

EVGENY KHARLAMOV

Research Assistant, KRDB Research Centre, Free University of Bozen-Bolzano, piazza Domenicani 3, 39100 Bolzano, Italy

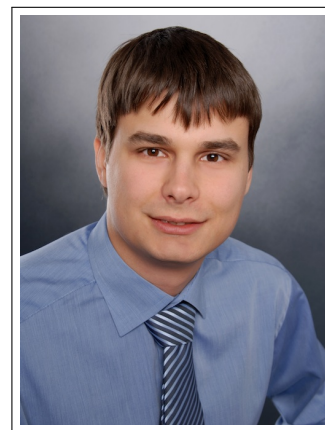
Voice/Fax: +39 0471 016 972 / +39 0471 016 009

Cell: +39 349 268 7006 / +49 176 628 638 08

E-mail: kharlamov@inf.unibz.it

WWW: <http://www.inf.unibz.it/~kharlamov/>

Russian, born 13 July 1982



RESEARCH INTERESTS

Semantic Web with the focus on queries over and evolution of ontologies described in (Description Logics fragments of) **OWL 2** and in **RDF**. Management of **uncertain data** with the focus on modeling, querying, and mining in **probabilistic XML** and relational data. Applications of my research are mainly data integration, exchange, and Web services.

EDUCATION

Jan 07 – Apr 11 **PhD in Computer Science**. Free University of Bozen-Bolzano, Italy.
Supervisors: Werner Nutt and Pierre Senellart.
Co-advisors: Diego Calvanese and Serge Abiteboul.
Thesis: A Probabilistic Approach to XML Data Management.

Oct 04 – Nov 06 (European) **MSc in Computer Science**. Joint MSc program between Dresden University of Technology and Free University of Bozen-Bolzano.
• GPA at TU Dresden: **1.7, top 7 %** among MS graduates of 2006,
• GPA at FUB: **106** out of 109, **top 9 %** among MS graduates of 2006.
Specialization: Computational Logic. Supervisor: Diego Calvanese.
Thesis: Model Theory and Calculus for the Description Logic DL-Lite.

Sep 99 – Jun 03 **BSc in Mathematics**. Novosibirsk State University, Russia.
• **1st Class with Honors**. GPA **4.95** out of 5.0, **top 3 %**.
Specialization: Applied Mathematics. Supervisor: Sergei S. Goncharov.
Thesis: On Formalization of Prediction. (in Russian).

CAREER

Jan 10 – present **Research assistant** at Free University of Bozen-Bolzano, Italy.
Supervisors: Diego Calvanese, Werner Nutt.
My duties are development of semantics, algorithms and complexity analysis of:
• Ontology-based Web services and service interoperation.
• Evolution of (OWL 2) ontologies.
• Management and integration of probabilistic XML data.

Apr 11 – Apr 12 **Visiting Researcher** at Computing Lab of **University of Oxford**, UK.
Supervisor: Michael Benedict. I worked on semantics and algorithms for:
• QUASAR system to query annotated documents.
• Query answering over annotated documents.
• Bridging annotated documents and Knowledge Bases.
• Reasoning over annotated documents.

Nov 11 – Dec 11 **Visiting Researcher** at Laboratory of Foundations of Computer Science, **University of Edinburgh**, UK. Supervisor: Leonid Libkin. I worked on semantics and algorithms for
• Data exchange in presents of data inconsistency.

CAREER (CONTINUATION)

- Sep 09 – Jan 11 **Research Assistant** at **INRIA** Saclay, Paris, France.
Supervisors: Serge Abiteboul, Pierre Senellart.
My duties are development of semantics, algorithms and complexity analysis of:
- XQuery evaluation and updates over probabilistic XML data.
 - Data mining for probabilistic XML data.
 - Recursive Markov models of uncertain XML data.
- Dec 08 – Sep 09 **Research Intern** at
INRIA Saclay, Paris, France, under Serge Abiteboul, and
Télécom Paris Tech, Paris, France, under Pierre Senellart.
My duties are development of semantics, algorithms and complexity analysis of:
- Aggregate query answering for probabilistic XML data.
- Mar 07 – Jul 07 **Teaching Assistant** for “Foundations of Databases” course at
Free University of Bozen-Bolzano, Bolzano, Italy. My duties:
- Teaching labs to 20 students.
- Feb 07 – Jun 07 **Recruiter** of masters students for Computer Science Faculty,
Promoter of Free University of Bozen-Bolzano (FUB) in Russia. My duties:
- Organization of an advertisement campaign of FUB in Novosibirsk.
 - Presentations at 2 Novosibirsk universities.
 - Interviewing of potential MS students.
- A the end 5 out of 25 applicants were selected and came to FUB.
- Aug 04 – Oct 04 **Lecturer and Lab Assistant** of “Logic Programming” course at mathematical
and computer science high school of Novosibirsk State University, Novosibirsk,
Russia. My duties:
- Frontal lecturing of 15 students.
 - Teaching labs for 15 students.
- Sep 03 – Oct 04 **Engineer** at Institute of Discrete Mathematics and Informatics, Novosibirsk,
Russia. My duties:
- Data mining for Bioinformatics.
 - Web design.

RESEARCH EXPERIENCE

- Jun 10 – present **Co-investigator** on EU project **ACSI**: Artifact Centric Service Interoperation.
Principal investigator: Diego Calvanese. Funding: **FP7-ICT-257593**.
Project website: <http://acsi-project.eu/>. My duties are to develop:
- Formal model of ontology-based Web services.
 - Techniques for artifact based service interaction.
- Apr 10 – present **Investigator** on FUB project **QUID**: Querying Uncertain and Incomplete Data.
Project leader: Werner Nutt. Funding: internal of the Free University of Bolzano.
My duties are to study complexity and to develop techniques for:
- Evolution of OWL ontologies.
 - Modeling probabilistic XML with recursive Markov models.
 - Querying probabilistic XML with expressive fragments of XQuery.
 - Data mining in probabilistic XML.
- Jan 09 – present **Co-investigator** on EU project **Webdam**: Foundations of Web Data Management.
Principal investigator: **Serge Abiteboul**. Funding: **ERC-FP7-226513**.
Project website: <http://webdam.inria.fr/>. My duties:
- Querying probabilistic XML: aggregating, updates, extended XPath.
 - Models of probabilistic XML: Markov models.

EXPERTISE IN AREAS STUDIED DURING MS AND PHD

- Semantic Web
- Digital Libraries
- Knowledge Bases and Databases
- Data Mining
- Recommender Systems
- Knowledge Representation and Reasoning
- Data Warehouses
- Computational Linguistics
- Description/First Order/Temporal Logics

SKILLS

- Programming: Java, Pascal, Prolog, HTML, XHTML, XSLT, CSS.
- Semantic Web: RDF, RDFS, OWL, OWL-2, Semantic rules FLORA-2, Protege.
- Modeling: ER, UML.
- Databases: MySQL, XML, DTD, XML Schema, XPath, XQuery.
- Software: Altova XMLSpy, Joomla, MS Office, LaTeX.
- Languages: • Russian – native • English – fluent • German, French – basic
- Personal Skills: • Multicultural awareness • Logical approach to problem solving
• Analytical mind • Adaptability and Pro-activeness
• Team working • Interpersonal and communication skills

AWARDS

- 2011 Visiting Researcher's **Grant**: for one year, Computing Laboratory, **Oxford University**.
- 2009 **Grant**: internship, research visit, 2 years, Webdam project, **INRIA** Saclay, Paris.
- 2008 Best Master Thesis **Award from IBM**: on a Computational Logic related topic by IBM Center for Advanced Studies, Rome.
- 2006 Bozen-Bolzano Excellent Student's **Scholarship**: a one-off stipend given by Bolzano to outstanding students of Free University of Bozen-Bolzano.
- 2004-06 European Union's **Erasmus Mundus Grant**:
2 years EU grant within European Master Program in Computational Logic.

REFERENCES

- Prof. **Serge Abiteboul**. INRIA Saclay, Paris, France.
URL: <http://www-rocq.inria.fr/~abitebou/> Email: serge.abiteboul@inria.fr
- Prof. **Diego Calvanese**, Free University of Bozen-Bolzano, Bolzano, Italy.
URL: <http://www.inf.unibz.it/~calvanese/> Email: calvanese@inf.unibz.it
- Prof. **Sergei S. Goncharov**. Novosibirsk State University, Novosibirsk, Russia.
URL: <http://mmfd.nsu.ru/mmf/persons/gonch.htm> Email: gonchar@math.nsc.ru
- Prof. **Werner Nutt**. Free University of Bozen-Bolzano, Bolzano, Italy.
URL: <http://www.inf.unibz.it/~nutt/> Email: nutt@inf.unibz.it
- Prof. **Pierre Senellart**. Télécom ParsTech; CNRS LTCI, Paris, France.
URL: <http://pierre.senellart.com/> Email: pierre.senellart@telecom-paristech.fr

Further references are available on request.

PUBLICATIONS

- 2012 [27] *Answering Queries using Views over Probabilistic XML: Complexity and Tractability*. B. Cautis, E. Kharlamov (**Journal paper**). **PVLDB** Vol. 5, No.8.
Presented at the International Conference on Very Large Data Bases (**VLDB**). Istanbul.
- [26] *Inconsistency Tolerance in OWL 2 QL Knowledge and Action Bases: Statement of Interest*. D. Calvanese, M. Montali, E. Kharlamov, D. Zheleznyakov.
In Proc. of OWL: Experiences and Directions (**OWLED**).

PUBLICATIONS (CONTINUATION)

- 2012 [25] *How to Contract Ontologies: Statement of Interest*. B. Cuenca Grau, E. Kharlamov and D. Zheleznyakov. In Proc. of OWL: Experiences and Directions Workshop (**OWLED**).
- [24] *Evolution of OWL 2 QL and EL Ontologies: Tutorial*. B. Cuenca Grau, E. Jimenez-Ruiz E. Kharlamov, D. Zheleznyakov. OWL: Experiences and Directions Workshop (**OWLED**).
- [23] *Ontology Contraction: Beyond Propositional Paradise*. B. Cuenca Grau, E. Kharlamov and D. Zheleznyakov. In Proc. of Alberto Mendelzon Workshop (**AMW**). Ouro Preto, Brazil.
- [22] *QUASAR: Querying Annotation, Structure, Reasoning*. L. Chen, M. Benedikt, E. Kharlamov. In Proc. of Int. Conf. on Extending Database Technology (**EDBT**). Acceptance: 39%.
- [21] *Capturing Model-Based Ontology Evolution at the Instance Level: the Case of DL-Lite*. E. Kharlamov, D. Zheleznyakov and D. Calvanese (**Invited to a journal, under review**)
- [20] *Ontology Evolution Under Semantic Constraints*. B. Cuenca Grau, E. Jimenez-Ruiz, E. Kharlamov and D. Zheleznyakov. In Proc. of Int. Conf. on Principles of Knowledge Representation and Reasoning (**KR**), Rome, June'11. Acceptance: 26%.
- 2011 [19] Introduction to Probabilistic Data Management: Tutorial. E. Kharlamov, P. Senellart. French national DB conference (**BDA**). October 2011, Rabat, Morocco.
- [18] *Capturing Instance Level Ontology Evolution for DL-Lite*. E. Kharlamov, D. Zheleznyakov. In Proc. of Int. Semantic Web Conference (**ISWC**), Bonn, October'11. Acceptance: 19%.
- [17] *On Prototypes for Winslett's Semantics of DL-Lite ABox Evolution*. E. Kharlamov, D. Zheleznyakov. In Proc. of Description Logics Workshop (**DL**). Barcelona, Spain.
- [16] *Capturing Continuous Data and Answering Aggregate Queries in Probabilistic XML*. S. Abiteboul, H. Chan, E. Kharlamov, W. Nutt, P. Senellart (**Journal paper**). ACM Transactions on Database Systems (**TODS**).
- [15] *Challenges for View-Based Query Answering over Probabilistic XML*. B. Cautis, E. Kharlamov. In Proc. of Alberto Mendelzon Workshop (**AMW**). Santiago, Chile.
- [14] *Understanding Inexpressibility of Model-Based ABox Evolution in DL-Lite*. E. Kharlamov and D. Zheleznyakov. In Proc. of Alberto Mendelzon Workshop (**AMW**). Santiago, Chile.
- [13] *Value Joins are Expensive over (Probabilistic) XML*. E. Kharlamov, W. Nutt, P. Senellart. The Logic in Databases workshop (**LID**). In Proc. **EDBT**, Uppsala, Sweden, March 2011.
- [12] *Modeling, Querying, and Mining Uncertain XML*. E. Kharlamov, P. Senellart. (**Book Chapter**) In A. Tagarelli, editor, XML Data Mining: Models, Methods, and Applications. IGI Global, 2011.
- 2010 [11] *Evolution of DL-Lite Knowledge Bases*. D. Calvanese, E. Kharlamov, W. Nutt, D. Zheleznyakov. In Proc. of Int. Semantic Web Conf. (**ISWC**). Shanghai, China. Acceptance: 20%.
- [10] *Probabilistic XML via Markov Chains*. M. Benedikt, E. Kharlamov, D. Olteanu, P. Senellart. (**Journal paper**). **PVLDB** Vol. 3, No. 1. Presented at the International Conference on Very Large Data Bases (**VLDB**). Singapore.
- [9] *Updating ABoxes in DL-Lite*. D. Calvanese, E. Kharlamov, W. Nutt, D. Zheleznyakov. In Proc. of Alberto Mendelzon Workshop (**AMW**). Buenos-Aires, Argentina.
- [8] *Updating TBoxes in DL-Lite*. D. Zheleznyakov, D. Calvanese, E. Kharlamov, W. Nutt. In Proc. of Description Logics Workshop (**DL**). Waterloo, Canada.
- [7] *Updating Probabilistic XML*. E. Kharlamov, W. Nutt, P. Senellart. **XML Updates** workshop. In Proc. **EDBT**. Lausanne, Switzerland.
- [6] *Aggregating Discrete and Continuous Probabilistic XML*. S. Abiteboul, H. Chan, E. Kharlamov, W. Nutt, P. Senellart. In Proc. of International Conference on Database Theory (**ICDT**). Lausanne, CH.
- 2009 [5] *Agrégation de Documents XML Probabilistes*. (title in French, content in English) S. Abiteboul, H. Chan, E. Kharlamov, W. Nutt, P. Senellart. In Proc. of French national database conference (**BDA**). Namur, Belgium.

PUBLICATIONS (CONTINUATION)

- 2008 [4] *Aggregate Queries over Ontologies*.
D. Calvanese, E. Kharlamov, W. Nutt, C. Thorne. International Workshop on Ontologies and Information Systems for the Semantic Web. (**ONISW**). In Proc. of **CIKM**. USA.
- [3] *Incomplete Information in Information Integration*. E. Kharlamov, W. Nutt.
(**Journal paper**). **PVLDB**. Vol. 1, No. 1. Presented at PhD Workshop of **VLDB**.
- 2007 [2] *A Proof Theory for DL-Lite*. D. Calvanese, E. Kharlamov, W. Nutt.
In Proc. of 2007 Description Logic Workshop (**DL**). Brixen, Italy.
- 2005 [1] *Discrete Modeling of Structure Preserving Mutations in Proteins*. P. Demenkov,
E. Kharlamov. In Proc. of 2005 Asian Logic Conference (**ALC**), Novosibirsk, Russia.

SERVICE TO THE SCIENTIFIC COMMUNITY

Program Committee:

- 2012 • 2nd International Workshop on Exploiting Large Knowledge Repositories (E-LKR 12)
Collocated with SEPLN 2012 Conference.

External Reviewer:

- 2012 • Symposium on Principles of Database Systems (PODS) 2012.
- 2011 • The Computer Journal, Oxford University.
• Joint International Semantic Technology Conference (JIST) 2011.
- 2010 • International Conference on Database Theory (ICDT) 2011.
- 2009 • World Wide Web Conference (WWW) 2010.
• International Conference on Data Engineering (ICDE) 2010.
- 2008 • International Conference on Cooperative Information Systems (CoopIS), OTM 2009.

TALKS GIVEN

- 2012 • QUASAR: Querying Annotation, Structure, and Reasoning. Demonstration, EDBT.
- 2011 • Introduction to Probabilistic Data Management. Tutorial, BDA, Rabat, Morocco.
• Evolution of Knowledge Bases: DL-Lite Case. Dagstuhl seminar.
• Model Based ABox Evolution in DL-Lite: Tracing Inexpressibility. KRDB seminar.
June 2011, Bolzano, Italy.
• View Based Query Answering for Probabilistic XML. AMW. Santiago, Chile.
• A probabilistic Approach to XML Data Management. PhD defense. Bolzano, Italy.
• On Evolution of Semantically Annotated Data. FBK, Trento, Italy.
- 2010 • Understanding Evolution of Ontologies. DBWeb Group Seminar, Paris, France.
• Probabilistic XML: Modeling with RMCs and Querying with MSO. KRDB, Bolzano.
• On Join Queries over XML and Probabilistic XML. DataRing project meeting, Paris.
• Recursive Markov Chains for Modeling Probabilistic Data. DBWeb Seminar, Paris.
- 2010 • Updating Probabilistic XML. EDBT workshop on Updates in XML, Lausanne.
• Aggregating Discrete and Continuous Probabilistic XML. ICDT conference, Lausanne.
• EMCL experience and PhD opportunities. Alumni talk. Students workshop of European MS students in Computation Logic, Vienna.
- 2009 • Probabilistic Data Management. KRDB seminar. Bolzano, Italy.
• Aggregating Discrete and Continuous Probabilistic XML. HKU, Honk-Kong, China.
• Modeling and querying uncertain data with probabilistic XML. Data Ring project meeting. Nantes, France.

TALKS GIVEN (CONTINUATION)

- 2009
 - EMCL experience and PhD opportunities. Alumni talk. Students workshop of European MS students in Computation Logic, Madrid.
- 2008
 - Incomplete information in information integration. INRIA Saclay, Paris, France.
 - Different models of incomplete information, their combinations and how they affect data integration. KRDB seminar. Bolzano, Italy.
 - Incomplete information in information integration VLDB PhD workshop. Auckland, NZ.
 - EMCL experience and PhD opportunities. Alumni talk. Students workshop of European MS students in Computation Logic, Lisbon.
- 2007
 - Integrating incomplete data sources KRDB PhD workshop. Bolzano, Italy.
 - FUB Master programs in Computer Science. NSU and NSTU. Novosibirsk, Russia.
 - Proof theory and calculus for the Description Logic DL-Lite. DL Workshop, Brixen.
 - Proof theory and calculus for the Description Logic DL-Lite. Students workshop of European MS students in Computation Logic. Bolzano, Italy.

PARTICIPATION IN SUMMER SCHOOLS

- 2007
 - **EDBT**: 8th Summer School on Database Technologies for Novel Applications. At Free University of Bozen-Bolzano, Bolzano, Italy.
 - **ESSLLI**: 19th European Summer School in Logic, Language and Information. At Trinity College, Dublin, Ireland.
- 2006
 - **DASI**: PhD School on Data and Service Integration. Bertinolo, Italy.
 - **BIT**: PhD Summer School in Data Management. Bressanone, Italy.
- 2005
 - **ICLL**: Logic-based Knowledge Representation. TU Dresden, Dresden, Germany.
 - **Marktoberdorf**: Logical Aspects of Secure Computer Systems. By Technische Universitaet Muenchen. Marktoberdorf, Germany.
- 2004
 - **MCSS**: "Mathematics and Programming: from Theory to Practice". By Moscow State University, Microsoft Research (Cambridge). Moscow, Russia.