

ANDREI POPESCU-BELIS

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Research areas

Human language technology, semantic/pragmatic processing, human-computer interaction, evaluation, language and multimodal resources, machine translation.

Employment

Oct. 2007 – Senior researcher at Idiap
2000–2007 Senior research assistant at ISSCO, University of Geneva
1999–2000 Postdoc at the University of California, San Diego
1996–1999 Research assistant at LIMSI-CNRS and Paris XI University

Education

1999 PhD in computer science / natural language processing, Paris XI University
1996 Master in artificial intelligence and pattern recognition, Paris VI University
1995 Graduate in maths and computer science, Ecole Polytechnique, Paris

Summary of research and teaching

Leadership Head of the Sinergia COMTIS SNSF project, 10 people and 290'000 CHF/year, 2010–2013
Head of the IM2.DMA project in the IM2 Swiss NCCR, 10 people and 350'000 CHF/year, 2006–2009
Head of the AMIDA.WP6 work package in the AMIDA EU IP, 20 people and 600'000 EUR/year, 2008–2009

Grants as PI 1'200'000 CHF: 5 Swiss projects, 2 French, 1 NSF (USA) subcontract

Publications 6 edited books and proceedings, 16 book chapters and journal articles, 50 peer-reviewed conference and workshop papers

Reviewing Program Co-chair of MLMI 2007 and 2008, the 4th and 5th workshops on Machine Learning for Multimodal Interaction
PC member or reviewer for 22 conferences, 19 workshops, 7 journals, and 5 funding bodies such as NSF (USA) and EPSRC (UK)

Student supervision PhD: 1 finished, 1 ongoing – Master: 5 finished
Interns: 5 finished – PhD committees: 5

Teaching 550 hours – 228 undergraduate, 156 graduate, 166 adult education

Professional activities

Awarded grants as principal investigator (PI or co-PI)

- 2010–2013 Grant from the Swiss National Science Foundation, Sinergia program (n. CRSI22-127510), for the COMTIS project: Improving the Coherence of Machine Translation by Modeling Inter-Sentential Relations, PI.
- 2007–2008 Grant from the Swiss National Science Foundation, division II (n. 200020-113604), for the project Quality Requirements and Metrics for Machine Translation Evaluation, PI with Prof. Margaret King.
- 2007–2008 Multi-Eval sub-project in the IM2 NCCR, PI.
- 2004–2006 Grant from the Swiss National Science Foundation, division II (n. 200021-103318), for the project Quality Models and Resources for Machine Translation Evaluation, PI with Prof. Margaret King.
- 2003 Subaward from the University of Southern California for MT evaluation in the ISLE project (NSF grant IIS-9910603), PI with Prof. Margaret King.
- 2002–2003 Grant from the Ernest Boninchi Foundation for research support at the University of Geneva, PI.
- 2000–2004 Grant from CNRS, France, for the Co-evolution of Syntax and Semantics project, PI with Prof. Luc Steels and Prof. John Batali.
- 1999–2000 Lavoisier grant for one year post-doctoral studies, from the French Ministry of Foreign Affairs.

Member of program committees

- Member of the Steering Committee of the MLMI series, since 2008.
- Area Chair, ICMI-MLMI 2009 – Joint International Conference on Multimodal Interfaces and on Machine Learning for Multimodal Interaction.
- Program Co-chair, MLMI 2007-08 – Machine Learning for Multimodal Interaction.
- ETI Doctoral Symposium, University of Geneva, chair, 2005–2007.
- Workshop on Multilingual Linguistic Resources at Coling 2004.
- ISLE Workshops on Machine Translation Evaluation, 2001–2003.

Member of organizing committees

- Coling 2004 – 20th International Conference on Computational Linguistics, Geneva.

Reviewer

Journals: Natural Language Engineering, Language Resources and Evaluation, Speech Communication, Connection Science, IEEE Transactions on Teaching Technologies, IEEE Journal of Selected Topics in Signal Processing, Traitement Automatique des Langues.

Book series: Text, Speech and Language Technology (Springer-Verlag).

Funding bodies: NSF (USA), EPSRC (UK), Hasler Foundation (CH), KSU (USA), Technolangu (France).

Conferences: LREC 2010, CORIA 2010, ACM Multimedia 2009, ICMI-MLMI 2009, CORIA 2009, TALN 2009, SPIE DRR 2009, ACL-HLT 2008, LREC 2008, CORIA 2008, MT Summit 2007, SETIT 2007, Coling-ACL 2006, EMNLP 2006, ICCGI 2006, LREC 2006, UIST 2005, TALN 2005, ECAI 2004, LREC 2004, MT Summit 2003, Coling 2002.

Workshops: Interoperable Semantic Annotation (at ICGL 2010), ACII 2009 Doctoral Colloquium, NODALIDA 2009 Workshop on Multimodal Communication, MLMI 2008, CIFED 2008, SIGdial 2008, MLMI 2007, SIGdial 2007, GL 2007, MLMI 2006, MLRI (at Coling-ACL 2006), Parallel Corpora (at ACL 2005), MT and Summarization Evaluation (at ACL 2005), GL 2005, MT for New Media (at AMTA 2004), ESSLLI 2004 student session, Parallel Texts (at HLT-NAACL 2003), GL 2003, MT Evaluation (at MT Summit 2001).

Teaching

Courses (total: 550 hours)

- 2002–2007 Lecturer at ETI, University of Geneva, Master in Computer-assisted translation (26 hours/year, then 52 hours/year starting 2006).
MA course on *Multilingual Structured Documents in XML*; MA course on the *Use and Management of Textual Resources*.
- 2007 Adjunct professor at the International University in Geneva (36 hours/year).
BA course on *Management Information Systems*.
- 2000–2005 Member of the Rifal francophone network for language technologies. Defined and taught 5-day courses on the *Use of XML for Web-based Textual and Terminological Resources*, in Niamey (2000–2001) and Bucharest (2004–2005).
- 2005 Defined and taught a 2-day adult course on the *Evaluation of Machine Translation*, at the European Commission, Luxembourg.
- 2003 Defined and taught a 1-day adult course on the *Use of XML for Language Technologies*, at the University of Geneva.
- 1996–1999 Teaching assistant at the Technology Institute Orsay, France (64 hours/year).
Courses and seminars for undergraduates: *Algorithms in C++*, *File processing in Cobol*, *Databases*, and *Statistics*.

Member of thesis committees

- PhD Sarra El Ayari (2009), LIMSI-CNRS
Denis Reidsema (2008), University of Twente
Miroslav Melichar (2008), EPFL
Maria Georgescu (2007), University of Geneva
Étienne Denoual (2006), University of Grenoble
- Master Pierre Andrews (2004), EPFL
Kamel Ayari (2004), University of Geneva

Student supervision

PhD	Paula Estrella (2005–2008), University of Geneva (with Prof. M. King) <i>Evaluating machine translation in context: metrics and tools</i> Majid Yazdani (2008–), EPFL and Idiap (with Prof. H. Bourlard) <i>Concept-based indexing for online information retrieval</i>
Master or equivalent	Quoc Anh Le (2008), FUNDP Namur Emmanuel Palacio (2004), University of Grenoble Ingrid Benti (2002), University of Metz (with P. Bouillon) François Jan (1998), École Polytechnique, Paris (with G. Sabah) Christophe Alexandre (1997), École Polytechnique (with G. Sabah)
Other interns	Lukas Matena (2008), Brno University of Technology (with A. Jaimes) Krzysztof Skukiec (2005), ENST Bretagne (with S. Armstrong) Jean-Philippe Allamandy (2004), ENST Bretagne Lois Rigouste (2003), ENST Paris (with S. Salmon-Alt)

Selected publications

Semantic and pragmatic processing

1. Popescu-Belis A. (2008) - Dimensionality of Dialogue Act Tagsets: An Empirical Analysis of Large Corpora. *Language Resources and Evaluation Journal*, vol. 42, n. 1, p. 99-107.
2. Clark A. & Popescu-Belis A. (2004) - Multi-level Dialogue Act Tags. *Proc. of SIGDial 2004 (5th SIGdial Workshop on Discourse and Dialogue)*, Cambridge, MA, p. 163-170.
3. Popescu-Belis A. & Zufferey S. (2007) - Contrasting the Automatic Identification of Two Discourse Markers in Multiparty Dialogues. *Proc. of SIGdial 2007 (8th SIGdial Workshop on Discourse and Dialogue)*, Antwerp, p. 10-17.
4. Popescu-Belis A. & Lalanne D. (2004) - Reference Resolution over a Restricted Domain: References to Documents. *Proc. of ACL 2004 Workshop on Reference Resolution and its Applications*, Barcelona, p. 71-78.
5. Popescu-Belis A. (2003) - Evaluation-Driven Design of a Robust Reference Resolution System. *Journal of Natural Language Engineering*, vol. 9, n. 3, p. 281-306.
6. Popescu-Belis A., Robba I. & Sabah G. (1998) - Reference Resolution Beyond Coreference: a Conceptual Frame and its Application. *Proc. of Coling-ACL 1998 (17th International Conference on Computational Linguistics and 36th Meeting of the Association for Computational Linguistics)*, Montréal, p. 1046-1052.

Evaluation of machine translation

1. Estrella P., Popescu-Belis A., & King M. (2009) - The FEMTI guidelines for contextual MT evaluation: principles and tools. In Daelemans W. & Hoste V., eds., *Evaluation of Translation Technology*, Linguistica Antverpiensia, new series, 8/2009.
2. Hamon O., Hartley A., Popescu-Belis A. & Choukri K. (2007) - Assessing Human and Automated Quality Judgments in the French MT Evaluation Campaign CESTA. *Proc. of Machine Translation Summit XI*, Copenhagen, p. 231-238.

3. Estrella P., Hamon O. & Popescu-Belis A. (2007) - How Much Data is Needed for Reliable MT Evaluation? Using Bootstrapping to Study Human and Automatic Metrics. *Proc. of Machine Translation Summit XI*, Copenhagen, p.167-174.
4. Popescu-Belis A. (2003) - An Experiment in Comparative Evaluation: Humans vs. Computers. *Proc. of Machine Translation Summit IX*, New Orleans, p.307-314.
5. King M., Popescu-Belis A. & Hovy E. (2003) - FEMTI: Creating and Using a Framework for MT Evaluation. *Proc. of Machine Translation Summit IX*, New Orleans, p.224-231.
6. Hovy E., King M. & Popescu-Belis A. (2002) - Principles of Context-Based Machine Translation Evaluation. *Machine Translation Journal*, vol.17, n.1, p.43-75.

Multimodal interfaces and multimedia systems

1. Le, Q. A. & Popescu-Belis A. (2009) - Automatic vs. human question answering over multimedia meeting recordings. *Proc. of Interspeech 2009 (10th Annual Conference of the International Speech Communication Association)*, Brighton, UK, p.624-627.
2. Popescu-Belis A., Boertjes E., Kilgour J., Poller P., Castronovo S., Wilson T., Jaimes A. & Carletta J. (2008) - The AMIDA Automatic Content Linking Device: Just-in-Time Document Retrieval in Meetings. *Proc. of MLMI 2008*, Utrecht, LNCS 5237, p.272-283.
3. Popescu-Belis A., Carletta J., Kilgour J. & Poller P. (2009) - Accessing a Large Multimodal Corpus using an Automatic Content Linking Device. In Kipp M., Martin J.-C., Paggio P. & Heylen D., eds., *Multimodal Corpora: From Models of Natural Interaction to Systems and Applications*, Lecture Notes in Artificial Intelligence 5509, Springer-Verlag, Berlin/Heidelberg, p.189-206.
4. Popescu-Belis A., Baudrion P., Flynn M. & Wellner P. (2008) - Towards an Objective Test for Meeting Browsers: the BET4TQB Pilot Experiment. *Proc. of MLMI 2007*, Brno, LNCS 4892, p.108-119.
5. Matena L., Jaimes A. & Popescu-Belis A. (2008) - Graphical representation of meetings on mobile devices. *Proc. of MobileHCI 2008 (10th Intl Conference on Human-Computer Interaction with Mobile Devices and Services)*, Amsterdam, p.503-506.
6. Popescu-Belis A. & Estrella P. (2007) - Generating Usable Formats for Metadata and Annotations in a Large Meeting Corpus. *Proc. of ACL 2007 (45th International Conference of the Association for Computational Linguistics) Interactive Poster and Demonstration Sessions*, Prague, p.93-96.
7. Lisowska A., Popescu-Belis A. & Armstrong S. (2004) - User Query Analysis for the Specification and Evaluation of a Dialogue Processing and Retrieval System. *Proc. of LREC 2004 (4th Intl Conference on Language Resources and Evaluation)*, Lisbon, p.993-996.
8. Popescu-Belis A. & Stiefelhagen R., editors (2008) - *Machine Learning for Multimodal Interaction V (Proceedings of MLMI 2008, Utrecht, 8-10 September 2008)*, Lecture Notes in Computer Science 5237, Springer-Verlag, 364 p.
9. Popescu-Belis A., Boulard H. & Renals S. , editors (2008) - *Machine Learning for Multimodal Interaction IV (Revised Selected Papers from MLMI 2007, Brno, 28-30 June 2007)*, Lecture Notes in Computer Science 4892, Springer-Verlag, 320 p.