

# Nataliia Bielova

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## 1 Profile

I am a tenured Research Scientist (CR1, equivalent to tenured Associate Professor) in computer science at Inria Sophia Antipolis, at the PRIVATICS team. My research area is Online Privacy, where I currently take an multidisciplinary approach combining computer science knowledge and collaborating with scholars in law and design. My interests include:

- Legal GDPR and ePrivacy requirements for online tracking
- Web privacy large-scale measurements
- Analysing dark patterns and manipulation of users and Web developers
- Identifying legal responsibilities of actors in the Web ecosystem
- Informing policy makers of gaps between law and technology

## 2 Education

2021    **Habilitation à diriger des recherches (HDR)**, University Cote d'Azur, France  
HDR thesis: "Protecting Privacy of Web Users"

2011    **PhD** in Computer Science, University of Trento, Italy

2007    **M.Sc. with honors** in Computer Science, Dnipro National University, Ukraine

## 3 Employment

2021 - ongoing	Senior Privacy Fellow, LINC lab, French Data Protection Authority (CNIL)
2020 - ongoing	Chargée de Recherche (CRCN), PRIVATICS team at Inria Grenoble Rhône-Alpes, administrative residence at Inria Sophia Antipolis – Méditerranée.
2018 - 2020,	Visiting Professor, University of Trento, Italy
2016 - 2019	Chargée de Recherche (CR1, then CRCN), INDES team at Inria Sophia Antipolis – Méditerranée
2013 - 2015	Chargée de Recherche (CR2), INDES team at Inria Sophia Antipolis – Méditerranée.
2012 - 2013	Post-doc, CELTIQUE team at Inria Rennes Bretagne Atlantique
2010	Visiting scholar, Katholieke Universiteit Leuven, Belgium
2009	Visiting scholar, Carnegie Mellon University, USA

## 4 Prizes and awards

- 2021 **Best of CHI** Honorable Mention, ACM SIGCHI Conference on Human Factors in Computing Systems
- 2021 Prime d'Encadrement Doctoral et de Recherche (PEDR) of Inria, France
- 2018 **ANR JCJC** personal grant by the French National Research Agency (ANR)
- 2017 Prime d'Encadrement Doctoral et de Recherche (PEDR) of Inria, France
- 2012 LabEx postdoctoral fellowship, France
- 2008 PhD grant of the Italian Government with the Best Score among applicants
- 2006 MSc Scholarship of the Ukrainian Government (given to up to 1% of students)

## 5 Scientific Responsibilities

### 5.1 Steering Committee member

- 2022 - ongoing APVP, Atelier sur la Protection de la Vie Privée (French workshop on Privacy Protection)
- 2018 - 2020 ACM PLAS, ACM Workshop on Programming Languages and Analysis for Security

### 5.2 General Chair

- 2022 Privacy Research Day at the CNIL, co-organizer with the LINC team.
- 2018 Atelier sur la Protection de la Vie Privée (French workshop on Privacy Protection), APVP'18
- 2017 Dagstuhl Seminar on Online Privacy and Web Transparency. Post-proceedings of the Dagstuhl Seminar: [https://drops.dagstuhl.de/opus/volltexte/2017/7548/pdf/dagrep\\_v007\\_i004\\_p083\\_17162.pdf](https://drops.dagstuhl.de/opus/volltexte/2017/7548/pdf/dagrep_v007_i004_p083_17162.pdf).

### 5.3 Program Committee Chair

- 2023 *Vice-Chair*, USENIX Security Symposium (**Sec'23**)
- 2017 ACM Workshop on Programming Languages and Analysis for Security (PLAS'17)

### 5.4 Award Committees

- 2022 *Co-President* of CNIL-Inria Privacy Protection Award
- 2020 *Co-President* of CNIL-Inria Privacy Protection Award
- 2020 *Committee Member* of Caspar Bowden Privacy Enhancing Technologies Award
- 2019 *Co-President* of CNIL-Inria Privacy Protection Award
- 2017 *Committee Member* of Data Transparency Lab Award

### 5.5 Member of the Conference Program Committees

I have been a member of more than 25 technical program committees, including the flagship top-level conferences in security and privacy (highlighted in bold), such as PETs, IEEE S&P and TheWeb conferences:

- 2023 *Vice-Chair*, USENIX Security Symposium (**Sec'23**)
- 2022 Privacy Enhancing Technologies Symposium (**PETs'22**)
- 2021 IEEE Symposium on Security and Privacy (**IEEE S&P'21**)  
Privacy Enhancing Technologies Symposium (**PETs'21**)  
IEEE S&P Workshop on Technology and Consumer Protection (ConPro'21)  
NDSS Workshop on Measurements, Attacks, and Defenses for the Web (MADWeb'21)

- 2020 Privacy Enhancing Technologies Symposium (**PETs'20**)  
Security and Privacy Track of TheWeb Conference (**TheWeb 2020**)
- 2019 Privacy Enhancing Technologies Symposium (**PETs'19**)  
IEEE European Symposium on Security and Privacy (**IEEE EuroS&P'19**)  
IEEE Secure Development Conference (IEEE SecDev'19)  
NDSS Workshop on Measurements, Attacks, and Defenses for the Web (MADWeb'19)  
Atelier sur la Protection de la Vie Privée (French workshop on Privacy Protection, APVP'19)
- 2018 International Conference on Principles of Security and Trust (**POST'18**)  
IEEE Secure Development Conference (IEEE SecDev'18)  
Symposium on Electronic Crime Research (eCrime 2018)  
International Workshop on Programming Technology for the Future Web (ProWeb 2018)  
IEEE Workshop on Legal and Technical Issues in Cloud Computing and the Internet of Things (CLaw 2018)  
Atelier sur la Protection de la Vie Privée (French workshop on Privacy Protection, APVP'18)
- 2017 IEEE Computer Security Foundations Symposium (**IEEE CSF'17**)  
IEEE Secure Development Conference (IEEE SecDev'17)  
ACM Workshop on Programming Languages and Analysis for Security (PLAS'17)  
Workshop on Foundations of Computer Security (FCS'17)  
International Workshop on Programming Technology for the Future Web (ProWeb'17)  
IEEE Workshop on Legal and Technical Issues in Cloud Computing and the Internet of Things (CLaw 2017)  
Atelier sur la Protection de la Vie Privée (French workshop on Privacy Protection, APVP'17)  
International Conference on Math. Methods, Models and Architectures for Computer Networks Security (MMM-ACNS 2017)
- 2013 ACM SIGPLAN Workshop on Programming Languages and Analysis for Security (PLAS'13)

### 5.5.1 International Journals

- ACM TOPS, ACM Transactions on Privacy and Security
- ACM TOIT, ACM Transactions on Internet Technology
- IEEE TDCS, Transactions on Dependable and Secure Computing
- JCS, Journal of Computer Security
- ACM TISSEC, ACM Transactions on Information and System Security
- JLAMP, Journal of Logical and Algebraic Methods in Programming
- IJIS, International Journal of Information Security
- JOT, Journal of Object Technology
- IJICS, International Journal of Information and Computer Security

## 5.6 Scientific Events Organisation

- 2021 Organizer and moderator of the panel "*Standard for consent: still a dream or a soon-to-be reality?*" at the Computers, Privacy and Data Protection (CPDP 2021) conference
- 2018 General co-Chair of Atelier sur la Protection de la Vie Privée (APVP'18)
- 2017 General co-Chair of the **Dagstuhl Seminar** on Online Privacy and Web Transparency
- 2015 Publication Chair of the International Symposium on Engineering Secure Software and Systems (ESSoS'15)
- 2014 Publication Chair of the International Symposium on Engineering Secure Software and Systems (ESSoS'14)

## 5.7 Scientific Exeprtise

- 2020 Invited expert for the evaluation committee for ANR AAPG 2020 "CE39 - Securite Globale et Cybersecurite", 2020
- 2020 Member of the evaluation committee for the projects "Initiatives de Recherche Stratégiques (IRS)" of the University Grenoble Alpes
- 2019 Member of the hiring committee for an Inria chair position "Enseignement et recherche dans le domaine de la cybersécurité" of École Supélec

## 5.8 PhD committees

I have been involved of the following PhD committees:

- 2022 Maaz Bin Musa, Comprehensive exam committee, University of Iowa (US)
- 2022 Emre Kocyigit, PhD thesis supervision committee, University of Luxembourg (LU)
- 2022 Hanaa Alshareef, PhD defense committee, Chalmers University of Technology (SE)
- 2021 Minh-Kha Nguyen, Comité de suivi de these, University of Grenoble Alpes (FR)
- 2020 Tobias Urban, Institute for Internet Security, Ruhr University Bochum (DE)
- 2019 Antoine Vastel, University of Lille & Inria Lille (FR)
- 2018 Daniel Schoepe, Chalmers University of Technology (SE)
- 2018 Oleksii Starov, Stony Brook University (US)
- 2017 Pierre Laperdrix, INSA Rennes & Inria Rennes (FR)
- 2016 Willem De Groef, KULeuven (BE)

## 5.9 Local responsibilities

- 2017-2021 Member of Comité de Suivi Doctoral (CSD) of Inria Sophia Antipolis. The committee gives a scientific opinion on the hiring and extension of the PhD students' contracts at Inria and overlooks the overall work of PhD students. The CSD also evaluates candidates for the Inria PhD scholarships (CORDI-S).
- 2019 Member of the jury "soutenance de stage" of the UBINET master of the University of Nice Sophia Antipolis.
- 2018 Member of selection committee of Inria internship program "Masters transverses".

## 6 Research Projects

### 6.1 Industrial Collaborative Projects

**PIA ANSWER** The ANSWER project, "*Advanced aNd Secured Web Experience and seaRch*" (Jan 2018 - Dec 2021) is funded by PIA program. The aim of the ANSWER project is to develop the new version of the <http://www.qwant.com> search engine by introducing radical innovations in terms of search criteria as well as indexed content and users' privacy. The partners of this project include QWANT and Inria teams Wimmics, Privatics, Indes, Neo and Diana.

## 6.2 National projects

**ANR PrivaWEB** The PrivaWeb project, “*Privacy Protection and ePrivacy Compliance for Web Users*” (Dec 2018 - Nov 2022) is funded by the ANR JCJC personal funding initiative. PrivaWEB aims at developing new methods for detection of new Web tracking technologies and new tools to integrate in existing Web applications that seamlessly protect privacy of users. PrivaWEB is a personal ANR JCJC project.

**ANR AJACS** The AJACS project, “*Analyses of JavaScript Applications: Certification Security*” (Dec 2014 - May 2018) is funded by the ANR. The goal of the AJACS project is to provide strong security and privacy guarantees on the client side for web application scripts. I was involved in the tasks WP2 Certified Analyses and WP3 Security of JavaScript Applications. The partners of this project include Inria teams Celtique (coordinator), Toccata, Indes and Prosecco.

## 6.3 Inria Internal Funding

**AEx DATA4US** AEx DATA4US project, “*Personal DATA Transparency for web USers*” (Feb 2020 - Jan 2022) is a joint project with Cedric Lauradoux (PRIVATICS) granted by Inria exploratory action program. DATA4US tackles these interdisciplinary challenges by establishing collaborations with researchers in Law. DATA4US will propose a new architecture for exercising access rights that will explain the users whether their data has been legally collected and eventually help contact Data Protection Authorities for further investigations.

**ADT FingerKit** In the context of the Inria ADT call, I am involved in a *FingerKit: a Cloud Platform to Study Browser Fingerprints at Large* (2018 - 2020), lead by Walter Rudametkin from the Spirals project-team, Inria Lille. The funding for a two year engineering position was obtained and an engineer is hired in Spirals project-team.

**Actions Marquantes** The joint project with Arnaud Legout from Inria Diana team “*User discrimination on the Web: measurement, causation and prevention*” (Dec 2016 - Nov 2017) is funded by Inria Sophia Antipolis Actions Marquantes initiative. The goal of this project is to detect when users get discriminated on the Web, what are the technologies used to discriminate users and how we can prevent it without breaking the functionality and sometimes useful personalisation within Web applications.

## 7 Teaching

- 2018 - 2021      Lecturer for “**Privacy on the Internet**”, SKEMA Business school, France  
Program: Master in Digital Business  
Level M2, 15h ETD per year
- 2018 - 2021      Lecturer for “**Privacy, Security and Ethical aspects of Data**”, Université Côte d’Azur, France  
Program: Master in Data Science  
Level M1, 18h ETD per year
- 2018 - 2019      Lecturer for “**Web Privacy**”, University of Trento, Italy  
Level PhD, 30h ETD per year
- 2015 - 2018      Lecturer for “**Développements d’Applications Réticulaires**”, University Pierre et Marie Curie - UPMC, France  
Level M2, 15h ETD per year
- 2012 - 2013      Teaching Assistant for “**Sécurité des systèmes d’information**”, University of Rennes 1, France  
Level M2, 19h ETD
- 2012 - 2013      Teaching Assistant for “**Compilation**”, INSA Rennes, France  
Level M1, 20h ETD

### 7.1 E-learning

In 2018, together with Cédric Lauradoux and Vincent Roca (Inria PRIVATICS team), we have designed a Massive Open Online Course (MOOC) entitled “*Protection de la vie privée dans le monde numérique*”. From 2018 till January 2022, the MOOC has been open for 4 sessions and attracted in total **over 47,000 French-speaking participants** from all over the world. Since January 2021, the course is archived and can be freely accessed: <https://www.fun-mooc.fr/courses/course-v1:inria+41015+archiveouvert/about>.

## 8 Publications

### 8.1 International peer-reviewed journals

1. C. Santos, N. Bielova, and C. Matte. Are cookie banners indeed compliant with the law? deciphering EU legal requirements on consent and technical means to verify compliance of cookie banners. *Technology and Regulation*, pages 91–135, 2020. <https://doi.org/10.26116/techreg.2020.009>
2. P. Laperdrix, N. **Bielova**, B. Baudry, and G. Avoine. Browser fingerprinting: A survey. *ACM Transactions on the Web (TWEB)*, 14(2):8:1–8:33, 2020. <https://dl.acm.org/doi/10.1145/3386040>
3. I. Fouad, N. **Bielova**, A. Legout, and N. Sarafijanovic-Djukic. Missed by filter lists: Detecting unknown third-party trackers with invisible pixels. *Proceedings on Privacy Enhancing Technologies (PoPETs)*, 2020, 2020. <https://doi.org/10.2478/popets-2020-0038>
4. N. **Bielova**. Survey on javascript security policies and their enforcement mechanisms in a web browser. *Special Issue on Automated Specification and Verification of Web Systems of Journal of Logic and Algebraic Programming (JLAP)*, 82(8):243 – 262, 2013. <https://doi.org/10.1016/j.jlap.2013.05.001>
5. N. **Bielova** and F. Massacci. Iterative enforcement by suppression: Towards practical enforcement theories. *Journal of Computer Security (JCS)*, 20(1):51 – 79, 2012. Paid access: <https://content.>

[iospress.com/articles/journal-of-computer-security/jcs431](https://iospress.com/articles/journal-of-computer-security/jcs431), open access (author version):  
<http://www-sop.inria.fr/members/Nataliia.Bielova/papers/BIEL-MASS-10-JCS.pdf>

6. N. **Bielova** and F. Massacci. Do you really mean what you actually enforced? *International Journal of Information Security (IJIS)*, pages 239–254, 2011. <http://dx.doi.org/10.1007/s10207-011-0137-2>
7. N. **Bielova**, N. Dragoni, F. Massacci, K. Naliuka, and I. Siahaan. Matching in security-by-contract for mobile code. *Journal of Logic and Algebraic Programming (JLAP)*, 78. <http://dx.doi.org/10.1016/j.jlap.2009.02.013>

## 8.2 Peer-reviewed international conferences and workshops

1. I. Fouad, C. Santos, A. Legout, and N. **Bielova**. My Cookie is a phoenix: detection, measurement, and lawfulness of cookie respawning with browser fingerprinting. In *PETS 2022 - 22nd Privacy Enhancing Technologies Symposium*, Sydney, Australia, July 2022
2. M. Toth, N. **Bielova**, and V. Roca. On dark patterns and manipulation of website publishers by CMPs. In *PETS 2022 - 22nd Privacy Enhancing Technologies Symposium*, Sydney / Virtual, Australia, July 2022
3. C. Gray, C. Santos, N. **Bielova**, M. Toth, and D. Clifford. Dark patterns and the legal requirements of consent banners: An interaction criticism perspective. In *ACM CHI Conference on Human Factors in Computing Systems (ACM CHI)*, 2021. **Best of CHI Honorable Mention (5%)**. <https://arxiv.org/abs/2009.10194>
4. C. Santos, M. Nouwens, M. Toth, N. **Bielova**, and V. Roca. Consent management platforms under the gdpr: processors and/or controllers? In *Annual Privacy Forum (APF'21)*, 2021. <https://hal.inria.fr/hal-03169436>
5. V. Wesselkamp, I. Fouad, C. Santos, Y. Boussad, N. **Bielova**, and A. Legout. In-Depth Technical and Legal Analysis of Tracking on Health Related Websites with ERNIE Extension. In *WPES 2021 - 20th Workshop on Privacy in the Electronic Society*, Seoul, South Korea, Nov. 2021
6. C. Matte, N. **Bielova**, and C. Santos. Do cookie banners respect my choice? measuring legal compliance of banners from iab europe's transparency and consent framework. In *IEEE Symposium on Security and Privacy (IEEE S&P)*, 2020. <https://hal.inria.fr/hal-03117294>
7. C. Matte, C. Santos, and N. **Bielova**. Purposes in IAB Europe's TCF: which legal basis and how are they used by advertisers? In *Annual Privacy Forum, APF*, Lecture Notes in Computer Science, 2020. <https://hal.inria.fr/hal-02566891>
8. I. Fouad, C. Santos, F. Al Kassar, N. **Bielova**, and S. Calzavara. On Compliance of Cookie Purposes with the Purpose Specification Principle. In *2020 International Workshop on Privacy Engineering, IWPE*, 2020. <https://hal.inria.fr/hal-02567022>
9. C. Boniface, I. Fouad, N. **Bielova**, C. Lauradoux, and C. Santos. Security analysis of subject access request procedures - how to authenticate data subjects safely when they request for their data. In *7th Annual Privacy Forum, APF*, volume 11498 of *Lecture Notes in Computer Science*, pages 182–209. Springer, 2019. <https://hal.inria.fr/hal-02072302>
10. G. G. Gulyás, D. F. Somé, N. **Bielova**, and C. Castelluccia. To extend or not to extend: On the uniqueness of browser extensions and web logins. In *Proceedings of the 2018 Workshop on Privacy in the Electronic Society, WPES@ACM CCS 2018*, pages 14–27. ACM, 2018
11. M. Ngo, N. **Bielova**, C. Flanagan, T. Rezk, A. Russo, and T. Schmitz. A better facet of dynamic information flow control. In *Web Programming, Design, Analysis, And Implementation (WPDAl 2018) alternate track of The Web Conference (WWW 2018)*, pages 731–739. ACM, 2018

12. D. F. Somé, N. **Bielova**, and T. Rezk. Control what you include! server-side protection against third party web tracking. In *International Symposium on Engineering Secure Software and Systems (ESSoS)*, volume 10379 of *Lecture Notes in Computer Science*, pages 115–132. Springer, 2017
13. D. F. Somé, N. **Bielova**, and T. Rezk. On the content security policy violations due to the same-origin policy. In *Proceedings of the 26th International Conference on World Wide Web, WWW 2017*, pages 877–886. ACM, 2017
14. N. **Bielova** and T. Rezk. Spot the difference: Secure multi-execution and multiple facets. In *21st European Symposium on Research in Computer Security, ESORICS*, volume 9878 of *Lecture Notes in Computer Science*, pages 501–519. Springer, 2016
15. F. Besson, N. **Bielova**, and T. P. Jensen. Hybrid monitoring of attacker knowledge. In *IEEE 29th Computer Security Foundations Symposium, CSF*, pages 225–238. IEEE Computer Society, 2016
16. N. **Bielova** and T. Rezk. A taxonomy of information flow monitors. In *Principles of Security and Trust - 5th International Conference, POST*, volume 9635 of *Lecture Notes in Computer Science*, pages 46–67. Springer, 2016
17. N. **Bielova**. Short paper: Dynamic leakage: A need for a new quantitative information flow measure. In *Proceedings of the 2016 ACM Workshop on Programming Languages and Analysis for Security, PLAS@CCS 2016*, pages 83–88. ACM, 2016
18. F. Besson, N. **Bielova**, and T. Jensen. Browser Randomisation against Fingerprinting: A Quantitative Information Flow Approach. In *Nordic Conference on Secure IT Systems (NordSec 2014)*, pages 181–196, 2014
19. T. Vissers, N. Nikiforakis, N. **Bielova**, and W. Joosen. Crying Wolf? On the Price Discrimination of Online Airline Tickets. In *7th Workshop on Hot Topics in Privacy Enhancing Technologies (HotPETs 2014)*, 2014
20. F. Besson, N. **Bielova**, and T. Jensen. Hybrid information flow monitoring against web tracking. In *IEEE Computer Security Foundations Symposium (CSF 2013)*, pages 240–254. IEEE, 2013
21. N. **Bielova**, D. Devriese, F. Massacci, and F. Piessens. Reactive non-interference for a browser model. In *International Conference on Network and System Security (NSS 2011)*, pages 97–104. IEEE, 2011
22. N. **Bielova** and F. Massacci. Computer-aided generation of enforcement mechanisms for error-tolerant policies. pages 89–96, 2011
23. N. **Bielova** and F. Massacci. Predictability of enforcement. volume 6542, pages 73–86, 2011
24. N. **Bielova**, F. Massacci, and A. Micheletti. Towards practical enforcement theories. volume 5838, pages 239–254, 2009
25. N. **Bielova** and F. Massacci. Do you really mean what you actually enforced? volume 5491, pages 287–301, 2008
26. N. **Bielova**, M. Dalla Torre, N. Dragoni, and I. Siahaan. Matching policies with security claims of mobile applications. pages 128–135, 2008
27. N. **Bielova** and I. Siahaan. Testing decision procedures for security-by-contract. 2008

### 8.3 Contribution to the Data Protection Authorities and EDPB

1. M. Toth, N. **Bielova**, C. Santos, V. Roca, and C. Matte. Contribution to the public consultation on the CNIL’s draft recommendation on ”cookies and other trackers”, 2020. Research report, <https://hal.inria.fr/hal-02490531>

2. N. **Bielova** and C. Santos. Feedback to EDPB regarding Guidelines 07/2020 on the concepts of controller and processor in the GDPR, 2020. Research report, <http://www-sop.inria.fr/members/Nataliia.Bielova/opinions/EDPB-contribution-controllers-processors.pdf>
3. N. **Bielova** and C. Santos. Feedback to the Guidelines on the use of cookies and other tracking tools of the Italian Data Protection Authority, 2020. Research report, <https://hal.inria.fr/hal-03079482>

## 8.4 Research reports and publications under review

1. A. Boutet, N. **Bielova**, C. Castelluccia, M. Cunche, C. Lauradoux, D. Le Métayer, and V. Roca. Proximity Tracing Approaches - Comparative Impact Analysis. Research report, INRIA Grenoble - Rhone-Alpes, Apr. 2020. <https://hal.inria.fr/hal-02570676>
2. C. Castelluccia, N. **Bielova**, A. Boutet, M. Cunche, C. Lauradoux, D. Le Métayer, and V. Roca. DE-SIRE: A Third Way for a European Exposure Notification System Leveraging the best of centralized and decentralized systems. <https://hal.inria.fr/hal-02570382>, 2020
3. C. Castelluccia, N. **Bielova**, A. Boutet, M. Cunche, C. Lauradoux, D. Le Métayer, and V. Roca. ROBERT: ROBust and privacy-presERving proximity Tracing. <https://hal.inria.fr/hal-02611265>, May 2020
4. N. **Bielova**, N. Laoutaris, A. Narayanan, and N. Nikiforakis. Online privacy and web transparency (Dagstuhl Seminar 17162). *Dagstuhl Reports*, 7(4):83–106, 2017

## 9 Dissemination of scientific knowledge

I have been an invited speaker and invited lecturer at international conferences, workshops and summer schools. In this section I also present scientific mediation and popularization activities I have carried out.

### 9.1 Invited talks

#### 9.1.1 2021

- 2021 Keynote at the Designing Security for the Web (SecWeb 2021) workshop presenting our work on Web tracking, consent pop-ups and dark patterns: legal and technical perspectives <https://secweb.work/2021.html>
- 2021 Invited member of a panel "Regulating digital platforms: convergence or divergence?" at the TILTING Perspectives, one of the most reputed Legal conferences in the EU <https://easychair.org/smart-program/TILTING2021/>
- 2021 Invited speaker at the COSIC seminar of KULeuven (Belgium) together with Cristiana Santos presenting our multidisciplinary work on tracking, consent and dark patterns <https://cif-seminars.github.io/#web-tracking-consent-pop-ups-and-dark-patterns-legal-and-technical-perspectives-by-pr>
- 2021 Invited by the The Organisation for Economic Co-operation and Development (OECD) together with Cristiana Santos to present our work on dark patterns and standardisation of consent.
- 2021 Invited speaker on "Detecting online tracking and GDPR violations in Web applications" at the Security & Privacy track of ICT OPEN, Netherlands <https://www.ictopen.nl/securityandprivacy>
- 2021 Moderator of the CPDP 2021 panel "Standardized consent: Still a dream of a soon-to-be reality?" Video : <https://www.youtube.com/watch?v=0sUMTFwBBh4>

### 9.1.2 2020

- 2020 Invited talk at Groupe de Travail Protection de la Vie Privée of CNRS GDR Securite, online: [https://www.univ-orleans.fr/lifo/evenements/GT-PVP/?page\\_id=45](https://www.univ-orleans.fr/lifo/evenements/GT-PVP/?page_id=45)
- 2020 Invited talk with Cristiana Santos at Cyber Security Coalition (Belgium) “Are cookie banners indeed compliant with the law?” <https://www.cybersecuritycoalition.be/webinars#gdpr>
- 2020 Invited talk with Cristiana Santos at Deep Law for Tech (DL4T) webinar at the Université Côte d’Azur : <https://www.youtube.com/watch?v=FVuKStnS0kg>
- 2020 Selected talk "I see a cookie banner – is it even legal?" with Cristiana Santos at HotPETs 2020, virtual Montreal, Canada

### 9.1.3 2019-2018

- 2019 Invited talk on Detection of Web tracking missed by browser extensions at the Mozilla Security Summit, Vienna, Austria <https://events.mozilla.org/mozillasecurityresearchsummit2019>
- 2019 Keynote at the the Francophone workshop on Privacy Protection “l’Atelier sur la Protection de la Vie Privée” (APVP’18) in Cap-Hornu, France <https://project.inria.fr/apvp2019/>.
- 2018 Keynote at the Journée scientifique RISE/DS4H of Université Côte d’Azur, France <http://univ-cotedazur.fr/contenus-riches/agenda/fr/journee-scientifique-vie-privee-numerique>
- 2018 Invited talk at the "Transparence et opacite des systemes d’information" workshop in Lyon, France <http://transparence.conf.citi-lab.fr/>.
- 2018 Invited talk at the Journées Scientifiques Inria, Bordeaux, France. <https://journées-scientifiques2018.inria.fr/francais-programme/>.

### 9.1.4 Before 2018

- 2017 Invited talk at the **EU Parliament** meeting dedicated to the analysis of the new EU ePrivacy Regulation in Brussels, Belgium. I presented our work on web tracking via browser extension fingerprinting [12]. <https://www.inria.fr/fr/vie-privee-internet-parlement-europeen>
- 2017 Invited talk at the SySoSec seminar, Inria Rennes. [http://seminaire-dga.gforge.inria.fr/archives\\_fr.html#16-17](http://seminaire-dga.gforge.inria.fr/archives_fr.html#16-17)
- 2017 Invited talk at the Russian-French Workshop in Big Data and Applications, Higher School of Economics, Moscow, Russia <https://bi.hse.ru/en/rfw/2017>
- 2016 Invited talk at the CAPPRIS Inria Collaborative Action meeting, Sophia Antipolis, France. <https://cappris.inria.fr/>
- 2013 Invited speaker at the panel of International Conference on Runtime Verification, Rennes, France. <http://rv2013.gforge.inria.fr>
- 2013 Invited talk at Dagstuhl Seminar: Verifiably Secure Process-Aware Information Systems, Wadern, Germany. <https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=13341>
- 2012 Invited talk at Dagstuhl Seminar: Web Application Security, Wadern, Germany. <https://www.dagstuhl.de/en/program/calendar/semhp/?semnr=12401>
- 2012 Invited talk at Security and Formal Methods seminar, Inria Rennes, France. <http://videos.rennes.inria.fr/interne/Seminaire-Celtique/Nataliia-Bielova/index.html>

## 9.2 Invited lectures

- 2019 Invited lecture on GDPR consent mechanisms in Web applications at the Summer School on Cybersecurity, Université Cote d'Azur, France
- 2018 Tutorial on Web Tracking Technologies at TheWeb'18 International conference, Lyon, France
- 2018 Invited lecture on Web tracking technologies and protection mechanisms at Carnegie Mellon University, USA
- 2018 Invited lecture on Web Privacy at the Summer School ResCom, France
- 2018 Invited lecture on Web tracking technologies at SKEMA Business school, France
- 2018 Invited lecture on Web Tracking, Privacy and Transparency Measurements at the Summer School on Cybersecurity, Université Cote d'Azur, France
- 2017 Invited lecture on Web tracking technologies and protection mechanisms at Carnegie Mellon University, USA
- 2017 Invited lecture on Web Tracking Technologies at Igor Sikorsky Kiev Politechnic Institute, Kiev, Ukraine

## 9.3 Impact on society

- 2019 "None Of Your Business" (NOYB) NGO issued a **complaint to the French Data Protection Authority (CNIL)** based on the results of our work on the potential violations of GDPR and ePrivacy directive in cookie banners [14]. NOYB used our open source "Cookie Glasses" browser extension that brings transparency to the banners that rely on IAB Europe TCF. The complaint addressed three popular French websites: CDiscount, AlloCine and VanityFair. <https://noyb.eu/en/say-no-cookies-yet-see-your-privacy-crumble>
- 2020 I co-author **ROBERT protocol** [7] implemented in the **StopCovid** mobile contact tracing application deployed in France by the French Government in the context of the Covid-19 pandemic and intended to warn of possible contamination. <https://fr.wikipedia.org/wiki/StopCovid>

## 9.4 Mentorship

- 2020 Presentation to female MSc students of UBINET on career in research, Nice, France.
- 2019 Presentation to BSc and MSc students during the ACM-W Ukrainian Chapter celebration, Kiev, Ukraine. <https://women.acm.org/2019-2020-celebrations/>

## 9.5 Popularization of scientific knowledge

- 2019 Intervention with high school students during "Semaine De La Science" with Cinesciences at the cinémathèque of Nice, France.
- 2019 I am a contributor of the Inria white book on CyberSecurity: I provided an overview of the research in the area of Web Tracking technologies carried out by Inria teams. <https://hal.inria.fr/hal-01993308>
- 2017 I have contributed the article by LINC of the CNIL on the usage of browser extensions for Web tracking, that highlights our research [12], <https://linc.cnil.fr/fr/inria-research-project-tries-uncover-how-websites-can-dig-your-preferences-online>
- 2017 Presentation "Technologies et Protection de votre vie privée sur Internet" at Cafe-techno organised by Inria, <http://univ-cotedazur.fr/contenus-riches/agenda/fr/cafe-techno-technologies-et-protection-de-votre-vie-privee-sur-internet-par-nataliia-b>
- 2016 Leading author of the article for general public in ERCIM News: " *Using JavaScript Monitoring to Prevent Device Fingerprinting*", <https://ercim-news.ercim.eu/en106/special/using-javascript-monitoring-to-prevent-device-fingerprinting>
- 2013 Presentation "Web Tracking technologies and privacy protection on the Web" at Conf'Lunch, Inria Rennes, France. <http://videos.rennes.inria.fr/confLunch/NataliiaBielova/indexConfLunchBielova.html#expose>
- 2013 Co-author of the article for general public "L'équipe Celtique et la protection de la vie privée sur le web" at Ouest Inria, that presented our approach for quantifying Web browser fingerprinting, <https://iww.inria.fr/ouest-inria/protection-de-la-vie-privee-sur-le-web/>

## 9.6 Interviews by the media

- 2021 Interview in VICE: “‘It’s Bad Design On Purpose’ – Why Website Cookie Banners Look Like That”, <https://www.vice.com/en/article/m7epda/its-bad-design-on-purpose-why-website-cookie-banners-look-like-that>
- 2020 Interview in MediaPart: “Donnees personnelles: les cookies resistant encore”. I presented our work on verifying legal compliance of cookie banners with GDPR and ePrivacy [14], <https://www.mediapart.fr/journal/france/190220/donnees-personnelles-les-cookies-resistant-encore>.
- 2019 Interview in Usine Digitale: “Fuite massive de données à AccorHotels : ce que risque l’entreprise”. I explained the problem of data breaches and massive data collection, data minimisation and purpose limitation principles of the GDPR, <https://www.usine-digitale.fr/article/fuite-massive-de-donnees-a-accorhotels-que-risque-l-entreprise.N906279>
- 2019 Interview in L’OBS: “Entre réalité augmentée et reconnaissance faciale, on a parcouru le supermarché de demain”, I explain the meaning of valid consent under GDPR, problem of consent and third-party data usage and data minimisation principle: “Si vous me ciblez par rapport à mon âge, vous n’avez pas besoin de mon visage !” <https://www.nouvelobs.com/economie/20191129.OBS21725/entre-realite-augmentee-et-reconnaissance-faciale-on-a-parcouru-le-supermarche-de-demain.html>
- 2018 Interview in NiceMatin: “Comment mieux protéger sa vie privée en naviguant sur internet? Les conseils d’une spécialiste”. I explained how Web browser cookies and other tracking technologies work and demonstrated our research on how users can be tracked by the fingerprint of their browser extensions [12]. <https://www.nicematin.com/faits-de-societe/comment-mieux-protoger-sa-vie-privee-en-naviguant-sur-internet-les-conseils-dune-specialiste>
- 2017 Interview in DCloudNews: “Les mouchards du web épinglés par une jeune chercheuse de l’INRIA”. I explained how Internet users can be tracked on the Web thanks to the browser extensions they install [12] and how the new ePrivacy Regulation could protect the users. <http://www.dcloudnews.eu/les-mouchards-du-web-epingles-par-une-jeune-chercheuse-de-linria/>.
- 2015 Interview in “Science et vie” magazine: “Achat sur Internet – Des prix à la tête du client!”, No. 1177. I was involved in this article thanks to my knowledge on Web tracking techniques and to my research on Price Discrimination of Online Airline Tickets [40].

