

# Prof. Emiliano De Cristofaro

Professor of Security and Privacy Enhancing Technologies  
Head of Information Security Research  
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[CV Last Updated: December 12, 2020]

## Research Interests

- Security and Privacy Enhancing Technologies
- Privacy in Machine Learning
- Web Measurements, CyberSafety, Online Harms

## Education

- **PhD in Networked Systems**, University of California, Irvine (Advisor: Gene Tsudik)  
Dissertation: *Sharing Sensitive Information with Privacy*  
Fall 2007 – Summer 2011
- **BSc Honors** (5-year program) in Computer Science, *summa cum laude*, University of Salerno, Italy  
Fall 2000 – Summer 2005

## Positions

- **October 2013 – ongoing: University College London (UCL)**

### *Titles:*

- Professor of Security and Privacy Enhancing Technologies (since October 2019)
- Reader/Associate Professor (October 2017 – September 2019)
- Senior Lecturer (October 2013 – September 2017)

### *Roles:*

- Head of UCL's Information Security Research Group (since September 2018)
- Director of the Academic Center of Excellence in Cyber Security Research (since January 2019)
- Technology Advisor to Information Commissioner's Office (since May 2019)
- Faculty Fellow and Leader of the Privacy in Machine Learning Interest Group at the Alan Turing Institute, UK's national institute for data science and artificial intelligence (since October 2018)

### *Grants and Funding (PI/co-PI):*

- UKRI National Research Centre on Privacy, Harm Reduction and Adversarial Influence Online, "REPHRAIN" (co-PI, total funding £6,864,055, UCL funding: £799,682)
- EU H2020 MSCA-ITN, Privacy & Usability Innovative Training Network, "Privacy & Us" (PI, total funding €3,376,517, UCL funding: €546,575)
- EU H2020 MSCA-RISE, Enhancing Security and Privacy in the Social Web, "ENCASE" (PI, total funding: €2,160,000, UCL funding: €310,500)
- Xerox University Affairs Committee Award and Research Councils UK IMPACT Award, "Secure Collaborative Analytics" (PI, total funding: £120,000)
- Microsoft Research & EPSRC Case Studentship, "Privacy in Distributed Learning" (PI, total funding £120,000)
- Amazon Research Awards, "Studying and Mitigating Inference Attacks on Collaborative Federated Learning" (PI, total funding, \$100,000)
- Alan Turing Institute & GCHQ, "Evaluating Privacy-Preserving Generative Models In The Wild" (PI, total funding £70,000)
- Google Faculty Research Award, "Enabling Progress in Genomic Research via Privacy-Preserving Data Sharing" (PI, \$70,000)
- Nokia Bell Labs Faculty Donation, "Privacy in Generative Models" (PI, total funding €40,000)
- Royal Society Netwon Fund Grant, "Usable Cryptographic Authentication" (co-PI, total funding: £30,000)

### *Grants and Funding (co-I):*

- EPSRC iSense Exploratory Grant, "A technical framework for enabling and supporting data donors for medical research" (co-I, £120,000)
- Alan Turing Institute & GCHQ, "Privacy And Trust In The Decentralised Web" (co-I, total funding £70,000)

- **September 2011 – September 2013: PARC (a Xerox company);** Member of Research Staff

- Internal and commercial projects: secure and privacy-preserving analytics; security and privacy in healthcare and genomics; security and privacy in future Internet architectures; usable enterprise security

- US Government projects: PI on DoE-funded National Electric Sector Cybersecurity Organization Resource program (2011–2013); co-PI on several NSF, DARPA, and IARPA funded projects
- **September 2007 – August 2011: University of California, Irvine;** Graduate Student Research Assistant
  - IARPA's Automatic Privacy Protection (APP) program; co-designed and implemented the **fastest** protocols among the four teams participating in the program
  - Co-authored several academic publications on secure information sharing and co-designed the first protocol for privacy-preserving testing on whole human genomes
  - Teaching assistant for undergraduate and graduate security classes
- **June – September 2010: Nokia Research Center, Lausanne;** PhD Intern
  - Worked with Dr. Imad Aad and Dr. Valtteri Niemi; designed, implemented, and evaluated several protocols for security and privacy protection in smartphone applications.
  - Co-authored one US patent and one paper published in the top pervasive computing conference (PERCOM)
- **September – December 2009: INRIA Rhone Alpes, Grenoble, France;** PhD Intern
  - Worked with Dr. Claude Castelluccia, discovered and demonstrated an inference attack to reconstruct search history of Google users (published at PETS)
  - Designed and implemented a system for protecting long-term privacy of published data (published at ICNP)
- **June – September 2008: NEC Europe Research Lab, Heidelberg, Germany;** PhD Intern
  - Worked with Dr. Westhoff, designed and implemented a framework for resilient data aggregation in sensor networks
  - Co-authored one paper published in the top wireless security conference (WiSec)
- **January 2006 – August 2007: University of Salerno, Italy;** Research Assistant
  - Worked with Prof. C. Blundo, Prof. G. Persiano, and Prof. V. Auletta, co-authored several academic papers
  - Research assistant on EU-funded Ecrypt and Aeolus projects

## Awards

- **ACM CyberSafety, Best Paper Award.** For the paper “Disinformation Warfare: Understanding State-Sponsored Trolls on Twitter and Their Influence on the Web,” with Savvas Zannettou, Tristan Caulfield, Michael Sirivianos, Gianluca Stringhini, and Jeremy Blackburn, May 2019.
- **ACM IMC 2018, Distinguished Paper Award.** For the paper “On the Origins of Memes by Means of Fringe Web Communities,” with Savvas Zannettou, Tristan Caulfield, Jeremy Blackburn, Michael Sirivianos, Gianluca Stringhini, and Guillermo Suarez-Tangil, October 2018.
- **NDSS 2018, Distinguished Paper Award.** For the paper “Knock Knock, Who's There? Membership Inference on Aggregate Location Data,” with Apostolos Pyrgelis and Carmela Troncoso, February 2018.
- **5th Data Protection by Design Award.** Award issued by the Catalan Data Protection authority and the Parliament of Catalonia, for work with Luca Melis and George Danezis, June 2017
- **PARC Excellence Award.** Outstanding research performance in 2012, only 1 awarded per group
- **UC Irvine's Dissertation Fellowship,** Fall 2010 (\$10,000), only 1 awarded per department
- **UC Irvine's Dean's Fellowship.** 4-year PhD financial support (2007–2011), only 5 awarded per department
- **Summa Cum Laude Honors,** University of Salerno, Italy, top 1% in graduating class

## Publications

[Tier-1 conferences marked with \*]

103. Yuping Wang, Fatemeh Tahmasbi, Jeremy Blackburn, Barry Bradlyn, Emiliano De Cristofaro, David Magerman, Savvas Zannettou, and Gianluca Stringhini  
**Understanding the Use of Fauxtography on Social Media**  
 15th International AAAI Conference on Web and Social Media (ICWSM 2021)\*
102. Manoel Horta Ribeiro, Jeremy Blackburn, Barry Bradlyn, Emiliano De Cristofaro Gianluca Stringhini, Summer Long, Stephanie Greenberg, and Savvas Zannettou  
**The Evolution of the Manosphere Across the Web**  
 15th International AAAI Conference on Web and Social Media (ICWSM 2021)\*  
 Media Coverage: Newsweek, MIT Tech, Daily Mail
101. Alexandros Mittos, Savvas Zannettou, Jeremy Blackburn, and Emiliano De Cristofaro  
**Analyzing Genetic Testing Discourse on the Web Through the Lens of Twitter, Reddit, and 4chan**  
 ACM Transactions on the Web (TWEB), Volume 13, Issue 4, August 2020
100. Apostolos Pyrgelis, Carmela Troncoso, and Emiliano De Cristofaro  
**Measuring Membership Privacy on Aggregate Location Time-Series**  
 ACM SIGMETRICS 2020\*

99. Matt Wixey, Shane Johnson, and Emiliano De Cristofaro  
**On the Feasibility of Acoustic Attacks Using Commodity Smart Devices**  
 IEEE Workshop on the Internet of Safe Things (co-located with IEEE S&P 2020)
98. Antonis Papasavva, Savvas Zannettou, Emiliano De Cristofaro, Gianluca Stringhini, Jeremy Blackburn  
**Raiders of the Lost Kek: 3.5 Years of Augmented 4chan Posts from the Politically Incorrect Board**  
 14th International AAAI Conference on Web and Social Media (ICWSM 2020)\*
97. Savvas Zannettou, Barry Bradlyn, Tristan Caulfield, Emiliano De Cristofaro, Gianluca Stringhini, and Jeremy Blackburn  
**Characterizing the Use of Images in State-Sponsored Information Warfare Operations by Russian Trolls on Twitter**  
 14th International AAAI Conference on Web and Social Media (ICWSM 2020)\*
96. Alexandros Mittos, Savvas Zannettou, Jeremy Blackburn, and Emiliano De Cristofaro  
**“And We Will Fight For Our Race!” A Measurement Study of Genetic Testing Conversations on Reddit and 4chan**  
 14th International AAAI Conference on Web and Social Media (ICWSM 2020)\*
95. Aravindh Raman, Sagar Joglekar, Emiliano De Cristofaro, Nishanth Sastry, Gareth Tyson  
**Challenges in the Decentralized Web: The Mastodon Case**  
 19th ACM Internet Measurement Conference (IMC 2019)\*
94. Enrico Mariconti, Guillermo Suarez-Tangil, Jeremy Blackburn, Emiliano De Cristofaro, Nicolas Kourtellis, Ilias Leontiadis, Jordi Luque Serrano, and Gianluca Stringhini  
**“You Know What to Do”: Proactive Detection of YouTube Videos Targeted by Coordinated Hate Attacks**  
 22nd ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2019)
93. Bristena Oprisanu, Christophe Dessimoz, and Emiliano De Cristofaro  
**How Much Does GenoGuard Really Guard? An Empirical Analysis of Long-Term Security for Genomic Data**  
 18th ACM CCS Workshop on Privacy in the Electronic Society (WPES 2019)
92. Hassan Jameel Asghar, Emiliano De Cristofaro, Guillaume Jourjon, Dali Kaafar, Laurent Mathy, Luca Melis, Craig Russell, and Mang Yu  
**Fast Privacy-Preserving Network Function Outsourcing**  
 Computer Networks, Vol. 163, 2019
91. Despoina Chatzakou, I. Leontiadis, J. Blackburn, Emiliano De Cristofaro, G. Stringhini, A. Vakali, and N. Kourtellis  
**Detecting Cyberbullying and Cyberaggression in Social Media**  
 ACM Transactions on the Web (TWEB), Vol. 13, No. 3, 2019
90. Luca Melis, Congzheng Song, Emiliano De Cristofaro, and Vitaly Shmatikov  
**Exploiting Unintended Feature Leakage in Collaborative Learning**  
 40th IEEE Symposium on Security & Privacy (S&P 2019)\*
89. Vincent Primault, Vasileios Lamos, Ingemar Cox, and Emiliano De Cristofaro  
**Privacy-Preserving Crowd-Sourcing of Web Searches with Private Data Donor**  
 28th The World Wide Web Conference (WWW 2019)\*
88. Savvas Zannettou, Tristan Caulfield, Emiliano De Cristofaro, Michael Sirivianos, Gianluca Stringhini, and Jeremy Blackburn  
**Disinformation Warfare: Understanding State-Sponsored Trolls on Twitter and Their Influence on the Web**  
 4th Workshop on Computational Methods in CyberSafety, Online Harassment and Misinformation (ACM CyberSafety 2019)  
*Best Paper Award*
87. Lucky Onwuzurike, Enrico Mariconti, Panagiotis Andriotis, Emiliano De Cristofaro, Gordon Ross, and Gianluca Stringhini  
**MaMaDroid: Detecting Android Malware by Building Markov Chains of Behavioral Models (Extended Version)**  
 ACM Transactions on Privacy and Security (ACM TOPS), Volume 22, Issue 2, April 2019
86. Jamie Hayes, Luca Melis, George Danezis, Emiliano De Cristofaro  
**LOGAN: Membership Inference Attacks Against Generative Models**  
 Proceedings on Privacy Enhancing Technologies, Vol. 2019, Issue 1 (PoPETS 2019)
85. Alexandros Mittos, Bradley Malin, and Emiliano De Cristofaro  
**Systematizing Genome Privacy Research: A Privacy-Enhancing Technologies Perspective**  
 Proceedings on Privacy Enhancing Technologies, Vol. 2019, Issue 1 (PoPETS 2019)
84. Savvas Zannettou, Tristan Caulfield, Jeremy Blackburn, Emiliano De Cristofaro, Michael Sirivianos, Gianluca Stringhini, and Guillermo Suarez-Tangil  
**On the Origins of Memes by Means of Fringe Web Communities**  
 18th ACM Internet Measurement Conference (IMC 2018)\*  
*Distinguished Paper award*
83. Luca Melis, Apostolos Pyrgelis, Emiliano De Cristofaro  
**On Collaborative Predictive Blacklisting**  
 ACM SIGCOMM's Computer Communication Review (CCR), Vol. 48, No. 5, Oct. 2018

82. Juan Echeverria, Emiliano De Cristofaro, Nicolas Kourtellis, Ilias Leontiadis, Gianluca Stringhini, Shi Zhou  
**LOBO — Evaluation of Generalization Deficiencies in Twitter Bot Classifiers**  
2018 Annual Computer Security Applications Conference (ACSAC 2018)
81. Gergely Acs, Luca Melis, Claude Castelluccia, Emiliano De Cristofaro (Extended Version)  
**Differentially Private Mixture of Generative Neural Networks**  
IEEE Transactions on Knowledge and Data Engineering (TKDE 2018)
80. Apostolos Pyrgelis, Carmela Troncoso, Emiliano De Cristofaro  
**Knock Knock, Who's There? Membership Inference on Aggregate Location Data**  
25th Network and Distributed System Security Symposium (NDSS 2018)\*  
*Distinguished Paper award*
79. Neema Kotonya, Paolo De Cristofaro, Emiliano De Cristofaro  
**Of Wines and Reviews: Measuring and Modeling the Vivino Wine Social Network**  
IEEE/ACM International Conference on Advances in Social Networks Analysis and Mining (ASONAM 2018)
78. Lucky Onwuzurike, Mario Almeida, Enrico Mariconti, Jeremy Blackburn, Gianluca Stringhini, Emiliano De Cristofaro  
**A Family of Droids—Android Malware Detection via Behavioral Modeling: Static vs Dynamic Analysis**  
16th Annual Conference on Privacy, Security and Trust 16th Annual Conference on Privacy, Security and Trust (PST 2018)
77. Andrea Cerulli, Emiliano De Cristofaro, Claudio Soriente  
**Nothing Refreshes Like a RePSI: Reactive Private Set Intersection**  
16th International Conference on Applied Cryptography and Network Security (ACNS 2018)
76. Savvas Zannettou, Jeremy Blackburn, Emiliano De Cristofaro, Michael Sirivianos, Gianluca Stringhini  
**Understanding Web Archiving Services and Their (Mis)Use on Social Media**  
12th International AAAI Conference on Web and Social Media (ICWSM 2018)\*
75. Bristena Oprisanu and Emiliano De Cristofaro  
**AnoniMME: Bringing Anonymity to the Matchmaker Exchange Platform for Rare Disease Gene Discovery**  
26th ISCB Conference on Intelligent Systems for Molecular Biology (ISMB 2018)\*
74. G. Acs, L. Melis, C. Castelluccia, E. De Cristofaro  
**Differentially Private Mixture of Generative Neural Networks**  
17th IEEE International Conference on Data Mining series (ICDM 2017)\*
73. S. Zannettou, T. Caulfield, E. De Cristofaro, N. Kourtellis, I. Leontiadis, M. Sirivianos, G. Stringhini, J. Blackburn  
**The Web Centipede: Understanding How Web Communities Influence Each Other Through the Lens of Mainstream and Alternative News Sources**  
17th ACM Internet Measurement Conference (IMC 2017)\*
72. Apostolos Pyrgelis, Carmela Troncoso, Emiliano De Cristofaro  
**What Does The Crowd Say About You? Evaluating Aggregation-based Location Privacy**  
17th Privacy Enhancing Technologies Symposium (PETS 2017)
71. M. Ikram, L. Onwuzurike, S. Farooqi, E. De Cristofaro, A. Friedman, G. Jourjon, D. Kaafar, M.Z. Shafiq  
**Measuring, Characterizing, and Detecting Facebook Like Farms**  
ACM Transactions on Privacy and Security (ACM TOPS 2017)
70. D. Chatzakou, N. Kourtellis, J. Blackburn, E. De Cristofaro, G. Stringhini, A. Vakali  
**Hate is not binary: Studying abusive behavior of #GamerGate on Twitter**  
28th ACM Conference on Hypertext and Social Media (ACM HyperText 2017)
69. D. Chatzakou, N. Kourtellis, J. Blackburn, E. De Cristofaro, G. Stringhini, A. Vakali  
**Mean Birds: Detecting Aggression and Bullying on Twitter**  
9th International ACM Web Science Conference (ACM WebSci 2017)
68. G. Hine, J. Onalapo, E. De Cristofaro, N. Kourtellis, I. Leontiadis, R. Samaras, G. Stringhini, J. Blackburn  
**Kek, Cucks, and God Emperor Trump: A Measurement Study of 4chan's Politically Incorrect Forum and Its Effects on the Web**  
11th International AAAI Conference on Web and Social Media (ICWSM 2017)\*  
*Best Paper Runner-Up*
67. S. Farooqi, M. Ikram, E. De Cristofaro, A. Friedman, G. Jourjon, M.A. Kaafar, M.Z. Shafiq  
**Characterizing Key Stakeholders in an Online Black-Hat Marketplace**  
12th IEEE/APWG Symposium on Electronic Crime Research (eCrime 2017)
66. D. Chatzakou, N. Kourtellis, J. Blackburn, E. De Cristofaro, G. Stringhini, A. Vakali  
**Measuring #GamerGate: A Tale of Hate, Sexism, and Bullying**  
2nd WWW Workshop on Computational Methods for CyberSafety (CyberSafety 2017)
65. S. Sajadmanesh, S. Jafarzadeh, S.A. Ossia, H.R. Rabiee, H. Haddadi, Y. Mejova, M. Musolesi, E. De Cristofaro, G. Stringhini  
**Kissing Cuisines: Exploring Worldwide Culinary Habits on the Web**  
26th International World Wide Web Conference Web Science Track (WWW 2017)

64. E. Mariconti, L. Onwuzurike, P. Andriotis, E. De Cristofaro, G. Ross, G. Stringhini  
**MaMaDroid: Detecting Android Malware by Building Markov Chains of Behavioral Models**  
24th Network and Distributed System Security Symposium (NDSS 2017)\*
63. H. Haddadi, R. Nithyanand, S. Khattak, M. Javed, N. Vallina-Rodriguez, M. Falahrestegar, J.E. Powles, E. De Cristofaro, S.J. Murdoch  
**The Adblocking Tug-of-War**  
USENIX ;login: Magazine, Winter 2016, Vol. 41, No. 4 (;login: 2016)
62. Apostolos Pyrgelis, E. De Cristofaro, G. Ross  
**Privacy-Friendly Mobility Analytics using Aggregate Location Data**  
24th ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2016)
61. E. De Cristofaro, K. Liang, Y. Zhang  
**Privacy-Preserving Genetic Relatedness Test**  
3rd International Workshop on Genome Privacy and Security (GenoPri 2016)
60. R. Nithyanand, S. Khattak, M. Javed, N. Vallina-Rodriguez, M. Falahrestegar, J. E. Powles, E. De Cristofaro, H. Haddadi, S.J. Murdoch  
**Ad-Blocking and Counter Blocking: A Slice of the Arms Races**  
6th USENIX Workshop on Free and Open Communications on the Internet (FOCI 2016)
59. H. Asghar, L. Melis, C. Soldani, E. De Cristofaro, M.A. Kaafar, L. Mathy  
**SplitBox: Toward Efficient Private Network Function Virtualization**  
3rd ACM SIGCOMM Workshop on Hot Topics in Middleboxes and Network Function Virtualization (HotMiddleBox 2016)
58. L. Melis, G. Danezis, E. De Cristofaro  
**Efficient Private Statistics with Succinct Sketches**  
23rd Network and Distributed System Security Symposium (NDSS 2016)\*
57. L. Melis, H. Asghar, E. De Cristofaro, D. Kaafar  
**Private Processing of Outsourced Network Functions: Feasibility and Constructions**  
1st ACM Workshop on Security in Software Defined Networks & Network Function Virtualization (SDNNFVSEC 2016)
56. L. Onwuzurike and E. De Cristofaro  
**Experimental Analysis of Popular Smartphone Apps Offering Anonymity, Ephemerality, and End-to-End Encryption**  
1st NDSS Workshop on Understanding and Enhancing Online Privacy (UEOP 2016)
55. K. Krol, M.S. Rahman, S. Parkin, E. De Cristofaro, E. Vasserman  
**An Exploratory Study of User Perceptions of Payment Methods in the UK and the US**  
10th NDSS Workshop on Usable Security (USEC 2016)
54. J. Freudiger, E. De Cristofaro, A. Brito  
**Controlled Data Sharing for Collaborative Predictive Blacklisting**  
12th Conference on Detection of Intrusions and Malware & Vulnerability Assessment (DIMVA 2015)
53. M. Nagy, T. Bui, E. De Cristofaro, N. Asokan, J. Ott, A.R. Sadeghi  
**How Far Removed Are You? Scalable Privacy-Preserving Estimation of Social Path Length with Social PaL**  
8th ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec 2015)
52. L. Onwuzurike and E. De Cristofaro  
**Danger is my middle name: Experimenting with SSL Vulnerabilities in Android Apps**  
8th ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec 2015)
51. E. Ayday, E. De Cristofaro, J.P. Hubaux, G. Tsudik  
**Whole Genome Sequencing: Revolutionary Medicine or Privacy Nightmare**  
IEEE Computer Magazine, Vol. 48, No. 2, February 2015  
Presented as a poster at Usenix Security 2013 and available on ArXiv under the title "The Chills and Thrills of Whole Genome Sequencing"
50. K. Krol, E. Philippou, E. De Cristofaro, M.A. Sasse  
**"They brought in the horrible key ring thing" – Analysing the Usability of Two-Factor Authentication in UK Online Banking**  
9th NDSS Workshop on Usable Security (USEC 2015)
49. A. Chaabane, T. Chen, M. Cunche, E. De Cristofaro, A. Friedman, M.A. Kaafar  
**Censorship in the Wild: Analyzing Web Filtering in Syria**  
14th ACM Internet Measurement Conference (IMC 2014)\*  
*Best Paper runner-up*
48. E. De Cristofaro, A. Friedman, G. Jourjon, M.A. Kaafar, M.Z. Shafiq  
**Paying for Likes? Understanding Facebook Like Fraud Using Honeypots**  
14th ACM Internet Measurement Conference (IMC 2014)\*

47. G. Danezis and E. De Cristofaro  
**Fast and Private Genomic Testing for Disease Susceptibility**  
12th ACM CCS Workshop on Privacy in the Electronic Society (WPES 2014)
46. I. Bilogrevic, J. Freudiger, E. De Cristofaro, E. Uzun  
**What's the Gist? Privacy-Preserving Aggregation of User Profiles**  
19th European Symposium on Research in Computer Security (ESORICS 2014)
45. F. Beato, E. De Cristofaro, K.B. Rasmussen  
**Undetectable Communication: The Online Social Networks Case**  
12th IEEE Annual Conference on Privacy, Security and Trust (PST 2014)
44. C. Blundo, E. De Cristofaro, P. Gasti  
**EsPRESSo: Efficient Privacy-Preserving Evaluation of Sample Set Similarity**  
Journal of Computer Security, Vol. 22, No. 3, May 2014 (Submitted Oct 2012, Accepted Sep 2013)  
Extended Abstract appeared in 7h ESORICS Workshop on Data Privacy Management (DPM 2012).
43. E. De Cristofaro  
**Genomic Privacy and the Rise of a New Research Community**  
IEEE Magazine on Security and Privacy, March/April 2014 Issue, Vol. 13, No. 1, 2014
42. E. De Cristofaro  
**An Exploratory Ethnographic Study of Issues and Concerns with Whole Genome Sequencing**  
8th NDSS Workshop on Usable Security (USEC 2014)
41. E. De Cristofaro, H. Du, J. Freudiger, G. Norcie  
**Two-Factor or not Two-Factor? A Comparative Usability Study of Two-Factor Authentication**  
8th NDSS Workshop on Usable Security (USEC 2014)
40. M. Nagy, E. De Cristofaro, A. Dmitrienko, N. Asokan, A.R. Sadeghi  
**Do I Know You? - Efficient and Privacy-Preserving Common Friend-Finder Protocols and Applications**  
29th Annual Computer Security Applications Conference (ACSAC 2013)
39. E. De Cristofaro, C. Soriente  
**Extended Capabilities for a Privacy-Enhanced Participatory Sensing Infrastructure (PEPSI)**  
IEEE Transactions on Information Forensics & Security. Vol.8, No. 12, 2013
38. E. De Cristofaro, S. Faber, G. Tsudik  
**Secure Genomic Testing with Size- and Position-Hiding Private Substring Matching**  
12th ACM CCS Workshop on Privacy in the Electronic Society (WPES 2013)
37. A. Chaabane, E. De Cristofaro, M.A. Kaafar, E. Uzun  
**Privacy in Content-Oriented Networking: Threats and Countermeasures**  
ACM SIGCOMM Computer Communication Review (CCR), 2013  
Invited at ACM SIGCOMM 2013 as one of the two "Best CCR Papers."
36. G. Norcie, E. De Cristofaro, V. Bellotti  
**Bootstrapping Trust in Online Dating: Social Verification of Online Dating Profiles**  
Financial Cryptography and Data Security (FC) Workshop on Usable Security (USEC 2013)
35. A. Cardenas, R. Chow, E. De Cristofaro  
**Data Handling in the Smart Grid: Do We Know Enough?**  
IFIP International Conference on Critical Infrastructure Protection (CIP 2013)
34. E. De Cristofaro, C. Soriente  
**Participatory Privacy: Enabling Privacy in Participatory Sensing**  
IEEE Network. Vol. 27, No. 1. January 2013 (Submitted March 2011, Accepted January 2012.)
33. E. De Cristofaro, M. Manulis, B. Poettering  
**Private Discovery of Common Social Contacts**  
International Journal of Information Security (IJIS). Vol. 12, No. 1, 2013.  
Extended abstract appeared in ACNS 2011
32. E. De Cristofaro, C. Soriente, G. Tsudik, A. Williams  
**Tweeting with Hummingbird: Privacy in Large-Scale Micro-Blogging OSNs**  
IEEE Data Engineering Bulletin. Vol. 35, Number 4, December 2012
31. E. De Cristofaro, P. Gasti, G. Tsudik  
**Fast and Private Computation of Set Intersection Cardinality**  
11th International Conference on Cryptology and Network Security (CANS 2012)
30. E. De Cristofaro, S. Faber, P. Gasti, Gene Tsudik  
**GenoDroid: Are Privacy-Preserving Genomic Tests Ready for Prime Times?**  
International Workshop on Privacy in Electronic Society (WPES 2012)

29. C. Blundo, E. De Cristofaro, P. Gasti  
**EsPRESSo: Efficient Privacy-Preserving Evaluation of Sample Set Similarity**  
International Workshop on Data Privacy Management (DPM 2012).
28. E. De Cristofaro and R. Di Pietro  
**Adversaries and Countermeasures in Privacy-Enhanced Urban Sensing Systems**  
IEEE Systems Journal, Special Issue on Security and Privacy of Complex Systems, 2012.
27. E. De Cristofaro, C. Soriente, G. Tsudik, A. Williams  
**Hummingbird: Privacy at the time of Twitter**  
IEEE Symposium on Security and Privacy (S&P 2012)\*
26. E. De Cristofaro and G. Tsudik  
**Experimenting with Fast Private Set Intersection**  
International Conference on Trust and Trustworthy Computing (TRUST 2012)
25. E. De Cristofaro, R. Di Pietro  
**Preserving Query Privacy in Urban Sensing Systems**  
International Conference on Distributed Computing and Networking (ICDCN 2012)
24. M. Almishari, E. De Cristofaro, K. El Defrawy, G. Tsudik  
**Harvesting SSL Certificate Data to Identify Web-Fraud**  
International Journal of Network Security. Vol. 14, No. 6, 2012
23. E. De Cristofaro  
**Sharing Sensitive Information with Privacy**  
University of California, PhD Dissertation, 2011
22. C. Castelluccia, E. De Cristofaro, A. Francillon, M.A. Kaafar  
**EphPub: Toward Robust Ephemeral Publishing**  
IEEE Conference on Network Protocols (ICNP 2011)
21. P. Baldi, R. Baronio, E. De Cristofaro, P. Gasti, G. Tsudik  
**Countering GATTACA: Efficient and Secure Testing of Fully Sequenced Human Genomes**  
ACM Conference on Computer and Communications Security (CCS 2011)\*
20. E. De Cristofaro, Y. Lu, G. Tsudik  
**Efficient Techniques for Privacy-Preserving Sharing of Sensitive Information**  
International Conference on Trust and Trustworthy Computing (TRUST 2011)
19. E. De Cristofaro, C. Soriente  
**PEPSI: Privacy Enhancing Participatory Sensing Infrastructure**  
ACM Conference on Wireless Security (WiSec 2011)
18. E. De Cristofaro, A. Durussel, I. Aad  
**Reclaiming Privacy for Smartphone Applications**  
IEEE International Conference on Pervasive Computing and Communications (PerCom 2011)
17. G. Ateniese, E. De Cristofaro, G. Tsudik  
**(If) Size Matters: Size-Hiding Private Set Intersection**  
IACR International Conference on Practice and Theory of Public Key Cryptography (PKC 2011)
16. E. De Cristofaro, J. Kim, and G. Tsudik  
**Linear-Complexity Private Set Intersection Protocols Secure in Malicious Model**  
IACR Conference on the Theory and Application of Cryptology and Information Security (Asiacrypt 2010)\*
15. C. Castelluccia, E. De Cristofaro, and D. Perito  
**Private Information Disclosure from Web Searches**  
Privacy Enhancing Technologies Symposium (PETS 2010)  
Also appeared as a poster at IEEE Symposium on Security and Privacy (S&P 2010)
14. E. De Cristofaro and J. Kim  
**Some like it private: Sharing Confidential Information based on Oblivious Authorization**  
IEEE Security and Privacy, July-August, 2010
13. E. De Cristofaro and G. Tsudik  
**Practical Private Set Intersection Protocols with Linear Complexity**  
Financial Cryptography and Data Security (FC 2010)
12. V. Auletta, C. Blundo, A. De Caro, E. De Cristofaro, G. Persiano, and I. Visconti  
**Increasing Privacy Threats in the Cyberspace: the Case of Italian e-Passports**  
Workshop on Lightweight Cryptography for Resource-Constrained Devices (WLC 2010)
11. E. De Cristofaro, S. Jarecki, J. Kim, and G. Tsudik  
**Privacy-preserving Policy-based Information Transfer**  
Privacy Enhancing Technologies Symposium (PETS 2009)

10. E. De Cristofaro, X.Ding, and G. Tsudik  
**Privacy-preserving Querying in Sensor Networks**  
IEEE International Conference on Computer Communications and Networks (ICCCN 2009)
9. E. De Cristofaro, J.M.Bohli, and D.Westhoff  
**FAIR: Fuzzy-based Aggregation providing In-network Resilience for real-time WSNs**  
ACM Conference on Wireless Network Security (WiSec 2009)
8. C. Blundo, E. De Cristofaro, A.Del Sorbo, C.Galdi, and G.Persiano  
**A Distributed Implementation of the Certified Information Access Service**  
European Symposium on Research in Computer Security (ESORICS 2008)
7. C. Blundo, E. De Cristofaro, C.Galdi, and G.Persiano  
**Validating Orchestration of Web Services with BPEL and Aggregate Signatures**  
IEEE European Conference on Web Services (ECOWS 2008)
6. E. De Cristofaro  
**A Secure and Privacy-Protecting Aggregation Scheme for Sensor Networks**  
IEEE International Symposium on a World of Wireless Mobile and Multimedia Networks (WoWMoM 2007)
5. V. Auletta, C. Blundo, E. De Cristofaro, S.Cimato, and G. Raimato  
**Authenticated Web Services: A WS-Security Based Implementation**  
IFIP International Conference on New Technologies, Mobility, and Security (NTMS 2007)
4. C. Blundo and E. De Cristofaro  
**A Bluetooth-based JXME infrastructure**  
International Symposium on Distributed Objects, Middleware, and Applications (DOA 2007)
3. V. Auletta, C. Blundo, and E. De Cristofaro  
**A J2ME transparent middleware to support HTTP connections over Bluetooth**  
International Conference on Systems and Network Communications (ICSNC 2007)
2. V. Auletta, C. Blundo, E. De Cristofaro, and G. Raimato  
**A lightweight framework for Web Services invocation over Bluetooth**  
IEEE International Conference on Web Services (ICWS 2006)
1. V. Auletta, C. Blundo, E. De Cristofaro, and G. Raimato  
**Performance Evaluation for Web Services invocation over Bluetooth**  
ACM Conference on Modeling and Simulation of Wireless and Mobile Systems (MSWiM 2006)

## Patents

- Method and Apparatus for Preserving Privacy for Appointment Scheduling.  
US Patent 8,667,062. Co-inventors: Imad Aad, Valtteri Niemi, Anthony Durussel, Igor Bilogrevic, Jean-Pierre Hubaux
- Computer-Implemented System And Method For Verifying Online Dating Profiles.  
US Patent Application 20140156750. Co-inventors: Victoria Bellotti and Gregory Norcie
- Method and apparatus for performing distributed privacy-preserving computations on user locations.  
US Patent Application 20140372753. Co-inventors: Joan Melia Segui, Rui Zhang, Oliver Brdiczka, Ersin Uzun
- Method and Apparatus for Privacy and Trust Enhancing Sharing of Data for Collaborative Analytics.  
US Patent Application 20150161398. Co-inventors: Julien Freudiger, Ersin Uzun, Alejandro Brito, Marshall Bern
- Methods for Selection of Collaborators for Online Threat Mitigation.  
US Patent Application 20150286824. Co-inventors: Julien Freudiger, Ersin Uzun, Alejandro Brito, Marshall Bern
- Methods for Centralized Privacy-Preserving Collaborative Threat Mitigation.  
US Patent Application 20150286825. Co-inventors: Julien Freudiger, Ersin Uzun, Alejandro Brito, Marshall Bern
- Portable Proxy For Security Management And Privacy Protection And Method Of Use.  
US Patent Application 20150288719. Co-inventors: Julien Freudiger, Ersin Uzun, Golam Sarwar
- Privacy-Sensitive Ranking of User Data.  
US Patent Application 20150371059. Co-inventors: Igor Bilogrevic, Julien Freudiger, Ersin Uzun

## Service

- **PC Co-Chair:** TTO 2020, GenoPri 2018, GenoPri 2015, PETS 2014, PETS 2013, HotPETs 2012
- **Track Chair:** ACM CCS 2018 (Privacy), WWW 2018 (Security & Privacy)
- **PC Member:** IEEE S&P 2021, SIGMETRICS 2021, SIGMETRICS 2020, IEEE S&P 2020, WebConf 2020, Usenix Security 2020, ACM CCS 2019, NDSS 2020, NDSS 2019, ICWSM 2018, ACM CCS 2018, PETS 2018, ACM HT 2018, ICDCS 2018, IEEE EuroSP 2018, ACM CCS 2017, WWW 2017, NDSS 2017, PETS 2017, AsiaCCS 2017, PMPML16, GenoPri 2016,



EuroUSEC 2016, DTL 2016, WiSec 2016, IEEE S&P 2016, NDSS 2016, PKC 2016, PETS 2016, WPES 2015, IEEE S&P 2015, USEC 2015, Financial Crypto 2015, WPES 2014, WiSec 2014, GenoPri 2014, WWW 2014, ICCCN 2014, SESOC 2014, CANS 2013, WISEC 2013, Financial Crypto 2013, SESOC 2013, CANS 2012, WPES 2012, CCSW 2012, PETS 2012, WISEC 2012, DPM 2012, ICCCN 2012, CANS 2011, ISC 2010

- **Journals:** Associated Editor for the Journal of Cybersecurity (Cryptography and Associated Topics). Reviewer: Journal of Computer Security, ACM Transactions on Information and System Security, IEEE Transactions on Parallel and Distributed Systems, IEEE Transactions on Knowledge and Data Engineering, IEEE Transactions on Mobile Computing, IEEE S&P Magazine, Journal of Systems and Software, Ad Hoc Networks, Computer Communications Journal, VLDB Journal, Data Mining and Knowledge Discovery
- **Funding:** NSERC (Canada), NSF SaTC (USA), PRIN (Italy), FWO (Belgium), EPSRC (UK)

## Keynotes

- *Membership and Property Inference Attacks against Machine Learning Models*  
The Bright and Dark Sides of Computer Vision: Challenges and Opportunities for Privacy and Security (CV-COPS 2019)  
Long Beach, CA, June 2019
- *The Genomics Revolution: The Good, The Bad, and The Ugly – A Privacy Researcher’s Perspective*  
Microsoft Faculty Summit 2016  
Microsoft Research, Redmond, USA, July 2016
- *The Genomics Revolution: The Good, The Bad, and The Ugly – A Privacy Researcher’s Perspective*  
Privacy-aware Computational Genomics Keynote (PRIVAGEN 2015), Tokyo, September 2015
- *The Genomics Revolution: Innovation Dream or Privacy Nightmare?*  
HotSpot and TPDP 2015 Joint Keynote Talk, London, April 2015
- *Whole Genome Sequencing: Innovation Dream or Privacy Nightmare?*  
EPFL Summer Research Institute (SuRI), Lausanne, Switzerland, June 2013

## Invited Talks, Lectures, and Panels

- *Understanding Information Weaponization via Data-driven Analysis*  
Twitter, London, UK, November 2019
- *Understanding Information Weaponization via Data-driven Analysis*  
Global Forum for Humanity (GFAIH), Paris, France, October 2019
- *Exploiting Unintended Feature Leakage in Collaborative Learning*  
Workshop on Federated Learning and Analytics  
Google Seattle, WA, June 2019
- *Privacy and Machine Learning – It’s Complicated*  
Distinguished Lecturer, Imperial College, London, UK, June 2019
- *Privacy and Machine Learning – It’s Complicated*  
CIFAR-UKRI-CNRS AI & society: From principles to practice  
Alan Turing Institute, London, UK, June 2019
- *3 Years of iDrama: Data-Driven Studies of Fringe Communities on the Web*  
Cardiff University, Wales, UK, March 2019
- *Studying Jerks on the Internet: Data-Driven Measurements of Bullying, Hate, & Misinformation*  
Media in the post-truth age: Fake news and political trolling  
Alan Turing Institute, London, UK, January 2019
- *Privacy-Preserving Information Sharing: Foundations, Tools, Applications*  
ECRYPT-NET School on Integrating Advanced Cryptography with Applications  
Kos, Greece, September 2018
- *Privacy-Preserving Information Sharing: Foundations, Tools, Applications / Studying Jerks on the Internet*  
Summer School on Real-World Crypto – Privacy  
Sibenik, Croatia, June 2018
- *Cryptographic Protocols for Privacy-Preserving Genomic Testing*  
Workshop on Secure, Privacy-Conscious Data Sharing, EPFL, Lausanne, Switzerland, February 2018
- *Private Statistics and Their Applications to Distributed Learning: Tools and Challenges*  
Computer Lab Departmental Seminar, University of Cambridge, UK, February 2018
- *The Genomics Revolution: The Good, The Bad, and The Ugly (The Privacy Edition)*  
CISPA, Saarland University, Saarbruecken, Germany, September 2017

- *Building and Measuring Privacy-Preserving Mobility Analytics*  
2nd Workshop on Personal Data Systems, Sommarøy/Tromsø, Norway, August 2017
- *The Genomics Revolution: The Good, The Bad, and The Ugly – A Privacy Researcher's Perspective*  
Great Ormond Street Hospital, London, UK, June 2017
- *From Private Statistics to Privacy in Mobility Analytics*  
Royal Statistical Society meeting on Privacy and Security in Statistics, Keynote Speaker, London, UK, May 2017
- *From Private Statistics to Privacy in Mobility Analytics*  
ETH Zurich, Switzerland, April 2017
- *Kek, Cucks, and God Emperor Trump: A Measurement Study of 4chan's Politically Incorrect Forum and Its Effects on the Web Computational Social Science Initiative London Meeting*, March 2017
- *MaMaDroid: Detecting Android Malware by Building Markov Chains of Behavioral Models*  
Trinity College Dublin, Ireland, January 2017
- *Privacy-preserving Information Sharing: Tools and Applications*  
16th International School on Foundations of Security Analysis and Design (FOSAD 2016)  
Bertinoro, Italy, August/September 2016
- *Understanding, Characterizing, and Detecting Facebook Like Farms*  
Microsoft Research, Redmond, USA, July 2016
- *Understanding, Characterizing, and Detecting Facebook Like Farms*  
Sharif University of Technology, Tehran, Iran, May 2016
- *Understanding, Characterizing, and Detecting Facebook Like Farms*  
Computer Lab, University of Cambridge, UK, March 2016
- *The Genomics Revolution: The Good, The Bad, and The Ugly – A Privacy Researcher's Perspective*  
NDSS Workshop on Understanding and Enhancing Online Privacy (UEOP 2016), San Diego, February 2016
- *The Genomics Revolution: The Good, The Bad, and The Ugly – A Privacy Researcher's Perspective*  
Warwick University Seminar, February 2016
- *Privacy-preserving Information Sharing: Tools and Applications*  
1st 3TU Cyber Security Workshop at The Hague Delta Security Cafe, The Hague, Netherlands, November 2015
- *Genomic Privacy II*, Dagstuhl Seminar, Germany, October 2015
- *Controlled Data Sharing for Collaborative Predictive Blacklisting*  
Microsoft Research Cambridge, August 2015
- *What's wrong with the Interwebs? Measuring Web Censorship and Fraud in Online Social Networks: Two Case Studies*  
COSIC Seminar, KU Leuven, Belgium, April 2015
- *Privacy of the Genome: Challenges beyond traditional medical records*  
Computers, Privacy and Data Protection Conference (CPDP 2015), invited panelist, Brussels, January 2015
- *Studying and Protecting Internet Privacy: The Case of Internet Filtering and User Profiling*  
New York Institute of Technology, August 2014
- *Whole Genome Sequencing: Innovation Dream or Privacy Nightmare*  
Oxford University, July 2014
- *Whole Genome Sequencing: Innovation Dream or Privacy Nightmare*  
CITI Lab, Lyon, France, May 2014
- *Protecting Genomic Data Privacy while Accelerating Scientific Progress*  
Invited panelist, Cold Spring Harbor Laboratory. Long Island, New York. December 2013
- *Whole Genome Sequencing: Innovation Dream or Privacy Nightmare?*  
Keynote speaker, 2nd Translational Medicine Meeting, Biomedical Neuroscience Institute, Faculty of Medicine, University of Chile, Santiago, Chile, November 2013
- *Genomic Privacy*, Dagstuhl Seminar, Germany, October 2013
- *Privacy and Participatory Sensing*  
UC Berkeley, NCD Seminar, April 2013
- *Whole Genome Sequencing: Innovation Dream or Privacy Nightmare?*  
Purdue University, CERIAS Seminar, March 2013
- *Sharing Sensitive Information with Privacy: From Theory to Practice (And Applications)*  
University of Salerno, Italy, December 2012
- *Efficient and Secure Testing of Fully-Sequenced Human Genomes*  
EPFL, Lausanne, Switzerland, December 2012

- *Sharing Sensitive Information with Privacy: From Theory to Practice (And Applications)*  
Colloquium Talk, Northeastern University, Boston, MA, November 2012
- Privacy-Oriented Cryptography, Dagstuhl Seminar, Germany, September 2012
- *Privacy Tools: Why privacy-oriented crypto is not used in practice? (Panelist)*  
Dagstuhl, Germany, September 2012 [Slides]
- *Countering GATTACA: Efficient and Secure Testing of Fully-Sequenced Human Genomes*  
ECRYPT Provable Privacy Workshop, Vigo, Spain, July 2012
- *Web Privacy Measurement Conference (Invited Panelist)*  
Berkeley Center for Law & Technology, Berkeley, CA, May 2012
- *Hummingbird: #Privacy at the Time of Twitter*  
UC Berkeley, March 2012
- *Sharing Sensitive Information with Privacy*  
Aarhus University, Denmark, June 2011
- *Sharing Sensitive Information with Privacy*  
Microsoft Research, Redmond, WA, March 2011
- *PEPSI: Privacy-Enhanced Participatory Sensing Infrastructure*  
2nd Privaski Workshop, Correncon, France, March 2011
- *Sharing Sensitive Information with Privacy*  
Singapore Management University, Singapore, December 2010
- *Sharing Sensitive Information with Privacy*  
UCLA, Los Angeles, CA, November 2010
- *Sharing Sensitive Information with Privacy*  
Nokia Research Center, Palo Alto, CA, November 2010
- *Sharing Sensitive Information with Privacy*  
EPFL, Lausanne, Switzerland, October 2010
- *Reclaiming Privacy for Smartphone Applications*  
INRIA Rhone Alpes, France, October 2010
- *Sharing Sensitive Information with Privacy*  
ETH Zurich, Switzerland, September 2010
- *Private Set Intersection and Friends*  
1st "Privaski" Workshop, Correncon, France, March 2010
- *Protecting Privacy in Wireless Sensor Networks*  
EPFL, Lausanne, Switzerland, December 2009
- *Privacy-Preserving Policy-based Information Transfer*  
KU Leuven, Belgium (COSIC Seminar), October 2009

## Teaching

- **Teaching at UCL:** Introduction to Cryptography (Fall 2014, Fall 2015, Fall 2016, Fall 2017), Computer Security II (Winter 2014, Winter 2015, Winter 2016, Winter 2017, Winter 2018, Winter 2019, Winter 2020), Privacy Enhancing Technologies (Winter 2019, Winter 2020), Director of UCL's MSc in Information Security (2015–2018)
- **Teaching Assistant:** Network Security (UC Irvine, 2011), Crypto Protocols (University of Salerno, Italy, 2006)
- **Coordinator:** Academic Centre of Excellence in Cyber Security Research (ACE-CSR) Distinguished Seminars Series (UCL, 2014–2020), PARC Privacy Lunch (2012–2013), PARC Security Reading Group (2011–2012)

## Mentoring

- **Graduated PhD Students** (Main PhD Advisor): Luca Melis (2014–2018, now Research Scientist at Amazon New York), Lucky Onwuzurike (2014–2018, now Senior Security Consultant at E&Y), Apostolos Pyrgelis (2015–2018, now Post-Doctoral Researcher at EPFL)
- **Post-docs:** Vincent Primault (2017–2018, now at Salesforce), Lukasz Olejnik (2016–2017, now at EPDS);
- **Current Supervision at UCL:** Alexandros Mittos, Bristena Oprisanu, Mohammad Naseri, Alexandros Efstratiou, Georgi Ganev (PhD Advisor);

- **PhD Committee:** Ania Piotrowska (UCL, 2020), Tejas Kulkarni (Warwick, 2019), Marc Roeschlin (Oxford, 2018), Ingolf Becker (UCL, 2018), Manu Drijvers (IBM/ETH, 2018), Jean-Louis Raisaro (EPFL, 2018), Sharad Kumar (University of Cambridge, 2016), Iacovos Kiriakopoulos (UCL, 2016), Iraklis Leontiadis (EURECOM, 2015), Filipe Beato (KU Leuven, 2015), Lukasz Olejnik (INRIA, 2015), Gines Dolera Tormo (University of Murcia, 2014), Abdelberi Chaabane (INRIA, 2014), Miguel Malheiros (UCL, 2013)
- **Mentoring at PARC:** Gregory Norcie (PhD internship, Summers 2012 and 2013), Igor Bilogrevic (PhD internship, Summer 2013), Abdelberi Chaabane (PhD internship, Summer 2012), Joan Melia-Segui (Visiting Researcher, Summer 2012)