature of human dialogue processing. To study these general problems in a tractable way, the project focuses on the phenomenon of 'referring expressions', descriptions used to refer to entities in the focus of attention of the dialogue participants. To take a simple example, consider the instruction 'Pick up the plastic spoon' uttered in a situation where a plastic cup and a plastic spoon are in focus. Without additional information (such as, for instance, the observation that the speaker is looking at the spoon), the instruction is semantically ambiguous until the word 'spoon' is processed. However, in situations where a second metal spoon is present, upon hearing the word 'plastic' hearers are able to infer that the intended referent is the plastic spoon and not the plastic cup. Pragmatic reasoning thus incrementally complements the conventional meaning contributed by the words uttered. Despite existing experimental evidence of this sort, it is currently an open question whether and how a theory of conversational implicature can be integrated into an incremental model of dialogue processing. This is the key research question Raquel's project seeks to answer.



**Michael Franke**  
NWO VENI project:  
**Models of Language  
Evolution and the  
Topology of  
Semantic Space:  
The Case of  
Gradable Adjectives**

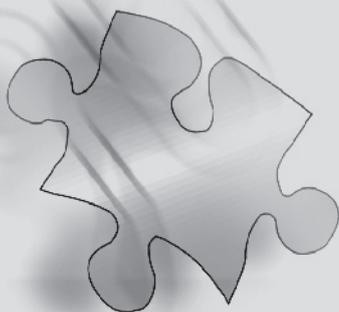
One of the most fascinating features of human language is its capacity to express very detailed meaningful content. This project tries to shed light on the puzzling and often evasive notion of linguistic meaning from an evolutionary perspective. Essentially, the main research question is: by which processes does linguistic meaning evolve? And from there, more concretely: which properties of linguistic meaning are due to which properties of the evolutionary processes that give rise to them? As a concrete case study, the project looks at the semantics of gradable adjectives. Formal semanticists maintain that differences in meaning and use between gradable adjectives can be explained by postulating different topological properties of the abstract 'meaning spaces' associated with the denoted properties. (E.g., the meaning space for a property like /being flat/ has a natural upper-bound, but not a property like /being heavy/, whose meaning space is in principle, laws of physics aside, unbounded.) In a nutshell, this project tries to give an evolutionary explanation for the meaning and use of gradable adjectives that dispenses with the need to postulate fancy abstract meaning structures, but focuses instead on the interplay between the affordances of actual communication and the cognitive make-up of language users. To achieve this goal, I look at signaling games and use evolutionary game theory and numerical simulations to investigate the effect functional pressure and cognitive biases have on the evolution of meaning.



**Nina Gieramsimczuk**  
NWO VENI project:  
**Formal analysis of  
multi-agent learning**

Being a member of a group has clear benefits: forces can be joined, experiences can be pooled, knowledge can be shared.

However, there are also downsides, cases where personal opinion is overridden by conformity. Learning—the growth of knowledge and skills—is driven by change on both the individual and group level. The interaction between the two has been observed in developmental psychology, economics, and in social sciences. It underlies human learning processes at all developmental levels: siblings interacting in early childhood, classroom peer-interaction, fraternities and trends in high-schools, peer collaboration, competition and decision making in professional communities. The main goal of my Veni project is to develop a formal, information processing framework for the plausible modeling of individual and group learning.



**Aline Honingh**  
**NWO VENI project:**  
**Representing**  
**Music: A New Basis**  
**for Computational**  
**Musicology**

Music informatics is an emerging interdisciplinary research area which has arisen from the fields of artificial intelligence, mathematics and music theory. In the last decade, the amount of digital music has increased so enormously that new research questions related to the representation and classification of music have come up, in particular: how can we automatically recognize, classify, and order music?

Music can be represented in various ways, for example as audio or scores. Many existing representations of music are only suitable for one specific task or application. This research project proposes a new representation of music that can form a basis for many tasks and applications.

Our proposed representation is based on the concept of interval categories. A particular interval category contains segments of music that are dominated by that particular interval. The representation of interval categories will be enriched with tree structures and temporal information so as to answer the research questions: 1) What is the most adequate integration of pitch, temporal and hierarchical knowledge?, and 2) How can we improve on existing applications in music research with this new representation?

For the evaluation of our representation, we focus on the following tasks/applications: 1) music classification, 2) measuring melodic similarity, and 3) finding sequential association rules. By integrating low-level and high-level features (such as tree structures) we hope to show that actual progress is possible in music informatics and its applications.



**Bryan Renne**  
**NWO VENI project:**  
**Evidence-Based**  
**Belief Revision**

Belief Revision is the study of how new, possibly contradictory information should rationally affect one's beliefs. This is an active, multi-disciplinary area of study with applications in Logic, Artificial Intelligence, Philosophy, Law, and Economics. Much work in Belief Revision has focused on the so-called 'postulate-based' approach, which characterizes the belief change process in terms of a series of statements that say what ought to be the case after a belief change has occurred. While this extremely popular approach has had its share of successes, it has neglected to address the underlying reasoning process an individual might use in actually changing her beliefs. Such a process ought to take into account the uncertain evidence one has at her disposal, allowing her to perform stepwise reasoning about her evidence without demanding infinite cognitive and logical precision as is typically done in Belief Revision theory.

The aim of this project is to develop a new theory of Belief Revision that describes belief change as a step-by-step evidence-weighting process in which errors might occur but can later be corrected. The theory will combine, adapt, enhance, and otherwise custom-fit ingredients from Dynamic Epistemic Logic and Justification Logic, two fast-growing areas of Applied Logic that present great promise toward this end.



**Floris Roelofsen**  
**NWO VENI project:**  
**Interpreting**  
**questions: fine-**  
**grained**  
**compositional**  
**semantics**

This project pursues a semantic account of a wide range of question types occurring in natural language within the framework of inquisitive semantics.

It aims to bring innovation on two different fronts. On the one hand, it develops a richer formal conception of the meaning of questions. Traditional semantic representations of questions are designed exclusively to embody the issue that the question raises. However, questions do more than just raising issues. For instance, they may express a bias towards a certain answer (e.g., Isn't Fred married?), or they may 'highlight' a certain possibility, thereby making it available for subsequent anaphoric reference (e.g., Do you need a loan? Then we can help you). The project develops an account of these and other semantic aspects of questions that go beyond their issue-raising potential.

The second innovative aspect of the project is that it pays close attention to differences in surface form and intonation. Why, for instance, do questions with auxiliary negation (e.g., Isn't Ann going?) have a different range of interpretations than questions with internal negation (e.g., Is Ann not going?), and how exactly does the interpretation of disjunctive questions (e.g., Is Ann or Bill going?) depend on intonation. The project aims to identify the relevant syntactic and intonational factors, and to formulate a comprehensive compositional interpretation procedure.



**Christian Schaffner**  
**NWO VENI project:**  
**Quantum cryptography beyond key distribution**

The security of many classical cryptographic schemes used today (like RSA) is based on unproven mathematical assumptions such as the hardness of finding the prime factors of large integer numbers. In contrast, quantum cryptography offers provable security. Quantum Key Distribution (QKD) enables two honest parties to securely communicate in a way that cannot be eavesdropped on. QKD requires the two involved parties to know and trust each other. However, many scenarios exist where two parties want to exchange data without trusting each other. It was generally believed that quantum cryptography does not provide any advantage over classical systems in this setting. However, we have shown recently that several interesting tasks in this scenario can be achieved using quantum schemes under the sole assumption that the quantum memory of one party is limited. The idea of these schemes is to base the cryptographic security on the formidable technical difficulty of storing quantum information.

The goal of this proposal is to investigate quantum cryptographic schemes and techniques that go beyond the task of key distribution. The technical difficulty of storing quantum information has so far only been captured by a simple unrealistic model. A primary objective of this proposal is to investigate more realistic ways of formalizing these technical limitations. Ultimately, we aim for a general statement like the following: 'Either a large-scale quantum computer can be built or we can exploit for cryptographic purposes the reason(s) why it cannot be built.'



**Khalil Sima'an**  
**NWO VICI grant:**  
**Teaching computers to translate using their own words.**

What better evidence could there be for understanding a text than to express it in one's own words?

School comprehension tests examine a student's capability of understanding a text by requiring them to produce output (e.g., paraphrases, translations or summaries) that preserves the meaning of that text. For us, human language users, meaning preservation is a measurable test of what we call understanding. The primary goal of this project is to develop a statistical method for quantifying and exploiting the intuitive and so-far unexplored notion of meaning preserving language processing within language technology applications, particularly machine translation. The developed method will be exploited for building statistical models for machine translation (MT) with monolingual paraphrasing capabilities that better approximate human performance than the state-of-the-art, particularly in terms of meaning pre-serving translation.



**Sonja Smets**  
**ERC Starting Grant:**  
**The Logical Structure of Correlated Information Change**

The standard logical approaches to rational belief revision or scientific theory change assume either that the reality under investigation is static or at least that any ontic changes are not directly correlated with the doxastic/epistemic change happening at the same time. But in numerous situations, the very act of learning new information may directly change the reality that is being learnt. An example is the way in which an introspective agent changes her beliefs when learning new higher-order information, i.e. information that may refer to her own beliefs. A similar situation arises when a scientist learns about a phenomenon by performing measurements that perturb the very phenomenon under study. In quantum mechanics, this property that 'observation causes perturbation' (the so-called observer effect) lies at the basis of most practical applications in quantum communication. But similar examples can be found in social sciences, economics and psychology: in these areas, an 'experiment' (e.g. the performing of a psychological test, the way an interview or a poll are conducted, the way statistical data are gathered) or the adoption of a theory (e.g. an influential social-economic theory) may change the very facts under investigation. More complex such scenarios of correlated information change occur in groups of communicating agents, whenever some agents' beliefs about the others' belief changes may trigger or influence their own belief change.

In this project we propose to develop a unified logical setting to

handle these various types of correlated information change in a multi-agent context. The proposed setting is based on bringing together insights, concepts and methods from Dynamic Epistemic Logic, (Dynamic) Quantum Logic, Belief Revision theory, Truth Approximation theory and Learning Theory. Particular types of correlated information change were previously studied in Physics (Quantum Mechanics), Economics (Game Theory), Social Sciences and Epistemic Logic, but without having a general logical setting and without any connection to the logic of scientific theory change. We plan to explore applications of the proposed logical framework to various areas of Philosophy, ranging from Social Epistemology to Philosophy of Science and Philosophy of Information. In particular, we plan to use it to develop a new approach to scientific theory change. Within philosophy of physics, our aim is to apply our general setting to develop an epistemological-informational understanding of quantum information and its flow. Within social epistemology, we plan to use the proposed setting to formalize and give a logical analysis to puzzling social-informational phenomena such as the tragedy of the commons, informational cascades and the epistemic bandwagon effect.



**Luca Spada**  
**EU Marie Curie project: ADAMS: A dual approach to many-valued semantics**

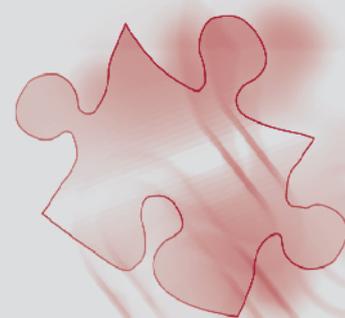
Mathematical logic plays a crucial rôle in the 21st century society. Indeed, in an era where information has become a key aspect of our lives, it provides a powerful mathematical framework for the study of the structure and the dynamics of information. A particularly interesting aspect of mathematical logic is that it allows to take into account uncertainty, vagueness or subjectivity, yet in the rigorous setting proper to mathematics. Drawn from the applications, disciplines like many-valued logic, modal logic, reasoning under uncertainty, etc. have quickly developed a weaponry of sophisticated investigation tools that enabled the disclosure of a number of substantial facts about their expressiveness, functionality and scope. Nonetheless the investigations in these topics are far from being concluded. Rather, they are ready to be shifted to another level which could take into account inter-relations between those topics and offer an exchange of knowledge and methodology among their practitioners.

This project fits into this tendency shift, proposing an investigation of new semantics for many-valued logic with tools traditionally developed in modal and intuitionistic logic. Indeed, while the algebraic approach has enabled a fine comprehension of many-valued logic, leading in few years to a very reasonable framework of study, time is mature for seeking new interpretations and concrete representations of these logical systems. As recent results put in evidence, the instruments developed in fifty years of studies on modal and intuitionistic logic, ranging from dualities to correspondence theory, are certainly the most qualified to help addressing this issues.



**Jakub Szymanik**  
**NWO VENI project: What makes social interactions hard? A computational study of intentions, knowledge, and beliefs.**

The overall aim of this project is to develop a theory that will evaluate factors responsible for the complexity of human reasoning about knowledge and beliefs of others, i.e., epistemic reasoning. Combining, adapting, and enhancing concepts from philosophical logic, cognitive modeling, and computational complexity theory I aim to identify theoretical boundaries in the complexity of reasoning about information flow. I will investigate the borders between easy and difficult epistemic tasks. Finally, I will show how the theoretical findings may be translated into experimental hypotheses. Further on I hope for my theory to be integrated in computational models of cognition with an eye towards education, clinical psychology, and artificial intelligence.





# Karine Gigengack on ILLC's move to SP107



*The ILLC has recently moved. When and how was it determined that the institute would move?*

The ILLC had been in the new Faculty of Science building at SP904 since it opened up, when half the building was empty. In the summer of 2012, it turned out the building was becoming too small: all FNWI institutes had moved in, and they were also growing quickly. The faculty board decided that one of the three institutes that had no labs had to move: the KdV (mathematics), IvI (informatics), or the ILLC (us). For various reasons it became clear that ILLC would have to move. This was hard news, as it had already been a big issue to move from our nice spot in the city centre to 'Nowhere' in the Watergraafsmeer. Meanwhile, however, people had grown to like the light and cheerful building.

After we were informed we were to move to the F-building at NIKHEF, a group of us went to take a look.

*What were the pros and cons with regard to the new location with respect to the previous one?*

There was one pro we already knew in advance: all offices could be closed rooms, so no open work spaces, very good! But then, after actually seeing the proposed location, I couldn't think of any pro at all. Although this building is newer than other sections of the same building complex, it was not constructed as nicely. For instance in our part the transom windows over the doors

were closed up, making the overall atmosphere very dark. Also, both ceilings and carpets were grubby, old and in very bad shape. So after this visit I felt really sad when I was biking home, for what could we make out of this?

Luckily Jenny and Yde shared the same opinion and insisted on freshly painted walls and ceilings, new blinds etc. and, last but not least, said that

*'After this first visit I felt really sad when I was biking home, for what could we make out of this?'*

if the depressing carpet stayed in, ILLC would stay out. It was clear that our new environment needed a lot of work. And even when this work was done, things were still a bit dull and grey. So we contacted the interior architect who had taken the Venture labs on the 3rd floor in hand, and her design is what we have now in our Common Room: much brighter and more colourful than the dull brown and grey it had been.

*What was involved in preparing for the move?*

What really surprised me was the bargaining that had to be done. Here we are, the ILLC, a well-functioning institute doing good research, bringing in money for projects, doing good

teaching. To maintain this standard, you have to offer good work places and facilities so that people can work well and with pleasure. There were so many different parties involved: the Faculty, UvA Real Estate, UvA Facility Services, and the one group would not pay for this and the other not pay for that. And even after all that was settled, it required a lot of effort to get things done on time:

now, 10 months after the move, there are still some rooms waiting for a window that can be opened, and rooms with windows that do not function properly.

Another issue was that we had to determine exactly which rooms in our future building we would rent, where the common room, the MoL room etc. could best be located. Then we had to calculate the best way to fit everybody in. For instance, our initial plan was two postdocs to a room, but we didn't have sufficient rooms, and they were also rather large for two people. The solution was creating an additional meeting room for both Postdocs and PhD candidates, so that more people could work in one room.



*‘At 7 p.m. I noticed I had forgotten to pack my own stuff into crates – oops...’*

*How does moving a personal apartment or house compare with moving departments or institutes?*

To me, personal movement would take much more emotional effort. On every part you have to decide what to keep and what to throw away. Moving an institute takes much more practical effort – speaking of course of the part I’ve contributed.

*Did the actual move go smoothly?*

The idea was that we would move at the beginning of December, but this was delayed, as the carpet was not out by then and the workers did not manage to finish things by the expected deadline. It was the end of December before we were able to fix the dates for a few weeks afterwards. The move was to take place over three days. Communication on how to handle and what was to be expected was one of the most important things. All together it was quite an undertaking, I may say, but in general all of the preparations Jenny and I made went very well. Jenny moved on the first day but then she got severe flu. Those things happen when they happen, however, and the feeling of having everything under control so far made me feel confident, also in those few days – that was satisfying!

We had arranged for all ILLC members to make a drawing of the furniture arrangement in the room they were going to move into. Just before the move, facility services hung the drawings up on each

room-door in the new building. The next morning however these had all disappeared (afterwards it came out the cleaners had removed them during the weekend before the move). So when the movers came, they just decided arbitrarily where the furniture should go. ICT subsequently came to hook up the computers to their appropriate network ports, based on the drawings. Noticing that the furniture had been arranged differently to the drawings, they just hooked up according to the way the room had been left by the movers. Finally at the end of the day, facility services got the drawings of the room arrangements, and switched the furniture around to where it was supposed to be. You may remember the mess and problems when people moved in the next day. Figuring out what was happening and reconstructing how it could have happened, while everything looked just as it should be, well, this was a moment that taxed my nerves indeed!

Then the night before I myself had to move, at 7:00 in the evening, I noticed I had forgotten to pack all my things and the part of the secretariat I would take care of – woops, panic... However, I was saved when Giuseppe Greco, a MoL student, who was working in the guest room next door, asked if he could help me. Initially I didn’t think this necessary, but he insisted and I’m glad he did: he helped me for over three hours, I do not know how I would have managed without him,



as we weren't finished until 11 in the evening.

*There is a rumour about a painting with a unicorn ...?*

This was curious... Prior to the move, a double-painting of a unicorn had mysteriously appeared opposite the pigeon holes at SP904. Previously, there had also been other mysterious instances where unicorns were involved... Of course, we planned to take the painting along with us when we moved. However, in all the fuss and bother, I forgot to pack it and, when going through the empty former ILLC the day after the move, checking for stuff left behind, it wasn't there anymore. Some time later it appeared next to Yde's office in the new building, and he received a strange note, with straight-lined handwritten font, stating that the gift to the institute, a portrait of Emile, had been left behind, and hence the author of the note had moved the painting to the new location. The note, signed by 'John', ended with 'Please consider it a token of gratitude for letting us move with you, so that Vasiliev may find and visit us soon.' We have no idea who is the artist, or who wrote the note, but we like this mystery and hope that the unicorn feels at home!

*How long did it take for the move to be completed?*

The actual move itself took 3 days. There was the computer-problem the first day en later on all

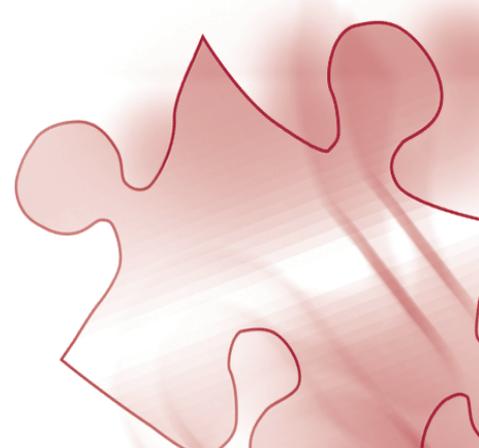


kinds of practical things that had to be taken care of immediately: extension cords for computers and equipment, drop keys that were ordered but not delivered in time, no furniture for the common room, not enough cupboards and, well, basically we had to wait for the dust to settle again. But actually, hmm..., the move is still going on to this day, as we are still setting up our archive of books to store.

*Do you think that people are more or less happy in the new location?*

This is the nice thing. Although no-one liked the idea of moving, and although it is still not convenient for everybody, many people have indicated that the new place is fine, and that they even prefer it to SP904. For instance, at SP904 many people passed through who were not part

of the ILLC whereas in the new location the people around tend to be members of the ILLC. It's easier to meet up, and people feel that there is a better sense of community in the new location. The PhD students work in rooms rather than open office space, and the atmosphere is academic. These advantages have been created by all of us, and arose from our insistence for a better environment. We are very lucky.



INTERVIEWS WITH DR FLORIS ROELOFSEN AND DR SIMON PAUW

# Alumni

Our ILLC alumni interviewees this year are Dr Floris Roelofsen and Dr Simon Pauw. Dr Roelofsen was awarded a PhD at ILLC in 2008. He is now Assistant Professor at the ILLC. Dr Pauw graduated from the ILLC's MoL programme in 2008 and was awarded a PhD in 2013. He is now a researcher at Aldebaran, in Paris.



## Floris Roelofsen

*Tell us about your academic background leading up to your PhD.*

I started doing mathematics, at the University of Twente, but after some time became more interested in computer science and artificial intelligence. I ended up doing a BSc in math and then a MSc in AI. As part of the MSc programme I did an internship in Dunedin, New Zealand, where I met Hans van Ditmarsch. He first told me about the ILLC, and his enthusiasm is probably one of the most important reasons that I eventually ended up here. An aside: he also introduced me to traveling by bike. I made my first trip right after the internship, a one-month tour around the South Island of New Zealand. A wonderful experience, and the first of many more biking trips to follow in the years thereafter.

In my MSc thesis, I wanted to study formal models of context-dependent reasoning. There was a group working on this in Trento, Italy. I went there, by bike, with three ideas written on a piece of paper. I first talked to Bernardo Begnini, who knew my professor

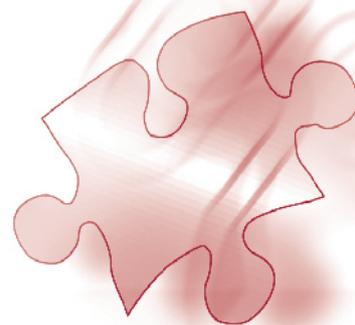
at the University of Twente. He said he was the wrong person for what I wanted, but that I should come back the next day. He introduced me to Luciano Serafini. Luciano is two meters tall and very short-sighted. When I handed him my piece of paper he bent over and held it very close to his face, moving it from left to right so that the words went by his eyes. It took him a couple of minutes to go through the text. Then he jumped up and exclaimed we should start working immediately on one of the ideas. Things took off from there, and nine months later I had my first experience speaking at a conference, KR, followed later that summer by AAAI and ECAI. I remember that on the way back from AAAI, in the airplane, Luciano and I were discussing things and some woman asked us if we could please shut up. Maybe we were a bit over-excited.

After the Trento experience, I didn't want to start a PhD right away. This would force me to focus on a rather specific set of problems, and I wasn't quite ready yet to choose which problems to focus on. So I decided to try and deepen my foundational knowledge a bit and broaden my general background. This, and again the advice of Hans van Ditmarsch, brought me to Amsterdam.

Another aside: actually, there was another reason to come to Amsterdam as well, in Italy I had become passionate about dancing, and Amsterdam is a great place to train as a dancer. The first year here was pretty intense. I did the MoL in one year, and danced every day from 5 till 10 p.m. But the combination of mental and physical training actually worked very well.

I remember this as a very happy period. In the early Spring a vacancy came up in the ILLC for a PhD position. I proposed a project developing a formal model of

*'Questions do more than just raising issues.'*



conversation, drawing on various analogies with dance. Michiel van Lambalgen was very helpful and encouraging in putting together the proposal. The application was successful, and Jeroen Groenendijk became my adviser. I actually don't know till this day how that was decided. Of all the Professors in the Logic and Language group, Jeroen was the one I knew least --- in fact, I had never spoken with him until the interview. Be that as it may, the choice couldn't have been better. It is a blessing to have had Jeroen as my adviser, and as a close collaborator in more recent years.

*What led you to work on inquisitive semantics?*

While I did my PhD with Jeroen, he was already working on early versions of inquisitive semantics. My own work was on a different topic (anaphora) but Jeroen very often discussed his ideas with me, and I read his notes and papers and tried to give feedback. Along the way, of course I became more and more acquainted with Jeroen's philosophy, and I also gradually developed my own perspective on the issues that he was concerned with. Our views aligned very well, and our ways of thinking about things turned out to be complementary in a very productive way: if one of us got stuck in pondering about a certain puzzle, the other one would often be able to look at it from a slightly different angle and readily find a way out, or at least a way forward. Then in the Fall of 2008, a few weeks after I had submitted my dissertation, Jeroen sent me a term paper by one of the students in his class, Ivano Ciardelli. The paper was very insightful – in fact, with hindsight, it contained one of the crucial insights leading to the current 'standard' implementation of

*'In many languages, the word for disjunction is used to form questions. Why would that be?'*

inquisitive semantics. I met with Ivano and we immediately started brainstorming about how to further develop the ideas in his paper. A few months later we submitted a paper to TARK, that was my first official 'work' on inquisitive semantics. Since then, Ivano, Jeroen, and I have collaborated very closely on this project. The dream team was completed in the summer of 2010 by Matthijs Westera.

*Since you got your PhD you've worked in a number of places, among them UMass Amherst. How was the research environment there compared with the ILLC?*

At UMass, I spent a whole year as a Visiting Assistant Professor, so I didn't just do research but also a fair bit of teaching, both in the graduate program and in the undergraduate program.

Amherst, a small town tucked away in the farmland of Western Massachusetts, has been one of the centres of the world when it comes to formal semantics since Barbara Partee landed there in the early 70's. She came from UCLA, where she was close to Montague. At UMass, she trained many students who are now among the most prominent researchers in formal semantics, Irene Heim, Gennaro Chierchia, Mats Rooth, Craig Roberts, etcetera. She is now retired but still very active, teaching at UMass and in Moscow, and also still working on a number of research projects.

I worked at UMass for one year, in 2009-2010, and during that year I stayed with Barbara and her husband Volodja, together with two other visitors. We had a sort of family life together, sharing dinners, trips to the grocery store, lawn mowing, and snow shovelling. That in itself was already a very special experience. And then apart from this, the Linguistics Department at UMass is a wonderful place. It's smaller than the ILLC, and more narrowly focused. Obviously, there's more linguistics and less logic. For me, it was absolutely wonderful to spend a year in this environment, and I learned a lot. But, in the end, I'm probably more 'at home' at the ILLC.

*Tell us about your VENI grant, Interpreting Questions.*

This project pursues a semantic account of a wide range of question types occurring in natural language within the framework of inquisitive semantics. The project aims to bring innovation on two different fronts. On the one hand, it develops a richer formal conception of the meaning of questions. Traditional semantic representations of questions are designed exclusively to embody the issue that the question raises. However, questions do more than just raising issues. For instance, they may express a bias towards a certain answer (e.g., Isn't Fred married?), or they may 'highlight' a certain possibility, thereby making it available for subsequent anaphoric

reference (e.g., Do you need a loan? Then we can help you). The project develops an account of these and other semantic aspects of questions that go beyond their issue-raising potential.

The second innovative aspect of the project is that it pays close attention to differences in surface form and intonation. Why, for instance, do questions with auxiliary negation (e.g., Isn't Ann going?) have a different range of interpretations than questions with internal negation (e.g., Is Ann not going?), and how exactly does the interpretation of disjunctive questions (e.g., Is Ann or Bill going?) depend on intonation. The project aims to identify the relevant syntactic and intonational factors, and to formulate a comprehensive compositional interpretation procedure.

*'In inquisitive semantics, conditional questions and assertions can finally be given a uniform treatment.'*

*What are your plans for the immediate future?*

Over the next three to five years, I would like to achieve further progress in the following three areas.

(i) *Extending the basic IS framework.* For a comprehensive analysis of information exchange, the basic IS framework developed so far needs to be further extended. In recent work we have started to explore several such extensions, aiming to capture, e.g., presuppositions, anaphoric potential, and different types of answerhood conditions. However, all these explorations are still preliminary at this point and need to be further refined in future work.

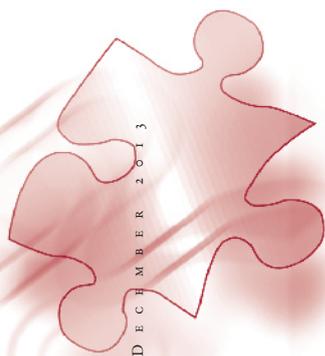
(ii) *Situating IS in the wider erotetic landscape.* Careful consideration of the connections between IS and previous work on inquisitive aspects of meaning, both in the logical-philosophical tradition and in linguistics, will not only yield a deeper understanding of IS as such, but will also allow us to combine insights from different traditions. One specific project within this line of work, which I am currently working on with Ivano Ciardelli, is to integrate IS with *dynamic epistemic logic*. Another connection that deserves close attention is the one between IS and dependence logic. Fan Yang, who just completed her dissertation in Helsinki on *dependence logic*, has started to explore this connection and might come to the ILLC as a postdoc to continue this work.

(iii) *Linguistic case studies.* Inquisitive semantics is meant to serve as a framework for the analysis of information exchange through linguistic communication. In order to demonstrate its suitability for this purpose, and its advantages w.r.t. the standard, purely information-oriented framework, it is crucial to develop a number of concrete linguistic case studies, showing how old and new puzzles may be better understood if considered from an inquisitive perspective. Several such case studies have already been initiated in the context of my VENI project, with an empirical focus on

questions. Besides broadening the scope of these ongoing studies, I would like to consider other empirical domains as well.

Disjunction and existentials are particularly interesting in this regard, because they receive a markedly different treatment in IS than in classical logic. There are indications that this treatment resolves a great number of puzzles concerning the semantics of disjunction and indefinites in natural language, especially in interaction with mood, modals, comparatives, conditionals, and various kinds of intonation patterns. Moreover, since disjunction and existentials are sources of inquisitiveness in IS, there is a close connection with the semantics of interrogatives. This connection may form the basis for an explanation of the fact that, across languages, disjunction and indefinite pronouns are often used as question words as well (e.g. in Dutch: *Ik wil wat eten* versus *Wat wil je eten?* and *Paul of Maria komt* versus *Paul vraagt of Maria komt*).

Another specific area of interest is that of conditionals. Both in linguistics and in philosophical logic, conditionals have been widely investigated. However, the focus has always been, almost exclusively, on conditional assertions. Conditional questions have hardly received any attention, and the established theories of conditional *assertions* cannot be generalized straightforwardly to account for conditional questions as well, at least not within the standard, purely information-oriented semantic framework. There are good reasons to think that in IS, conditional questions and assertions can finally be given a uniform treatment.



# Simon Pauw

*How did you end up doing your PhD at the ILLC?*

I didn't plan on it. I did my masters at the ILLC after which I felt the need to do something different for a while. I found that the Sony Computer Science Laboratory in Paris was doing interesting research on robotic experiments in language evolution. I applied and to my big surprise got the job. After two years I fell victim to a funding gap. The project that funded my research finished and no new project was starting right away. I found a way to prolong my research for a year at the Universitat Autònoma de Barcelona to buy some time. But I had no idea if and how I could finish my PhD after that. It just bought me some time.

During my stay in Paris and Barcelona I kept touch with different people from the ILLC, which made them aware of my particular situation. When I was just finishing in Barcelona, Jeroen Groenendijk and Frank Veltman were so kind to offer me to come to the ILLC for a year to write up the research I had done and finish my PhD.

*Tell us about your time doing your PhD.*

It was chaotic.

As the story above already suggests I didn't have a particularly typical PhD trajectory and in retrospect I sometimes have the feeling I spent more time moving and applying for jobs than actually doing research.

Not having a fixed position, but doing this research rally race, sometimes felt more like a gambling addiction where my investment was getting higher at every step. That it paid off was not so much due to great planning than to luck and the help of many people.

*Could you tell us about your research with Aldebaran?*

Aldebaran is a company that produces the NAO robot. You probably have seen it, the AI department at the UvA owns a couple of them.



Until a couple of months ago the company only had an R&D department, but they recently started a brand new academic research department. This is where I work. Actually I was the first employee to start there when I started in September. We're now three fixed researchers and we're still looking for more researchers, PhD students and interns. By the way, if you know people that are interested, let them get in touch with me.

We're doing research in developmental robotics. In other words, we're trying to replicate human infant development with robots. I'm responsible for the linguistic development.

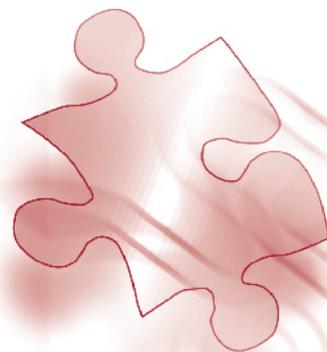
*Do you consider yourself to be in academia?*

Yes. My work shows the appropriate lack of applicability to be taken seriously in academia.

*How does your experience working with Aldebaran compare with your experience working in the ILLC?*

I find it hard to compare what I'm doing to my work at the ILLC, because of the unusual position I had there. But, some things are clearly different. Although my work is academic, my employer isn't.

*'I was mostly surprised how easily I regressed into a boy playing with robots.'*



Which means, strict working hours, no working from home and a clear hierarchy. The ILLC is the least hierarchical place I've ever worked at, packed with interesting people doing interesting things. This is something that's already hard to find in academia, let alone outside of it.

That aside, there are some advantages to working here. Did I mention I get to play with robots? Also, they offered me a fixed contract. Something that I would not be able to get at a university for at least another five to ten years.

*What motivated you to work with Aldebaran?*

Many things. Even though the fields of robotics and computational linguistics are rapidly growing it is still not easy to find an interesting academic job in either field, so I was not in a position to say no. But, necessity aside, it was the perfect job for me. It lines up perfectly with my interests and I didn't mind moving to Paris... at all...

*Have you been surprised by anything you found working with Aldebaran?*

Surprised... I was mostly surprised how easily I regressed into a boy playing with robots.

*Is there a bridge between your current work with Aldebaran and your research at the ILLC?*

The research I'm doing at Aldebaran is very strongly connected to my PhD work. I was working before on language experiments with robots. So I can still rely on much of the knowledge I have gathered and computer systems I've worked on from my research at the ILLC. For my new job the main difference is the focus shift from evolutionary experiments to language acquisition. And even that difference is smaller than one might think. Language evolution seems to strongly mirror language acquisition.

## PhD defences

- **15 April 2011**  
Marijn Koolen, The Meaning of Structure. The Value of Link Evidence for Information Retrieval
- **20 September 2011**  
Lauri Keskinen, Characterizing All Models in Infinite Cardinalities
- **30 September 2011**  
Junte Zhang, System Evaluation of Archival Description and Access
- **7 October 2011**  
Rianne Kaptein, Effective Focused Retrieval by Exploiting Query Context and Document Structure
- **27 October 2011**  
Jop Briët, Grothendieck Inequalities, Nonlocal Games and Optimizaation
- **18 November 2011**  
Raul Andres Leal Rodriguez, Modalities Through the Looking Glass
- **18 November 2011**  
Lena Kurzen, Complexity in Interaction
- **1 December 2011**  
Stefan Minica, Dynamic Logic of Questions
- **14 December 2011**  
Gideon Borensztajn, The neural basis of structure in language
- **12 January 2012**  
Federico Sangati, Decomposing and Regenerating Syntactic Trees
- **13 January 2012**  
Joris Dormans, Engineering Emergence: Applied Theory for Game Design
- **19 January 2012**  
Markos Mylonakis, Learning the Latent Structure of Translation
- **10 February 2012**  
Yurii Khomskii, Regularity Properties and Definability in the Real Number Continuum
- **8 March 2012**  
Edgar Andrade-Lotero, Models of Language: Towards a Practice-Based account of information in natural language
- **25 April 2012**  
David Garcia Soriano, Query-Efficient Computation in Property Testing and Learning Theory
- **21 September 2012**  
Pietro Galliani, The Dynamics of Imperfect Information
- **25 September 2012**  
Umberto Grandi, Binary Aggregation with Integrity Constraints
- **12 October 2012**  
Dimitris Gakis, Contextual Metaphilosophy - The Case of Wittgenstein
- **13 December 2012**  
Floor Sietsma, Logics of Communication and Knowledge
- **1 November 2013**  
Simon Pauw, Size Matters. Grounding Quantifiers in Spatial Perception
- **28 November 2013**  
Giannicola Scarpa, Quantum Entanglement in Non-local Games, Graph Parameters and Zero-error Information Theory
- **12 December 2013**  
Virginie Fiutek, Playing with Knowledge and Belief



From the time of publication of the last ILLC magazine in May 2011 to the end of 2013, forty-three (guest) PhD students and twenty-three postdocs have joined the ILLC. An unfortunate side-effect of this expansion is that not every new PhD student and postdoc could reasonably be interviewed for this issue of ILLC Magazine. Instead, we have attempted to interview a representative sample, across all research areas of the ILLC. A comprehensive list of the newcomers is given after the interviews.



**John Ashley Burgoyne**  
Postdoc, Research group:  
LaCo

**What drew you to the ILLC?**

Henkjan Honing! I had admired his work for a decade and was thrilled at an opportunity to work with him.

**What is your academic background?**

I started with a bachelor's degree in music (Harvard, 2001) and continued with a master's degree in music theory (University of Pennsylvania, 2003). During this master's degree, I became interested in how computers could help us understand music, and went on to earn a master's degree in machine learning (University of Pennsylvania, 2005) and then a doctorate in music technology (McGill University, 2012).

**What is your research topic and what interests you about it?**

I work in music cognition and music information retrieval. My primary research question right now is what makes music 'catchy'. I think that almost everybody who listens to music has ideas about catchiness, but the scientific understanding of catchiness is surprisingly thin. I love tackling difficult questions like these with data and developing statistical models that are true to our musical intuitions for analysing such data. Catchiness is perfect for that. Our group has designed a unique cognitive experiment in the guise of name-that-tune game, and as we prepare to release that game in Apple's app store, I am working with a statistician in the psychonomics department to develop a new model for extracting catchy musical features from observations of the gameplay.

**What role does logic play in your research?**

Its role is indirect, but largely present through the notion of musical grammars. One of my secondary research interests is Western tonal harmony, and despite some valiant efforts over the years, especially from Fred Lerdahl, I think the field is still

searching for better ways to characterise harmonic patterns for music students and algorithmic processing alike.

**How did you find a place to live in Amsterdam?**

I never did find a place to live in Amsterdam, but I was very lucky to find a room in a beautiful nineteenth-century home in Hilversum. I used to be one of the tenor section leaders in the choir at Christ Church Cathedral, the Anglican cathedral of Montréal, and after a service one Sunday, one of the parishioners overheard me telling one of my friends how excited I was to move to Amsterdam but how frighteningly difficult it was to find a place to live! She turned out to have an old friend with this old house in Hilversum, and everything fell into place after that.

**Where did you live before coming to Amsterdam?**

I lived in Montréal for seven years.

**What do you like the most about working in Science Park 107?**

I was really happy that my officemates were aligned a bit more closely with my research interests. It's made new collaborations so much easier!

**What is your favourite game?**

I love trying historical card games. For two players, I'm fond of Piquet. For all around curiosity, Ombre is probably my favourite. Before I moved to the Netherlands, I took the trouble to learn the rules of Klaverjas, only to be disappointed to learn that it now seems to be played only in nursing homes.



**Bart Mellebeek**  
Postdoc, Research Group:  
LaCo

**What drew you to the ILLC?**

After spending the last six years of my professional career in industry (IBM, Barcelona Media, European Commission), I started missing the freedom of thought and research in academia. Since I knew that interesting work in Machine Translation is being done in the group of Khalil Sima'an, this research position at the ILLC is an interesting opportunity for me.

**What is your academic background?**

I hold a Ph.D. in Computational Linguistics from Dublin City University. I am interested in language, how language works and how this very typical human means of communication can be learned by computers. Cognitive theories about how language might work can certainly be helpful in this task, but it is also fascinating to see how the hardware for artificial intelligence which is currently available to

us often prefers statistical approximations of language.

**What is your research topic and what interests you about it?**

I work on Domain Adaptation for Machine Translation. Modern Machine Translation systems perform very well when provided with input which resembles the sort of data used to train the system, but tend to underperform when faced with out-of-domain topics. We try to come up with new models that alleviate this problem. The often heard phrase of 'there is no data like more data' does not always hold.

**What role does logic play in your research?**

None really: I am working in the LaCo group.

**How did you find a place to live in Amsterdam?**

Karine helped me find a place (a UvA guest house) in the centre of town, which is a decent temporary solution. Finding more permanent and affordable accommodation in this city is extremely hard.

**Where did you live before coming to Amsterdam?**

I lived in Trier, Germany.

**What do you like the most about working in Science Park 107?**

OK it's not as modern as 904 but it has a ping-pong table in the hall past the Nikhef entrance :-)

**What is your favourite game?**

Hana-bi



**Joshua Sack**  
Postdoc, Research Group:  
LoLa

**What drew you to the ILLC?**

I was first drawn to the ILLC a decade ago as an MSc of Logic student interested in studying logic and language. I have returned again with an interest in relating quantum logic to modal logic.

**What is your academic background?**

I received a PhD in mathematics from Indiana University with a focus on combining temporal and dynamic epistemic logics. I have also held a postdoc at Reykjavik University on theoretical computer science.

**What is your research topic and what interests you about it?**

I am involved in a project on logics for quantum interaction. New developments in quantum logics allow us to reason formally about the dynamics of physical systems, and this I find very interesting and illuminating.

**What role does logic play in your research?**

Logic plays a key role in most of my research. A significant goal is to better understand how modal logic can be used

for reasoning about time, knowledge, processes, programs, probability, and quantum system.

**How did you find a place to live in Amsterdam?**

The ILLC kindly arranged a place for me to live. This was particularly helpful, as I was coming from North America.

**Where did you live before coming to Amsterdam?**

During the previous year, I was living in California.

**What do you like the most about working in Science Park 107?**

As an office building, Science Park 107 provides offices, a class/lecture room, communal study rooms (one for postdocs and one for PhD students), and a lounge for mingling, meetings, and socializing. This variety helps create a sense of community.

**What is your favourite game?**

Matching pennies - it is a simple example of a game that has a mixed strategy Nash equilibrium, but no pure strategy Nash equilibrium.



**Olivier Cailloux**  
Postdoc, Research Group:  
LaCo

**What drew you to the ILLC?**

After my PhD I was interested in studying my field of specialization from an epistemological point of view. I was also interested in seeing how logic and argumentation theory can be linked to it. The ILLC was an obvious possibility considering its knowledge about epistemology, logic, and language. I must say I also had a (quite usual, I now realize) fascination for the work of big names like Wittgenstein and Russell. Finally, and probably most importantly, I had met Ulle Endriss previously (who had an opportunity to hire me) and I knew I would appreciate working with him on links between my field of knowledge and social choice topics.

**What is your academic background?**

I studied computer science at the Université Libre de Bruxelles, Brussels. I worked on research projects as a developer for several years before starting a PhD in École Centrale Paris.

**What is your research topic and what interests you about it?**

I work in preference modeling, in contexts where an individual wants to come up with a systematic and sound method to evaluate a set of objects (alternatives), using several conflicting points of view (criteria). Think about choosing a house: you want it to be

well-located, cheap, spacious, beautiful, ...

**You can't have everything. How are you going to trade good performances on some criterion for bad ones on others?**

I like this field a lot because it seems to me it offers a rare opportunity in science to model subjectivity. Science is usually more interested in describing objective phenomena only. Furthermore, it involves different interesting fields. For example, results from psychological research about the way people express their preferences are important to take into account when modeling preferences.

**What role does logic play in your research?**

Some researchers have proposed ways to represent advantages of some alternatives over others (as traditionally represented by a better performance on some criterion) as arguments. These arguments, in argumentation theory, can also be stated using expressions in some logic. This allows us to compute, for example which arguments are incompatible.

**How did you find a place to live in Amsterdam?**

UvA, or ILLC, proposed me a place nearby Amsterdam Central Station. I live there with my partner, we like it a lot. Some say it is too much of a touristic area, but we don't mind. (We must say we still feel a bit like tourists...)

**Where did you live before coming to Amsterdam?**

In a nice place called Cité Universitaire, in Paris. I also liked it a lot, lots of different buildings and interesting architecture, nice parks, and close to the main swinging places in Paris.

**What do you like the most about working in Science Park 107?**

I like your very leading question!

**What is your favourite game?**

I love Ghost Stories. I'd love to play again Balam, seems very good but I played only once. Other very good games include Agricola, Arkham Horror, the games of Philippe Keyaerts, ...



**Paula Henk**  
PhD student, Research  
Group: LoCo

**Who are your supervisors?**

My supervisors are Dick de Jongh, Albert Visser, Frank Veltman, and Volodya Shavrukov.

**What is your academic background?**

I have a Bachelor of Science degree in Cognitive Science. Before that, I studied semiotics for one year.

**What is your research topic and what**

**interests you about it?**

My main interest lies in the area of provability logic, where modal logic is used to study axiomatisations of arithmetic.

What fascinates me about this area are the beautiful and technically elegant ways it allows us to describe phenomena in the foundations of mathematics, for example Gödel's incompleteness theorems, and self-reference in arithmetic.

**How did you find a place to live in Amsterdam?**

I moved in with some friends who had already been living there for a couple of years.

**Where did you live before coming to Amsterdam?**

In Osnabrück.

**What do you like the most about working in Science Park 107?**

Being surrounded by my fellow logicians.

**What is your favourite game?**

The Ehrenfeucht–Fraïssé game.



**Riccardo Pinosio**  
PhD student, Research  
Group: LoLa

**What drew you to the ILLC?**

When I was doing my bachelor, I went for one semester to St Andrews as an 'Erasmus' exchange student. While I was there, I looked up some stuff on the Stanford Encyclopedia of Philosophy, and noticed that one of its mirrors was in Europe - at the ILLC. I was curious, so I clicked on the link and started exploring the ILLC website. I was very interested in logic at the time (I still am, so that's good), but I was studying philosophy in a very 'continental' department, where logic was not appreciated at all. So when I looked at the MoL digital brochure, I was immediately struck by the coolness of it all - the logic, the multidisciplinary approach, and the like.

**What is your academic background?**

My background is mostly in philosophy and philosophical logic, with random bits and pieces from other fields (computer science, cognitive science, physics).

**What is your research topic and what interests you about it?**

I am mostly interested in the study of 'space' from a philosophical and logical perspective. Sample keywords would be (in no particular order): spatial logics, (constructive) foundations of geometry, philosophy of space and time, mereology/mereotopology, Immanuel Kant's theory of space. I have also been working on a topological semantics for the logic of counterfactuals. What I like

most in my research topic is the possibility of taking certain philosophical approaches and putting them on a firm formal ground, on which their merits can be assessed. I also like the technicalities, since they please my innate disposition to pedantry.

**What role does logic play in your research?**

It is essential, since I try to construct logical formalisms to clarify certain philosophical concepts.

**How did you find a place to live in Amsterdam?**

Ah... I have always benefited from the help of the university housing offices :)

**Where did you live before coming to Amsterdam?**

I lived in St Andrews for six months, and before that I lived in a small village near Venice, in Italy.

**What do you like the most about working in Science Park 107?**

The very tight security level. I'm sure it's going to be great to have the moat and everything when we'll be attacked by zombies.

**What is your favourite game?**

My favourite computer game is Baldur's Gate II: Shadows of Amn. It's old but its gameplay is still fantastic. My favourite non-digital game is chess

## New (guest) PhD students

- Fleur Bouwer, *LaCo* (Honing), 1 March 2011
- Peter van Garderen, PhD *LoCo* (Buhrman), 1 August 2011
- Shengyang Zhong, *LoCo* (Baltag), 22 August 2011
- Fatemeh Seifan, *LoCo* (Venema), 25 August 2011
- Mathias Madsen, *LoLa* (Stokhof), 1 September 2011
- Simon Pauw, *LoLa* (Veltman), 1 September 2011
- Sumit Sourabh, *LoCo* (Venema), 1 September 2011
- Zhenhao Li, *LoCo* (Löwe/Venema), 1 September 2011
- Stefan Pliquet, *LoLa* (van Lambalgen), 1 September 2011
- Johannes Marti, *LoLa* (Stokhof), 1 September 2011
- Marlies Aldewereld, *LoLa* (Groenendijk), 1 September 2011
- Florian Speelman, guest PhD *LoCo* (Buhrman), 1 September 2011
- Facundo Carreiro, *LoCo* (Venema), 1 September 2011
- Virginie Fiutek, *LoLa* (Smets), 1 January 2012
- Jort Bergfeld, *LoLa* (Smets), 1 January 2012
- Ben Rodenhäuser, *LoLa* (Smets), 1 January 2012
- Berit Janssen, guest PhD, *LaCo* (Honing), 1 January 2012
- Andreas Cranenburgh, guest PhD, *LaCo* (Bod), 1 January 2012
- Hugo Huurdeman, *LaCo* (Kamps), 1 April 2012
- Zoé Christoff, *LoLa* (Smets), 1 May 2012
- Sophie Arnoult, *LaCo* (Sima'an), 1 August 2012
- Takanori Hida, guest PhD, *LoCo* (Löwe), 22 August 2012
- Jordi Jouby, guest PhD, *LoLa* (Groenendijk), 1 September 2012
- Cian Chartier, *LoLa* (Veltman), 1 September 2012
- Riccardo Pinosio, *LoLa* (van Lambalgen), 1 September 2012
- Paula Henk, *LoCo* (De Jongh), 1 September 2012
- Phong Le, *LaCo* (Bod), 1 September 2012
- Ivano Ciardelli, *LoLa* (Groenendijk), 1 September 2012
- Teresa Piovesan, guest PhD *LoCo* (Buhrman), 1 September 2012
- Corina Koolen, *LaCo* (Bod), 15 September 2012
- Raquel Garrido Alhama, *LaCo*

(Zuidema), 1 October 2012

- Carlos Vaquero Patricio, *LaCo* (Honing), 1 October 2012
- Dilek Yamali, *LoLa* (Stokhof), 1 November 2012
- Paulo Galeazzi, *LoLa* (Smets), 1 January 2013
- Milos Stanojevic, *LaCo* (Sima'an), 15 February 2013
- Joey Weidema, *LaCo* (Honing), 1 June 2013
- Gert-Jan Munneke, *LaCo* (Szymanik), 1 July 2013
- Bastiaan van der Weij, *LaCo* (Honing), 1 September 2013
- Henrique Meretti Camargo, guest PhD *LoCo* (Baltag), 1 September 2013
- Giovanni Cina, *LoCo* (Baltag), 15 September 2013
- Cuong Hoang, *LaCo* (Sima'an), 1 October 2013
- Jochem Daiber, *LaCo* (Sima'an), 1 October 2013
- Philip Schulz, *LaCo* (Sima'an), 15 November 2013

## New Postdocs

- Christian Schaffner, *LoCo*, 1 April 2011
- Gábor Háden, *LaCo*, 1 October 2011
- Bernhard Fisseni, *LoCo*, 1 November 2011
- Michael Franke, *LoLa*, 1 November 2011
- Kohei Kishida, *LoLa*, 1 January 2012
- Bryan Renne, *LoCo*, 1 January 2012
- Nina Gierasimczuk, *LoLa*, 1 January 2012
- Alesia Zuccala, *LaCo*, 1 February 2012
- Stephanie Solt, *LoLa*, 1 March 2012
- Pieter Pauwels, *LaCo*, 15 March 2012
- Ashley Burgoyne, *LaCo*, 16 June 2012
- Anat Ben-David, *LoLa*, 16 June 2012
- Paul van Ulsen, *LoCo*, 16 July 2012
- Raf Guns, *LaCo*, 15 September 2012
- Joshua Sack, *LoLa*, 1 October 2012
- Sebastian Enqvist, *LoCo*, 1 November 2012
- Olivier Cailloux, *LoCo*, 1 January 2013
- Bart Mellebeek, *LaCo*, 16 January 2013
- Luca Spada, *LoCo*, 1 August 2013
- Dirk Gerrits, *LoLa*, 1 September 2013
- Paula Roncaglia Denisse, *LaCo*, 1 October 2013
- Gideon Borensztajn, *LaCo*, 1 November 2013

