Personal information

Surname(s) / First name(s)	**Blanchard, Nicolas K.**
Address(es)	Bureau 4001, Institut de Recherche en Informatique Fondamentale, Université Paris Diderot, 8 place Aurélie Nemours, 75013 Paris. France
Email(s)	nicolas.k.blanchard@gmail.com ; website : www.koliaza.com
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
2012–2015	Scolarity at ENS Ulm through the Maths-CpSci Concours (ranked 9th) and MPRI (Parisian Master of Research in Computer Science) with a focus on theoretical CpSci
2014–2015	MPRI Diploma, *summa cum laude*, ranked 2nd/61
2015–2019	Internship and PhD in Computer Science at the IRIF with Prof. Nicolas Schabanel

Early Coding and Research Projects

2011–2012	Backend for OpenStreetMaps (Ocaml) ; Internal message service for Unix systems (C)
2012-2013	Developed an algorithm (the PN heuristic) for graph isomorphism detection ; coded a net-list simulator and designed a micro-processor (Ocaml and C) ; research with David Naccache in finding space-filling functions (in cryptography)

Work and Internships

2009–2011	Freelance web designer and computer technician
2013 Internship	Prof. Eldar Fischer at Technion, Israel. Longest paths in k-connected graphs. Additional work with Prof. Janos Makowsky on graph polynomials [MRB14]
2014 Intership	Prof. Saket Saurabh at IMSC, India, focusing on parameterized complexity
2015-2016 Internship	Prof. Nicolas Schabanel at LIAFA, France, on dynamic facility location [BS16]

Academic Groups

2016–2019	PhD student in the Distributed algorithms and Graphs team at IRIF
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 (poplatform.org)

Research Publications

Published

Johann A Makowsky, Elena V Ravve, and Nicolas K Blanchard. On the location of roots of graph polynomials. *European Journal of Combinatorics*, 41:1–19, 2014

Nicolas K. Blanchard and Nicolas Schabanel. Clustering Dynamique par Rayon. In *ALGOTEL 2016 - 18èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications*, Bayonne, France, 2016

Nicolas K. Blanchard. Vote par sondage uniforme incorruptible. In *ALGOTEL 2016 - 18èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications*, Bayonne, France, 2016

Nicolas K. Blanchard and Nicolas Schabanel. Dynamic Sum-Radii Clustering. In Sheung-Hung Poon, Md. Saidur Rahman, and Hsu-Chun Yen, editors, *WALCOM: Algorithms and Computation: 11th International Conference and Workshops, WALCOM 2017, Hsinchu, Taiwan, March 29–31, 2017, Proceedings*, pages 30–41. Springer International Publishing, 2017

Nicolas K. Blanchard. Building trust for sample voting. In *Proceedings of TeSS*, 2017

Nicolas K. Blanchard, Leila Gabasova, Ted Selker, and Eli Sennesh. Créer de tête de nombreux mots de passes inviolables et inoubliables. *ALGOTEL 2018 - 20èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications*, 2018

Nicolas K. Blanchard, Clément Malaingre, and Ted Selker. Mots de passe : le choix humain plus sécurisé que la génération aléatoire. *ALGOTEL 2018 - 20èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications*, 2018

Nicolas K. Blanchard. Building trust for sample voting. In *International Journal of Decision Support System Technology*, 2018

Nicolas K. Blanchard, Clément Malaingre, and Ted Selker. Improving security and usability with guided word choice. *Computer Security Applications Conference, 2018. ACSAC'18. 34th Annual*, 2018

Leila Gabasova, Nicolas K. Blanchard, Bernard Schmitt, Will Grundy, and New Horizons COMP team. Progressive metaheuristics for high-dimensional radiative transfer model inversion. *European Planetary Science Congress*, 2018

Submitted

Nicolas K. Blanchard. La Démocratie Hasardeuse (book). 2017

Nicolas K. Blanchard, Ted Selker, and Eli Sennesh. Cue-pin-select, a secure and usable offline password scheme. 2018

Nicolas K. Blanchard, Leila Gabasova, and Ted Selker. Consonant vowel consonants for error-free code entry. 2018

Public Interventions

2016

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

2017

Invited talk at a conference on new forms of citizen participation at the Lieu d'Europe

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

2018

Invited talk at the Workshop on Digital Identity, Global Citizenship and the Future of Democracy

Invited talk at POINT Conference on Political Accountability and New Technologies

Popularization

Nicolas K. Blanchard. Le théorème des graphes parfaits. *Bibliothèque Tangente*, 54:62–67, 2015

Nicolas K. Blanchard. Prouver rapidement qu'une propriété est vérifiée... ou pas. *Bibliothèque Tangente*, 55:132–133, 2015

Nicolas K. Blanchard. De Poincaré à Perelman : une grande épopée mathématique. *Tangente*, 165:48–50, 2015

Nicolas K. Blanchard. Non, les problèmes ne sont pas tous de même difficulté! *Bibliothèque Tangente*, 55:108–114, 2015

Nicolas K. Blanchard. Même le hasard peut créer des certitudes. *Bibliothèque Tangente*, 55:116–118, 2015

Nicolas K. Blanchard and Leila Gabasova. Des outils mathématiques pour votre GPS. *CIJM yearly journal*, 2016

Nicolas K. Blanchard and Leila Gabasova. Democratic tools for the future. *Worldcon 75 poster*, 2017

Nicolas K. Blanchard. Des mots de passe...pas très secrets. *Tangente*, 180:18–19, 2018

Nicolas K. Blanchard. Une course démoniaque. *CIJM yearly journal*, 2018

Teaching

2014-2015	Organized three intro to research workshops for high schoolers at ENS with ParisMaths (half-day with 30-60 participants)
2014-2015	Four conferences on recent developments in mathematical research to high school students in Paris with Animaths (30-100 participants)
2016-2017	Creation of Animath clubs, teaching to educators, university and high-school students in Kosovo and Moldova
Summer 2017	Inaugural MOOC on graph separators on the Mathmosphere Platform
Spring 2016 and Spring 2017	M1 Systems and Network Engineering course at Paris Diderot Engineering School
Fall 2017	M1 Foundations of Computer Science course at Paris Diderot Engineering School
Fall 2018	M1 Foundations of Computer Science course at Paris Diderot Engineering School

Advisorship

Spring-Summer 2017	Academic co-supervisor for Elodie Decerle's M2 internship at THALES
Spring-Summer 2018	Academic co-supervisor for François Gaudré's M2 internship at the Ministry of the Armed Forces
Summer 2018	Supervisor for Ines Dardouri and Pierre Midavaine's L2 internships on bilingual palindrome generation
Summer 2018	Supervisor for Rayann Kaiss' L2 internship on probabilistic games
Summer 2018	Supervisor for Amira Lakdhar's L1 internship on analyzing human word choice patterns

Languages

Mother tongue(s)	**French, English**

	Oral and reading proficiency in Spanish, basics in Russian

Scientific Interests

Mathematics and CpSci	Graph Theory, Algorithmic, Game theory. Logic and Model Theory. Voting and Computational Social Choice Theory. Probabilities. Bioinformatics. User interfaces.
Social sciences	Cliometrics. Political philosophy. Ancient Greek History.

Personal Interests

Fiction Writing	I enjoy developing realistic alternate universes, and write short SFF stories and an interactive fiction with O. Pivot
Photography	Multiple small exhibits (pubs and local places), which are on my website (koliaza.com)
Music	I sing and play the piano and melodica, specializing in blues