

Home

Committees

Sponsors

Practical information

Programme

Complexity

presentation
participants
talks & abstracts
schedule
time table

Logic and interaction

Proofs and programs

Quantitative approaches

Algebra and computation

Registration

Pre-register

Login

Complexity (30 January – 3 February)

Organisateurs: **Patrick Baillot**, **Nadia Creignou**, **Jean-Yves Marion**

The theme of this week is the logical approach to logical complexity. The last decade has seen the development of logical formalisms derived from linear logic that characterize functions computable in various complexity classes (polynomial or elementary in time, logarithmic in space) in an implicit way, that is to say by construction of the languages instead of using explicit measures. The theory that underlies these formalisms naturally meets the more established tradition of studying the complexity of algorithmic problems from logic (satisfiability, constraints solving, etc). The goal of this week is to survey the various aspects of the theory of algorithmic complexity where these communities meet, so as to trigger new interactions and enrich the various approaches.

Lecturers

- [Martin Hofmann](#) (LMU, Munich, Germany)
- [Yiannis N. Moschovakis](#) (UCLA, USA)
- [Stefan Szeider](#) (TU Wien, Austria)
- [Heribert Vollmer](#) (Leibniz Universität, Hannover, Germany)

Invited speakers

- [Emmanuel Hainry](#) (Nancy)
- [Neil Jones](#) (Copenhagen)
- [Virgile Mogbil](#) (LIPN, Paris Nord)

Programme

The programme is available [here](#). A printable version with abstracts is also available as [pdf](#).

The morning sessions will consist in tutorials given by invited speakers while the afternoons will be devoted to shorter presentations and contributed talks.

Call for contributions

Abstract and title must be submitted electronically to the three organizers:

- patrick.baillot@ens-lyon.fr
- nadia.creignou@lif.univ-mrs.fr
- jean-yves.marion@loria.fr

Submissions of abstracts on published work is allowed.

Important dates:

- *Abstract submission*: December, 15th, 2011
- *Notification*: January, 3rd, 2012

Pictures

- [Photo gallery of talks](#)
- [Heribert Vollmer's slides](#)

[Home](#)

[Committees](#)

[Sponsors](#)

[Practical information](#)

Programme

[Complexity](#)

Logic and interaction

[presentation](#)

[participants](#)

[talks & abstracts](#)

[schedule](#)

[time table](#)

[Proofs and programs](#)

[Quantitative approaches](#)

[Algebra and computation](#)

Registration

[Pre-register](#)

[Login](#)

Logic and interaction (6 – 10 February)

Organisateurs: [Claudia Faggian](#), [Olivier Laurent](#), [Myriam Quatrini](#)

This week is dedicated to the theme of interactive approaches of logic: models and frameworks in which the fundamental mechanism is that of a dialog between proofs and counter-proofs. Areas of interest notably include the *Geometry of interaction* programme, aiming at a reconstruction of logic from interaction as the primitive notion, considered as an abstract counterpart of cut elimination; the study of mathematical structures that represent dialog processes (game semantics, ludics), including recent developments at the boundary between mathematical logic and linguistics.

Lecturers

- [Ugo Dal Lago](#) (Bologna, Italy)
- [Claudia Faggian](#) (Paris, France)
- [Christophe Fouqueré](#) (Paris, France)
- [Dan Ghica](#) (Birmingham, UK)
- [Jean-Yves Girard](#) (Marseille, France)
- [Martin Hyland](#) (Cambridge, UK)
- [Alain Lecomte](#) (Paris, France)
- [Myriam Quatrini](#) (Marseille, France)

Invited speakers

- [Michele Abrusci](#) (Roma, Italy)
- [Dan Ghica](#) (Birmingham, UK)
- [Kurt Ranalter](#) (Bolzano, Italy)
- [Paolo Pistone](#) (Roma, Italy)

Programme

The mornings will be structured in tutorials. The afternoons are intended to be a space for the researchers to discuss recent developments and open issues, and will be open to contributions.

Call for contributions

Researchers and students who wish to speak at this workshop can propose a title and a short abstract. These have to be send to the three organizers: faggian@pps.jussieu.fr, olivier.laurent@ens-lyon.fr, quatrini@iml.univ-mrs.fr.

- *Deadline for talk proposals:* 15 December 2011

Pictures

- [Photo gallery](#)
- [Snow in Luminy](#)

[Home](#)

[Committees](#)

[Sponsors](#)

[Practical information](#)

Programme

[Complexity](#)

[Logic and interaction](#)

Proofs and programs

[presentation](#)

[participants](#)

[talks & abstracts](#)

[schedule](#)

[time table](#)

[Quantitative approaches](#)

[Algebra and computation](#)

Registration

[Pre-register](#)

[Login](#)

Proofs and programs (13 – 17 February)

Organisateurs: [Olivier Laurent](#), [Alexandre Miquel](#), [Alexis Saurin](#)

The theme of this week is the correspondence between mathematical proofs and computer programs, known as the Curry-Howard correspondence. It notably includes the latest developments the theory of realizability, which can give computational content to proofs in classical logic, so as to allow the extraction of effective programs from classical proofs. In contrast to the previous week ([logic and interaction](#)), this week will focus on the study of logical aspects of non-functional programming: delimited continuations, references, effects, etc.

Lecturers

- [Hugo Herbelin](#) (INRIA, Paris, France)
- [Guy McCusker](#) (Bath, UK)
- [Alexandre Miquel](#) (ENS Lyon, France)
- [Gordon Plotkin](#) (Edinburgh, UK)

Invited speakers

- [Ulrich Berger](#) (Swansea, UK)
- [Peter Dybjer](#) (Chalmers University)
- [Paul-André Melliès](#) (CNRS, Paris, France)
- [Thomas Streicher](#) (Darmstadt, Germany)
- [Jaap van Oosten](#) (Utrecht, Netherlands)

Programme

The mornings will be structured in tutorials. The afternoons are intended to be a space for the researchers to discuss recent developments and open issues. Both invited and contributed talks are planned.

Call for contributions

Abstract and title must be submitted electronically to the three organizers:

- olivier.laurent@ens-lyon.fr
- alexandre.miquel@ens-lyon.fr
- alexis.saurin@pps.jussieu.fr

Submission of abstracts on published work is allowed.

- *Deadline for talk proposals:* December 15th 2011

Pictures

- [Photo gallery](#)

[Home](#)

[Committees](#)

[Sponsors](#)

[Practical information](#)

Programme

[Complexity](#)

[Logic and interaction](#)

[Proofs and programs](#)

Quantitative approaches

[presentation](#)

[participants](#)

[talks & abstracts](#)

[schedule](#)

[time table](#)

[Algebra and computation](#)

Registration

[Pre-register](#)

[Login](#)

Quantitative approaches (20 – 24 February)

Organisateurs: [Michele Pagani](#), [Simon Perdrix](#), [Peter Selinger](#), [Christine Tasson](#)

This week aims to bring together the different approaches that extend the classical correspondence between proofs and programs to models where a quantitative aspect is significant. From the computer science perspective, the two mainly concerned areas are quantum computing and stochastic systems, approached in particular through algebraic extensions of the λ -calculus. On the logical side, topics of interest mainly involve differential linear logic and related quantitative denotational models.

Lecturers

- [Thomas Ehrhard](#) (Paris, France)
- [Elham Kashefi](#) (Edinburgh, UK)
- [Prakash Panangaden](#) (Montréal, Canada)
- [Christine Tasson](#) (Paris, France)

Invited speakers

- [Pablo Arrighi](#) (Grenoble, France)
- [Rick Blute](#) (Ottawa, Canada)
- [Robin Cockett](#) (Calgary, Canada)
- [Ross Duncan](#) (Brussels, Belgium)
- [Jean Goubault-Larrecq](#) (Paris, France)
- [Alexander Green](#) (Dalhousie University, Canada)
- [Aleks Kissinger](#) (Oxford, UK)
- [Daniele Varacca](#) (Paris, France)

Call for contribution

The week will be open to contributions on the various aspects of the quantitative approaches, included (non exclusively):

- quantitative semantics
- logical approaches to probabilistic computation
- logical approaches to quantum computation
- algebraic extensions of lambda-calculus and linear logic
- ressource calculi

Submission procedure

Abstracts up to 3 pages for contributed talks in the week must be submitted electronically as pdf files to the four organizers:

- michele.pagani@lipn.univ-paris13.fr
- simon.perdrix@imag.fr
- selinger@mathstat.dal.ca
- christine.tasson@pps.jussieu.fr

Submissions of abstracts on published work are allowed.

Important dates

Abstract submission: December, 15th (extended)

Notification: January, 3rd

Pictures

- [Photo gallery](#)
- ["Slides" of Christine Tasson's lectures](#)

Logic and interactions 2012

CIRM, Marseille — 30 January – 2 March

Home
Committees
Sponsors
Practical information
Programme
Complexity
Logic and interaction
Proofs and programs
Quantitative approaches
Algebra and computation
presentation
participants
talks & abstracts
schedule
time table
Registration
Pre-register
Login

Algebra and computation (27 February – 2 March)

Organisateurs: [Pierre-Louis Curien](#), [Yves Guiraud](#), [Philippe Malbos](#), [François Métayer](#)

This week deals with interactions between algebraic combinatorics and rewriting theory: algebraic invariants in computation, relating homological and algorithmic properties of rewriting systems, and the use of rewriting in algebraic combinatorics, offering effective computation and proof techniques. Themes of interest includes the use of ordered structures (lattices, event structures, directed homotopy) in logic and concurrency theory, as well as recent work on interpretations of type theory in homotopy.

Lecturers

- [Vladimir Dotsenko](#) (Université du Luxembourg, Luxembourg)
- [Timothy Porter](#) (University of Wales, Bangor, UK)
- [Michael Warren](#) (IAS, Princeton, USA)

Invited speakers

- [Dimitri Ara](#) (Université Paris 7)
- [Albert Burroni](#) (Université Paris 7)
- [Marcelo Fiore](#) (University of Cambridge, UK)
- [Nicola Gambino](#) (University of Palermo)
- [Stéphane Gaussent](#) (Université Nancy 1)
- [André Joyal](#) (Université du Québec à Montréal)
- [Yves Lafont](#) (Université Aix-Marseille 2)
- [Jean-Louis Loday](#) (CNRS and Zinbiel Institute of Mathematics, Strasbourg)
- [Paul-André Melliès](#) (CNRS, Université Paris 7)
- [Samuel Mimram](#) (CEA Saclay)
- [Pierre Rannou](#) (Université Aix-Marseille 2)
- [Bruno Vallette](#) (Université de Nice-Sophia Antipolis)

Pictures

- [Photo gallery](#)