

Personal information

Surname(s) / First name(s)

Blanchard, Nicolas K.

Address(es)

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Email(s)

nicolas.blanchard@ens.fr

Nationality(-ies)

French

Date of birth

August 1991

Education

2008–2009

French Scientific Baccalaureate, specialization in Mathematics

2011–2012

Graduated in Computer Science from Paris VII with additional graduate algorithmic and model theory classes

2012–2013

First year at ENS Ulm through the Maths-CpSci Concours (ranked 9th)

2013–2014

MPRI (Parisian Master of Research in Computer Science) with a focus on theoretical computer science

2014–2015

MPRI Diploma, Summa Cum Laude, Ranked 2nd/61 (18.06/20 average)

2015–2019

PhD in Computer Science at the IRIF supervised by Nicolas Schabanel

Coding and Research Projects during my studies

2011–2012

Backend for OpenStreetMaps in Ocaml ; Internal message service for Unix-based systems in C ; wrote an unpublished paper on probabilistic variations of Conway's Angel problem and of a larger set of combinatorial games

2012-2013

Implemented our own algorithm (the PN heuristic) for graph isomorphism detection ; coded a net-list simulator and designed our micro-processor (mostly in Ocaml and C) ; research project at ENS with David Naccache in finding space-filling functions (in cryptography)

Work Experience and Internships

2009–2011

Freelance web designer and computer technician for small companies

Summer of 2013

Internship in the Technion, Israel, under Prof. Eldar Fischer. Main work on longest paths and cycles in k-connected graphs

Summer of 2013

Work with Prof. Janos Makowsky on graph polynomials.

Summer of 2014

Internship in the IMSC, India, under Prof. Saket Saurabh, on graph theory and parameterized algorithms

Summer of 2015

Internship in the LIAFA, France, under Prof. Nicolas Schabanel, on dynamic facility location

Academic and Research Groups

2015–2019

PhD student, IRIF in the Distributed algorithms and Graphs team

2015–20XX

Secretary, Archive of Research in Mathematical Sciences and Philosophy

2016–20XX

Member, Random Sample Voting Project (rsvoting.org)

2016–20XX

Founding member, POP Special Exploratory Committee (popplatform.org)

Research Publications

On the location of roots of graph polynomials, with J. Makowsky and E. Rave, in European Journal of Combinatorics, 2013

Dynamic Facility Location : Minimizing Sum of Radii, with N. Schabanel, ALGOTEL 2015

Vote par Sondage Uniforme Incorruptible, ALGOTEL 2015

Dynamic Sum-radii Clustering, with N. Schabanel, WALCOM 2016

Longest paths and cycles in k-connected graphs, with E. Fischer and O. Lachish (to be published)

La démocratie hasardeuse (book, to be published)

Public Research Activities

2016

Multiple talks, member of an expert panel and organizer of the first public RSV vote at the Global Forum on Modern Direct Democracy

Fall 2017

Invited member of an expert panel and in charge of large-scale RSV demo at the World Forum on Democracy

Popularization

2014-2015

Teaching mathematics to high schoolers at ENS with ParisMaths

2014-2015

Conferences to high school students with Animaths

2016

Des outils mathématiques pour votre GPS, with Leila Gabasova, in the yearly CIJM journal

Summer 2017

WorldCon Poster : "Democratic tools for the future"

Publications in Tangente

2014

Le Théorème des Graphes Parfaits

2015

De Poincaré à Perelman, Quand le Hasard crée des Certitudes, Classes de Complexité, Tests de Propriétés

Teaching

2013-2014	Tutoring in Data Mining
2016-2017	Creation of Animath clubs, teaching to educators, university and high-school students in Kosovo and Moldova
2016	
Teaching at EIDD (Diderot engineering school) Spring 2016 and Spring 2017	In charge of the M1 Systems and Network Engineering course
Summer 2017	Academic advisor for Elodie Decerle's M2 internship at THALES
Fall 2017	In charge of the M1 Fundamental Informatics course

Languages

Mother tongue(s)

French, English

Oral proficiency in Spanish, basics in Russian

Computer skills

OS	Linux, Unix, Windows
Programming	OCAML, C, knowledge in Java, Racket and Pascal
Web design	XHTML, CSS, bases in MySQL, PHP and Actionscript

Scientific Interests

Graph Theory, Algorithmic, Game theory and Combinatorial Games (with probabilistic approach)
Logic and Model Theory
Voting and Computational Social Choice Theory
Cliometrics
Bioinformatics

Personal Interests

Games of all sorts	I love nearly all card and board games but my favorite is Go
Writing	I enjoy developing realistic AU, and am currently writing an interactive fiction with O. Pivot
Photography	I've done a few exhibits, which are partly on my website (koliaza.com)
Music	I sing and play the piano and melodica, specializing in blues