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GENERAL INFORMATION

CONFERENCE SITE:
Arsenal campus at Université Toulouse 1 Capitole
2 Rue du Doyen-Gabriel-Marty, 31042 Toulouse

CONFERENCE WEBSITE
https://www.irit.fr/esslli2017/

CAMPUS OPENING HOURS
· Weekdays 8:00 · 19:00  (21:00 on Tuesdays and Thursdays)
· Saturday July 22  11:00 · 17:30
· Sunday July 23  9:30 · 18:30.

FRONT DESK OPENING HOURS
· Weekdays 8:30 · 18:30  (8:00 on Mondays)
· Sunday July 16  15:00 · 19:00
· Saturday July 22  13:00 · 17:30
· Sunday July 23  10:00 · 18:30.

REGISTRATION DESK OPENING HOURS
· Sunday July 16  15:00 · 19:00
· Monday July 17  8:00 · 16:00
· Sunday July 23  16:30 · 18:30
· Monday July 24  8:00 · 16:00.

MAPS
Campus with all lecture rooms: see map on the back cover
All ESSLLI places: see QR-codes on the inside back cover

INTERNET ACCESS
WiFi network: the Eduroam network is available; an account for all ESSLLI participants is accessible on the network UT1, credentials: Login id ut1_esslli17 Password 99liaze
Users should respect the French law and the University charter: http://dsi.ut-capitole.fr/documentations/charte_informatique.html.
Computers and a printer are available in room AR346 on the third floor (access in lime green on the campus map on back cover) 15:30 · 17:00 every day. Printing facility is limited. Several printing shops can be found near the venue.

IMPORTANT TELEPHONE NUMBERS
+33 (0)6 25 39 49 44  ESSLLI Organization (Estelle Henry)
+33 (0)5 61 63 39 00  On-site emergency number
112  General emergency number
17  Police
18  Fire Department
15  Medical emergency
## OVERVIEW

<table>
<thead>
<tr>
<th>DATE</th>
<th>COURSES, WORKSHOPS AND SATELLITE EVENTS</th>
<th>EVENING LECTURES</th>
<th>SOCIAL EVENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mon</td>
<td>7·07</td>
<td>See schedule of Week 1, p.4</td>
<td>Welcome Reception [see p.32]</td>
</tr>
<tr>
<td>Tue</td>
<td>8·07</td>
<td>Leila Amgoud [see p.7]</td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td>9·07</td>
<td>Lecturer’s Dinner [see p.32]</td>
<td></td>
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<tr>
<td>Thu</td>
<td>10·07</td>
<td>Jérôme Lang [see p.7]</td>
<td></td>
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<tr>
<td>Fri</td>
<td>11·07</td>
<td>ESSLLI Party [see p.32]</td>
<td></td>
</tr>
<tr>
<td>Sat</td>
<td>12·07</td>
<td>Formal Grammar 2017 [see p.31]</td>
<td>Excursions [see p.33]</td>
</tr>
<tr>
<td>Sun</td>
<td>13·07</td>
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<tr>
<td>Mon</td>
<td>14·07</td>
<td>See schedule of Week 2, p.6</td>
<td>Soccer Match [see p.32]</td>
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<tr>
<td>Tue</td>
<td>15·07</td>
<td>Philippe Schlenker [see p.8]</td>
<td></td>
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<tr>
<td>Wed</td>
<td>16·07</td>
<td>Lecturer’s Dinner [see p.32]</td>
<td></td>
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<tr>
<td>Thu</td>
<td>17·07</td>
<td>Simon Thorpe [see p.8]</td>
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<tr>
<td>Fri</td>
<td>18·07</td>
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## SCHEDULE WEEK 1

<table>
<thead>
<tr>
<th>Time</th>
<th>Course</th>
<th>Title</th>
<th>Instructor(s)</th>
<th>Room</th>
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<tbody>
<tr>
<td>09:00</td>
<td>LaLo</td>
<td>Linguistic applications of mereology</td>
<td>L. Champollion</td>
<td>G</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Situated discourse</td>
<td>J. Hunter, N. Asher</td>
<td>F</td>
</tr>
<tr>
<td>10:30</td>
<td>LoCo</td>
<td>Puzzles and paradoxes from decision and game theory</td>
<td>E. Pacuit</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Logic &amp; databases</td>
<td>P. Kolaitis</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>LaCo</td>
<td>Foundations of argumentation for argument mining</td>
<td>L. Alonso Alemany &amp; P. Saint-Dizier</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bayesian methods for language sciences</td>
<td>M. Andrews</td>
<td>D</td>
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<tr>
<td></td>
<td></td>
<td>EACSL-sponsored course</td>
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</tr>
<tr>
<td>11:00</td>
<td>LaLo</td>
<td>Underlying states</td>
<td>R. Schwarzschild &amp; D. Altshuler</td>
<td>G</td>
</tr>
<tr>
<td>12:30</td>
<td>LoCo</td>
<td>Social meaning, sociolinguistic variation and game-theoretic pragmatics</td>
<td>H. Burnett &amp; E. A. Smith</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analyzing logics using automata</td>
<td>M. Benedikt &amp; M. Vanden Boom</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td>LaCo</td>
<td>Generative Lexicon: Integrating theoretical and distributional methods</td>
<td>J. Pustejovsky &amp; E. Jezek</td>
<td>D</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Embeddings and deep learning</td>
<td>H. Schütze</td>
<td>C</td>
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<tr>
<td></td>
<td>Workshop</td>
<td>7th Workshop on Intuitionistic Modal Logic &amp; Applications (IMLA)</td>
<td>V. de Paiva, S. Artemov</td>
<td>F</td>
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<tr>
<td></td>
<td>Tutorial</td>
<td>(Monday only) Development of dynamic syntax and type theory with records</td>
<td>Satellite event associated with Workshop FADLI, C. Howes, &amp; H. Rieser</td>
<td>H</td>
</tr>
<tr>
<td>14:00</td>
<td>LaLo</td>
<td>Introduction to the semantics of tense and aspect</td>
<td>S. Alxatib, Y. Sharvit</td>
<td>G</td>
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<tr>
<td></td>
<td></td>
<td>Speaking of things and stuff: The semantics of plurals and mass terms</td>
<td>S. Florio &amp; D. Nicolas</td>
<td>D</td>
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<tr>
<td>15:30</td>
<td>LoCo</td>
<td>Complexity of two-variable first-order logics</td>
<td>E. Kieronski &amp; L. Tendera</td>
<td>E</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Efficient proof systems for modal logics</td>
<td>R. Kuznets &amp; L. Straßburger</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>LaCo</td>
<td>Bridging language processing data &amp; formal theories of meaning: Event-related brain potentials as a tool of investigating semantic &amp; pragmatic theories</td>
<td>M. Spychalska</td>
<td>H</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Explicit world-knowledge and distributional semantic representations</td>
<td>A. Sayeed &amp; A. Zarcone</td>
<td>C</td>
</tr>
<tr>
<td></td>
<td>Workshop</td>
<td>Formal Approaches to the Dynamics of Linguistic Interaction (FADLI)</td>
<td>C. Howes, &amp; H. Rieser</td>
<td>F</td>
</tr>
</tbody>
</table>
## SCHEDULE WEEK 1

- **Introductory** | **Foundational** | **Advanced**

**LaLo** Language & Logic | **LoCo** Logic & Computation | **LaCo** Language & Computation

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Location</th>
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<tbody>
<tr>
<td>15:50</td>
<td><strong>Student Session</strong></td>
<td>Room C</td>
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<tr>
<td>16:55</td>
<td></td>
<td></td>
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<tr>
<td>17:00</td>
<td><strong>LaLo</strong> ¾ Probabilistic models of vagueness</td>
<td>Room D</td>
</tr>
<tr>
<td></td>
<td>Ⅰ Syntax-discourse interface</td>
<td>Room G</td>
</tr>
<tr>
<td>18:30</td>
<td><strong>LoCo</strong> Ⅰ Categories, proofs, and programs</td>
<td>Room B</td>
</tr>
<tr>
<td></td>
<td><strong>LaCo</strong> Ⅰ Visualization for linguistic research: Methodology fundamentals</td>
<td>Room C</td>
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<tr>
<td></td>
<td>¾ Predication via finite-state methods</td>
<td>Room E</td>
</tr>
<tr>
<td></td>
<td><strong>Workshop</strong> Quantifiers &amp; Determiners</td>
<td>Room F</td>
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<table>
<thead>
<tr>
<th>Time</th>
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<th>Course Name</th>
<th>Instructor(s)</th>
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<tbody>
<tr>
<td>09:00</td>
<td>LaLo</td>
<td>Super semantics</td>
<td>P. Schlenker</td>
<td>Room D</td>
</tr>
<tr>
<td>10:30</td>
<td>LaLo</td>
<td>Conditionals: A guided tour</td>
<td>E. Herburger</td>
<td>Room C</td>
</tr>
<tr>
<td></td>
<td>LoCo</td>
<td>Argument mining</td>
<td>K. Budzynska &amp; C. Reed</td>
<td>Room G</td>
</tr>
<tr>
<td></td>
<td>LoCo</td>
<td>Verification of data-aware processes</td>
<td>D. Calvanese &amp; M. Montali</td>
<td>Room E</td>
</tr>
<tr>
<td></td>
<td>LaCo</td>
<td>Introduction to computational morphology</td>
<td>A. Sorokin</td>
<td>Room B</td>
</tr>
<tr>
<td></td>
<td>LaCo</td>
<td>Social networks and language</td>
<td>L. Derczynski &amp; M. Magnani</td>
<td>Room F</td>
</tr>
<tr>
<td>11:00</td>
<td>LaLo</td>
<td>Dynamic semantics and pragmatic alternatives</td>
<td>D. Rothschild</td>
<td>Room C</td>
</tr>
<tr>
<td>12:30</td>
<td></td>
<td>Modern type theories for natural language semantics</td>
<td>Z. Luo</td>
<td>Room D</td>
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<tr>
<td></td>
<td>LoCo</td>
<td>Picturing quantum processes</td>
<td>B. Coecke &amp; A. Kissinger</td>
<td>Room F</td>
</tr>
<tr>
<td></td>
<td>LoCo</td>
<td>Caught in the spiders’ diagrammatic reasoning web. The Euler/Spider diagram family of formal reasoning systems</td>
<td>A. Fish &amp; A. Heußner</td>
<td>Room E</td>
</tr>
<tr>
<td></td>
<td>LaCo</td>
<td>Unsupervised methods for linguistic data</td>
<td>A.S. White</td>
<td>Room B</td>
</tr>
<tr>
<td>14:00</td>
<td>LaLo</td>
<td>Modeling conversational exchange using games</td>
<td>S. Paul &amp; N. Asher</td>
<td>Room B</td>
</tr>
<tr>
<td>15:30</td>
<td>LaLo</td>
<td>The semantics and pragmatics of intensification: Logic, discourse and social meaning</td>
<td>A. Beltrama &amp; Y. McNabb</td>
<td>Room D</td>
</tr>
<tr>
<td></td>
<td>LoCo</td>
<td>Lattice theory</td>
<td>J. Harding</td>
<td>Room C</td>
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<td></td>
<td>LoCo</td>
<td>Parameterized complexity and fixed-parameter algorithms</td>
<td>R. Ganian</td>
<td>Room E</td>
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<tr>
<td></td>
<td>LaCo</td>
<td>Introduction to categorical compositional distributional semantics</td>
<td>D. Kartsaklis, M. Lewis</td>
<td>Room G</td>
</tr>
<tr>
<td></td>
<td>LaCo</td>
<td>Argument mining</td>
<td>E. Cabrio &amp; S. Villata</td>
<td>Room F</td>
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<tr>
<td>15:50</td>
<td></td>
<td>Student Session</td>
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<td>Room C</td>
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<tr>
<td>16:55</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>17:00</td>
<td>LaLo</td>
<td>Theories of sequence-of-tense</td>
<td>S. Alxatib &amp; Y. Sharvit</td>
<td>Room E</td>
</tr>
<tr>
<td>18:30</td>
<td>LaLo</td>
<td>Quantifiers and cognition</td>
<td>J. Szymanik</td>
<td>Room G</td>
</tr>
<tr>
<td></td>
<td>LoCo</td>
<td>Logics for formal epistomology</td>
<td>A. Baltag &amp; S. Smets</td>
<td>Room B</td>
</tr>
<tr>
<td></td>
<td>LoCo</td>
<td>Natural deduction and the Isabelle proof assistant</td>
<td>J. Villadsen</td>
<td>Room F</td>
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<tr>
<td></td>
<td>LaCo</td>
<td>Computational lexical semantics</td>
<td>A.S. White &amp; K. Rawlins</td>
<td>Room C</td>
</tr>
<tr>
<td></td>
<td>Workshop</td>
<td>Integrating Approaches to Social Meaning (IASM)</td>
<td>C. Davis, E. McCready &amp; G. Winterstein</td>
<td>Room D</td>
</tr>
</tbody>
</table>
LEILA AMGOUD · IRIT CNRS
EVALUATION OF ARGUMENTS: CURRENT METHODS & APPLICATIONS | Tue 18 07 | 19:00 | Room A
Chair: Laura Alonso Alemany

Argumentation is an alternative approach for defeasible reasoning. It is based on the idea of justifying plausi-
sible conclusions by “strong” arguments. Starting from a knowledge base encoded in a logical language, an
argumentation system defines arguments and attacks between them using the consequence operator associa-
ted with the language. Finally, it uses a semantics for evaluating the arguments. The plausible conclusions
to be drawn from the knowledge base are those supported by “good” arguments. In this talk, we present
two families of such systems: the family using extension semantics and the one using ranking semantics. We
discuss the outcomes of both families and compare them. We then compare the argumentation approach with
other well-known approaches for defeasible reasoning, namely default logic.

Leila Amgoud is a senior CNRS (Centre National de la Recherche Scientifique) researcher at IRIT lab,
Toulouse, France. She earned her PhD in computer science from University of Toulouse in 1999. Her research
interests include argumentation-based reasoning, nonmonotonic reasoning, inconsistency management, and
modeling interactions between autonomous agents (negotiation, persuasion). She serves regularly as program
committee member of multiple Artificial Intelligence conferences, and is in the editorial board of the Argument
and Computation Journal. She is ECCAI fellow since 2014.

JÉRÔME LANG · LAMSADE CNRS
LOGIC, INFORMATION, AND COMPUTATIONAL SOCIAL CHOICE | Thu 20 07 | 19:00 | Room A
Chair: Andreas Herzig

Social choice theory studies the aggregation of individual preferences towards a collective choice. Computa-
tional social choice emerged in the late 1980s, and mostly uses computational paradigms and techniques to
provide a better analysis of social choice mechanisms (especially in the fields of voting and of fair division
of resources), and to construct new ones. Logic and information play multiple roles in this interaction bet-
ween social choice and computer science, among which: representing preferences and reasoning about them;
computing collective decisions with incomplete knowledge of agents’ preferences; the role of knowledge in
strategic behaviour; using logic for automated theorem proving in social choice. The talk will give an over-
view of part of these topics, and will try to identify challenges for researchers in logic and information (and
language?) interested in computational social choice.

Jérôme Lang is a full-time researcher at CNRS (Centre National de la Recherche Scientifique) and is affiliated
with LAMSADE, PSL Research University, Université Paris-Dauphine. His interests include computational
social choice (in particular voting, fair division, coalition formation, judgment aggregation) and knowledge
representation and reasoning (in particular reasoning about beliefs, knowledge and action, as well as prefe-
rence representation). He is an advisory committee member of Journal of Artificial Intelligence Research, an
associate editor of Autonomous Agents and Multi-Agent Systems and of Social Choice and Welfare, and a
member of the editorial board of Synthese. He will be the program chair of ECAI-IJCAI 2018. He is a co-editor
of the Handbook of Computational Social Choice (Cambridge University Press).
PHILIPPE SCHLENKER · Institut Jean-Nicod CNRS and New York University

SEMANTICS: WHERE TO? | Tue 25 07 | 19:00 | Room A

Chair: Fabio Del Prete

Scientifically, the rise of formal and experimental semantics has been a success story of contemporary linguistics. But the broader impact of semantics has remained limited, particularly in comparison to that of its (in)famous older relative, semiotics. Is it time to broaden the scope of the field?

Philippe Schlenker is a senior researcher at CNRS (Institut Jean-Nicod) and a Global Distinguished Professor at New York University. He was educated at Ecole Normale Supérieure (Paris), and obtained a Ph.D. in Linguistics from MIT, and a Ph.D. in Philosophy from EHESS (Paris). He has taught at Ecole Normale Supérieure, Paris, at the University of Southern California, at UCLA, and at NYU. Dr. Schlenker’s early interests include semantics, pragmatics, the philosophy of language and philosophical logic. He has conducted research on indexicals and indirect discourse, intensional semantics (‘A Plea for Monsters’, Linguistics & Philosophy 2003), anaphora, presuppositions (‘Local Contexts’, Semantics & Pragmatics 2009), as well as semantic paradoxes. In recent work, Dr. Schlenker has advocated a program of ‘super semantics’ that seeks to expand the traditional frontiers of the field. He has investigated the semantics of sign languages, with special attention both to their logical structure and to the rich iconic means that interact with it (‘Visible Meaning’, to appear in Theoretical Linguistics). In order to have a point of comparison for these iconic phenomena, Dr. Schlenker has also investigated the logic and typology of gestures in spoken language. In collaborative work with primatologists and psycholinguists, he has laid the groundwork for a ‘primate semantics’ that seeks to apply the general methods of formal linguistics to primate vocalizations (‘What do Monkey Calls Mean?’, Trends in Cognitive Sciences 2016). And in ongoing research, he has advocated the development of a detailed semantics for music, albeit one that is very different from linguistic semantics (‘Outline of Music Semantics’, to appear in Music Perception). Dr. Schlenker is the former Managing Editor of Journal of Semantics, and a member of the editorial boards of several semantics journals. His research has been funded by the Fondation Thiers, the American Council of Learned Societies, the NSF, the European Science Foundation, and the European Research Council (Advanced Grant, 2013–2018).

SIMON THORPE · CerCo CNRS

FINDING REPEATING STRUCTURES · THE SECRET OF INTELLIGENCE? | Thu 27 07 | 19:00 | Room A

Chair: Nicholas Asher

The last few years have seen Neural Network Architectures based on Deep Learning become the state of the art for many applications, including Vision, Audio and Speech understanding. While such systems can be incredibly powerful, and allow very challenging tasks to be performed using computers equipped with relatively inexpensive yet powerful Graphics processors, their relevance to understanding human intelligence is limited. Deep learning typically requires hundreds of millions of cycles of training with labelled data using supervised learning algorithms such as error back-propagation. In contrast, with some initial experience, a human child may only need a few examples to learn to categorize cats and dogs (for example). In this lecture, I will argue that there are other features of biological learning that can be used as a source of inspiration
for artificial systems. In particular, I will argue that the fact that biological neurons use spike-based coding schemes is critical, and that the temporal patterning of activity across populations of neurons may be a vital part of the neural code. I will also describe new unsupervised learning algorithms based on Spike-Time Dependent Plasticity (STDP) that allow neurons to become selective to essentially any repeating spatio-temporal pattern. I will be suggesting that this ability to find repeating patterns of activity in sensory data may be one of the keys to understanding true intelligence, and open new perspectives for artificial intelligence.

Simon Thorpe is a research director with the CNRS. He is the head of the Brain & Cognition Research Center (CerCo) in Toulouse as well being director of the Toulouse Mind & Brain Institute. He studied PPP (Psychology, Philosophy & Psychology) at Oxford, where he also got his PhD with Edmund Rolls. After a postdoc in Canada, he moved to France where he has been working for the CNRS since 1983. For much of his career he has been using a highly interdisciplinary approach to try understand the phenomenal processing speed of biological vision. More recently, his ERC Advanced Grant called “M4: Memory Mechanisms in Man & Machine” has allowed him to investigate the mechanisms that allow the brain to store visual and auditory memories that can last a lifetime.
1️⃣ LINGUISTIC APPLICATIONS OF MEREOLOGY · LaLo
Lucas Champollion | 9:00 - 10:30 | Room G

Expressions like ‘John and Mary’ or ‘the water in my cup’ intuitively involve reference to collections of individuals or substances. The parthood relation between these collections and their components is not modeled in standard formal semantics of natural language, but it takes central stage in what is known as algebraic or mereological semantics. This course provides a gentle introduction into the mathematical framework of classical extensional mereology, and is designed to help students understand important issues in the following problem domains: plural, mass reference, measurement, aspect, and distributivity. In particular, the course will show how mereology sheds light on cross-categorial similarities between oppositions that pervade these domains, such as the count-mass, singular-plural, telic-atelic, and collective-distributive opposition. Students will encounter issues involving natural language metaphysics and philosophy of language, and how these issues interact with semantic theory depending on how they are resolved.

2️⃣ SITUATED DISCOURSE · LaLo
Julie Hunter & Nicholas Asher | 9:00 - 10:30 | Room F

Our class examines different ways in which the extra-linguistic context influences the interpretation of the things that we say and explores different ways for modelling this influence. We begin with a discussion of deixis and standard models of it and then take a look at various kinds of gesture (demonstrative, co-verbal, iconic) as well as examples of extra-linguistic context-sensitivity involving neither deixis nor gesture. After examining the limitations of standard theories of extra-linguistic context dependency, with regard to giving us a holistic picture of the role of extra-linguistic information in semantics, we argue for a model that more fully integrates extra-linguistic and linguistic information. Finally, we present an annotated corpus that is useful for constructing a more general account of the sort that we envision and discuss the limits of this corpus as well as its usefulness as a stepping stone for future work on situated dialogue.

3️⃣ PUZZLES AND PARADOXES FROM DECISION AND GAME THEORY · LoCo
Eric Pacuit | 9:00 - 10:30 | Room C

The course will provide a broad overview of decision and game theory emphasizing issues of particular relevance to students at ESSLLI. The main objective is to provide a solid foundation for people that want to incorporate results and ideas from decision game theory into their field of study. The primary focus of the course will be to discuss the puzzles and paradoxes that have a prominent place in the decision and game theory literature.
During the past forty years, there has been a continuous and fruitful interaction between logic and databases. The aim of this course is to highlight some aspects of this interaction with emphasis on the interplay between logic, databases, and computational complexity. Topics to be covered include logic and database query languages, logic and integrity constraints in databases, more recent uses of logic in data exchange and data integration, as well as uses of logic in managing inconsistent and uncertain data.

This course aims to provide an introduction to the fundamental concepts in the area of argumentation mining. This is an area with strong background in linguistics and in artificial intelligence, with clearly applied goals. In this course we aim to provide students with an insight of the phenomena that are found in argumentative texts and dialogues, their complexity and their characteristics. Then, we describe different approaches to formalizing these phenomena and the argumentation process in general. Finally, we present different applications of argumentation mining, in the domains of legal texts, debating or mining scientific literature, and we show different approaches to bridge the gap between theory and application. We devote a special emphasis to the manual annotation of argumentative texts for different purposes, for students to narrow down abstract concepts and to better understand the idiosyncrasy of argumentative phenomena, all of this with applied goals in sight.

Bayesian methods can be applied to research in the language sciences in at least two major ways. On the one hand, they can be used for the development and analysis of probabilistic language models of the kind used, for example, in corpus based computational linguistics. On the other hand, they can be used for the statistical analysis of empirical data obtained, for example, from psycholinguistic experiments. The aim of this workshop is to provide an introduction to both of these applications of Bayesian methods. Given that probabilistic language modelling is a vital part of modern computational linguistics, and that statistical data analysis is an essential part of psycholinguistics, Bayesian methods are potentially relevant to a wide range of researchers in the language sciences. It is hoped, therefore, that this workshop will be potentially appealing to language science researchers from Natural Language Processing, Computational Linguistics or Psychology backgrounds.

Montmarquet (1980), Higginbotham (1985), Parsons (1990) and Landman (2000) proposed that stative predicates have underlying states in their semantic representation, thus extending Davidson’s (1967) idea that ‘action’
verbs are predicates of events. Underlying states have been met with a lot of resistance. The goal of this class is to offer two arguments in favor of underlying states. The first argument comes from the anaphoric uses of now. We motivate the view that now picks out the most prominent state, which holds throughout the time specified by the tense. We supplement this analysis with Altshuler & Schwarzchild’s (2012, 2013) semantics of tense which relies on a particular hypothesis about stative predication. The second argument for underlying states comes from the nominal domain and the count/mass distinction in particular. We embrace the hypothesis that mass nouns are plural, but argue that it’s more properly understood in the context of a grammar where nouns are 1-place predicates of states.

- SOCIAL MEANING, SOCIOLINGUISTIC VARIATION AND GAME-THEORETIC PRAGMATICS - LaLo
Heather Burnett & E. Allyn Smith | 11:00·12:30 | Room B
This course gives an introduction to the study and modelling of social meaning and sociolinguistic variation for researchers working in formal semantics, pragmatics and the philosophy of language. More specifically, we explore how models commonly used in game-theoretic/probabilistic pragmatics (Benz et al. 2005, Franke & Jäger 2016) can be usefully applied to phenomena studied in variationist sociolinguistics (Labov 1963, 1966 et seq.). We argue that, by virtue of its interactive and probabilistic nature, this framework has the potential to yield explicit formalized theories of the cognitive and social processes underlying the construction of linguistic meaning and personal identity (Eckert 2012). We show how game theoretic models have been used to analyze pragmatic phenomena of interest to sociolinguists (politeness, slurs, discourse particles), and explore how current theories in this branch of formal pragmatics can be extended to model quantitative patterns of socially conditioned variation and change.

- ANALYZING LOGICS USING AUTOMATA - LoCo
Michael Benedikt & Michael Vanden Boom | 11:00·12:30 | Room E
For expressive logics such as first-order logic, key analysis problems, such as whether a sentence is satisfiable, or whether one sentence follows from another, are undecidable. There are two standard responses to regain decidability: one can restrict the structures considered or one can restrict the logic. A surprising development is that these two kinds of restrictions are interconnected. In particular, one can obtain decidable logics (with no restriction on the structures) using decidability results that restrict the structures.
In this course, we follow the development of this idea from work in modal logic that is several decades old, to more recent examples representing some of the most expressive decidable logics. We describe how finite automata are the key to reasoning about logics on restricted structures like trees, and how unravellings and simulations are the key to transferring these results to general structures.

- GENERATIVE LEXICON: INTEGRATING THEORETICAL AND DISTRIBUTIONAL METHODS - LaCo
James Pustejovsky & Elisabetta Jezek | 11:00·12:30 | Room D
In this tutorial we present an introduction to the current model of Generative Lexicon Theory (GL). The overall aim is to acquaint the student with the basic assumptions and components of the theory and motivate theoretical decisions through evidence-based analysis over large linguistic datasets. We show how the theory models the interaction between lexical information and other components of grammar, in particular how it mediates various problems in the mapping from lexical semantic representations to syntactic forms and, to a lesser extent, to pragmatic interpretation. From a computational perspective, we highlight the applicability of GL to natural language processing tasks such as word sense disambiguation, event participant identification, compound interpretation, and metonymy resolution.
GL theory was conceived from the outset as an infrastructure for a lexically-based semantic theory of language, founded on a rich compositional procedure integrating mechanisms for modulation of word meaning in context. It has won widespread acceptance among linguists and computer scientists of different theoretical backgrounds, and established itself as a productive and typologically adequate paradigm for linguistic research in a wide number of areas, such as event semantics, theory of argument structure, lexical and computational semantics, and Natural Language Processing.

The original full statement of the theory was presented in Pustejovsky (1995), but there have been significant developments since then, including the elaboration of a general theory of semantic selection and semantic typing (Asher and Pustejovsky 2006, Pustejovsky 2011), which have enhanced the explanatory power of the theory and extended its coverage of linguistic phenomena. Moreover, since 2000 the theory has drawn increasingly on the findings of corpus linguistics and distributional semantic analysis and procedures (Pustejovsky and Jezek, 2008, Pustejovsky and Rumshisky, 2008, Jezek and Quochi, 2010, Jezek and Vieu, 2014). This has created a new dimension of evidence-based analysis and interpretation, giving rise to an integration of empirical analysis and theoretical modeling. For all these reasons, an introductory course, illustrating how GL principles can be put into practice in linguistic analysis, will benefit students and researchers interested in both theoretical linguistics and computational semantics.

The plan of the course is as follows. In the first lecture, we review the motivations behind GL and the notion of a distributed compositional model of language meaning. We sketch out the basic assumptions underlying GL theory and justify these assumptions in general terms. For lecture two, we examine the notion of qualia structure and its role in differentiating the semantic micro-structure of word meaning, as well as its role in providing additional strategies for semantic selection in composition. Lecture three first examines recent work on event structure in GL modeling the dynamics of change, and then analyzes the contexts associated with event type shiftings as attested in the corpus. Lecture four focuses on argument distinctions and argument typing, examines default realization strategies for the different types of arguments, and introduces the notion of dynamic argument structure. Finally, in lecture five, we look in detail at GL’s compositional mechanisms of selection, coercion, and co-composition. We situate this last lecture in the context of data from large linguistic corpora, and investigate the computational consequences of the GL architecture for modeling compositionality and determining meaning in larger contexts.

There will be labs associated with the lectures, relating to corpus evidence and analytics for qualia relation extraction, compound interpretation, coercion, and event typing.

**EMBEDDINGS AND DEEP LEARNING · LaCo**  
Hinrich Schütze | 11:00 - 12:30 | Room C

An embedding for a word w is a vector in n-dimensional Euclidean space that provides information about the properties of w in terms of similarity to other words; e.g., words with vectors close to w have similar meanings. Embeddings are a modernized form of distributional semantic models and are widely used in computational linguistics and natural language processing. This one-week course will provide a detailed overview of embeddings and (on the last day) an introduction to their use in deep learning. The course aims to provide (i) a comprehensive overview of the state of the art in embeddings, (ii) an overview of the most important tools for computing and using embeddings and (iii) an introduction to the main research questions that embeddings currently pose.
**14:00 · 15:30**  
LaLo Language & Logic  
LoCo Logic & Computation  
LaCo Language & Computation

1. **INTRODUCTION TO THE SEMANTICS OF TENSE AND ASPECT** · LaLo  
   Sam Alxatib & Yael Sharvit | 14:00 · 15:30 | Room G  
The goal of this course is to introduce beginners to key concepts and problems from the literature on the semantics of tense and (on occasion) aspect. This course serves a dual purpose: as an introductory course for beginners, and as background for our advanced course on Sequence of Tense (see Week 2).

2. **SPEAKING OF THINGS AND STUFF: THE SEMANTICS OF PLURALS AND MASS TERMS** · LaLo  
   Salvatore Florio & David Nicolas | 14:00 · 15:30 | Room D  
This course is an introduction to the semantics of plural and mass terms. These expressions have been at the center of a lively debate in linguistics and philosophy, generating a significant amount of work in both fields. The course provides an overview of the key questions and controversies associated with the semantics of plurals and mass terms. It aims to introduce and assess the main approaches in the literature. Special attention will be given to the methodological principles and frameworks in which those approaches are developed. Topics covered include: the semantic similarities between plurals and mass terms, singularizing approaches to plurals, plural reference and plural logic, contemporary analyses of mass terms, the ontology of plurals and mass terms, higher-order plurals, plural logic and sensitivity to order and repetition, and the interaction between plurals and modalities.

3. **COMPLEXITY OF TWO-VARIABLE FIRST-ORDER LOGICS** · LoCo  
   Emanuel Kieronski & Lidia Tendera | 14:00 · 15:30 | Room E  
In this course we explore recent work in the quest for expressive fragments of first-order logics with good algorithmic properties, special attention giving to the two-variable fragment and its intersection with the guarded fragment. While tracing the boundary between decidable and undecidable fragments we describe their power, limitations, similarities and differences in order to stress out key properties responsible for their good or bad behaviour. We also highlight tools and techniques that have proven most effective for designing optimal algorithms for solving the satisfiability or the finite satifiability problems.

4. **EFFICIENT PROOF SYSTEMS FOR MODAL LOGICS** · LoCo  
   Roman Kuznets & Lutz Straßburger | 14:00 · 15:30 | Room B  
Modal logic has emerged as versatile, tractable language for reasoning about such disparate concepts as necessity, provability, obligation, time, space, knowledge, and belief. For reasoning to be efficient, one needs algorithms for deciding the problems of validity, satisfiability, etc. Many applications, including software and hardware verification, require constructing interpolants. One of the sources for these algorithms is structural proof theory, with its central, search-space limiting requirement of analyticity. While modern proof-theoretical methods can be traced back to Gentzen’s work in the 1930s, for a long time modal logic has resisted systematic proof-theoretical study. Only recently has the advent of more powerful, more structural proof formalisms finally bucked the trend. This course will concentrate on sequent systems and their generalizations, starting from the introduction of basic concepts for the simplest case of sequent calculi and then discussing the constantly expanding range of modern proof-theoretic tools, including hypersequents and nested sequents.
Over the last few decades electroencephalography (EEG) has become a popular tool of investigating linguistic processing and has also been extensively applied to the study of semantic and pragmatic theories. Yet, the interpretation of the results of EEG experiments remains debated, especially their relevance for formal theories of meaning. On the one hand, it often is difficult to formulate clear predictions for semantic and pragmatic theories, on the other hand, the theoretical interpretation of the activations observed with EEG is not fully understood. As a result, the neurolinguistic and formal semantic/pragmatic communities remain still rather disjoint. In this course, I aim at bridging this gap. I provide a thorough introduction to the method of EEG, accessible to everyone interested in the experimental research on language. Focusing primarily on the application of EEG (in particular even-related potentials) in the area of semantics and pragmatics, I aim at a critical discussion of the role of EEG in this field, its methodological aspects and limitations.

This is an interdisciplinary course intended to bring together students from psycholinguistic and computational backgrounds and explore the question of world-knowledge in distributional semantics through lectures on recent published research. Distributional semantics exploits co-occurrences in corpus data in order to represent semantic knowledge implicitly through statistics about word context, but the extent to which this can serve as a proxy for semantic grounding in some form of world-knowledge is still an unresolved question. What we currently understand and how to think about the boundary between distributionally-represented knowledge and explicit world-knowledge will be the main topic of the course.

While many-valued logics are familiar to semanticists working on vagueness, the use of probabilities to represent vagueness is lesser known, although they are of common use in psychology and cognitive science more broadly. The goal of this course will be to introduce and compare four classes of probabilistic models that have been used in recent years to model categorization and to deal with vagueness more specifically: (i) Probabilistic models based on a theory of noisy or imperfect discrimination (Gaussian models) (ii) Probabilistic models based on the notion of variable criteria (Item Response Theory models) (iii) Probabilistic models based on conceptual spaces (Conceptual Space models) (iv) Probabilistic models based on Bayesian inference under uncertainty (Bayesian models) The course will explain how such models can be related to more familiar models based on degrees of truth, and show specific applications, in particular to the modeling of borderline cases, of the sorites paradox, and of the informativity of vague sentences.
1. **SYNTAX-DISCOURSE INTERFACE** · LaLo
Kata Balogh & Anja Latrouite | 17:00 - 18:30 | Room G

This course provides an overview and introduction to the morphosyntax-semantics-pragmatics interface in the construal of sentence meaning. During the course we discuss the most prominent theories of information structure and discourse structure, as well as discourse modeling and annotation. Next to the basic notions, we will discuss various context-dependent phenomena from a cross-linguistic perspective, via case studies from different unrelated languages (Hungarian, Tagalog, Japanese, Lakhota and German).

2. **CATEGORIES, PROOFS, AND PROGRAMS** · LoCo
Samson Abramsky & Nikos Tzevelekos | 17:00 - 18:30 | Room B

This course will develop the basic ideas of Category Theory, and explore its applications to the study of proofs in logic, and to the algebraic structure of programs and programming languages. Category Theory is a powerful mathematical formalism which studies mathematical "universes", collections of mathematical structures and their structure-preserving transformations, as mathematical structures in their own right. This allows many important structural concepts of mathematics to be examined at the appropriate level of generality, and brings many common underlying structures to light. Category theory has many important connections to logic and programs. We shall in particular show how it illuminates the study of formal proofs as mathematical objects in their own right and will look at the Curry-Howard isomorphism between proofs and programs.

3. **VISUALIZATION FOR LINGUISTIC RESEARCH: METHODOLOGY FUNDAMENTALS** · LaCo
Olga Scrivner | 17:00 - 18:30 | Room C

In recent years, there has been growing interest in data visualization for linguistic analysis. Recent achievements in corpus linguistics have introduced state-of-the-art methods and tools for text-processing. Similarly, the progress in digital technology has created novel ways of data visualization and data interpretation. The combination of corpus linguistic methods and visual tools makes it possible to observe patterns otherwise hidden from a researcher using traditional methods. In this course we introduce fundamentals of visual analytics for linguistic research. We will discuss visualization approaches and existing tools, as well as their application to linguistic data. Exploring various types of data (e.g. collection of documents, structured or semi-structured data), we will show how the goals of the study and data format help determine the choice of visual methods. Finally, we will learn common visual methods with R programming language using interactive Shiny application.

4. **PREDICATION VIA FINITE-STATE METHODS** · LaCo
Tim Fernando | 17:00 - 18:30 | Room E

Commonly reduced to membership in a set (extension), predication can be analyzed in terms of labelled transitions between states, modelling cognitive processes constitutive of linguistic meaning. Requiring the set of transitions to be finite leads to a finite-state approach to predication, which we can refine by letting the set vary over larger and larger finite sets. Variations in these finite sets supports open-endedness in individual-level, stage-level and kind-level predication alike. One form of open-endedness is variable adicity, the raison d'être of events in Davidson 1967. A second form of open-endedness arises from the choice of temporal propositions, changes in which determine a notion of time. We analyze open-endedness uniformly through model-theoretic notions of satisfaction formulated within institutions in the sense of Goguen and Burstall 1992. Models take the form of strings, as in the Büchi-Elgot-Trakhtenbrot theorem equating Monadic Second-Order Logic with regular languages, or of finite frames, understood as finite automata.
While formal semantics has been a success story of contemporary linguistics, it has been narrowly focused on spoken language. The course introduces systematic extensions of its research program: beyond spoken language, beyond human language, and beyond language. First, the development of sign language semantics calls for systems that integrate logical semantics with a rich iconic component. This semantics-with-iconicity is also crucial to understand the interaction between co-speech gestures and logical operators, an important point of comparison for sign languages. Second, five recent articles have proposed analyses of the semantics/pragmatics of primate alarm calls, an important topical extension of semantics. Finally, recent research has developed a semantics/pragmatics for music, based in part on insights from iconic semantics. In each area, two unifying questions arise about (i) the division of labor between syntax, semantics and pragmatics, and (ii) the need for a semantics for gradient/iconic representations.

**CONDITIONALS: A GUIDED TOUR · LaLo**
Elena Herburger | 9:00 · 10:30 | Room C

Conditionals allow speakers to make claims about hypothetical, even counterfactual situations, adding significantly to the expressive power of language. Not surprisingly, their meaning has exercised philosophers of language and semanticists alike. This series of lectures offers a tour through some of the thinking on conditionals, starting with familiar, central precepts and then reaching step-by-step some current linguistic thinking on the matter. The point of departure is the Frege-Russell material implication. We then revisit C. Lewis’s (1918) ‘strict conditional’ analysis, Stalnaker’s (1968) proposal, and D. Lewis’s (1973) ‘variably strict’ analysis, along with Kratzer’s and von Fintel’s important extensions thereof. As a final stop on the tour we explore Schein’s (2003) ‘conditionally strict’ account and some of its recent applications (Herburger 2015, 2016). Central questions that are addressed include the modal character of conditionals, their curious monotonicity properties, and their compositional interaction with negation and other operators (adverbs, modals, only, nominal quantifiers). The lectures only assume basic familiarity with semantics and propositional logic and are intended to serve as an introductory course.

**ARGUMENT MINING · LoCo**
Katarzyna Budzynska & Chris Reed | 9:00 · 10:30 | Room G

Argumentation mining aims at automatically extracting arguments from textual corpora, to provide structured data for computational models of argument and reasoning engines. It has recently become a hot topic also due to its potential in processing information from the Web (social media, online newspapers, product reviews, etc.). In a typical argumentation mining pipeline, sentences recognized as argumentative are extracted from
the input document, and argument components (claims and supporting evidences) are identified within such sentences. Then, links between argument components are predicted to construct complete arguments. Finally, the connections between arguments are inferred (e.g., support and attack relations), so as to produce a complete argument graph. Recent advances in computational linguistics and machine learning promise to enable breakthrough applications to this research area. In this course, we introduce argumentation models and methods, review existing systems and applications, and discuss challenges and perspectives of this new research area.

3 · VERIFICATION OF DATA-AWARE PROCESSES · LoCo
Diego Calvanese & Marco Montali | 9:00 - 10:30 | Room E
The need of combining static (i.e., data-related) and dynamic (i.e., process-related) aspects has been increasingly recognized as a key requirement towards the design, verification, and understanding of complex systems. An essential element for traditional verification is that states are propositional, resulting in a finite-state transition system. However, in the presence of data, states need to be modeled relationally, causing the transition system to become infinite-state in general. Furthermore, data call for verification languages based on first-order temporal logics. The resulting verification problem is much harder than in the finite-state setting, leading to undecidability even for severely restricted systems. In this course, we tackle the fundamental challenge of finding a tradeoff between the expressiveness of the verification language, and that of the data-aware process formalism, making verification decidable without compromising the ability to capture real-world scenarios. This requires to synergically combine different techniques deeply rooted in logic and computation.

1 · INTRODUCTION TO COMPUTATIONAL MORPHOLOGY · LaCo
Alexey Sorokin | 9:00 - 10:30 | Room B
The aim of the course is to acquaint the students with standard tasks of computational morphology, such as morphological tagging, lemmatization and inflection. We discuss these problems in two settings: the first one uses only lexicon information and models morphological inflection using finite state techniques, while the second exploits corpus information and statistical methods. The main goal is to give thorough mathematical description of the models behind these approaches, which are automata and transducers in the first case and hidden Markov models and weighted transducers in the second. We also briefly describe existing software products for computational morphology.

1 · SOCIAL NETWORKS AND LANGUAGE · LaCo
Leon Derczynski & Matteo Magnani | 9:00 - 10:30 | Room F
A large amount of the information available in social media like Twitter or Facebook is characterised by some kind of text (e.g., 140-character-long tweets) streamed over networks connecting text messages and individuals. While the fields of Computational Linguistics and Social Network Analysis have a longstanding and independent tradition, in recent years it has become apparent how the two aspects (text and network) cannot be fully studied and understood independently. This course presents an introduction to the field of network science and social network analysis, i.e., the analysis of human networks, then it introduces the main problems and approaches to study networks with text.
11:00 · 12:30

LaLo Language & Logic
LoCo Logic & Computation
LaCo Language & Computation

① Introductory
① Foundational
① Advanced

① DYNAMIC SEMANTICS AND PRAGMATIC ALTERNATIVES · LaLo
Daniel Rothschild & Matt Mandelkern | 11:00 · 12:30 | Room C

This course will serve as a critical introduction to dynamic semantics. The first three sessions will introduce a related family of dynamic semantics for pronouns, presupposition, and epistemic modality. Our focus will be on the basic technical innovations in these semantics and their empirical coverage. We will also assess the extent to which there is a unified dynamic account of the three areas. The last two sessions of the course examine alternatives to dynamic semantics in the literature. These will include both the pragmatic accounts of local context put forward by Schlenker and Stalnaker and various non-dynamic accounts of pronouns. While classic works such as Heim’s and Kamp’s will be referred to, our focus will be on empirical issues that have been investigated in detail more recently, such as plural anaphora, the interaction between quantifiers and presuppositions and epistemic modals, and epistemic contradictions.

① MODERN TYPE THEORIES FOR NATURAL LANGUAGE SEMANTICS · LaLo
Zhaohui Luo | 11:00 · 12:30 | Room D

Modern Type Theories (MTTs) provide us with a new framework for formal semantics with attractive advantages as compared to Montague Grammar. First, MTTs have rich type structures that can be employed effectively to capture various linguistic features that have proved difficult in the Montagovian setting. Second, MTTs are proof-theoretically specified and can hence be usefully implemented in proof assistants such as Coq, where the MTT-semantics has been implemented for computer-assisted reasoning. These two respects may be characterised as saying that the MTT-semantics is both model-theoretic and proof-theoretic. They offer unique features unavailable in traditional logical systems that have proved very useful in formal semantics.

We shall introduce MTTs and how they can be used for formal semantics. The lectures will be informal and explanatory. They will be rigorous but contain a lot of examples, to illustrate the use of MTTs, on the one hand, and to compare the MTT-semantics with Montague Grammar, on the other. They should be suitable for any semantics-oriented linguists and the others who can gain from learning a new framework of formal semantics.

① PICTURING QUANTUM PROCESSES · LoCo
Bob Coecke & Aleks Kissinger | 11:00 · 12:30 | Room F

We provide a self-contained introduction to quantum theory, with applications in quantum information, computation, and foundations. This course is unique in our use of a diagrammatic language throughout. Far from simple visual aids, the diagrams we use are mathematical objects in their own right, which allow us to develop from first principles a completely rigorous treatment of ‘textbook’ quantum theory. Additionally, the diagrammatic treatment eliminates the need for the typical prerequisites of a standard course on the subject. In fact, the course has no mathematical preliminaries whatsoever, just a bit of common sense suffices.
③ · CAUGHT IN THE SPIDERS' DIAGRAMMATIC REASONING WEB. THE EULER/SPIDER DIAGRAM FAMILY OF FORMAL REASONING SYSTEMS · LoCo
Andrew Fish & Alexander Heußner | 11:00 - 12:30 | Room E

Formal Diagrammatic Reasoning Systems are a class of formal systems whose syntax relies on diagrams and whose deduction rules can be expressed as diagram rewritings. A well-known example is the family of Euler diagrams, which play a prominent role in information visualization but also have an underlying rigorous formal reasoning system expressed via diagram/graph rewritings. This course introduces Euler Diagrams and their offspring—particularly different variants of Spider Diagrams—from a rigorous formal logical point of view, especially highlighting their underlying diagrammatic deduction system that allows one to “draw” proofs. We show how to extend the diagrams’ expressive power in information visualisation with different variants of diagrammatic rule-based deduction systems, and provide a proper embedding into the categorical theory of graph transformation. State-of-the-art research insights into the design and implementation of (diagrammatic) reasoning systems are then applied in practice for providing a framework for policy-based reasoning on dynamic domain models.

① · UNSUPERVISED METHODS FOR LINGUISTIC DATA · LaCo
Aaron Steven White | 11:00 - 12:30 | Room B

This course covers introductory topics in unsupervised machine learning with specific focus on the analysis and visualization of experimental and corpus data. The course consists of two parts: category induction (e.g. hard and soft clustering, flat and hierarchical clustering) and feature induction (e.g. matrix factorization and manifold learning). All sessions will be in an interactive tutorial format, using the Jupyter Notebook platform, the Python SciPy stack, and curated datasets.

14:00 · 15:30
① Introductory
② Foundational
③ Advanced

② · MODELING CONVERSATIONAL EXCHANGE USING GAMES · LaLo
Soumya Paul & Nicholas Asher | 14:00 - 15:30 | Room B

Conversations often involve an element of planning and calculation of how best one can achieve one's interests. In a setting where the interests of the dialogue agents do not coincide with those of their interlocutors, strategic reasoning takes centrestage—it is not only important ‘what’ one says but ‘when’ and ‘how’ one says it. Examples of such conversations abound in day-to-day life be it political debates, courtroom exchanges, negotiations, bargaining, marital disputes and so on. To predict and justify outcomes of such exchanges, it is natural to model them as games. Such a model should take into account both the strategic and the linguistic aspects of conversations. All previous attempts, including signaling games and its extensions, have totally ignored the linguistic considerations of conversations, among other drawbacks. In this interdisciplinary course, we describe some recent work on the modeling of strategic conversations using infinite games, that uses elements from linguistics, game theory, topology and computer science. We show how such a model addresses the drawbacks of the earlier approaches and can be used to carry out a more comprehensive analysis of such conversations.
THE SEMANTICS AND PRAGMATICS OF INTENSIFICATION: LOGIC, DISCOURSE AND SOCIAL MEANING · LaLo
Andrea Beltrama & Yaron McNabb | 14:00 - 15:30 | Room D

Whereas early work in formal semantics focused on aspects of meaning that avail themselves to logical analysis, the past couple of decades have seen formal endeavours to reconcile logical, context-dependent, and social components of meaning. The resulting theoretical tools and empirical methods enable us to tackle complex and challenging phenomena such as expressivity, vagueness, scalarity, subjectivity, and the managing of truth-conditional and non-truth-conditional information in discourse. In this course, we will focus on intensifiers like very, really and totally, as a case study for a group of linguistic expressions whose semantic and pragmatic contribution seems to bear on all of the aforementioned challenging phenomena. While the focus is on this specific set of expressions, the goal of this course is to provide students with a diverse set of empirical methodologies and analytical tools which can then be applied to other linguistic phenomena that encapsulate different dimensions of meaning.

LATTICE THEORY · LoCo
John Harding | 14:00 - 15:30 | Room C

Lattices, and related ordered structures, are one of the more unifying concepts in mathematics. They play central roles in logic, algebra, analysis, topology, geometry, combinatorics, computer science, and category theory. The aim of this course is to give the student the basic concepts and tools of lattice theory, a feeling of the scope of the subject, as well as looks at some of the paths that tie the subject to language, logic, and information. Topics will include the basics of posets and lattices; distributive lattices, Boolean algebras, and Heyting algebras, algebraic treatments via varieties and universal algebra, Stone duality, modular and algebraic lattices, and completions.

PARAMETERIZED COMPLEXITY AND FIXED-PARAMETER ALGORITHMS · LoCo
Robert Ganian | 14:00 - 15:30 | Room E

Fixed-parameter algorithms provide a powerful approach for efficiently solving many NP-hard problems by exploiting structural aspects of problem instances in terms of a problem parameter. The goal of this course is to provide an overview of the main advances and techniques used for the development of fixed-parameter algorithms and to introduce students to the rapidly developing paradigm of parameterized complexity. After finishing the course, students should be able to understand recent scientific advances in the field, develop basic kernelization and fixed-parameter algorithms for various problems, and also have access to techniques which can rule out the existence of such algorithms under certain conditions.

INTRODUCTION TO CATEGORICAL COMPOSITIONAL DISTRIBUTIONAL SEMANTICS · LaCo
Dimitrios Kartsaklis & Martha Lewis | 14:00 - 15:30 | Room G

We present an introductory course on the emerging field of categorical compositional distributional semantics (informally referred to as the DisCo model). Inspired by quantum protocols, the DisCo model has provided a convincing account of compositionality in vector space models of NLP, unifying the two orthogonal paradigms of formal semantics and distributional models of meaning. The resulting setting has systematically extended the vector space models from words to sentences, enabling them to reason about sentence meaning with the same tools as for word meaning. Based on the rigorous mathematical framework of compact closed categories, the model has made possible novel approaches in language-related problems, and allowed the theoretical
study of compositional aspects in distributional models of meaning. This course is designed to provide a comprehensive introduction of the field to students and researchers, covering mathematical and linguistic foundations, past and current research, and discussing advanced topics and open problems.

**ARGUMENT MINING · LaCo**
Elena Cabrio & Serena Villata | 14:00 · 15:30 | Room F

Argumentation mining aims at automatically extracting arguments from textual corpora, to provide structured data for computational models of argument and reasoning engines. It has recently become a hot topic also due to its potential in processing information from the Web (social media, online newspapers, product reviews, etc.). In a typical argumentation mining pipeline, sentences recognized as argumentative are extracted from the input document, and argument components (claims and supporting evidences) are identified within such sentences. Then, links between argument components are predicted to construct complete arguments. Finally, the connections between arguments are inferred (e.g., support and attack relations), so as to produce a complete argument graph. Recent advances in computational linguistics and machine learning promise to enable breakthrough applications to this research area. In this course, we introduce argumentation models and methods, review existing systems and applications, and discuss challenges and perspectives of this new research area.

**THEORIES OF SEQUENCE-OF-TENSE · LaLo**
Sam Alxatib & Yael Sharvit | 17:00 · 18:30 | Room E

The course is concerned with Sequence-of-Tense phenomena and focuses specifically on 'non-past', aka 'fake', uses of morphological past in various constructions. We see two main challenges that are presented by these uses. First, not all constructions that allow fake past obey the same constraints; some require fake past to co-occur with a stative predicate, others don’t. Second, not all languages allow fake past in the same constructions; many languages that allow fake past in antecedents of conditionals do not allow it in the scope of attitude verbs. Theories will be surveyed and critiqued with respect how they address various aspects of the challenge.

**QUANTIFIERS AND COGNITION · LaLo**
Jakub Szymanik | 17:00 · 18:30 | Room G

The course gives an introduction to the generalized quantifier theory, overviewing some crucial notions of formal semantics and logic. We survey how mathematical methods may be rigorously applied in linguistics to study the possible meanings, the inferential power, and computational properties of quantifier expressions. The course novelty lies mostly in combining classical generalized quantifier themes with a computational perspective and explicitly connecting the formal theory with psycholinguistic research.
This course is addressed to students and researchers interested in how logic can be put to use for the study of epistemological questions, by using insights and methods developed in a number of fields ranging from Belief Revision Theory, Epistemic Logic, Formal Learning Theory and Game Theory. We focus on formal approaches to qualitative belief representation, belief revision, interactive learning and doxastic group attitudes. As such we present, compare and relate various models for both qualitative belief and knowledge and investigate their applications.

Natural deduction is a popular way of teaching logic. It is also important in the philosophy of logic and the foundations of mathematics, in particular for systems of intuitionistic logic and constructive type theory, and it is used in proof assistants like Coq and Isabelle. The course provides a solid understanding of the basic methods and techniques in natural deduction as well as in the proof assistant Isabelle. It is innovative and truly cross-disciplinary because a simple approach to natural deduction is formalized in Isabelle: the syntax, semantics and the inductive definition of the proof system. The soundness of the proof system with respect to the semantics is then verified in Isabelle. Along the same lines the completeness of the proof system is formulated but not verified in the present course. The accompanying online Natural Deduction Assistant (NaDeA) http://nadea.compute.dtu.dk/ allows for interactive experiments with or without the installation of Isabelle.

This course covers advanced topics in the computational representation of lexical items, with special focus on connecting work in computational linguistics to theoretical questions in lexical semantics. All sessions will be in an interactive tutorial format, using the Jupyter notebook platform and curated datasets. Students should have basic competence in unsupervised methods for linguistic data and should be comfortable manipulating data using python; in this course, we will use tools from the scipy stack. Both of these competences can be gained in the proposed ESSLLI introductory course “Unsupervised Methods for Linguistic Data,” which introduces the scipy stack to participants with previous experience in scientific computing with R.
STUDENT SESSION

17-28 JULY (WEEK 1 & 2) | 15:50 · 16:55 | Room C · Lobby for Poster session

The Student Session is a forum for PhD and Master students to present their research at the interfaces of logic, language, and computation.

It features 3 tracks: Language & Logic (LaLo), Logic & Computation (LoCo), and Language & Computation (LaCo). Each session contains two talks and ends with a 5-minute teaser for a poster (the poster session takes place on Thursday, July 27).

**Mon | 17:07**

<table>
<thead>
<tr>
<th>LaLo</th>
<th>On the formal pragmatics of co-nominal pointing</th>
<th>A. Anvari</th>
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<tr>
<td></td>
<td>Are expressive presuppositional? The case of slurs</td>
<td>T. Thommen</td>
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<td></td>
<td>Deriving ‘even though’ from ‘even’ (Poster)</td>
<td>G. Lund</td>
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</tbody>
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**Tue | 18:07**

<table>
<thead>
<tr>
<th>LoCo</th>
<th>Towards symbolic factual change in DEL</th>
<th>M. Gattinger</th>
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<tbody>
<tr>
<td></td>
<td>Resolution calculi for modal logic and their relative proof complexity</td>
<td>S. Sigley</td>
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<td></td>
<td>Certified soundness of simplest known formulation of first-order logic (Poster)</td>
<td>J. B. Larsen</td>
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**Wed | 19:07**

<table>
<thead>
<tr>
<th>LaLo</th>
<th>An analysis of counteridenticals in terms of dream reports</th>
<th>C. Kauf</th>
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<tr>
<td></td>
<td>Might counterfactual donkey sentences</td>
<td>S. Carter &amp; S. Goldstein</td>
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<td></td>
<td>Where force matters: Embedding epistemic modals under doxastic attitudes (Poster)</td>
<td>M. Mocnik</td>
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**Thu | 20:07**

<table>
<thead>
<tr>
<th>LoCo</th>
<th>On one-variable fragment of first-order logic with modulo counting quantifiers</th>
<th>B. Bednarczyk</th>
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<tr>
<td></td>
<td>Lexicographical update for belief comparison relations</td>
<td>K. Li</td>
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<td>Dialogue games for minimal logic (Poster)</td>
<td>A. Pavlova</td>
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**Fri | 21:07**

<table>
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<tr>
<th>LaLo</th>
<th>Uniformity motivated</th>
<th>C. D. Kirk-Giannini</th>
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<tr>
<td>LaCo</td>
<td>Exploring compositionality of Estonian particle verbs</td>
<td>E. Aedmaa</td>
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<tr>
<td>LaLo</td>
<td>The pragmatics of speaker repeat questions (Poster)</td>
<td>G. Disselkamp</td>
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**Chairs**
- Karoliina Lohiniva (University of Geneva), Johannes Wahle (Universität Tübingen)

**LoCo co-chairs**
- Herbert Lange (University of Gothenburg), Marie Farell (National University of Ireland Maynooth)

**Area experts**
- Samson Abramsky (University of Oxford), Jakub Szymanik (University of Amsterdam)

**LaLo co-chairs**
- Milica Denic (Ecole Normale Supérieure de Paris), Mora Maldonado (Ecole Normale Supérieure de Paris)

**Area experts**
- Sam Alxatib (City University of New York), Philippe Schlenker (Institut Jean-Nicod, CNRS and New York University)

**LaCo co-chairs**
- Emmanuele Chersoni (Université Aix-Marseille), Jennifer Sikos (Universität Heidelberg)

**Area expert**
- Nicholas Asher (IRIT, CNRS)
ESSLLI WORKSHOPS

7TH WORKSHOP ON INTUITIONISTIC MODAL LOGIC AND APPLICATIONS (IMLA)
17-21 July (Week 1) | 11:00 · 12:30 | Room F
The workshop continues a series of previous workshops which were held as part of FLoC1999, Trento, Italy and FLoC2002, Copenhagen, Denmark; as part of LiCS2005, Chicago, USA and LiCS2008, Pittsburgh, USA; as part of the 14th Congress of Logic, Methodology and Philosophy of Science, Nancy, France, 25 July, 2011; and associated with UNILOG 2013, Rio de Janeiro, Brazil.
Constructive modal logics and type theories are of increasing foundational and practical relevance in computer science. Applications of constructive modal logics are in type disciplines for programming languages, meta-logics for reasoning about a variety of computational phenomena and explanatory frameworks in philosophical logic. The workshop aims at developing and explaining theoretical and methodological issues centered around the question of how the proof-theoretic strengths of constructive logics can best be combined with the model-theoretic strengths of modal logics. Practical issues center around the question of which modal connectives with associated laws or proof rules capture computational phenomena accurately and at the right level of abstraction, for given applications.

Organizers
Valeria de Paiva (Nuance Communications)
Sergei Artemov (City University of New York)

www
https://sites.google.com/site/modallogicimla2017/

| Mon | 17·07 |
| --- |
| **Introduction** | V. de Paiva |
| Constructive knowledge: Modal and beyond | S. Artemov |
| Justification logic for constructive modal logic | R. Kuznets, S. Marin & L. Strassburger |

| Tue | 18·07 |
| --- |
| Intensionality, intensional recursion, and the Gödel-Löb axiom | G. A. Kavvos |
| Introspective Kripke models and normalisation by evaluation for the λ-calculus | M. Bak |

| Wed | 19·07 |
| --- |
| Analogs of Glivenko’s translation for polymodal logics | I. Shapirovsky |
| On the paradox of belief | V. Peluce |

| Thu | 20·07 |
| --- |
| A modal characterisation of an intuitionistic I/O operation | X. Parent |
| Proof systems and models for the first-order primal logic | A. Podgayts |

| Fri | 21·07 |
| --- |
| Bisimulations for intuitionistic temporal logics | P. Balbiani, J. Boudou, M. Diéguez & D. Fernández-Duque |
| Panel discussion on constructive modal logics |
Natural language use involves using information from different sources, as and when it is available, including information in different modalities and from different agents. This dynamic nature of linguistic interaction poses challenges for formal approaches to language, which are only recently beginning to be addressed. Formal approaches to capture the interactivity at all levels of language must model both the different types of information to be individuated and their interactions, using dynamic tools. This workshop aims to foster cross-disciplinary collaboration.

Organizers
Christine Howes (University of Gothenburg), Hannes Rieser (Bielefeld University)

www
http://www.christinehowes.com/fadli

Mon | 17 07
11:00 - 12:30 | Room H | Satellite event: Development of DS-TTR

Introduction

Special session: Lightning talks

Tue | 18 07
Language contact: Peaceful coexistence or emergence of a contact language
J. Michaud & G. Schaden

Cognitive science, language as a tool for interaction, and a new look at language evolution | R. Kempson, S. Chatzikyriakidis & C. Howes

Procedural syntax and interactions | E. Gregoromichelaki

Interactional dynamics and the emergence of language games
A. Eshghi, I. Shalyminov & O. Lemon

Wed | 19 07
Making invisible "trouble" visible: Self-repair increases abstraction in dialogue
G. Mills & G. Redeker

Communicative and cognitive pressures in semantic alignment | D. Kalocirski

Poster Session | Lobby
1. Dynamic social choice for anaphora resolution | S. Nishiguchi
2. A process algebra account of speech-gesture interaction | H. Rieser
3. Rational interaction and the pragmatics of the slippery slope & guilt by association | G. Schaden

Thu | 20 07
Turn-taking with a hidden agenda | R. Cooper

Towards dialogue acts and updates for semantic coordination | S. Larsson & J. Myrendal

Reasoning incrementally with underspecified enthymemes | E. Breitholtz

KILLE: learning grounded language through interaction | S. Dobnik & E. de Graaf

Fri | 21 07
Towards a formal semantics of verbal irony | J. Schlöder

Gesture meaning needs speech meaning to denote. A case of speech-gesture meaning interaction | I. Lawler, F. Hahn & H. Rieser

Wrap-up and discussion
The compositional interpretation of determiners relies on quantifiers—in a general acceptation of this later term which includes generalised quantifiers, generics, definite descriptions i.e. any operation that applies to one or several formulas with a free variable, bounds it and yields a formula or possibly a generic term (the operator is then called a subnector, following Curry). There is a long history of quantification in the Ancient and Medieval times at the border between logic and philosophy of language, before the proper formalisation of quantification by Frege.

A common solution for natural language semantics is the so-called theory of generalised quantifiers. Quantifiers like “some, exactly two, at most three, the majority of, most of, few, many, …” are all described in terms of functions of two predicates viewed as subsets.

Nevertheless, many mathematical and linguistic questions remain open.

On the mathematical side, little is known about generalised and vague quantifiers, in particular on their proof theory. On the other hand, even for standard quantifiers, indefinites and definite descriptions, there exist alternative formulations with choice functions and generics or subnectors (Russell’s iota, Hilbert-Bernays, eta, epsilon, tau). The computational aspects of these logical frameworks are also worth studying, both for computational linguistic software and for the modelling of the cognitive processes involved in understanding or producing sentences involving quantifiers.

On the linguistic side, the relation between the syntactic structure and its semantic interpretation, quantifier raising, underspecification, scope issues,... are not fully satisfactory. Furthermore extension of linguistic studies to various languages have shown how complex quantification is in natural language and its relation to related phenomena like generics, plural and mass nouns.

Finally, and this can be seen as a link between formal models of quantification there by now exist psycholinguistic experiments that connect formal models and their computational properties to the actual way human do proceed sentences with quantifiers, and handle their inherent ambiguity, difficulty in understanding and complexity.

This workshop aims at gathering logicians and linguists to present their latest advances in the study of quantification.

**Organizers**

Christian Retoré (LIRMM, Université de Montpellier 2)

[www](http://www.lirmm.fr/quad/)
<table>
<thead>
<tr>
<th>Day</th>
<th>Date</th>
<th>Sessions</th>
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</table>
| Mon  | 17-07| **Introduction** | C. Retoré & M. Steedman  
  The constructive nature of natural language quantifiers | A. Ramsay & G. Binhadba |
| Tue  | 18-07| **Definiteness – Towards a global perspective** | K. van Deemter  
  Determiners and classifiers | M. Kaneko  
  Reasoning about the sizes of sets: What we know & what we don’t know yet | L. Moss  
  Refinement of universal quantification in proof theory | M. Quatrini & C. Fouquere |
  Generalized quantifiers and dynamicity | C. Beysson, S. Blind, P. de Groote, B. Guillaume  
  Quantification in event semantics: generalized quantifiers vs. sub-events | S. Alexeyenko  
  Refinement of universal quantification in proof theory | V. Durand-Guerrier, F. Chellougui & S. Modeste |
| Thu  | 20-07| A trivalent logic for plural predication and quantification | M. Kriz  
  Rigid and flexible quantification in plural predicate logic | L. Champollion, J. Bledin & H. Li  
  Completeness of the indexed epsilon-calculus without equality for choice functions | H. Leiß  
  Is choice still a choice? | D. Lahm |
| Fri  | 21-07| Partitive ‘most’ and the two-NP hypothesis | C. Dobrovie-Sorin  
  Distribution of generalized quantifiers in large corpora | C. Thorne  
  Aspects of Italian quantification: An experimental study | R. Pulicani  
  Discussion & conclusion |
INTEGRATING APPROACHES TO SOCIAL MEANING (IASM)
24-28 July (Week 2) | 17:00 · 18:30 | Room D

Social meaning in pragmatics has long been studied by considering general mechanisms of language use to formalize notions such as politeness. In recent years, there has been a growing interest in the study of lexical elements whose semantics encode a component that directly bears on social meaning, for example slurs and honorifics. The question of which type of meaning these components belong to (e.g. conventional implicatures or presuppositions) and the way these components enter the compositional meaning of an utterance have also been studied.

The workshop aims at bringing together researchers from different fields to open new directions of research in that domain. In particular, we hope to encourage contact between researchers working on social meaning from (formal) linguistic, computational, and philosophical perspectives.

Organizers
Christopher Davis (University of the Ryukyus)
Eric McCready (Aoyama Gakuin University)
Gregoire Winterstein (The Education University of Hong Kong)

www
https://sites.google.com/view/iasm17

Mon | 24·07
Introduction | C. Davis, E. McCready & G. Winterstein
A meaning-based theory of social stratification | H. Burnett

Tue | 25·07
Semantics, pragmatics, and the social meaning of the English definite article | E. Acton
Exhaustification and pejorativity: The case of Japanese ‘nanka’ | A. Taniguchi

Wed | 26·07
Slurs are imperatives | C. D. Kirk-Giannini
Processing expressive content: Insights from swearing | S. Donahoo

Thu | 27·07
Beyond slurs: How language encodes evaluations | B. Cepollaro
Indirect answers to QUD | Y. Ito, K. Mineshima & D. Bekki

Fri | 28·07
From markedness to insistence: On the interactional properties of negative alternative questions | A. Beltrama, E. Meertens & M. Romero
General discussion and wrap up

Alternates
The social meaning of intensification. The case of ‘totally’ | A. Beltrama
Core social meanings of the California vowel shift: A matched-guise study | D. Villareal
THE 22nd CONFERENCE ON FORMAL GRAMMAR

SATURDAY, JULY 22 & SUNDAY, JULY 23 | Room D

FG provides a forum for the presentation of new and original research on formal grammar, mathematical linguistics and the application of formal and mathematical methods to the study of natural language.

Standing Committee

| Annie Foret (IRISA - Rennes 1 University, France) |
| Reinhard Muskens (Tilburg University, The Netherlands) |
| Sylvain Pogodalla (INRIA Nancy/LORIA, France) |

SATURDAY | 22·07

| 13:00 - 13:30 | Registration |
| 13:30 - 14:30 | Invited talk | J. Szymanik |
| 14:30 - 15:00 | Break |
| 15:00 - 15:30 | On generalized noun phrases | R. Zuber |
| 15:30 - 16:00 | The logic of ambiguity: The propositional case | C. Wurm |
| 16:00 - 16:30 | Binding domains: Anaphoric and pronominal pronouns in categorial grammar | M. I. Corbalán |
| 16:30 - 17:00 | A Model-theoretic reconstruction of type-theoretic semantics for anaphora | M. Gotham |

SUNDAY | 23·07

| 10:00 - 11:00 | Invited talk | M: Benedikt |
| 11:00 - 11:30 | Break |
| 11:30 - 12:00 | Reforming AMR | E. Stabler |
| 12:00 - 12:30 | Logical entity level sentiment analysis | N. C. Petersen & J. Villadsen |
| 12:30 - 14:00 | Lunch |
| 14:00 - 14:30 | Morphological agreement in minimalist grammars | M. Ermolaeva |
| 14:30 - 15:00 | Modelling derivational morphology: A case of prefix stacking in Russian | Y. Žinova |
| 15:00 - 15:30 | Advantages of constituency: Computational perspectives on Samoan word prosody | K. Yu |
### SOCIAL EVENTS

<table>
<thead>
<tr>
<th>DATE</th>
<th>EVENT</th>
<th>LOCATION</th>
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<tbody>
<tr>
<td>Mon 17-07</td>
<td>19:00 Welcome Reception</td>
<td>Restaurant L’Hémicyle, Les Abattoirs Museum 76 allées Charles-de-Fitte, 31300 Toulouse</td>
</tr>
<tr>
<td>Wed 19-07</td>
<td>20:00 Lecturer’s Dinner</td>
<td>Restaurant Le Moai, Life Sciences Museum 35 Allée Jules Guesde, 31000 Toulouse</td>
</tr>
<tr>
<td>Fri 21-07</td>
<td>21:00 ESSLLI Party</td>
<td>Connexion Live 8 Rue Gabriel Péri, 31000 Toulouse</td>
</tr>
<tr>
<td>Sat 22-07</td>
<td>9:45 Excursion to Cordes</td>
<td>Meeting point: Bus stop, 19 Boulevard Armand Duportal, 31000 Toulouse</td>
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<tr>
<td>Sun 23-07</td>
<td>7:45 Excursion to Pech-Merle and (Saint Cirq Lapopie or canoe on the Célé river)</td>
<td>Meeting point: Bus stop, 19 Boulevard Armand Duportal, 31000 Toulouse</td>
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<tr>
<td>Mon 24-07</td>
<td>19:30 Soccer Match</td>
<td>Stade de Rangueil 62 rue de Nîmes, 31400 Toulouse</td>
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<tr>
<td>Wed 26-07</td>
<td>20:00 Lecturer’s Dinner</td>
<td>Brasserie Flo Les Beaux-Arts 1 Quai de la Daurade, 31000 Toulouse</td>
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</tbody>
</table>

See the QR code for the map of all ESSLLI places on the inside back cover. This map is also on the web site.
EXCURSIONS

Excursions are fully booked. A waiting list is maintained at the help desk, in case of cancellation.

CORDES-SUR-CIEL AND WINE TASTING
SATURDAY JULY 22 | 10:00 · 20:00
Meeting at 9:45 at the bus stop 19 Boulevard Armand Duportal

1h45 bus ride to Cordes-sur-Ciel (95km North-East of Toulouse). Lunch in restaurant Hostellerie du Vieux Cordes. Guided tour with English-speaking guide.
Short move to nearby winery Château Bouscaillous. Visit of the winery and wine-tasting before or after free time to stroll and discover the vineyards of the Gaillac terroir (two subgroups).
Price 47€. Includes: bus transportation, lunch (complete with drinks), guided visit of Cordes-sur-Ciel, visit of the winery and the vineyards, wine tasting.

PECH-MERLE PAINTED CAVE, AND CANOEING OR SAINT-CIRQ-LAPOPIE
SUNDAY, JULY 23 | 8:00 · 20:00
Meeting at 7:45 at the bus stop 19 Boulevard Armand Duportal

Bring 7€ in cash for the cave ticket.

2h00 bus ride to Pech-Merle cave (145km North of Toulouse). Visit of the cave in groups of 25 people with an English-speaking guide (1h) before or after free visit of the museum and video watching (4 subgroups). Bring warm clothes, it is very cool and humid in the cave.
For lunch and afternoon, we split into two groups.

Active option

Canoeing down the Célé river after a picnic by the river in a pleasant garden, with Nature-et-Loisirs (sandwiches provided, drinks can be bought on site).
No previous canoeing experience is required. Gear (life jackets, paddles and sealed containers) is provided. Canoes are shared by 2 people. You can canoe freely at your own pace, stop and swim where it pleases you. The 15km route proposed should last about 3h30 but shorter options are available.
Safety: it is highly recommended to know how to swim to have an enjoyable and carefree ride. Wearing a life jacket is compulsory. It is also recommended to wear suitable shoes (will be wet) and to fix your glasses. Plan for a change of clothes. Protect yourself from the sun and from dehydration. Please do not disturb the fishermen.

Pech-Merle + Canoeing price: 35+7€
Bus transportation and canoe hire: 35€. Bring 7€ in cash for the guided visit of Pech-Merle.

Relaxed option

Visit Saint-Cirq-Lapopie (self-guided tour) after a lunch in restaurant Le Cantou. Short hikes possible, for instance on the chemin de halage along the Lot river just below Saint-Cirq-Lapopie.

Pech-Merle + Saint-Cirq-Lapopie price: 49+7€
Bus transportation and lunch (complete with drinks): 49€. Bring 7€ in cash for the guided visit of Pech-Merle.
ACCOMMODATION

ARSENAL RESIDENCE
2 Boulevard Armand Duportal,
31070 Toulouse
Tel. +33 (0)5 62 25 62 28
hebergement.arsenal@crous-toulouse.fr

CHAPOU RESIDENCE
1 rue Saunière
31069 Toulouse
Tel. +33 (0)5 61 12 55 26
hebergement.chapou@crous-toulouse.fr

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37 Ter Avenue, Etienne Billieres,
31300 Toulouse
Tel: +33 (0)5 345 096 00
Fax: +33 (0)5 345 096 01
h8399@adagio-city.com

See the QR code for the map of all ESSLLI places on the inside back cover.
This map is also on the web site.
LUNCH OPTIONS

CANTEEN ON CAMPUS
The CROUS Restaurant, visible on the campus map on the back cover as ‘Restaurant’, is open 11:30 – 13:30. A meal at the canteen consists of 3 courses (appetizer, main course with side dish, dessert) with bread. Tap water is freely available.
Access is open to all ESSLLI participants, students or not. You must show your ESSLLI badge.
You need to buy tickets at the help desk during registration time (Sundays and Mondays). Tickets are sold by packages of 5 without any date on them (can be used any weekday during ESSLLI).
You can buy packages in cash; please come with exact change as far as possible.
Rates for 1 meal: 4€ (student), 7.60€ (academic), 8.40€ (non-academic)
Rates for 5 meals (1 week package): 20€ (student), 38€ (academic), 42€ (non-academic)

FOOD TRUCK ON CAMPUS
A food truck “L’épicurieux” serves fresh sandwiches, soups, salads and desserts 11:30 – 14:00. It is located on the parking lot in front of the Library, see map on the back cover.

EATERIES AROUND CAMPUS
Many small fastfood restaurants can be found around the campus with options in the range 5-10€.
See the QR code for the map of a selection of eateries on the inside back cover.
This map is also on the web site.
CONTACTS

MAIN CONTACTS

General enquiries
esslli2017@inp-toulouse.fr
+33 (0)6 25 39 49 44 (Estelle Henry)

Registration and Accommodation
esslli2017@inp-toulouse.fr

Program and Organization
esslli17@irit.fr

ORGANISATION COMMITTEE

Chair: Laure Vieu
Co-chair: Fabio Del Prete

Yannick Chevalier
Sylvie Doutre
Umberto Grandi
Estelle Henry
Andreas Herzig
Julie Hunter
Mouna Kamel
Dominique Longin
Claudio Masolo
Arianna Novaro
Laurent Perrussel
Juliette Thuilier
Nathalie Vassal

PROGRAM COMMITTEE

Chair
Shravan Vasishth, Universität Potsdam

Local co-chair
Fabio Del Prete, CLLE-ERSS, Toulouse

Language and Computation
Sebastian Pado, Universität Stuttgart
Mehrnoosh Sadrzadeh, University of London

Language and Logic
Denis Bonnay,
   Université Paris Ouest Nanterre-La Défense
Jessica Rett, UCLA

Logic and Computation
Tomer Kotek, Technische Universität Wien
Anna Zamansky, University of Haifa

TRUSTED PERSONS

ESSLLI Summer Schools are famous for their pleasant atmosphere and for the social and friendly nature of their participants. Nevertheless, due to the size of the summer schools, we cannot exclude the possibility of misconduct. We emphasize, therefore, that the ESSLLI organization as a whole will not tolerate inappropriate behavior, including physical and mental harassment, discrimination, and other unlawful acts.

To guard against such transgressions, ESSLLI 2017, following the lead of previous ESSLLI summer schools, provides a list of Trusted Persons to whom one can report misconduct that they have experienced or observed. The Trusted Persons maintain strict confidentiality, meaning that they will not divulge reports of misconduct to third parties without approval from the agent of the report (unless, of course, police intervention is required by law). After receiving a report, the Trusted Person will, if so instructed, act as to prevent further misbehavior.

The Trusted Persons at ESSLLI 2017 are:

Ms. Laure Vieu
+33 (0)6 04 49 30 84
laure.esslli17@irit.fr

Mr. Fabio Del Prete
+33 (0)7 61 72 87 51
fabio.esslli17@irit.fr