**CLASP Annual Report 2015-16**

Stergios Chatzikyriakidis and Shalom Lappin

January 27, 2017

**Introduction**

The Centre for Linguistic Theory and Studies in Probability (CLASP) was established in September 2015, as a research centre in the Department of Philosophy, Linguistics, and Theory of Science (FLoV) at the University of Gothenburg (GU). CLASP is funded by a 10 year international recruitment grant from the Swedish Research Council (VR).

CLASP’s mission is to conduct cutting edge research, and to provide advanced PhD training, in computational linguistics, with a focus on the application of probabilistic methods to the study of natural language. We seek to advance understanding of the cognitive foundations of language, and to contribute to the emergence of more sophisticated language technology informed by scientific insight into nature of human language.

In this, our first annual report, we will describe the progress that we have made in setting up CLASP in our first year and a half of operation. We will cover

1. the appointments that we have made to date,

2. our budget (income and expenditures),

3. our scientific activities (workshops, conferences, and visiting speakers),

4. our new PhD program in computational linguistics,

5. our research activities and publications,

6. cooperation with other programs and institutions,

7. problems that we have encountered, and

8. our plans for 2017.

Additional information on CLASP’s staff, students, and regular activities is available on the CLASP website at <http://clasp.gu.se/>.

**Appointments**

Since September 2015 we have appointed the following staff.

1. Jean-Philippe Bernardy, Research Programmer (started in November 2016)
2. Stergios Chatzikyriakidis, permanent researcher and CLASP coordinator (started in September 2015 as post-doc and hired as a permanent researcher and research coordinator in April 2016)
3. Simon Dobnik, Senior Lecturer in Computational Linguistics (started in in September 2015, previously Researcher and CLASP coordinator)
4. Shalom Lappin, Professor of Computational Linguistics and Director of CLASP (started in September 2015)
5. Kristina Lundholm Fors, temporary half-time administrator (March-June 2015)
6. Charalambos Themistocleous (Post Doctoral Researcher, started in December 2015)

In addition, the following FLoV staff are active members of CLASP

1. Ellen Breitholtz, Post Doctoral Researcher, associate member of CLASP
2. Robin Cooper, Emeritus Professor of Computational Linguistics
3. Christine Howes, Post Doctoral Researcher, associate member of CLASP
4. Staffan Larsson, Professor of Computational Linguistics

We have recently made an additional appointment.

1. Asad Sayeed, Associate Senior Lecturer in Machine Learning (due to start in May 2017)

We will shortly be appointing an Associate Senior Lecturer in Dialogue, who we expect to start in May or June 2017. We also expect to hire a permanent half-time administrator within the next few months.

We hope to take on 2 new Post Doctoral Researchers in September 2017.

**Budget**

The expenditures for 2015-2016 are attached as separate xml files. The first file (CLASPBUDGET.xlsx) gives the total allocated CLASP budget, and the other xml file (Spending2015\_2016\_CLASP.xlsx) lists our expenditures to the end of 2016.

There is some underspending, which does not reflect our long term financial situation. This is the result of the fact that we are still not at full staffing and student levels, and so we have only now begun to use our conference, research visits, travel, and equipment budgets for significant expenses.

**Scientific Activities**

1. **Inauguration Workshop**

CLASP organized its inaugural workshop in August 2015. This was collocated with [Semdial 2015 - goDIAL](http://flov.gu.se/english/research/semdial-2015---godial), which was organized by the University of Gothenburg. The workshop focused on core areas of CLASP's research mission. It featured short talks by representatives from the university, CLASP researchers (most of them newly hired), and members of CLASP's international Scientific Advisory Committee. There was no registration fee. The program of the workshop can be found at <http://flov.gu.se/clasp/inauguration-workshop>.

1. **Our Seminars, Visiting Speakers/Guest Researchers**

CLASP has been very active in conducting regular seminars in which members of CLASP, visiting speakers, and guest researchers present work related to CLASP’s scientific interests. CLASP was privileged to host a number of distinguished visiting speakers/guest researchers, both for short visits (2-4 days), and for longer visits (5-10 days). The range of topics covered by the seminars indicate CLASP’s broad research interests:

1. Zhaohui Luo (short visit): Type Theoretical Semantics
2. Jan van Eijck (short visit): Modelling Legal Relations
3. **John Kelleher (short visit): Attention Models in Deep Learning for Machine Translation**
4. **Graeme Hirst (short visit): Who decides what a text means? (And what the answer implies for computational linguistics)**
5. Shay Cohen (short visit): Latent-Variable Grammars and Natural Language Semantics
6. Carla Umbach (short visit): Ad-hoc Kind-formation by Similarity
7. Ted Gibson and Ev Fedorenko (long visit): Four talks in total, please check the CLASP website for details <http://clasp.gu.se/news-events/past-seminars>
8. **Matthew Stone (short visit, jointly with FLoV): A Bayesian model of grounded color semantics**
9. **Ruth Kempson (short visit): Language: The Tool for Interaction -- Surfing Uncertainty Together**
10. **Peter Sutton (short visit): A probabilistic, mereological account of the mass/count distinction**

The abstracts, slides and dates for these talks are available at <http://clasp.gu.se/news-events/past-seminars>.

We have arranged several talks for the Spring term of 2017.

1. Mathieu Lafourcade (short visit) on constructing lexical resources using serious games (February 1st)
2. Kristina Liefke on choosing among alternative theories of formal semantics (March 1)
3. Eleni Gregoromichelaki (short visit) on dialogue modeling (to be scheduled for March)
4. Hannes Rieser (short visit) on dialogue modeling (to be scheduled for March)
5. Eve and Herbert Clark (long visit) on psycholinguistics and language acquisition (2 to 4 talks at the beginning of May)

CLASP members have had group and individual meetings after each seminar talk to discuss shared research interests with the visiting speakers.

1. **Conference on Logic and Machine Learning**

CLASP is organizing its first Conference for June 12-14, 2017, in Gothenburg. It will bring together researchers working in both logic-based and machine learning/deep learning approaches to Computational Linguistics. We aim to initiate a discussion between two streams of research that have worked largely apart from each other until now. Details of the conference are available in our call for papers at <http://clasp.gu.se/news-events/conference-on-logic-and-machine-learning-in-natural-language--laml-/call-for-papers>. Registration will bbe free for all attendees. We think that this conference has the potential to promote ground breaking interaction between researchers from two domains that have had little contact with one another in recent years.

**PhD Programme**

In 2016 we introduced a new PhD programme in Computational Linguistics, which the Humanities Faculty at GU has now approved. It is described at <http://clasp.gu.se/recruitment/phd-positions>. We have also submitted a programme for a Licentiate (roughly equivalent to an MPhil degree at a UK university) in Computational Linguistics, and we expect Faculty approval shortly.

We currently have 4 PhD students in CLASP. They are

1. Kathrein Abu Kwaik (started November 2016, first supervisor Stergios Chatzikyriakidis, second supervisor Simon Dobnik)
2. Wafia Adouane (started September 2016, first supervisor Simon Dobnik, second supervisor Shalom Lappin)
3. Yuri Bizzoni (started September 2015, first supervisor Shalom Lappin, second supervisor Staffan Larsson)
4. Mehdi Ghanimifard (started September 2015, first supervisor Simon Dobnik, second supervisor Staffan Larsson)

We expect to take on 2-3 new PhD students in September 2017, and we will be advertising these positions within the next few months.

**Research Activities and Publications**

CLASP members have been extremely active in terms of research activities and producing quality publications based on this research. Again, the wide range of topics covered witnesses the diversity and quality of research produced in the centre. In what follows, the most important research activities and publications per CLASP member are presented. More information can be found on the individual webpages of the researchers that can be accessed via the CLASP website [www.clasp.gu.se](http://www.clasp.gu.se) .

**Wafia Adouane**

*Publications and talks*

Wafia Adouane, Nasredine Semmar, Richard Johansson. ASIREM Participation at the Discriminating Similar Languages Shared Task 2016. Proceedings of the Third Workshop on NLP for Similar Languages, Varieties and Dialects; 163–169; December 12; Osaka, Japan, Conference paper 2016.

Wafia Adouane , Nasredine Semmar, Richard Johansson. Romanized Berber and Romanized Arabic Automatic Language Identification Using Machine Learning. *Proceedings of the Third Workshop on NLP for Similar Languages*, Varieties and Dialects; 53–61; December 12; Osaka, Japan, Conference paper 2016.

Wafia Adouane, Nasredine Semmar, Richard Johansson, Victoria Bobicev. Automatic Detection of Arabicized Berber and Arabic Varieties. Pro*ceedings of the Third Workshop on NLP for Similar Languages*, Varieties and Dialects; 63–72; December 12; Osaka, Japan, Conference paper 2016.

Wafia Adouane, Nasredine Semmar, Richard Johansson. Arabicized and Romanized Berber Automatic Identification. *Proceedings of the la Conférence Internationale sur les Technologies d’ Information et de Communication pour l'Amazighe* (TICAM 2016), Rabat, Morocco.

Wafia Adouane, Nasredine Semmar and Richard Johansson. Romanized Arabic and Berber Detection Using PPM and Dictionary Methods. *13th ACS/IEEE International Conference on Computer Systems and Applications AICCSA* 2016, November 29th to December 2nd, 2016, Agadir, Morocco. (will appear in the conference Proceedings)

Solving Some NLP Tasks for Similar Under-resourced Languages. Machine learning Seminar, January 12th, 2017.

**Jean-Philippe Bernandy**

*Talks*

Bernandy, J.P. The SAGE project: bringing data to compute. The SAGE project: bringing data to compute.

**Yuri Bizzoni**

*Publications*

Yuri Bizzoni, Federico Boschetti, Riccardo Del Gratta. *Enhancing Ancient Greek WordNet.* CLiC, Trento, Italy

Yuri Bizzoni and Marianne Reboul. *L'alignement Automatique des Traductions d'Homère : le Péril de l'Incalculable.* International Conference "L'Intraduisible: les méandres de la traduction

Monica Berti, Yuri Bizzoni, Federico Boschetti, Gregory Crane, Riccardo Del Gratta, Tariq Yousef. *Ancient Greek WordNet Meets the Dynamic Lexicon: the Example of the Fragments of the Greek Historian.* Eighth Global WordNet Conference GWC-2016.

David Alfter, Ander Agebjörn, Yuri Bizzoni, Elena Volodina, Ildikó Pilán. *From Distributions to Labels: A Lexical Proficiency Analysis using Learner Corpora.* Umeå Conference on NLP.

Y. Bizzoni and S. Dobnik. Distributional semantic models for detection of textual entailment in *Proceedings of the sixth Swedish language technology conference (SLTC)* (Björklund, Johanna, Stymne, Sara, eds.), 2016.

Yuri Bizzoni and Marianne Reboul. *Diachronic Trends in Homeric Translations.* Digital Humanities 2016, Krakow

Yuri Bizzoni, Maira Moritz, Andreas Wiederhold, Barbara Pavlek, Marco. *Non-Literal Text Reuse in Historical Texts: An Approach to Identify Reuse Transformations and its Application.* EMNLP 2016.

David Alfter and Yuri Bizzoni. *Hybrid language segmentation for historical documents.* CliC-IT

Yuri Bizzoni, Marianne Reboul, Angelo Del Grosso. *Diachronic Trends in Homeric Translations.* Digital Humanities Quarterly.

**Ellen Breitholtz**

*Publications and Talks*

Kristina Lundholm Fors, Ellen Breitholtz. Are you mocking me or are you laughing with me?   
SEMDIAL 2016, JerSem, *Proceedings of the 20th Workshop on the Semantics and Pragmatics of Dialogue*, 16-18 July 2016 Rutgers, New Brunswick, NJ, USA.

Julian Schlöder, Ellen Breitholtz, Raquel Fernández. Why? Semdial 2016 JerSem, *Proceedings of the 20th Workshop on the Semantics and Pragmatics of Dialogue*, Julie Hunter, Mandy Simons, and Matthew Stone (eds.) New Brunswick, NJ, 16–18 July 2016.

Jonathan Ginzburg, Ellen Breitholtz, Robin Cooper, Julian Hough, Ye Tian. Understanding Laughter. *Proceedings of 20th Amsterdam Colloquium*, 16-18 December 2015, ed. by Thomas Brochhagen, Floris Roelofsen and Nadine Theiler, Conference paper 2015   
  
Ellen Breitholtz, Christine Howes, Mary Lavelle. Enthymematic Reasoning in a Moral Dilemma - do patients with schizophrenia reason differently? *(In)coherence 3*. 3-4 December 2015, Loria - Nancy, Conference contribution 2015

Ellen Breitholtz, Christine Howes. Within reason: Categorising enthymematic reasoning in the balloon task**.**  
Proceedings of SemDial 2015 (goDIAL): *The 19th Workshop on the Semantics and Pragmatics of Dialogue*. Gothenburg, 24–26 August 2015, Poster 2015.

Ellen Breitholtz. Are Widows always wicked? Learning concepts through enthymematic reasoning   
ESSLLI proceedings of the *TYTLES workshop on Type Theory and Lexical Semantics* (Cooper, Retoré, eds) ESSLLI 2015, Barcelona. Conference contribution 2015

*Grants*

VR (Swedish Research Council) Project grant 2016-01162, 3,600,000 SEK: Incremental Reasoning in Dialogue. 2017-2020  
Project leader: Christine Howes; Co-investigators: Ellen Breitholtz, Robin Cooper  
Project details: [www.christinehowes.com/incred](http://www.christinehowes.com/incred)

Riksbankens jubileumsfond, P16-0805:1, 3,786,000 SEK: Dialogical Reasoning in Patients with Schizophrenia. 2017-2020  
Project leader: Ellen Breitholtz; Co-investigators: Christine Howes, Mary Lavelle, Robin Cooper Project details: [www.christinehowes.com/drips](http://www.christinehowes.com/drips)

**Stergios Chatzikyriakidis**

*Publications and talks*

Chatzikyriakidis, S. and Gibson H. The Bantu/Romance/Greek connection revisited: processing constraints in auxiliary and clitic placement from a cross-linguistic perspective. To appear in *Gloss*a.

Chatzikyriakidis, S., Lafourcade, M., Ramadier, L. and Zarrouk, M.  Modern Type Theories and Lexical Networks: Using Serious Games as the Basis for Multi-Sorted Typed Systems. Accepted at the *Journal of Language Modelling*.

Chatzikyriakidis, S. and Luo, Z.  Adjectival/adverbial modification: The view from modern type theories, Under revision for *JOLLI*.

Chatzikyriakidis, S. 2016. Afterthoughts in Greek: Gender Mismatches Under a Dynamic Framework. *Journal of Linguistics*.

Kempson R., Ronnie, C., Gregoromichelaki, E. and Chatzikyriakidis S. 2016. Languages as Mechanisms for Interaction. *Theoretical Linguistics* 42. [

Kempson, R, Chatzikyriakidis, S. and  Cann R. 2015. Mechanisms for interaction: Syntax as procedures for online interactive meaning building. Commentary to Christiansen and Chater : Now-or-Never: A Fundamental Constraint on Language.  *Behavioral and Brain Sciences*.

Chatzikyriakidis S. and Cooper R. Type Theories for Natural Language Semantics. Entry at the *Oxford Reference Encyclopedia*. In press.

Chatzikyriakidis, S. and Luo, Z., 2016. Proof Assistants for Natural Language Semantics. *Proceedings of LACL2016*, LNCS.

Chatzikyriakidis, S. and  Spathas, G. Bisyndetic Distirbutive Conjunction and additive ke under a diachronic perspective. In proceedings of *AMGL 36*. Forthcoming.

Chatzikyriakidis, S. Natural Language Reasoning Using Coq: Interaction and Automation. Proceedings of *TALN2015*.

Chatzikyriakidis, S. and Luo, Z., 2015. Individuation criteria, dot-types and co-predication: The view from Modern Type Theories. *Mathematics of Language 201*5, ACL anthology 2015.

Chatzikyriakidis, S. and Luo, Z. Introduction: Modern Perspectives in Type-Theoretical Semantics. In: Chatzikyriakidis S. and Luo Z. (eds.), Modern Perspectives in    *Type-Theoretical Semantics: The State of the Art. Forthcoming*

Chatzikyriakidis, S. and Luo, Z. On the Interpretation of CNs: Types vs Predicates. In: Chatzikyriakidis S. and Luo Z. (eds.), Modern Perspectives in *Type-Theoretical Semantics: The State of the Ar*t. Forthcoming.

Chatzikyriakidis, S., Michelioudakis, D. and Spathas, G., forthcoming. Greek Focus operators and their associates. Proceedings of *AMGL*35

Chatzikyriakidis, S., 2015. Polydefinites in Modern Greek: The Missing LINK. *Proceedings of ICGL11*.

Chatzikyriakidis, S. and Luo, Z., 2015. Using Signatures in Type Theory to Represent Situations. *Post-proceedings of Logic and Engineering of Natural Language Semantics* 11. LNAI, Springer.

Chatzikyriakidis, S. Languages as mechanisms for interaction: the case of weak object pronouns. *INTERACTION2016 workshop*, Ghent, June 2012.

Chatzikyriakidis, S., Lafourcade, M., Ramadier, L. and Zarrouk, M.  Modern Type Theories and Lexical Networks: Using Serious Games as the Basis for Multi-Sorted Typed Systems. TyTles workshop, *ESSLLI2015*.

Kempson R., Chatzikyriakidis S. and Cann R. *The Interactive Building of Names. Epsilon Workshop electronic proceedings*, Montpellier 2015

Chatzikyriakidis, S., Gregoromichelaki, E. and  Kempson, R. Modelling shared constraints in language and music: polyrhythm processing in Dynamic Syntax.  Presented at the Shared Mechanisms in Language and Music – What Neurocognition and Disorders Reveal workshop, *SMART Cognitive Science Conference*, Amsterdam, March 2015

**Robin Cooper**

*Publications and Talks*

Phrase structure rules as dialogue update rules, School of Computer Science and Statistics, Trinity College Dublin, 2016

The Python Implementation of TTR, Workshop for Bengt Nordström (Chalmers), Marstrand, 28-29 April, 2016

Plenary talk: Perception, Types and Frames, Cognitive Structures, Universität Düsseldorf, 15-17 Sept, 2016

Keynote talk: (joint work with Stergios Chatzikyriakidis and Simon Dobnik) Testing the FraCaS test suite, Unshared Task Workshop, National Institute for Japanese Language and Linguistics, Tokyo, 13 Nov 2016

Keynote talk: Proper names in interaction, Logic and Engineering of Natural Language Semantics (LENLS 13), Keio University, Tokyo, 14-15 Nov, 2016

Rich Semantic Content Using Record Types, Workshop on Situations, Information and Semantic Content, Universität München, 16-18 Dec., 2016

Paderewski and Dialogue Interaction, Workshop on Languages as Mechanisms for Interaction, Ghent University, 24th-25th June, 2016

Jonathan Ginzburg, Julian Hough, Robin Cooper, & David Schlangen Incrementality and clarification/sluicing potential, Sinn und Bedeutung, Edinburgh University, 4-6th Sept., 2016

Dobnik, Simon, Cooper, Robin (2016) Restructuring restructuring. *Linguistik Aktuell/Linguistics Today* (LA), s. 1-17.

*Grants*

VR (Swedish Research Council) Project grant 2016-01162, 3,600,000 SEK: Incremental Reasoning in Dialogue. 2017-2020  
Project leader: Christine Howes; Co-investigators: Ellen Breitholtz, Robin Cooper  
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Riksbankens jubileumsfond, P16-0805:1, 3,786,000 SEK: Dialogical Reasoning in Patients with Schizophrenia. 2017-2020  
Project leader: Ellen Breitholtz; Co-investigators: Christine Howes, Mary Lavelle, Robin Cooper  
Project details: [www.christinehowes.com/drips](http://www.christinehowes.com/drips)

**Simon Dobnik**

*Publications*

S. Dobnik and R. Cooper. Interfacing Language, Spatial Perception and Cognition in Type Theory with Records in *Journal of Language Modelling* (under revision), 2016.

S. Dobnik and R. Cooper. Restructuring restructuring. In F. L. Marušič and R. Žaucer, editors, *Formal Studies in Slovenian Syntax: In honor of Janez Orešnik*, number 236 in Linguistik Aktuell/Linguistics Today (LA), pages 69–89. John Benjamins, Amsterdam, The Netherlands, December 2016. ISSN: 0166- 0829, ISBN 9789027257192 (paper), ISBN 9789027266286 (e-book).

S. Dobnik, Simon, C., Howes, K. Demaret and J.D. Kelleher. Towards a computational model of frame of reference alignment in Swedish dialogue in *Proceedings of the sixth Swedish language technology conference (SLTC)* (Björklund, Johanna, Stymne, Sara, eds.), 2016.

S. Dobnik, and J.D. Kelleher. Attention-driven Perceptual Classification and Reasoning in *Proceedings of the sixth Swedish language technology conference (SLTC)* (Björklund, Johanna, Stymne, Sara, eds.), 2016.

Y. Bizzoni and S. Dobnik. Distributional semantic models for detection of textual entailment in *Proceedings of the sixth Swedish language technology conference (SLTC)* (Björklund, Johanna, Stymne, Sara, eds.), 2016.

S., Larsson, M. Ghanimifard, and S. Dobnik. Compositionality for classifiers in *Proceedings of the sixth Swedish language technology conference (SLTC)* (Björklund, Johanna, Stymne, Sara, eds.), 2016.

S. Dobnik. Towards a computational model of spatial perspective taking in Abstracts of the Workshop on *Languages as Mechanisms for Interaction: Explorations and Repercussions*, 2016.

S. Dobnik, and J.D. Kelleher. A Model for Attention-Driven Judgements in *Type Theory with Records. In JerSem: The 20th Workshop on the Semantics and Pragmatics of Dialogue* (Julie Hunter, Mandy Simons, Matthew Stone, eds.), volume 20, 2016.

R. Cooper, S. Dobnik, S. Larsson and S. Lappin. Probabilistic Type Theory and Natural Language Semantics in *Linguistic Issues in Language Technology* — LiLT, volume 10, 2015.

S. Dobnik, C. Howes and J.D. Kelleher. Changing perspective: Local alignment of reference frames in dialogue in *Proceedings of goDIAL - Semdial 2015: The 19th Workshop on the Semantics and Pragmatics of Dialogue* (Howes, Christine, Larsson, Staffan, eds.), 2015.

E. de Graaf and and S. Dobnik. KILLE: Learning Objects and Spatial Relations with Kinect in *Proceedings of goDIAL - Semdial 2015: The 19th Workshop on the Semantics and Pragmatics of Dialogue* (Howes, Christine, Larsson, Staffan, eds.), 2015.

*Talks*

2016-02-10: Invited seminar talk Interfacing Language, Spatial Perception and Cognition in Type Theory with Records; SempRE Kolloquium (Peter Sutton, Hana Filip), Heinrich-Heine Universität, Düsseldorf.

2016-03-03 and 2016-03-04: Invited talk on Type Theory with Records (TTR) and its applications to modelling spatial cognition at the Symposium on Modelling Spatial Cognition, Hanse-Wissenschaftskolleg - Institute for Advanced Study, Delmenhorst/Bremen

2016-05-12: CLASP seminar: Simon Dobnik - A Model for Attention-Driven Judgements in Type Theory with Records, Seminar room, Dicksonsgatan 4, http://clasp.gu.se/news-events/e/?eventId=3175156622

2016-05-19 FLoV Conference May 19-20, 2016, Stenungsbaden, Stenungsbaden Yacht Club. Pedagogical Ideas Programme, Research support and organization, Personal webpages. A popular-science presentation about the CLASP project http://flov.gu.se/english/about/internal-information/flov-conference-may-19-20--2016

2016-05-31 Talk on modelling reference frame assignment in dialogue at Dialogverkstad 2016, Talkamatic, Gothenburg, 30 - 31 May 2017; annual Swedish workshop on dialogue systems.

2016-06-24 presentation S. Dobnik. Towards a computational model of spatial perspective taking. In Abstracts of the workshop on Languages as Mechanisms for Interaction: Explorations and Repercussions, page 2, Ghent University, June 24 2016.

2016-07-17 presentation S. Dobnik and J. D. Kelleher. A model for attention-driven judgements in type theory with records. In J. Hunter, M. Simons, and M. Stone, editors, JerSem: The 20th Workshop on the Semantics and Pragmatics of Dialogue, volume 20, pages 25–34, New Brunswick, NJ USA, July 16–18 2016. ISSN 2308-2275.

2016-10-11 Invitation as the invited speaker to 18th Workshop on the Roots of Pragmasemantics (The role of context and reasoning in communication'' and ``Logic and natural data) held on the top of the Szrenica mountain, the Giant Mountains, Poland/the Czech Republic on March 2-6, 2017. Invitation declined due to other responsibilities. https://sites.google.com/site/szklarskaporeba18/

2016-11-13 Co-author of the invited talk that Robin Cooper presented at Logic and Engineering of Natural Language Semantics 13 (LENLS 13) on November 13-15, 2016 at National Institute for Japanese Language and Linguistics, Tachikawa City, Tokyo, Japan http://www.is.ocha.ac.jp/~bekki/lenls/

2016-11-17 4 papers presented (with co-authors) at the The Sixth Swedish Language Technology Conference (SLTC) Umeå University, 17-18 November, 2016 (SLTC): (i) attention driven judgements in TTR (with John Kelleher), (ii) vector space representations for inference (with Yuri Bizzoni) and (iii) assignment of FOR in Swedish dialogue (with Chris Howes, Kim Demaret and John Kelleher), (iv) compositionality of classifiers (with Staffan Larsson and Mehdi Ghanimifard): <http://sltc2016.cs.umu.se/>

2015-08-24 - 2015-08-26 presentation Semdial 2015, Godial: talk and poster

2015-08-27 Talk at the CLASP inauguration workshop http://clt.gu.se/event/2015-08-27/clasp-inauguration-workshop

2015-10-05 Invitation as an invited speaker to the 17th Szklarska Poreba Workshop on the Roots of Pragmasemantics (Conceptual Semantics meets Compositional Semantics) held on the top of the Szrenica mountain, the Giant Mountains, Poland/the Czech Republic on March 4-7, 2016. Invitation declined due to other responsibilities.

https://sites.google.com/site/szklarskaporeba17/

2015-10-20 to 2015-10-22: CLT workshop poster on reference frame assignment in dialogue, Nääs Fabriker Hotell & Restaurang, Tollered

**Mehdi Ghanimifard**

*Pubications*

S., Larsson, M. Ghanimifard, and S. Dobnik,. *Compositionality for classifiers. In Proceedings of the sixth Swedish language technology conference* (SLTC) (Björklund, Johanna, Stymne, Sara, eds.), 2016.

M. Ghanimifard and R. Johansson . Enriching Word-sense Embeddings with Translational Context. *Proceedings of Recent Advances in Natural Language Processing* / edited by Galia Angelova, Kalina Bontcheva, Ruslan Mitkov. International Conference, Hissar, Bulgaria 7–9 September, 2015.

**Christine Howes**

*Publications*

S. Dobnik, Simon, C., Howes, K. Demaret and J.D. Kelleher. Towards a computational model of frame of reference alignment in Swedish dialogue in *Proceedings of the sixth Swedish language technology conference (SLTC)* (Björklund, Johanna, Stymne, Sara, eds.), 2016.

Howes, C., Lavelle, M., Healey, P. G., Hough, J. & McCabe, R (2016). Helping hands? Gesture and self-repair in schizophrenia. *In LREC-2016 Workshop: Resources and processing of linguistic and extra-linguistic data from people with various forms of cognitive/psychiatric impairments (RaPID-2016).* Portorož, Slovenia.

Healey, P. G., Howes, C., Hough, J. & Purver, M. (2016). Better late than Now-or-Never: The case of interactive repair phenomena (commentary on Christiansen and Chater's "The Now-or-Never Bottleneck: A Fundamental Constraint on Language. *Behavioral and Brain Sciences, 39*, e76.

Purver, M., Hough, J. & Howes, C. (2016). Computational Models of Miscommunication Phenomena. *TopiCS*, submitted, under review.

Hård\_af\_Segerstad, Y., Kullenberg, C., Kasperowski, D. & Howes, C (2016). Studying Closed Communities On-line: Digital Methods and Ethical Considerations Beyond Informed Consent and Anonymity. In Zimmer & Kinder-Kurlanda, K. (editors), *Internet Research Ethics for the Social Age: New Cases and Challenges.* Peter Lang.

Breitholtz, E., Howes, C. & Lavelle, M (2015). Enthymematic reasoning in a moral dilemma -- do patients with schizophrenia reasondifferently?. *In (In)Coherence of Discourse 3*. Nancy, France.

Breitholtz, E. & Howes, C (2015). Within reason: Categorising enthymematic reasoning in the balloon task. In Howes, Christine, Larsson & Staffan (editors), *Proceedings of the 19th SemDial Workshop on the Semantics and Pragmatics of Dialogue (*goDIAL), pages 160-161. Gothenburg, Sweden.

Dobnik, S., Howes, C. & Kelleher, J. D (2015). Changing perspective: Local alignment of reference frames in dialogue. In Howes, Christine, Larsson & Staffan (editors), *Proceedings of the 19th SemDial Workshop on the Semantics and Pragmatics of Dialogue* (goDIAL), pages 24-32. Gothenburg, Sweden.

Howes, C., Healey, P. G., Panzarasa, P. & Hills, T (2015). Ideas in Dialogue: The Effects of Interaction on Creative Problem Solving. In Noelle, C., D., Dale, R., Warlaumont, S., A. et al (editors), *Proceedings of the 37th Annual Meeting of the Cognitive Science Society*, pages 938-943. Pasadena, CA.

Eshghi, A., Howes, C., Gregoromichelaki, E., Hough, J. & Purver, M (2015). Feedback in Conversation as Incremental Semantic Update. In *Proceedings of the 11th International Conference on Computational Semantics (IWCS* 2015), pages 261-271. London, UK : Association for Computational Linguisitics.

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*Grants*

VR (Swedish Research Council) Project grant 2016-01162, 3,600,000 SEK: Incremental Reasoning in Dialogue 2017-2020

Project leader: Christine Howes; Co-investigators: Ellen Breitholtz, Robin Cooper  
Project details: [www.christinehowes.com/incred](http://www.christinehowes.com/incred)

Riksbankens jubileumsfond, P16-0805:1, 3,786,000 SEK: Dialogical Reasoning in Patients with Schizophrenia. 2017-2020  
Project leader: Ellen Breitholtz; Co-investigators: Christine Howes, Mary Lavelle, Robin Cooper  
Project details: [www.christinehowes.com/drips](http://www.christinehowes.com/drips)

**Shalom Lappin**

*Publication****s***

Shalom Lappin and Chris Fox (eds.) (2015), The Handbook of Contemporary Semantic Theory, Second Edition, Wiley-Blackwell, Oxford.

Lau, J.H., A. Clark, and S. Lappin (2016), Grammaticality, Acceptability, and Probability: A Probabilistic View of Linguistic Knowledge, *Cognitive Science*.

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*Talks*

S. Lappin (2016), Bayesian Inference in a Probabilistic Type Theory, Invited Talk, LACL 2016, Nancy, December 6, 2016.

S. Lappin (2016), Bayesian Networks in a Probabilistic Type Theory, FLoV Logic Seminar, September 28, 2016.

S. Lappin (2016), Predicting Acceptability with Enriched Language Models, Google Research, New York, July 6, 2016.

S. Lappin (2016), Deep Learning and Semantic Interpretation, Invited talk in the Distinguished Lecture Series, EECS Seminar, Queen Mary University of London, June 29, 2016.

S. Lappin (2016), Deep Learning and Semantic Interpretation of Natural Language, Machine Learning and Statistics Seminar, Weizmann Institute of Science, June 1, 2016.

S. Lappin (2016), Address to the Professorial Inauguration Ceremony, Humanities Faculty, University of Gothenburg, May 13, 2016.

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S. Lappin (2016), Do We Need Grammar for Natural Language Semantics?, Workshop on Machine Learning, Chalmers University of Technology, April 14, 2016.

S. Lappin (2015), A Probabilistic View of Linguistic Competence, Bar-Ilan University, NLP Colloquium, December 22, 2015.

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S. Lappin (2015), Competence, Performance, and Probability, CLT Workshop, University of Gothenburg, October 20, 2015.

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**Staffan Larsson**

*Publications*

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**Charalambos Themistocleous**

*Publications*

Themistocleous, Charalambos (2017). Modern Greek vowels and the nature of acoustic gradience. To appear in *Phonetica.*

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Themistocleous, Charalambos, Savva, Angelandria, Aristodemou, Andrie (2016). Effects of stress on fricatives: Evidence from Standard Modern Greek. *Interspeech* 2016. California, USA.

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Themistocleous, Charalambos (submitted). Acoustic and   coarticulatory  properties  of  fricatives  in  a  non-standardized, non-written speech  variety: evidence  from Cypriot  Greek. (Journal   Article).

Themistocleous,  Charalambos  (submitted).  Athenian   Greek  and Cypriot  Greek  fricatives. Evidence  from acoustics  and   coarticulation. (Journal Article).

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*Book Review*

Themistocleous, Charalambos (2015). Book Review of Caspers, Johanna, Chen, Yiya, Heeren, Willemijn, Pacilly, Jos, Schiller, Niels, & van Santen, Ellen. (2014). Above and beyond the segments: experimental linguistics and phonetics. Amsterdam; Philadelphia: John Benjamins Publishing Company. LinguistList 26.5107, 2015.

*Talks*

Eliciting information from speech signals: Linguistics, signal processing, and machine learning.  Chalmers University of Technology. Sweden. October 13th, 2016.

Melodic   patterns   in   speech communication:  Interactions and heterogeneity.  University of Gothenburg. Sweden. March 1st, 2016.

Greek vowels and the nature of acoustic gradience. Gothenburg.  Research seminars. University of Gothenburg. Sweden. February 18th 2016.

Workshop:  Charalampos Themistokleous, Language Variation and Change:  Evidence from Modern Greek Vowels. Seeger Center for Hellenic Studies. Princeton University. USA. November 20th 2015.

Learning Linguistic Categories from Acoustic Structure: Towards a Speech Time Frequency Model. Centre for   Linguistic Theory   and Studies   in Probability (CLASP). Inauguration Workshop. Institutionen för filosofi, lingvistik och vetenskapsteori.  Humanistiska fakulteten.  Göteborgs Universitet. Sweden. August 27th 2015

Timing in Speech Melody. MAMPF: Moderne Ansätze und   Methoden der Phonetischen Forschung (NOSH:  New   Observations in Speech and Hearing) talk series. Ludwig Maximilian University Munich. Germany. June 17th 2015

**Cooperation with Other Institutions and Programmes**

We have established close research connections with the Machine Learning group at Chalmers, headed by Devdatt Dubashi. Many of our staff and students participate in this group’s Thursday morning seminar, and we are discussing joint research activities. Shalom Lappin is on the supervisory committee for one the ML group’s PhD students, Mikael Kågebäck.

We also have strong collegial relations with the Type Theory group at Chalmers, with several of our members attending their seminar, and one of its members, Aarne Ranta, actively collaborating with our work in CLASP.

We have close connections with members of the Swedish Department at GU, with whom we share common research interests in NLP and corpus work. We frequently attend each other’s seminars and conferences.

We have active research connections with the NLP group in the School of Electronic Engineering and Computer Science at Queen Mary University of London. Shalom Lappin is a Visiting Professor in this group, and Christine Howes continues to work with its members on research that she was involved in when she was a Post Doctoral Researcher there, prior to coming to GU in 2014.

**Problems Encountered**

We have made very good progress in establishing CLASP. We are achieving our initial objectives, as specified in our original VR application, in staffing and levels of research activity. However, we have encountered two important difficulties that we should point out.

The first concerns our funding situation. CLASP’s budget consists of a grant of SEK 109m from the VR and SEK 55m in co-funding from GU. When the CLASP steering committee met in September 2015 to discuss our financial situation, we discovered that the Faculty and FLoV had reduced the co-funding part of our budget by SEK 23-26m. We exchanged emails with GU management, and we had meetings with the FLoV leadership and the Dean, over a period of 6 months, in an attempt to resolve this problem, but we were unable to reach a satisfactory solution. Eventually we were forced to seek the assistance of the VR, which intervened with the Rector and the vice-Rector on our behalf. This resulted in a restoration of the missing co-funding. Unfortunately this process lasted for approximately 8 months, consuming considerable amounts of valuable time and energy. It remains unclear to us why it was necessary to invest this sort of effort in getting the University management to honour a commitment that it had made as part of the application for funding that it submitted to the VR for the creation of CLASP.

In general we enjoy good working relations with the management of FLoV, and we find that GU offers us a congenial working environment. Department, Faculty, and central GU staff are, for the most part, friendly, helpful, and supportive of our work. However, we are encountering significant delays in appointments and related administrative arrangements. These are often due not to the external assessment process, but to the cumbersome procedures involved in consulting with the Department management over advertisements for positions, delays in approval for these ads, and complex appointment procedures.

We fully accept our obligation to conform to University and Departmental regulations concerning appointments, but we do think that it should be possible to streamline these tasks through more efficient communication and sharing of responsibility. Reducing the time involved in hiring staff and new students would greatly facilitate our research and teaching.

We also think that allowing CLASP senior management greater autonomy in appointments would expedite our work, and reduce some of the burden that the Department management currently bears on our behalf.

**Plans for 2017**

We anticipate that, with our appointment of Associate Lecturers in ML and in Dialogue, as well as additional PhD students and Post Doctoral Researchers, we will approach full staffing levels. This will permit us to accelerate and integrate work in our four primary research groups: Machine Learning, Type Theory, Dialogue, and Situated Language and Perception.

Following the research schedule specified in Appendix C of our VR application, we will be continuing to develop the probabilistic theories of syntax and semantics that we have proposed in several of the publications cited in the **Publications** section of his report. We will be attempting to integrate these theories, and to extend them to dialogue and perception. We will be experimenting with alternative implementations of several of our models, and we will be using deep learning methods to extend their coverage and accuracy.

Ev and Herb Clark from Stanford will be visiting us during the first week of May. They will give a series of lectures, and have discussions with members of CLASP on issues in language acquisition and the cognitive foundations of natural language.

We are organising an international conference on Logic and Machine learning, LaML, at GU, to be held from June 12 until June 14. Please see **Section 3, Scientific Activities**.