

# Anna Maria Mandalari, PhD

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## Short Bio

Anna Maria Mandalari works as Assistant Professor at University College London (UCL). She is affiliated with the Electronic & Electrical Engineering Department and member of the UCL's Academic Center of Excellence in Cyber Security Research (ACE-CSR). She is Honorary Research Fellow at the Institute for Security Science and Technology at Imperial College London. She obtained her PhD within the framework of the METRICS project, which is part of the Marie Skłodowska-Curie action, intended for excellent researchers, affiliated with the Carlos III University of Madrid. Her research interests are Internet of Things (IoT), privacy, security, networking and Internet measurement techniques. She studies privacy implications and information exposure from IoT devices. She works on the problem of modelling, designing, and evaluating adaptation strategies based on Internet measurements techniques. In addition to her research, Anna gives invited talks all around the world to promote research and create awareness on security, privacy, and ethical AI. She has worked and collaborates with various international institutions and companies, such as Simula Research Laboratory in Norway and Northeastern University in Boston. Most of her research experiences have also significantly contributed to several EU-funded research projects and have had a strong media impact. Anna Maria Mandalari is also committed to promoting the interest of young women in STEM subjects. She is an active member of organizations that encourage diversity and aims to promote connections between women in the computer science and networking field.

## Experience

- September 2022 - Today **Assistant Professor in Communications & Networking**, *UCL*, UK, Department of Electrical and Electronic Engineering.
- September 2022 - Today **Honorary Research Fellow**, *Imperial College London*, UK, Institute for Security Science and Technology.
- September 2022 - Today **Member**, *UCL*, UK, Academic Center of Excellence in Cyber Security Research (ACE-CSR).
- November 2018 - August 2022 **Research Associate**, *Imperial College London*, UK.  
<https://www.imperial.ac.uk/systems-algorithms-design-lab/research/advanced-iot-testbed>
- August 2014 - October 2018 **Marie Curie Early Stage Researcher (Innovative Training Networks Action)**, *UC3M (Universidad Carlos III de Madrid)*, Spain, I was cooperating with the partners of the Europe's most competitive and prestigious research and innovation project (Marie Skłodowska-Curie Actions) to study the factors that influence the performance of the global Internet. I combined the crowdsourcing solution approach with the access to the large-scale measurements platforms (e.g., Ripe Atlas, SamKnows, MONROE) to study the potential success of widespread adoption of new Internet protocols.
- September - December 2016 **Research Internship**, *Simula Research Laboratory*, Oslo (Norway), My research was focusing on testing and expanding MONROE, a dedicated Mobile broadband (MBB) measurement platform.

- November 2015 - February 2016 **Research Internship**, *Telefonica Research*, Barcelona (Spain), I investigated to which extent tracking information today can be used to improve upon Web content delivery and design and develop strategies for content personalization within HTTP/2.
- March - September 2013 **Research**, *CTTC (Centre Tecnologic de Telecomunicacions de Catalunya)*, Barcelona (Spain), The work focused on the analysis and simulation of protocols for Medium Access Control (MAC) for Machine-to-Machine communication networks (M2M) with the integration of renewable energy.

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## Education

- June 2019 **PhD**, *UC3M (Universidad Carlos III de Madrid)*, Madrid (Spain), *Computer Science*.  
PhD Thesis: "Informing Protocol Design through Crowdsourcing Measurements"
- September 2015 **Master's degree**, *UC3M (Universidad Carlos III de Madrid)*, Madrid (Spain), *Telematics Engineering*.
- March 2014 **Master's degree**, *Mediterranea University*, Reggio Calabria (Italy), *Computer Science*.
- March 2011 **Bachelor's degree**, *Mediterranea University*, Reggio Calabria (Italy), *Telecommunications Engineering*.

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## Awards

- February 2022 **Techcelerate**, *Techcelerate is a programme which aims to support researchers in creating impact through commercialising research. I was awarded funding to conduct customer discovery and develop my venture*, from Imperial College's Enterprise department.
- November 2021 **European Talent Academy**, *the challenge of 'Artificial Intelligence as a key enabling technology to empower society: A European approach on excellence and trust to boost research'*, from Imperial College London.
- May 2021 **Telekom Challenge**, *IoTrimmer: Defending Against IoT Privacy Threats*, we won one of the TOP 10 spots in the Telekom Challenge Development Stream, receiving a generous gift to develop a prototype for the blocking system, IoTrimmer, from Deutsche Telekom.
- October 2019 **Community Contribution Award at IMC'19**, *Information Exposure for Consumer IoT Devices: A Multidimensional, Network-Informed Measurement Approach*, 19th Annual Internet Measurement Conference (IMC '19).
- October 2019 **RIPE Academic Cooperation Initiative (RACI) Grant**, *RIPE 79*, Rotterdam, Netherlands, <https://fb.watch/9AunrUxN11/>.
- October 2017 **RIPE Academic Cooperation Initiative (RACI) Grant**, *RIPE 75*, Dubai, UAE.
- June 2017 **Travel Grant**, *ANRW 2017, IETF*, Prague, Czech Republic.
- May 2016 **RIPE Academic Cooperation Initiative (RACI) Grant**, *RIPE 72*, Copenhagen, Denmark.
- November 2015 **Travel Grant**, *CoNEXT 2015*, Heidelberg, Germany.
- September 2015 **Travel Grant**, *IMC 2015*, Tokyo, Japan.
- August 2015 **Best Paper Award at C2B(I)D 2015**, *Informing Protocol Design Through Crowdsourcing: the Case of Pervasive Encryption*, ACM SIGCOMM Workshop on Crowdsourcing and crowdsharing of Big (Internet) Data (C2B(I)D), Aug 2015, London, UK.

March - **Erasmus Placement, CTTC (Centre Tecnologic de Telecomunicacions de Catalunya).**  
September 2013

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## Research Grants

- May  
2023-August  
2023 **EPSRC PETRAS Event Support Grants (PESG), University College London, (£10,000).**  
Funds for supporting impact enhancing events and activities.
- September  
2022-February  
2023 **Innovate UK CyberASAP (Cyber Security Academic Startup Accelerator Programme) Phase 2, Imperial College, London, (£60,000).**  
*IoTrim: a dynamic platform against consumer IoT privacy and security threats.* UK Research and Innovation pre-seed academic commercialization programme for cyber innovation.
- April 2022-July  
2022 **Innovate UK CyberASAP (Cyber Security Academic Startup Accelerator Programme) Phase 1, Imperial College, London, (£25,000).**  
*IoTrim: a dynamic platform against consumer IoT privacy and security threats.* UK Research and Innovation pre-seed academic commercialization programme for cyber innovation.
- April  
2022-October  
2022 **EPSRC PETRAS National Centre of Excellence for IoT Systems Cybersecurity, Imperial College, London, (£82,578).**  
*PRISM: Privacy Preserving IoT Security Management.* I recently received the Internal Strategic Projects and Engagement Fund (ISPEF) for deploying, closely with our partner (the NHS), a number of privacy-preserving, dynamically configurable DNN model for local training, and inference for IoT devices. This will act as a demonstrator use cases with NHS Patients and UK Dementia Research Institute volunteers.
- March  
2021-April 2022 **EPSRC Impact Acceleration Award (IAA), Imperial College, London, (£82,643).**  
*IoTrimmer.* My project plan for IoTrimmer has recently received the Impact Acceleration Award (IAA) from the EPSRC (the UK national funding agency) to enable the exchange of knowledge from my research into the commercial world.
- March 2017 -  
October 2018 **H2020MONROE Open Call for Experiments and Extensions, Universidad Carlos III de Madrid (UC3M)/Simula Research Laboratory, (eur100,000).**  
*Characterizing Carrier Grade NATs in Mobile Broadband Networks: CGNWatcher.* The CGN-watcher tool systematically tests for over 40 behavioral requirements for NATs defined by the Internet Engineering Task Force (IETF) and also for multiple CGN performance metrics.

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## Teaching

- 2023-Today **University College London, Undergraduate, Networking Systems, Leader.**
- 2022-Today **University College London, Msc Programme, Security and Privacy Module, Leader.**
- 2018-2021 **Imperial College London, Design Engineering (MEng), Sensing and the Internet of Things Module, Privacy and Security for Consumer IoT Lecture.**
- 2019-2021 **Imperial College London, Business School, Imperial College Executive Education, Consumer IoT Devices Privacy Implications and Mitigations Lecture.**
- 2016-2018 **Universidad Carlos III de Madrid, Undergraduate course in Telecommunication Engineering, Networking and Communication Lecture.**

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## Advising

- 2023-Today **Andrew Losty, PhD Student, UCL, UK.**

- 2023-Today **Savvas Hadjixenophontos**, *PhD Student*, UCL, UK.
- 2023-Today **Gianluca Anselmi**, *PhD Student*, UCL, UK.
- 2021 **Oliver Thompson**, *MS Thesis Advisor*, Imperial College London, UK.  
Thesis title: "An Intelligent Open Source Firewall for Smart Home Devices"
- 2019 **Supriya Adhatarao**, *PhD Intern from Grenoble Institute of Technology*, Imperial College London, UK.
- 2019 **Yiming Xie**, *Undergraduate Research Opportunities Programme*, Imperial College London, UK.
- 2015 **José Fernando Calcerrada**, *MS Thesis Advisor*, UC3M, Madrid, Spain.  
Thesis title: "HTTP/2: Analysis and Measurements"

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## PhD Examination Committee

- February 2022 **PhD examiner**, *Stefano Angieri*, University Carlos III de Madrid.

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## Mentoring

- June 2021 **Student Mentorship Program**, for the *19th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys 2021)*, Online.

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## Professional and Community Activities

- 2023 **TPC Member**, for the *ACM SIGCOMM 2023*.
- 2023 **TPC Member**, for the *ACM Internet Measurement Conference (IMC 2023)*.
- 2023 **TPC Member**, for the *ACM Conference on Computer and Communications Security (CCS 2023)*.
- 2022 **TPC Member**, for the *3th Workshop on Distributed Machine Learning, co-located with CoNEXT 2022 (DistributedML 2022)*.
- 2022 **Workshop co-Chair**, for *MobiCom '23*.
- 2022 **TPC Member**, for the *Network Traffic Measurement and Analysis Conference (TMA 2022)*.
- 2022 **TPC Member**, for the *ACM Conference on Computer and Communications Security (CCS 2022)*.
- 2022 **TPC Member**, for the *21st ACM/IEEE Conference on Information Processing in Sensor Networks (IPSN 2022)*.
- 2021 **TPC Member**, for the *2nd Workshop on Distributed Machine Learning, co-located with CoNEXT 2021 (DistributedML 2021)*.
- 2021 **co-Chair**, *IoT Day Organizer at the 19th ACM International Conference on Mobile Systems, Applications, and Services (MobiSys 2021)*.
- 2021 **TPC Member**, for the *ACM Conference on Computer and Communications Security (CCS 2021)*.
- 2021 **TPC Member**, for the *ACM Internet Measurement Conference (IMC 2021)*.
- 2021 **TPC Member**, for the *ACM SIGCOMM Posters and Demos (SIGCOMM 2021)*.
- 2021 **TPC Member**, for the *ACM/IRTF Applied Networking Research Workshop (ANRW 2021)*.

- 2021 **TPC Member**, for the *IEEE International Conference on Sensing, Communication and Networking (SECON 2021)*.
- 2021 **TPC Member**, for the *Network Traffic Measurement and Analysis Conference (TMA 2021)*.
- 2021 **TPC Member**, for the *Web Conference 2021 (WWW 2021)*.
- 2020 **Registration Chair**, *The 16th International Conference on emerging Networking Experiments and Technologies (CoNEXT'20)*.
- 2020 **Publicity Co-Chair**, *26th Annual International Conference on Mobile Computing and Networking (MobiCom '20)*, *Network Traffic Measurement and Analysis Conference (TMA 2020)*.

## Invited Talks

- May 9th 2023 **Keynote Speaker**, *CPS-IoTBench 2023*, San Antonio, Texas, Benchmarking IoT Devices: Enhancing Privacy and Security in a Connected World.
- March 16th 2023 **Invited Speaker**, *The Brain Conference 2023*, London, UK, The cybersecurity of interconnected medical devices.
- December 19th 2022 **Invited Speaker**, *AINTEC 2022*, Hiroshima, Japan, Strengthening the IoT Ecosystem: Privacy Preserving IoT Security Management.
- December 1st 2022 **Invited Speaker**, *5G Italy*, Rome, Italy, Personal Data Collected by 5G: Privacy and Protection.
- October 25th 2022 **Invited Speaker**, *Hardware Pioneers Conference*, London, UK, Security Challenges for Hardware/IoT Makers.
- October 5th 2022 **Invited Speaker**, *IoTSF Conference 2022*, London, UK, Strengthening the IoT ecosystem.
- July 4th 2022 **Invited Speaker**, *The Italian Data Protection Authority*, Turin, Italy, 25 years of privacy in Italy.
- March 24th 2022 **Invited Speaker**, *Weizenbaum Institute/TU Berlin PLAMADISO Talk series*, Online, Measuring Privacy from Consumer IoT Devices.
- December 17th 2021 **Invited Speaker**, *University of Trento*, Online, Seminar Advanced Topic in Computer Networks.
- October 23rd 2021 **Keynote Speaker**, *Biogem Meeting*, Naples (Italy), Freedom and Digital Identity.  
[https://www.youtube.com/watch?v=\\_MFjUEgyCW4](https://www.youtube.com/watch?v=_MFjUEgyCW4)
- June 2nd 2021 **Invited Speaker**, *Guest seminar at Oxford Computer Science*, Online, Consumer IoT Devices Privacy Implications and Mitigations.
- May 21st 2021 **TEDx Speaker**, *TEDxPavia*, Pavia (Italy), Consumer IoT Devices: Who owns your data?.  
<https://www.youtube.com/watch?v=BDmnXkM7bEk&list=PLwHfivA5i-HKB1o1Ch14-TKfi71HSTbUZ&index=5>
- December 14th 2020 **Keynote Speaker**, *Academic Centres of Excellence in Cyber Security Research Winter School*, Online, Consumer IoT Devices Privacy Implications and Mitigations.
- December 3rd 2020 **Keynote Speaker**, *Secure IoT Space Workshop JST-DST SICORP Project*, Online, Securing Consumer IoT Devices.

- December 2nd 2020 **Panel Speaker**, *N2Women at ACM CoNEXT2020*, Online, N2Women (Networking Networking Women).
- August 26th 2020 **Invited Speaker**, *talk at CISCO*, Online, Consumer IoT Devices Privacy Implications and Mitigations.
- August 20th 2020 **Invited Speaker**, *Free Webcast by NIST: IoT, MUD and Enterprises*, Online, IoT and MUD Profiles.
- January 23rd 2020 **Invited Speaker**, *University of Cambridge*, Cambridge, UK, Information Exposure from Consumer IoT Devices.
- October 17th 2019 **Invited Speaker**, *RIPE 79*, Rotterdam, Netherlands, Information Exposure from Consumer IoT Devices.
- September 16th 2019 **Invited Speaker**, *Munich Internet Research Retreat Raitenhaslach (MIR3)*, Munich, Germany, Databox as a Platform for Monitoring IoT Devices at the Edge.
- July 4th 2019 **Invited Speaker**, *31st Multi-Service Networks workshop (MSN 2019)*, Oxfordshire, UK, Databox as a Platform for Monitoring IoT Devices at the Edge.
- June 12th 2019 **Invited Speaker**, *IMDEA Networks*, Madrid, Spain, Databox as a Platform for Monitoring IoT Devices at the Edge.
- February 6th 2018 **III MONROE workshop**, *IMDEA Networks*, Madrid, Spain, Experiments on MONROE: CGNWatcher.
- May 24, 2016 **Invited Speaker**, *RIPE 72*, Copenhagen, Denmark.  
<https://ripe72.ripe.net/archives/video/133/>
- December 7, 2015 **Invited Speaker**, *Max-Planck Institute for Informatics*, Saarbrucken, Germany.
- November 2, 2015 **Invited Speaker**, *Informing Protocol Design Through Crowdsourcing*, 94IETF hops meeting, Yokohama, Japan.  
[http://recs.conf.meetecho.com/Playout/watch.jsp?recording=IETF94\\_HOPSRG&chapter=chapter\\_1](http://recs.conf.meetecho.com/Playout/watch.jsp?recording=IETF94_HOPSRG&chapter=chapter_1)
- October 31, 2015 **Invited Speaker**, *Informing Protocol Design Through Crowdsourcing: the Case of Pervasive Encryption*, RAIM 2015, Yokohama, Japan.  
<https://irtf.org/raim-2015>
- September 14, 2015 **Invited Speaker**, *Informing Protocol Design Through Crowdsourcing: the Case of Pervasive Encryption*, JNIC 2015, León, Spain.  
<http://jornadasciberseguridad.riasc.unileon.es/agenda.html>
- February 6, 2015 **New Security for a New Era of the Internet (lightning talk)**, *NEC industrial workshop*, Heidelberg, Germany.

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## Public Engagement Events

- February 2022 **Garante per la Protezione dei Dati Personali**, Presenting the research on IoT privacy concerns.
- January 2020 **Italian Government**, Selected for the "Network of Talents for the South", The project aims to connect Italian professionals abroad with those who produce innovation in Italy.

- June 2020 **Imperial Tech Foresight 2040**, *Imperial College London*, Moral Machines Session, "Who owns your data: Information exposures and interventions from consumer devices".  
<https://imperialtechforesight.com/tf2040/moral-machines/>
- March 2020 **Imperial Lates**, *Imperial College London Public Engagement*, Celebration of Data Session, Panel Discussion on "Smart devices in the home".
- October 2019 **RIPE 79**, *Demonstration and IoT Hackathon at RIPE 79*, A RIPE Meeting is a five-day event where Internet Service Providers (ISPs), network operators and other interested parties gather to discuss issues of interest to the Internet community.

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## Publications

[https://scholar.google.com/citations?user=iASd\\_SsAAAAJ&hl](https://scholar.google.com/citations?user=iASd_SsAAAAJ&hl)

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## Press

- November 2021 **Il Messaggero**, Interview for one of the top Italian newspaper.  
[https://www.ilmessaggero.it/tecnologia/news/assistenti\\_vocali\\_smart\\_speaker\\_home\\_lato\\_oscuo\\_ripe\\_devices-6303651.html](https://www.ilmessaggero.it/tecnologia/news/assistenti_vocali_smart_speaker_home_lato_oscuo_ripe_devices-6303651.html)
- November 2021 **RAI – Radiotelevisione italiana**, Interview for the Italian documentary Report.
- May 2021 **Consumer Reports**, Connected Devices Share More Data Than Needed, Study Says.  
<https://www.consumerreports.org/privacy/connected-devices-share-more-data-than-needed/>
- February 2020 **RAI – Radiotelevisione italiana**, Interview for the Italian show Presa diretta.  
<https://www.youtube.com/watch?v=H1MkAuB8CZY&t=247s>
- November 2019 **RIPE Labs, APNIC Blog**, How Consumer IoT Devices Expose Information.  
[https://labs.ripe.net/Members/anna\\_maria\\_mandalari\\_2/how-consumer-iot-devices-expose-information](https://labs.ripe.net/Members/anna_maria_mandalari_2/how-consumer-iot-devices-expose-information)
- September 2019 **Financial Times and other international newspapers**, Smart TVs sending private data to Netflix and Facebook.  
<https://www.ft.com/content/23ab2f68-d957-11e9-8f9b-77216ebef1f7>
- May 2019 **BBC News**, Would you recognise yourself from your data?.  
<https://www.bbc.co.uk/news/technology-48434175>
- May 2019 **BBC World News**, Who Has My Data? - BBC Click.  
<https://www.youtube.com/watch?v=32gV9AEQC1I&t=7m7s>

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## Languages

English[Fluent], Spanish[Fluent], Italian[Native]