

Dr. Mikheil Rukhaia

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Personal information

Date of Birth: 15 October 1986 **Sex:** Male **Nationality:** Georgian
Marital Status: Married, one child

Education

Doctor of Science 2010 – 2012

Institute of Computer Languages, Faculty of Informatics, Vienna University of Technology.

Master of Science (EMCL double degree) 2008 – 2009

Institute of Computer Languages, Faculty of Informatics, Vienna University of Technology.

Master of Science (EMCL double degree) 2007 – 2008

Department of Information Technology, Faculty of Science and Technology, New University of Lisbon.

Bachelor of Mathematics 2003 – 2007

Department of Mechanics and Mathematics, Faculty of Exact and Natural Sciences, Tbilisi State University.

1992 – 2003 Secondary school of Tbilisi, #171.

Languages

Georgian — Native.
Good in *English* and *Russian*. Basic in *German*.

Employment History

Invited Lecturer February 2014 – until now

International Black Sea University.

Responsibilities & Activities: Teaching courses “Introduction to Programming via C#”, “Object Oriented Programming”, “Web Programming” (parts I and II) to bachelors and “Web Technologies” to masters students.

Researcher February 2013 – until now

Institute of Applied Mathematics, Tbilisi State University.

Responsibilities & Activities: Doing research in Mathematical logic and Proof Theory. Also some organizational staff, like organizing internal seminars, workshops and the like.

Researcher April 2013 – December 2013

Inria Saclay Île-de-France / LIX, École Polytechnique.

Responsibilities & Activities: Member of the research project “Structural and Computational Proof Theory”¹.

¹STRUCTURAL homepage: <http://www.lix.polytechnique.fr/~lutz/orgs/structural.html>

Project Assistant *March 2010 – December 2012*

Institute of Computer Languages, Vienna University of Technology.

Responsibilities & Activities: Member of the research project “About Schemata And Proofs”². Committer of the “General Architecture for Proof Theory” framework³, leading the Graphical User Interface design and implementation, and incorporating feedback.

Researcher *November 2009 – December 2009*

Institute of Applied Mathematics, Tbilisi State University.

Responsibilities & Activities: Doing research in Mathematical logic and combining work of help desk, like troubleshooting computer hardware and software problems.

IT Specialist *July 2006 – October 2007*

JSC “TaoBank” (former “First Commercial Bank”), Tbilisi, Georgia.

Responsibilities & Activities: Troubleshooting and servicing computer/server/storage hardware and software, HP Proliant Server network infrastructure, resolving hardware and software problems on HP Thin Clients and Servers. Bank operation system software (ALTA) troubleshooting, resolving problems and creating database schemas for new users.

IT Manager of Software Department *February 2005 – June 2006*

JSC “First Commercial Bank”, Tbilisi, Georgia.

Responsibilities & Activities: Troubleshooting and servicing computer/server/storage hardware and software, HP Proliant Server network infrastructure, resolving hardware and software problems on HP Thin Clients and Servers. Bank operation system software (ALTA) troubleshooting, resolving problems and creating database schemas for new users.

Research Grants

Automated and Interactive Theorem Proving in Schemata and Unranked Logics (FR/51/4-102/13). Fundamental research project funded by *Shota Rustaveli National Science Foundation*. Duration 3 years (2014–2017)

Theorem Proving in Formula Schemata (PG/6/4-102/13). Individual research project for young scientists, funded by *Shota Rustaveli National Science Foundation*. Duration 1 year (2014).

Workshops, Conferences, Talks

2014

Participant of the Tenth International Tbilisi Summer School in Logic and Language, Tbilisi, Georgia. (Informal member of the organizing committee.)

Talk “*Towards Theorem Proving Techniques in Formula Schemata*” on the XXVIII Enlarged Sessions of the Seminar of I. Vekua Institute of Applied Mathematics, Tbilisi, Georgia.

2013

Participant of the LIX Colloquium on the Theory and Application of Formal Proofs, Palaiseau, France.

Participant of the Ninth International Tbilisi Summer School in Logic and Language, Tbilisi, Georgia. (Informal member of the organizing committee.)

Talk “*A Method Overcoming Induction During Cut-Elimination*” on the Tenth International Tbilisi Symposium on Language, Logic and Computation, Gudauri, Georgia.

Participant of the Automated Reasoning with Analytic Tableaux and Related Methods Conference, Nancy, France.

²ASAP homepage: <http://www.logic.at/asap/>

³GAPT homepage: <http://www.logic.at/gapt/>

2012

Talk “*ProofTool: GUI for the GAPT Framework*” on the 10th International Workshop On User Interfaces for Theorem Provers, Bremen, Germany.

Talk “*CERES for Propositional Proof Schemata*” (refined version) on the ASAP Project Meeting, Grenoble, France.

Participant of the Concepts and Meaning Workshop in honour of Alexander Leitsch’s 60th Birthday, Vienna, Austria.

2011

Talk “*CERES for Propositional Proof Schemata*” on the Workshop on Structural and Computational Proof Theory, Innsbruck, Austria.

Talk “*CERES and Fast Cut-Elimination*” on the Ninth International Tbilisi Symposium on Language, Logic and Computation, Kutaisi, Georgia.

Participant of the Seventh International Tbilisi Summer School in Logic and Language, Tbilisi, Georgia. (Informal member of the organizing committee.)

Participant of the New Trends in Logic Conference, Vienna, Austria.

2010

Participant of the Sixth International Tbilisi Summer School in Logic and Language, Svaneti, Georgia. (Informal member of the organizing committee.)

2009

Participant of the Fifth International Tbilisi Summer School in Logic and Language, Tbilisi, Georgia. (Informal member of the organizing committee.)

Talk “*Second Order Cut-Elimination*” on the Eighth International Tbilisi Symposium on Language, Logic and Computation, Bakuriani, Georgia.

Member of the Student Session Programme Committee on the EASSS09 (European Agent Systems Summer School), Educatorio della Provvidenza, Turin, Italy.

Participant of the RISC/SCIENCE Summer School in Symbolic Computation, Johannes Kepler University of Linz, Hagenberg, Austria. (Honored by the traveling grant.)

Participant of the Joint Moscow–Vienna Workshop on Logic and Computation 2009, Vienna University of Technology, Vienna, Austria.

Participant of the Erasmus Mundus Conference — Climate Change and Higher Education, Central European University, Budapest, Hungary.

Participant of the EMCL (European Master in Computational Logic) Student Workshop 2009, Technical University of Madrid, Madrid, Spain.

2008

Participant of the Fourth International Tbilisi Summer School in Logic and Language, Tbilisi, Georgia. (Informal member of the organizing committee.)

Participant of the EASSS08 (European Agent Systems Summer School), New University of Lisbon, Lisbon, Portugal. (Informal member of the organizing committee.)

Participant of the Non-classical Logics: From Foundations to Applications Workshop, Mathematics Research Center Ennio de Giorgi, Scuola Normale Superiore, Pisa, Italy. (Honored by the traveling grant.)

Participant of the EMCL (European Master in Computational Logic) Student Workshop 2008, New University of Lisbon, Lisbon, Portugal.

2007

Participant of the Third Vienna Tbilisi Summer School in Logic and Language, Tbilisi, Georgia.

2006

Participant of the Second Vienna Tbilisi Summer School in Logic and Language, Tbilisi, Georgia.

Talk “*Modeling on Mathematical Logic Language*” on the Post and Undergraduate Students 66 Conference, Tbilisi State University, Tbilisi, Georgia. (Honored with the third grade diploma)

2005

Participant of the First Vienna Tbilisi Summer School in Logic and Language, Tbilisi, Georgia.

2004

Participant of the International Tbilisi Summer School in Language, Logic and Computation, Tbilisi, Georgia.

Publications

- [1] **2014a** (Joint work with Tomer Libal and Martin Riener): Advanced Proof Viewing in ProofTool. [2014] In: Benzmüller, Christoph and Paleo, Bruno Woltzenlogel (eds.): *Proceedings Eleventh Workshop on User Interfaces for Theorem Provers, (UITP 2014)*, vol. 167 (of Electronic Proceedings in Theoretical Computer Science), pp. 35–47.
- [2] **2014b** (Joint work with Cvetan Dunchev, Alexander Leitsch and Daniel Weller): Cut-Elimination and Proof Schemata. In: *Post-Proceedings of Tenth International Tbilisi Symposium on Language, Logic and Computation* [Accepted].
- [3] **2014c**: Towards Theorem Proving Techniques in Formula Schemata. In: *Reports of Enlarged Sessions of the Seminar of I. Vekua Institute of Applied Mathematics* [Submitted].
- [4] **2013a**: *About Cut-Elimination in Schematic Proofs. A monograph.* Lambert Academic Publishing, Saarbrücken. [2013]
- [5] **2013b** (Joint work with Cvetan Dunchev, Alexander Leitsch, Tomer Libal, Martin Riener, Daniel Weller and Bruno Woltzenlogel-Paleo): ProofTool: a GUI for the GAPT Framework. In: Kaliszzyk, Cezary and Lüth, Christoph (eds.): *Proceedings 10th International Workshop On User Interfaces for Theorem Provers (UITP 2012)*, vol. 118 (of Electronic Proceedings in Theoretical Computer Science), pp. 1–14.
- [6] **2013c** (Joint work with Stefan Hetzl, Tomer Libal and Martin Riener): Understanding Resolution Proofs through Herbrand’s Theorem. In: Galmiche, Didier and Larchey-Wendling, Dominique (eds.): *Automated Reasoning with Analytic Tableaux and Related Methods (Tableaux 2013)*, vol. 8123 (of Lecture Notes in Computer Science), pp. 157–171.
- [7] **2012a** (Joint work with Cvetan Dunchev, Alexander Leitsch and Daniel Weller): CERES for First-Order Schemata. Technical report, Vienna University of Technology [Available at: <http://arxiv.org/abs/1303.4257>]. [2012]

- [8] **2012b** (Joint work with Cvetan Dunchev, Alexander Leitsch and Daniel Weller): CERES for Propositional Proof Schemata. Technical report, Vienna University of Technology.
- [9] **2012c**: *CERES in Proof Schemata*. PhD thesis, Vienna University of Technology.
- [10] **2012d** (Joint work with Cvetan Dunchev, Alexander Leitsch, Tomer Libal, Martin Riemer, Daniel Weller and Bruno Woltzenlogel-Paleo): System Feature Description: Importing Refutations into the GAPT Framework. In: Pichardie, David and Weber, Tjark (eds.): *Second International Workshop on Proof Exchange for Theorem Proving (PxTP 2012)*, vol. 878 (of CEUR Workshop Proceedings), pp. 51–57.
- [11] **2011**: *CERES and Fast Cut-Elimination. A monograph*. VDM-Verlag, Saarbrücken. [2011]
- [12] **2009a**: CERES and Fast Cut-Elimination. Master’s thesis, Vienna University of Technology. [2009]
- [13] **2009b**: Implementation of Second Order Cut-Elimination. Technical report, Vienna University of Technology.
- [14] **2009c**: Integration of Ontologies with Rule Systems. In: Jangveladze, Temur and Kiguradze, Zurab (eds.): *Reports of Enlarged Sessions of the Seminar of I. Vekua Institute of Applied Mathematics*, vol. 23. pp. 116–122.

References

- Univ.Prof. Dr.Phil. Alexander Leitsch** — Institute of Computer Languages, Vienna University of Technology.
E-mail.: leitsch@logic.at
- Priv.-Doz. Dr. Temur Kutsia** — Research Institute for Symbolic Computation, Johannes Kepler University Linz.
E-mail.: kutsia@risc.jku.at
- Dr. Lutz Strassburger** — Inria Saclay Île-de-France / LIX, École Polytechnique.
E-mail.: lutz@lix.polytechnique.fr