

TARIK KACED

Curriculum vitæ

Born on March 2, 1986 — Metz, Moselle (57), France
Nationality: French

Personal contact

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Current position:

march 2016 *Teaching Assistant* in mathematics in Ivy League French school at Lycée Saint-Louis, paris.

1 Scientific interests

Theoretical aspects of Information Theory, Information Inequalities, Secret Sharing schemes, Kolmogorov Complexity, Computability, Communication Complexity, Group Testing, links with Combinatorics, Graph Theory, Matroid theory.

Education

april 2015 – Postdoctoral fellow at Algorithmic, Complexity and Logic Laboratory, UPEC, (University Paris-Est Créteil)

2013 – 2015 *Post-doctoral fellow* at the Institute of Network Coding, CUHK (The Chinese University of Hong Kong)

2009–2012 *Ph.D. Candidate and Teaching Assistant*, under the supervision of Andrei Romashchenko and Alexander Shen. ESCAPE team, LIRMM
Thesis title : Secret Sharing and Algorithmic Information Theory

- definition and study of almost perfect secret sharing schemes
- discovery of essentially conditional information inequalities for Shannon entropy

- Kolmogorov Complexity versions of the above two new notions
- proof of equivalence of the two main techniques for non-Shannon-type inequalities

2007–2009 **M.Sc.**, research Master PENSUNS in Theoretical Computer Science (Complex Systems), Université de Nice Sophia-Antipolis, Nice, France, antenna of ÉNS de Lyon, recipient of a grant from ÉNS de Lyon and Conseil Général des Alpes Maritimes, (with highest honors).

Main subjects : (Algorithmic) Information Theory, Cellular Automata, Complexity Theory, Category theory and lambda-calculus, Combinatorial Game Theory, Cryptography

2006–2007 **B.Sc.** in Fundamental Computer Science, ÉNS de Lyon (with honors).

Main Subjects : Automata Theory, Programming, Architecture Systems and Networks, Algorithms, Coq Theorem Prover

Internships

2009 (Feb–Aug) **Research Internship** under the supervision of Bruno Durand, Andrei Romashchenko and Alexander Shen, CMI - LIF, Marseille, France. Secret Sharing Theory and Kolmogorov Complexity.

2008 (June–Aug) **Research Internship** under the supervision of Wolfgang Merkle, Universität Heidelberg, Germany. Kolmogorov Complexity.

2007 (June–July) **Research Internship** under the supervision of Judicaël Courant and Yassine Lakhnech, VERIMAG, Grenoble, France. Proof of cryptographic protocols for redistribution in secret sharing.

Teaching (189h)

2015 **Teaching Assistant** at Université Paris-Est Créteil (90h)

2013 **Invited mini-course** at the Institute of Network Coding (15h)

2011–2012 **Teaching Assistant** at Université de Montpellier 2 (64h)

2008–2009 **Teaching Assistant** at Université de Nice Sophia-Antipolis (20h)

Activities

Reviewer for:

conference UCNC 2012–2014, ISIT 2012-2015, NETCOD2014, CyberC2015

journal Designs, Codes and Cryptography, Transaction on Information Theory, Transactions on Communications, Theory of Computing Systems

2014 Co-supervision with Sidarth Jaggi of a student project (publication in ISIT2014)

2013–2014 In charge of a work group with C. Chung and K. Shum on Matroid Theory

2011–2012 In charge with F. Givors of ESCAPE seminars at LIRMM

2010–2011 In charge of ESCAPE seminar at LIF

Talks

- mar. 2016 Nexus of Information and Computation Theories: *Dual Information Inequalities*
- apr. 2015 Journées Calculabilités: *Dual Information Inequalities*
- mar. 2015 Séminaire LORIA: *Optimal Non-perfect Uniform Secret Sharing Schemes*
- feb. 2015 ITA: *Conditional Information Inequalities and Biclique Coverings*
- jan. 2015 ITCOM: *New Constrained Information Inequalities and Possible Applications*
- july 2013 ISIT: *Equivalence of Two Proof Techniques for Non-Shannon-type Inequalities*
- apr. 2013 Workshop on Entropy and Information Inequalities, *Essentially Conditional Information Inequalities*
- feb. 2013 Séminaire INC: *Secret Sharing and Information Inequalities*
- mar. 2012 Journées Calculabilités: *Essentially conditional information inequalities*, Paris.
- aug. 2011 Conférence ISIT 2011: *Almost perfect secret sharing*, Saint-Petersbourg.
- may 2011 Groupe de travail Escape (LIF): *(Un)constrained Linear Information Inequalities*, Marseille.
- may 2010 Groupe de travail Escape (LIF): *Exposé des travaux*, Marseille.
- apr. 2010 EJC IM 2010: *Comment partager un secret*, Chambéry.
- apr. 2010 FRAC de printemps: *Secret Sharing*, Caen.
- july 2008 Oberseminar Universität Heidelberg: *Secret Sharing and Provable Security*, Heidelberg (Allemagne).