

Sasha Rubin

Curriculum Vitae, 12/2017

University of Naples "Federico II"
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Personal Information

Citizenship New Zealand
Languages English (first language), Italian (beginner)

Research

Formal methods for artificial intelligence, including logic, knowledge representation, multi-agent systems and automated planning. I have contributed to the following areas:

- Formal methods (modeling, verification, synthesis) of Multi-agent Systems, including parameterised systems, distributed systems, probabilistic systems, timed systems.
- Logics (for games and strategic reasoning)
- Foundations of planning and generalised planning.
- Automated reasoning (including verification and synthesis).
- Automata theory.
- Finite and algorithmic model theory (including automatic structures).

Appointments

Years	Position	Institute	Comments
2017-	Postdoc	University of Naples "Federico II"	Host: A. Murano
2015-2017	Postdoc	University of Naples "Federico II"	Marie Curie Fellow of INdAM "F. Severi"
2014-2015	Postdoc	TU Wien and TU Graz	Hosts: H. Veith and R. Bloem
2012-2014	Postdoc	TU Wien and IST Austria	Hosts: H. Veith and K. Chatterjee
2010-2012	Honorary Researcher	University of Auckland	Dept: Computer Science
2011	Visiting Researcher	University of Tel Aviv	Host: A. Rabinovich, 1 semester
2010	Visiting Lecturer	University of Cape Town	Dept: Mathematics, Duties: Lecturing
2008-2009	Visiting Assistant Prof.	Cornell University	Dept: Mathematics, Duties: Lecturing
2007-2008	Visiting Researcher	University of Auckland	Dept: Computer Science
2004-2007	Postdoc	University of Auckland	FRST NZST Postdoctoral Fellowship
1999-2004	PhD student	University of Auckland	Supervisor: B. Khoussainov
1997-1998	MsC student	University of Auckland	Dept: Mathematics and Computer Science
1994-1996	BsC student	University of Cape Town	Dept: Mathematics and Computer Science

Awards and Funding

- 2015-2016 **Marie Curie Fellowship of INdAM "F. Severi"**, Topic: *Parameterised model-checking of mobile agents*, €107000, 24 months.
one of four awarded in 2015
- 2015 **Best-paper award at PRIMA 2015**, Topic: *Parameterised model-checking of mobile agents*, [C13].

- 2004 **Best doctoral thesis in the Faculty of Science, University of Auckland.**
One of seven awarded in 2004
- 2004 **Montgomery memorial prize in logic from the Department of Philosophy (PhD Prize).**
One awarded per year
- 2004-2007 **Foundation for Research, Science and Technology (FRST) New Zealand Science and Technology (NZST) Post Doctoral Fellowship, NZ\$224532, 36 months.**

Esteem

Role	Year	Venue	Details
Chair	2017	ICTCS	Italian Conference on Theoretical Computer Science
Chair	2017	SR	International Workshop on Strategic reasoning
Organiser	2017	ICTCS	Italian Conference on Theoretical Computer Science
Organiser	2017	CILC	Italian Conference on Computational Logic
Organiser	2017	FMAI	Workshop on Formal Methods in AI
Organiser	2013	YSS	IST Austria Young Scientist Symposium
PC	2018	SR	International Workshop on Strategic reasoning
PC	2018	AAMAS	Intl. Conf. on Autonomous Agents and Multi-agent Systems
PC	2018	AAAI	AAAI Conference on Artificial Intelligence
PC	2017	IJCAI	International Joint Conference on Artificial Intelligence
PC	2017	AAAI	AAAI Conference on Artificial Intelligence
PC	2016	SR	International Workshop of Strategic Reasoning
PC	2016	GandALF	Intl. Symp. on Games, Automata, Logics and Formal Verification
PC	2016	ECAI	European Conference on Artificial Intelligence
Editor	2017	CEUR-WS	Joint proceedings of ICTCS 2017 and CILC 2017
Guest Editor	2017	I&C	Special issue of SR 2017
Guest Editor	2017	TCS	Special issue of ICTCS 2017 and CILC 2017
Reviewing	2017	IRC	External reviewer for Icelandic Research Fund
Invited Talk	2017	Robolog, Rennes	Workshop on Robotics and Logic
Invited Talk	2017	FMAI, Naples	Workshop on Formal Methods in AI
Invited Talk	2012	Les Houches	Workshop on Finite and Algorithmic Model Theory
Invited Talk	2011	IMS programme, Singapore	Workshop on Automata theory and Applications
Invited Talk	2008	CNRS SIG, Bordeaux	Workshop on Computational Model Theory
Invited Talk	2007	Dagstuhl	Workshop on Algorithmic-Logical Theory of Infinite Structures
Invited Talk	2006	Newton Institute	Workshop on Finite and Algorithmic Model Theory
Invited Talk	2004	U. of Auckland	Workshop on Automata, Structures and Logic

Supervision and Mentoring

PhD Mentoring

- 2015-2017 **Collaborated with and Mentored Vadim Malvone, Antonio di Stasio, Loredanna Sorrentino, PhD students of A. Murano, University of Naples "Federico II".**
Topic: Formal Methods in Artificial Intelligence
Produced [C7],[J2],[C11]
- 2007 **Collaborated with Tobias Ganzow, PhD student of E. Graedel, RWTH Aachen.**
Solved a 12-year open problem of Bruno Courcelle about extensions of MSOL
Produced [C23]

Masters Supervision

- 2017 **Co-supervised Aurèle Barrière, MsC Intern from ENS, Rennes.**
Topic: Epistemic Logic
Co-supervised with A. Murano and B. Maubert, Recently completed

Undergraduate Supervision

- 2017 **Undergraduate thesis: Paolo Lambiase**, *University of Naples*.
Topic: Graphical Games
Co-supervised with A. Murano, recently completed
- 2012 **Summer undergraduate project: Siddhesh Chaubal**, *IST Austria*.
Topic: Edit-distance and Formal Languages
Co-supervised with K. Chatterjee, produced [C20]
- 2009 **Summer research experience for undergraduates: Andrey Grinshpun, Pakawat Phal-itnonkiat, Andrei Tarfulea**, *Cornell University*.
Topic: Parity Games
Supervised and produced [J4]
- 2009 **Summer research experience for undergraduates: Alex Kruckman, John Sheridan, Ben Zax**, *Cornell University*.
Topic: Automatic Structures with Advice
Supervised and produced [C21]

Teaching

Graduate courses

- 2017 **Milestones in Solving Games on Graphs**, *Technical University of Vienna*.
Duties: designed, presented and examined
- 2017 **Games on Graphs**, *University of Naples*.
Duties: designed, presented and examined
- 2009 **Logical Definability and Random Graphs**, *Cornell University*.
Duties: designed, presented and examined
- 2006 **Logic and Computation in Finitely Presentable Infinite Structures (advanced course)**, *European Summer School in Logic, Language and Information*, with V. Goranko.
Duties: designed and presented

Undergraduate courses

- 2015/2016 **System specification**, *University of Naples "Federico II"*.
Duties: Teaching assistant
- 2010 **Logic and Computation**, *Department of Mathematics, University of Cape Town*.
Duties: Designed, presented and examined
- 2008-2009 **Calculus for Engineers**, *Department of Mathematics, Cornell University*.
Duties: Presented and examined (5 times)
- 2007 **Discrete Structures in Mathematics and Computer Science**, *Department of Computer Science, University of Auckland*.
Duties: Designed and presented
- 2007 **Mathematical Foundations of Software Engineering**, *Department of Computer Science, University of Auckland*.
Duties: Designed and presented
- 2003 **Introduction to Formal Verification**, *Department of Computer Science, University of Auckland*.
Duties: Designed and presented
- 2002 **Automata theory**, *Department of Computer Science, University of Auckland*.
Duties: Designed, presented and examined
- 2000-2001 **Pre-calculus**, *Department of Mathematics, University of Wisconsin, Madison*.
Duties: Presented and examined (2 times)