

## Personal information

Surname / First name

Address

Personal Email

Nationality

Date of birth

Languages spoken

## Blanchard, Enka

Laboratoire d'Automatique, de Mécanique et d'Informatique Industrielles et Humaines, UPHF, UVHC - Le Mont Houy, 59313 Valenciennes Cedex 9 , FRANCE

Enka.Blanchard@gmail.com ; website : [www.koliaza.com](http://www.koliaza.com)

French

August 1991

Native speaker in English and French. Oral and reading proficiency in Spanish, moderate reading and oral comprehension in Italian and Brazilian Portuguese, basics in Russian

## Education and Employment

2021-20XX

CNRS Researcher (CR), Laboratory of Automation, Mechanics and Industrial and Human Computer Science (UMR 8201), Université Polytechnique Hauts-de-France (UPHF)

2021-20XX

Associate Researcher, Center for Internet and Society, CNRS (UPR 2000).

2020-20XX

2nd PhD in geography, supervised by Jacques Lévy, Spatial Intelligence Chair of UPHF

2019-2021

Post-doctoral researcher at Digitrust Consortium, Loria, Université de Lorraine. Tasked with creating transdisciplinary research projects involving the six member laboratories (mathematics, economics, political science, informatics, automatics, and psychology).

2016-2019

PhD thesis with Nicolas Schabanel and Ted Selker at IRIF, Paris VII University, focused on psychosocial aspects of security for authentication and voting.

Title: "**Usability: low tech, high security**"

*PSL 2020 International PhD* award for best thesis at the Science/Humanities Interface

2015-2016

Research project with Nicolas Schabanel at Paris VII university on clustering problems

2014-2015

Graduated from the Parisian Master of Research in Computer Science (MPRI), *summa cum laude*, Thesis titled: "Dynamic Facility Location : Minimizing Sum of Radii"

2014

Research project on parameterised complexity With Prof. Saket Saurabh at IMSC, India

2013

Research projects with Prof. Eldar Fischer at Technion, Israel, on longest paths in k-connected graphs, and with Prof. Janos Makowsky on graph polynomials

2012-2015

Scholarship at École Normale Supérieure de Paris (admitted 9th in the INFO concours)

2011-2012

Double Bachelor degrees (L3) in Mathematics and Computer Science from Paris VII

2009-2011

Freelance web designer and computer technician

## Membership in research organisations and community service

2022-20XX

Program Committee member, RoCHI (International Conference on Human-Computer Interaction)

2021-20XX

Program Committee member, International Joint Conference on Electronic Voting.

2018-20XX

Member, Chôros (choros.place) — research group/think tank working on two main subjects spatial justice, and public participation in democratic processes

2016-20XX

Founding member, POP Special Exploratory Committee (popplatform.org) — organisation working on implementing direct democratic processes without major legislative reforms

2015-20XX

Secretary, Archive of Research in Mathematical Sciences and Philosophy — organisation preserving recordings of major scientific conferences in mathematics and physics

2020-2021

Member, Caltech/MIT Voting Technology Project — research group on voting centred around Michael Alvarez, Charles Stewart III and Ronald Rivest

2016-2020

Member, Random Sample Voting Project (rsvoting.org) — academic group developing and implementing new cryptographic voting systems for direct democracy

## Teaching

Spring 2022	In charge of the "Introduction to critical disability studies" M1 online course for the Campus Numérique Sciences-Po
2021-2022	Co-organiser of the "droit et humanités numériques" GT at the CNRS Center for Internet and Society (UPR 2000)
2020-2021	Co-organiser and speaker in the "Law and Informatics" seminar, and two sessions on the geographies of disability in the "Psychopolitics" seminar, at EHESS
Fall 2017 and Fall 2018	In charge of the Foundations of Computer Science M1 course (curriculum, theoretical classes and exercise sessions), Paris Diderot Engineering School
Spring 2016 and Spring 2017	In charge of Systems and Network Engineering M1 course (curriculum, theoretical classes, practical sessions and exercise sessions), Paris Diderot Engineering School
Summer 2017	Creator of the inaugural MOOC — on graph separators — on the Mathmosphere Platform
2016-2017	Coach to educators, co-organiser for the creation of Animath clubs, and teacher to university and high-school students in Kosovo and Moldova (week-long trips)
2014-2015	Speaker for 4 conferences on recent developments in mathematical research and 3 intro to research workshops at ENS with Animath and ParisMaths (30-100 highschoolers)

## Advisorship

2022-20XX	Co-advisor of Jérôme Ridet's PhD thesis on usable security at UPHF
2022-20XX	Advisor of Mehdi Bouhamidi's PhD thesis on ocular biometrics at UPHF
Spring-Summer 2018	Academic co-supervisor for François Gaudré's M2 internship at the Ministère des Armées on deep neural networks for image recognition in software testing
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
Spring-Summer 2017	Academic co-supervisor for Elodie Decerle's M2 internship at THALES on secure network stack implementations for drone debugging software

## Public interventions

2022	Interview on France Culture in <i>Enjeux Territoriaux</i> on disabled spatialities (June 14th) Communication at the International Geographer Union Congress: "Spatialités discrètes" Communication at UMBC Cybersecurity seminar : "More holes than cheese: Vulnerabilities of the e-voting system used in the 2022 French presidential election" Communication at the <i>Congrès Annuel de l'Acfas</i> (ex Association canadienne-française pour l'avancement des sciences : "Xénogenres en trans-duction : traduire le queer contre l'universalisme anglophone"
2021	Co-organiser and speaker at the <i>Interdisciplinarité dans les SHS : Enjeux épistémiques et politiques</i> day-workshop at CNRS Center for Internet and Society : "Géographie queer-crip, faire du quanti avec du quali" Co-organiser and speaker at Digitrust Day on citizen trust and informatics : "Trust and technological support systems "
2020	Invited speaker and moderator, round-table at the MCAA Conference on Research and Democracy: "How artificial intelligence, robotics and bionics influence accessibility and inclusion"
2019	Invited speaker at the VoteVerif workshop (on voting verification) at University of Luxembourg Invited expert at the Privacy and Cybersecurity Workshop at IU Gateway, Berlin

- 2018 | Invited speaker at the *Workshop on Digital Identity, Global Citizenship and the Future of Democracy* in Berlin, Germany. Co-organiser of large-scale testing of Random Sample Voting combined with e-Identity technology in Germany, in collaboration with the Humboldt Institute for Internet and Society, and Advocate Europe
- Invited speaker at POINT Conference on Political Accountability and New Technologies, talk on the political implications of Random Sample Voting, Sarajevo, Bosnia and Herzegovina,
- Invited speaker at Stanford's EE380 seminar and MIT CSAIL: "Safe passwords made easy to use", Palo Alto and Boston, USA
- Invited speaker for SFS scholars at UMBC: "Usability and psychology in voting system design", Baltimore, USA
- 2017 | Invited speaker, conference on new forms of citizen participation at the Lieu d'Europe, Strasbourg, France
- Invited member of an expert panel and in charge of large-scale RSV demo at the World Forum on Democracy, Strasbourg, France
- 2016 | Member of an expert panel, speaker and organiser of the first public RSV vote at the Global Forum on Modern Direct Democracy, San Sebastian, Spain

## Research Publications

Published, 2022

Enka Blanchard, David Duvivier, Christophe Kolski, and Sophie Lepreux. Detecting temporary obstacles for diversely disabled users. In *24th HCI International Conference, HCII*, 2022

Enka Blanchard. Absention et mathématiques électorales. *EspacesTemps.net*, 2022

Enka Blanchard, Emmanuel Leblond, Djohar Sidhoum-Rahal, and Juliette Walter. Analyse du système de vote en ligne neovote. In *AlgoTel 2022-24èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications*, 2022

Enka Blanchard. Client-side hashing for efficient typo-tolerant password checkers. *International Journal of Systems and Software Security and Protection (IJSSSP)*, 13(1):1–24, 2022

Enka Blanchard. Crippling assistive tech design: How the current disability framework limits our ability to create emancipatory technology. *Service Oriented, Holonic and Multi-agent Manufacturing Systems for Industry of the Future: Proceedings of SOHOMA 2021*, page 377, 2022

2021 | Enka Blanchard, Zacharie Boubli, and Charlotte Lemaistre. Le COVID-19 au prisme des minorités vulnérables. *EspacesTemps.net*, 2021. 10.26151/espacestemp.net-1978-7z05

Enka Blanchard and Giuseppe Longo. From axiomatic systems to the dogmatic gene and beyond. *Biosystems, special issue on Foundations of Mathematics and Theoretical Biology*, 2021

Enka Blanchard, Ryan Robucci, Ted Selker, and Alan T Sherman. Phrase-verified voting: Verifiable low-tech remote boardroom voting: How we voted on tenure & promotion cases during the pandemic. *Cryptologia*, 46(1):67–101, 2022

Enka Blanchard, Stephane Gallardo, Shin Koseki, Carole Lanoix, Olivier Lazzarotti, and Irene Sartoretti. Observer pour inventer : la ville d'après. *EspacesTemps.net*, 2021. 10.26151/espacestemp.net-tqy9-x419

2020 | Enka Blanchard and Ted Selker. Origami voting: a non-cryptographic approach to transparent ballot verification. In *VOTING – 5th Workshop on Advances in Secure Electronic Voting*, 2020

Enka Blanchard. Crips : les oubliés de la collapso. *Yggdrasil*, 7, 2020. Not peer-reviewed

Zacharie Boubli, Enka Blanchard, and Charlotte Lemaistre. La thanatopolitique du COVID-19. *Le Grand Continent*, 2020. (Not peer-reviewed)

Enka Blanchard, Ted Selker, and Florentin Waligorski. Towards an empirical cost model for mental password algorithms. In *Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems*, CHI EA '20, page 1–8, 2020

Enka Blanchard, L. Gabasova, Ted Selker, and Eli Sennesh. Cue-Pin-Select, a Secure Mental Password Manager. In *COMPSAC – IEEE Computers, Software, and Applications Conference*, 2020

Enka Blanchard. Making more extensive and efficient typo-tolerant password checkers. In *SDIM@COMPSAC – Secure Digital Identity Management Workshop co-located with COMPSAC*, 2020

Enka Blanchard and Siargey Kachanovich. Usable everlasting encryption using the pornography infrastructure. In *COMPSAC – IEEE Computers, Software, and Applications Conference, Fast Abstracts*, 2020

Enka Blanchard. Crip spatialities and temporalities II : a systematic typology of temporal taxes. *EspacesTemps.net*, 2020. 10.26151/espacestemp.net-g7ca-v287

Enka Blanchard. Crip spatialities and temporalities I : discreet crips in a discrete world. *EspacesTemps.net*, 2020. 10.26151/espacestemp.net-vmak-xq38

2019 N. Blanchard. CIVICS: Changing Incentives for Voters in International Cooperation through Sampling. In *Smolny Conference*, 2019

N. Blanchard. Comment corriger efficacement les typos dans les mots de passe. In *ALGO-TEL 2019 – 21èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications*, 2019

L. R. Gabasova, N. Blanchard, Bernard Schmitt, Will M. Grundy, Cathy B. Olkin, John R. Spencer, Leslie A. Young, Kimberly Ennico Smith, Hal A. Weaver, Alan Stern, and New Horizons COMP team. Pluto surface composition from spectral model inversion with metaheuristics. In *European Planetary Science Congress*, 2019

N. Blanchard, L. Gabasova, and Ted Selker. Consonant-Vowel-Consonant for Error-Free Code Entry. In *HCI International Conference*, 2019

N. Blanchard and Siargey Kachanovich. A note on the inflating enclosing ball problem. In *5th Bordeaux Graph Workshop*, 2019

N. Blanchard, Siargey Kachanovich, Ted Selker, and Florentin Waligorski. Reflexive memory authenticator: a proposal for effortless renewable biometrics. In *ETAA – 2nd International Workshop on Emerging Technologies for Authorization and Authentication*, 2019

N. Blanchard. Password typo correction using discrete logarithms. In *ICCSCE – 8th International Conference on Computer Science and Communication Engineering*, 2019

N. Blanchard and Siargey Kachanovich. Counting authorised paths in constrained control-flow graphs. In *5th Bordeaux Graph Workshop*, 2019

Enka Blanchard. *Usability: low tech, high security*. PhD thesis, 2019

2018 N. Blanchard. Building trust for sample voting. *International Journal of Decision Support System Technology*, 10(4), 2018

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

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

N. Blanchard, L. Gabasova, Ted Selker, and Eli Sennesh. Créer de tête de nombreux mots de passe inviolables et inoubliables. In *ALGOTEL 2018 – 20èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications*, 2018

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

N. Blanchard and Ted Selker. Improving voting technology is hard: the trust-legitimacy-participation loop and related problems. In *STAST – Workshop on Socio-Technical Aspects in Security and Trust*, 2018

2017 N. Blanchard. Building trust for sample voting. In G. Camilleri, G. Cèze, F. Dupin de St-Cyr, and P. Zaraté, editors, *Proceedings of TeSS*, 2017

	N. Blanchard and Nicolas Schabanel. Dynamic Sum-Radii Clustering. In Sheung-Hung Poon, Md. Saidur Rahman, and Hsu-Chun Yen, editors, <i>WALCOM – Algorithms and Computation: 11th International Conference and Workshops</i> , pages 30–41. Springer International Publishing, 2017
2016	N. Blanchard and Nicolas Schabanel. Clustering Dynamique par Rayon . In <i>ALGOTEL 2016 – 18èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications</i> , Bayonne, France, 2016
	N. Blanchard. Vote par sondage uniforme incorruptible. In <i>ALGOTEL 2016 – 18èmes Rencontres Francophones sur les Aspects Algorithmiques des Télécommunications</i> , Bayonne, France, 2016
2014	Johann A. Makowsky, Elena V. Ravve, and N. Blanchard. On the location of roots of graph polynomials. <i>European Journal of Combinatorics</i> , 41:1–19, 2014
Accepted papers and preprints	Enka Blanchard and Ashley Shew. Disabled dimensionalities: normative expectations' impacts on disabled perceptions and spatialities. <i>Accepted at l'Espace Politique</i> , 2021
	Erin Barbeau, Enka Blanchard, Levi Qism, and Vinicius Santos Almeida. Queer fragmentation and trans urban aesthetics: from cyberpunk to cottagecore. <i>Accepted at Glocalism</i> , 2022
	Fabrizio Li Vigni, Enka Blanchard, and Cyprien Tasset. Theories of global collapse: closing down or opening up the futures? <i>Accepted at Journal of Future Studies</i> , 2022
	Enka Blanchard, Sébastien Bouchard, and Ted Selker. Visual secrets : A recognition-based security primitive and its use for boardroom voting. <i>Accepted at EVOTE-ID</i> , 2022. Preprint available at <a href="https://hal.archives-ouvertes.fr/hal-03133412">https://hal.archives-ouvertes.fr/hal-03133412</a>
	Enka Blanchard, Emmanuel Leblond, Antoine Gallais, Djohar Sidhoum-Rahal, and Juliette Walter. An analysis of the security and privacy issues of the neovote online voting system. In <i>Accepted at EVOTE-ID</i> , 2022
	Ted Selker and Enka Blanchard. Improving the usability and security of mail-in ballots. <i>Accepted at RoCHI 2022</i> , 2022
Submitted papers and preprints	Enka Blanchard, Fabrizio Li Vigni, and Pablo Rauzy. Auteurs·ices, électeurs·ices: redoublons de prudence face aux effets de modes technologiques. 2022
	Enka Blanchard and Xavier Coquand. Du hachage côté client pour l'authentification par mot de passe. 2020
	Enka Blanchard. Where are the missing trans crips? 2020
	Enka Blanchard. A travelling crip's temporal expenses. 2020
	Enka Blanchard. What's in a name, a gender, a crip? 2020
	Leo Adams, Enka Blanchard, Inès Dardouri, Levi Gabasova, and Pierre Midavaine. "Set up son? Scam set, asserts Bob": Semi-Automatic Generation of Bilingual Palindromes. 2020
	Enka Blanchard. La Démocratie Hasardeuse (book). 2019
	Enka Blanchard, Ted Selker, and Alan T. Sherman. Boardroom voting: Practical verifiable voting with ballot privacy using low-tech cryptography in a single room. 2019
	Enka Blanchard, Eldar Fischer, Oded Lachish, and Felix Reidl. Longest paths in 2-edge-connected cubic graphs. 2019
<b>Outreach</b>	
2022	Article in Acteurs Publics : Exigeons la transparence des technologies publiques
2016-2022	5 pop-science articles in the annual CIJM brochure
2020	Caltech/MIT Voting Technology Project. Making sure that your vote is counted in 2020
	Enka Blanchard, Sylvain Kahn, Carole Lanoix, Mélanie Le Guen, Olivier Lazzarotti, Jacques Lévy, and Irene Sartoretti. La science citoyenne et la démocratie interactive pour gouverner l'incertain. <i>Le Monde</i> , 7-8 mai, 2020
2015-2018	6 pop-mathematics articles in Tangente magazine
2017	N. Blanchard and L. Gabasova. Democratic tools for the future. <i>Worldcon 75 poster</i>