

Curriculum Vitae: Tajana Ban Kirigin

CONTACT INFORMATION University of Rijeka
Department of Mathematics
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EDUCATION

Ph.D., Mathematics, University of Zagreb, Faculty of Natural Sciences and Mathematics, Department of Mathematics, 2011.

Thesis Topic: *Computational complexity of collaborative systems with nonce creation*. Supervisors: Andre Scedrov, Zvonimir Šikić

M.Sc., Mathematics, University of Zagreb, Faculty of Natural Sciences and Mathematics, Department of Mathematics, 2004.

Thesis Topic: *Higher order logic and system Isabelle*. Supervisor: Dean Rosenzweig.

B.E., Mathematics and Computer Science, University of Rijeka, Faculty of Education, 1996.

Thesis Topic: *Coherence Spaces and Gödel's System T*. Supervisor: Dean Rosenzweig.

PROFESSIONAL POSITIONS

Assistant Professor

Department of Mathematics, University of Rijeka 2015 - present

Senior Assistant

Department of Mathematics, University of Rijeka 2011 - 2015.

Assistant

Department of Mathematics, University of Rijeka 2008 - 2011.

Assistant

Faculty of Humanities and Social Sciences, University of Rijeka 1999 - 2008.

RESEARCH INTERESTS

Mathematical logic, Theoretical Computer Science, Computational Complexity, Collaborative Systems, Multiset Rewriting, Protocol Security

RESEARCH PROJECTS

Researcher

- Mathematical Logic and Applications, MZOS, (120-1203164-3074) 2007-2013.
- Logic and Reality, MZOS, (009-0091328-0941) 2007-2013.
- Protocols and Policies, Andre Scedrov, UPENN, USA 2013-2014
- Regulated Collaborative Systems: Foundations and Applications, Brasil 2014.
- LangNet - Complex Language Networks, University of Rijeka 2014.

PUBLICATIONS

Journal publications

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov. Bounded memory Dolev-Yao adversaries in collaborative systems. *Information and computation*, Special issue on Security and Rewriting, Volume 328, 233-261, 2014.

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov. Bounded Memory Protocols. *Computer languages systems & structures*, Volume 40, Issues 3-4, 137-154, 2014. 2014.

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov. Progressing Collaborative Systems. *Advances in Computer Science : an International Journal*, Voumel 3, Issue 3, 78-86, 2014.

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov, Carolyn Talcott, Ranko Perovic. A rewriting framework and logic for activities subject to regulations. *Mathematical Structures in Computer Science*, FirstView, 1-44, 2015. available on CJO2015. doi:10.1017/S096012951500016X,

Selected conference proceedings

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov, Carolyn Talcott. Discrete vs. Dense Times in the Analysis of Cyber-Physical Security Protocols. *Springer LNCS*, vol. 9036, pp. 259 - 279, Springer Verlag, 2015.

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov. Bounded Memory Protocols and Progressing Collaborative Systems. In J. Crampton, S. Jajodia and K. Mayesthe (Eds): 18th European Symposium on Research in Computer Security (ESORICS), LNCS vol. 8134, pp. 309-326, Springer Verlag, 2013.

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov, Carolyn Talcott, Ranko Perovic. A Rewriting Framework for Activities Subject to Regulations. In 23rd International Conference on Rewriting Techniques and Applications (RTA'12), pages 305-322, LIPIcs v.15, 2012.

Vivek Nigam, Tajana Ban Kirigin, Andre Scedrov, Carolyn Talcott, Max Kanovich, Ranko Perovic. Towards an automated assistant for clinical investigations. In Second ACM SIGHIT International Health Informatics Symposium (IHI'12), 2012. ACM Digital Library

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov. Bounded memory Dolev-Yao adversaries in collaborative systems. In P. Degano, S. Etalle and J.D. Guttman (Eds): The 7th International Workshop on Formal Aspects of Security & Trust (FAST2010), LNCS vol. 6561, pp. 18-33, Springer Verlag, 2011.

Selected conference and workshop papers with no proceedings

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov, Carolyn Talcott. Time-Bounding Needham-Schroeder Public Key Exchange Protocol. Logic and Applications, Dubrovnik, HR, 2014.

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov, Carolyn Talcott. Towards Timed Models for Cyber-Physical Security Protocols. FCS-FCC, Vienna, 2014.

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov. Timed Collaborative Systems with Real Time. Logic and Applications, Dubrovnik, HR, 2013.

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov. Bounded Memory Protocols and Progressing Collaborative Systems. FCS'13 Workshop on Foundations of Computer Security, New Orleans, USA, 2013.

Vivek Nigam, Tajana Ban Kirigin, Andre Scedrov, Carolyn Talcott, Max Kanovich, Ranko Perovic. Towards an automated assistant for clinical investigations. 2nd ACM SIGHIT Internatioanl Health Informatics Symposium, Miami, USA, 2012.

Max Kanovich, Tajana Ban Kirigin, Vivek Nigam, Andre Scedrov. Progressing Collaborative Systems. Workshop on Foundations of Security and Privacy (FCS-PrivMod 2010), Edinburg, UK, 2010.

Invited lectures

- On Set Theory, Mathematical evening, Department of Mathematics, University of Rijeka, 5.12.2013.
- On Set Theory, Festival of Science, Open Day, Department of Mathematics, University of Rijeka, 23.4.2013.
- Computational complexity of collaborative systems with nonce creation, Scientific colloquium, Mathematicians and Physicists Society, Rijeka, 2.6.2011.
- Isabelle - Theorem Proving System, Scientific colloquium, Mathematicians and Physicists Society, Rijeka, 11.11.2004.

TEACHING
EXPERIENCE

Undergraduate courses

Mathematical Logic, Complex Analysis, Set Theory, Euclidean Spaces, Differential Equations, Introduction to Numerical Mathematics, Mathematics Education. Department of Mathematics, Department of Physics and Faculty of Humanities and Social Sciences, University of Rijeka 1998-present
 Mathematics for information technology students 1, Logic. Department of Informatics and Faculty of Humanities and Social Sciences, University of Rijeka 2011-present

Graduate courses

Mathematical Computer Science, Mathematical Logic and Set Theory, History of Mathematics, Department of Mathematics, University of Rijeka 1998-2011

Thesis supervision

5 Bachelor Thesis supervised, Department of Mathematics, University of Rijeka 2011-present

PROFESSIONAL
MEMBERSHIPS

Mathematicians and Physicists Society, Rijeka
 Seminar of Logic and Foundations of Mathematics, Faculty of Science, Zagreb
 Seminar of Theoretical Computer Science, Faculty of Science, Zagreb
 Alumni club, Department of Mathematics, University of Rijeka

LANGUAGES

Fluent: Croatian, English *Working proficiency:* Italian

PRIVAT

Married and mother of a daughter (born in 2006).