Alastair Beresford

Dept of Computer Science and Technology,
15 JJ Thomson Avenue,
Cambridge. CB3 0FD

+44 1223 763597
https://www.cl.cam.ac.uk/users/arb33
Alastair.Beresford@cst.cam.ac.uk

Research statement

My research work examines the security and privacy of large-scale networked computer systems. I currently focus on networked mobile devices, such as smartphones, tablets and laptops. I examine the security of the devices themselves as well as the security and privacy problems induced by the interaction between mobile devices and other Internet services. I approach this through the critical evaluation of existing products, by designing and building novel prototype technologies, and by measuring human behaviour. I am also a researcher and practitioner of technology-enhanced learning, with a particular focus on secondary education in STEM.

Current appointments

- ◇ **Head of Department** (2023–present)
  Department of Computer Science and Technology, University of Cambridge
- ◇ **Professor of Computer Security** previously Reader, Lecturer and RCUK Academic Fellow
  Department of Computer Science and Technology, University of Cambridge (2007–present)
- ◇ **Robin Walker Fellow in Computer Science** (2017–present)
  Queens' College, University of Cambridge

Education

- ◇ PhD, Engineering Department, University of Cambridge (2000–2004)
  Dissertation title: *Location privacy in ubiquitous computing*
- ◇ BA, First-class degree in Computer Science, University of Cambridge (1996–1999)

Current projects and grants

- ◇ Collaboration with The Guardian on CoverDrop.org, a revolutionary new technology to protect the security and privacy of news sources and whistleblowers, borne out of our academic research, developed together, and deployed by the news organisation as Secure Messaging in June 2025. (2019–present)
- ◇ Co-Founder and a Director of the **Centre for Mobile, Wearable Systems and Augmented Intelligence** at the University of Cambridge, supporting PhD students and postdoctoral researchers. Funded by donation from Nokia Bell Labs (2018–present).
- ◇ Co-Founder of the **Cambridge Cybercrime Centre**, a multi-disciplinary initiative combining expertise from computer science, criminology and law. We take a data-driven approach to improve our understanding of criminal activity and develop robust identifiers and evidence of criminal behaviour. An important goal of the project is to provide data to other academics and therefore drive a step change in the amount of research conducted into cybercrime. Funded by EPSRC and ERC. (2015-present)
- ◇ Technical Director of the **Isaac Learning Platform**. The Isaac platform is used to support the teaching of Science, Technology, Engineering and Maths in English schools. I work with Prof. Jardine-Wright from the Physics Department as well as The Raspberry Pi Foundation to develop, deploy and measure the effectiveness of novel technology to support learning. More info: IsaacScience.org and AdaComputerScience.org. Funded by the UK Government's Department for Education, The Raspberry Pi Foundation, The Ogden Trust and an anonymous donor. (2013–present)
- ◇ Co-Founder and Chair of Steering Group, **The Raspberry Pi Computing Education Research Centre**. The centre is a joint initiative between the University and the Raspberry Pi Foundation and offers an exciting opportunity to combine expertise from across both

institutions to deliver a step-change in computing education. The Centre seeks to achieve long-term impact by conducting original research as well as working with its partners to turn new research results into practice, including by working closely with the Raspberry Pi Foundation's educational programmes. The aim of the Centre is to increase our understanding of teaching and learning computing, computer science, and associated subjects, with a particular focus on young people who are from backgrounds that are traditionally under-represented in the field of computing or who experience educational disadvantage. (2022-present)

Previous grants and projects

- ◇ **Trve Data**, a project to bring better security to collaborative applications. For example, we are devising and implementing the distributed computing algorithms needed to replace systems such as Google Docs, Evernote and Wunderlist with solutions which do not require you to trust service providers with the contents of your shared documents, todo lists or notes. I was funded as PI with The Boeing Company (2015–2019); Dr Martin Kleppmann predominantly funded through a Leverhulme Fellowship to continue working with myself and PhD students (2019–2022).
- ◇ I directed the Device Analyzer project in the Computer Laboratory jointly with Prof. Rice. The project provided a free Android app on the Google Play store coupled to computer infrastructure in the Computer Laboratory. The app provided our users with better insight into what their phone does and, with their permission, uploads a subset of the collected usage statistics to our servers to help us answer research questions. We have received data from over 30,000 participants around the world and used this to explore research questions ranging from the energy consumption of mobile devices to the security of the Android ecosystem. Where our users agree, we also share data with more than 80 organisations worldwide. More info: https://deviceanalyzer.cl.cam.ac.uk. Funded by donation from Google (2011–2019).
- ◇ Principal investigator of a research grant to improve our understanding of the flows of personal information in a connected world. In this work, we are developing technical means to empirically measure how personal data flows inside mobile devices, and to track how and when personal information moves between mobile devices and servers on the Internet. Funded by Microsoft (2014–2018).
- ◇ Principal investigator for *Nigori: storing secrets in the cloud*, a project to build a secure mechanism for storing sensitive user data on servers connected to the Internet in such a way that the server provider cannot read it. We have devised significant improvements beyond the version currently deployed by Google in the Chrome web browser, as well as finding security flaws in the version currently deployed by Google. Funded by donation from Google (2012–2018).
- ◇ Principal investigator for the Smart Transport Internet of Things Data Ecosystem (STRIDE), a project to improve the delivery of real-time and historic transport and traffic data in the UK. Funded by the Technology Strategy Board (2013–2014).
- ◇ Prinicpal investigator of the TIME Impact Grant, supporting the dissemination of knowledge and software developed in TIME grant (below) to partners and the public. Funded by EPSRC (2012–2013).
- ◇ Principal investigator of Privacy Calculus, a joint research project between Cambridge and TU Berlin to better understand how formal methods can be used to reason about negotiable privacy policies. Funded by the British Council and DAAD (2009–2011).
- ◇ Research co-investigator on TIME-EACM, building novel sensors, distributed systems, and statistical techniques to improve transport and travel infrastructure. Funded by EPSRC (2005–2011).

Research associates & research assistants

I have had the pleasure of working closely with the following researchers.

- ◇ **Alex Lewin** Research Assistant (2024–present)
- ◇ **Sol Dubock** Research Assistant (2024–present)

- ◇ **Dr Daniel Hugenroth** Research Associate (2023–present)
- ◇ **Jacob Brown** Research Assistant (2023–present)
- ◇ **Matthew Patterson** Project Manager (2020–present)
- ◇ **Meurig Thomas** Senior Research Software Engineer (2017–present)
- ◇ **James Sharkey** Senior Research Software Engineer (2015–present)
- ◇ **Dr Ian Davies** Research Associate (2013–present)
- ◇ **Dr Stephen Cummins** Research Associate (2013–2024)
- ◇ **Skye Purchase** Research Assistant (2023–2024)
- ◇ **Chris Purdy** Research Assistant (2021–2023)
- ◇ **Dr Andrea Franceschini** Research Associate (2016–2022)
- ◇ **Dr Martin Kleppmann** Senior Research Associate (2015–2022)
- ◇ **Ben Hanson** Research Assistant (2018–2022)
- ◇ **Dr Daniel Thomas** Research Associate (2015–2019)
- ◇ **Dr Dan Underwood** Research Associate (2017–2018)
- ◇ **Dr Alistair Stead** Research Associate (2015–2016)
- ◇ **Dr Meredydd Luff** Research Associate (2015–2016)
- ◇ **Dr Ian Sheret** Senior Research Associate (2013–2014)
- ◇ **Dr David Evans** Senior Research Associate (2011–2012)
- ◇ **Daniel Thomas** Research Assistant (2011–2012)
- ◇ **Daniel Wagner** Research Assistant (2010)

PhD students

- ◇ **Alexandre Pauwels** *Primary Supervisor*. (2024-2028)
  Towards Browser-Based Interoperation of End-to-End Encrypted Systems.
- ◇ **Michael Fink** *Primary Supervisor*. (2024-2028)
  Towards privacy of location data in location-based systems.
- ◇ **Jenny Blessing** *Primary Supervisor*. (2021-2025)
  Anonymous Communications for Mobile Devices.
- ◇ **Ceren Kocaogullar** *Primary Supervisor*. (2021-2025)
  Usable and Private Discovery in Anonymity Networks.
- ◇ **Luis Adan Saavedra del Toro** *Primary Supervisor*. (2021-2025)
  Mobile ecosystems, application sideloading and user privacy.
- ◇ **Daniel Hugenroth** *Primary Supervisor*. (2019-2023)
  Privacy in group communications.
  Completed.
- ◇ **Jovan Powar** *Primary Supervisor*. (2017–2022)
  Privacy-aware data sharing.
- ◇ **Diana Vasile** *Primary Supervisor*. (2015–2022)
  Using gossiping to support authentication and confidentiality in mobile devices.
  Completed.
- ◇ **Michael Dodson** *Primary Supervisor*. (2018-2021)
  Security of control systems.
  Completed.
- ◇ **Stan Zhang** *Primary Supervisor*. (2017–2020)
  Security and privacy on mobile devices.
  Completed.

- ◇ **Stephan Kollmann** *Primary Supervisor.* (2014–2018)
  Privacy preserving decentralised collaborative applications.
  Completed.
- ◇ **Daniel Thomas** *Primary Supervisor.* (2012–2016)
  Towards an understanding of the security of modern smartphone platforms.
  Completed.
- ◇ **Sören Preibusch** *Primary Supervisor.* (2008–2012)
  Researching the models, principles and tools to support negotiable privacy policies.
  Completed.
- ◇ **Robin Message** *Jointly supervised with Prof. Alan Mycroft.* (2007–2011)
  Programming for humans: a new paradigm for domain-specific languages.
  Completed. Available as Computer Laboratory Technical Report 843.
- ◇ **Julien Quintard** *Jointly supervised with Prof. Jean Bacon.* (2006–2010)
  Towards a worldwide storage infrastructure.
  Completed.
- ◇ **Jonathan Davies** *Jointly supervised with Prof. Andy Hopper.* (2005–2009)
  Programming networks of vehicles.
  Completed. Available as Computer Laboratory Technical Report 761.

Departmental Teaching

- ◇ **Software and Security Engineering** an 11-lecture first-year course to introduce students to the challenges of building large systems including safety-critical systems and systems that must withstand attack by capable opponents. (2018–2019)
- ◇ **Computer Security: Principles and Foundations** an MPhil and Part III course focusing on the important historical themes in computer security. This 16-hour course is taught in a reading class style with weekly assessed essays and presentations. Jointly with Prof. Anderson and Drs Watson and Hutchings. (2014–2022)
- ◇ **Computer Security: Current Applications and Research** an MPhil and Part III course focusing on contemporary themes in computer security. This 16-hour course is taught in a reading class style with weekly assessed essays and presentations. Jointly with Prof. Anderson and Dr Watson. (2014–2018)
- ◇ **Further Java** a second-year course teaching the Java language. A 10-hour course which builds on the Programming in Java course above, using a similar teaching style and methods of assessment. The content covers fundamental concurrent and distributed computing primitives in Java. (2009–2022)
- ◇ **Research Skills** the compulsory research module for all MPhil and first-year PhD students. Optional for Part III students. This 16-hour course provides an introduction to a range of research skills which are essential to develop in the process of becoming an independent researcher. The content is taught in a traditional lecture style and I acted as the coordinating lecturer alongside Dr Blackwell, Prof. Copestake and Prof. Robinson. (2014–2015)
- ◇ **Prolog** a second-year course teaching the Prolog language. We co-designed and built an online interactive video platform to teach this 8-hour course and adapted existing content to fit a new flipped-classroom mode of teaching. Jointly with Dr Rice. (2012–2017)
- ◇ **Programming in Java** a first-year course teaching the Java language. I co-designed and wrote this 16-hour course with Dr Rice. We teach the basics of the Java language to all first-year computer science students as well as natural scientists taking the computer science option in their first year. Material is taught in a practical class format with demonstrators and semi-automated assessment. (2008–2015)
- ◇ **Programming in C and C++** a second-year course teaching C and C++ programming languages. I created and delivered this 8-hour C & C++ programming course. The material was presented in a traditional lecture style combined with live coding; delivered as part of the Comparative Programming Languages course in the first year. (2005–2008)

College Teaching

- ◇ **Director of Studies** at Queens' College, Cambridge (2017–2022)
- ◇ **Director of Studies** at Robinson College, Cambridge (2006–2017)
- ◇ **Supervisor** for many Cambridge Colleges in Computer Science and Engineering, including algorithms, artificial intelligence, computer graphics and image processing, concepts in programming languages, concurrent and distributed systems, databases, digital communications, economics and law, programming in C & C++, numerical methods, operating systems, probability, professional practice and ethics, security, and software engineering. (2000–present)

Management and Admin

- ◇ **Deputy Head of Department** Department of Computer Science and Technology. (2019–2022)
- ◇ **Chair of Examiners** overseeing the first three years of the Computer Science Tripos. (2018–2019)
- ◇ **Internal Examiner** Internal Examiner for Part IB and Part II of the Computer Science Tripos. (2017–2018)
- ◇ **Course Director** for the MPhil in Advanced Computer Science and Part III of the Computer Science Tripos. I take overall responsibility for the selection and education of approximately 40 MPhil students and 10 Part III students each year. (2012–2015)
- ◇ **Chair of Ethics Committee** taking overall responsibility for assessing any experiment involving human participants in the Department, including controlled experiments, ethnographic studies, survey research, release of instrumented software and research involving personal data. (2011–2012)
- ◇ **Outreach Coordinator** preparing and delivering an annual series of talks about computer science to school students on the Oxbridge Conference tour and elsewhere; coordinating the Departmental open days; managing the Departmental web pages on admissions; running the annual CS competition for UK students. Jointly with Dr Harle. (2007–2012)
- ◇ **Graduate Admissions, Robinson College** working with the Graduate Tutors to manage the admissions process for Robinson College. (2007–2010, 2013–2015)
- ◇ **Trustee, Queens' College** including membership of the Governing Body, the day-to-day executive body with resonsibility for the good running of the institution. (2017–present)
- ◇ **Trustee, Robinson College** including membership of College Council, the day-to-day executive body with resonsibility for the good running of the institution. (2012–2015)
- ◇ **Committee membership**: Council of the School of Technology (2019–2022), CST Faculty Board (2019–2022), CST Degree Committee (2012–2015; 2019–2022), CST Tripos Teaching (2019–2022), Queens' Library (2019–present), Queens' Teaching and Learning (2017–present), CST Advanced Taught Courses Management Committee (2012–2015), CST Joint Teaching Strategy Committee (2012–2015), Robinson IT Committee (2005–2017), Robinson Gardens Committee (2012–2017), Robinson Archives Committee (2012–2017), Robinson Audit Committee (2015–2017).

PhD examination

- ◇ **Nick (Nhat) Pham** Enabling human physiological sensing by leveraging intelligent head-worn wearable systems, University of Oxford, 2023
- ◇ **Tobias Höller** A Privacy Preserving Networking Approach for Distributed Digital Identity Systems, Johannes Kepler University Linz, 2022
- ◇ **Nikolaos Lykousas** Analysis and Detection of Deviant and Malicious Behaviors in Social Media and Beyond, University of Piraeus, 2022
- ◇ **Hesham Almatary** CHERI Compartmentalisation for Embedded Systems, University of Cambridge, 2022
- ◇ **Alberto Sonnino** Scaling Distributed Ledgers and Privacy-Preserving Applications, UCL, 2021

- ◇ **Andreas Gutmann** Is this what you wanted? An analysis of systems for the creation and verification of user instructions, UCL, 2020
- ◇ **Alexander Vetterl** Honeypots in the age of universal attacks and the Internet of Things, University of Cambridge, 2020
- ◇ **Ruba Abu-Salma** Designing user-centered privacy enhancing technologies, UCL, 2019
- ◇ **Daniel Hintze** Continuous Risk-Aware Multi-Modal Authentication Across Mobile Devices, Johannes Kepler University (Linz, Austria), 2019
- ◇ **Pygelis Apostolos** Evaluating Privacy-Friendly Mobility Analytics on Aggregate Location Data, UCL, 2018
- ◇ **Abdalnaser M. Algwil** Security and Usability of Cross-Device Captchas, University of Lancaster, 2018
- ◇ **Elena Reshetova** Mobile and Embedded Platform Security, Aalto University (Finland), 2018
- ◇ **Khaled Baqer** Resilient payment systems, University of Cambridge, 2018
- ◇ **Kumar Sharad** Learning to de-anonymize social networks, University of Cambridge, 2016
- ◇ **Mads Andersen** Multidimensional Location Privacy – Concepts, Architecture, and User Interface, Aarhus University (Denmark), 2013
- ◇ **Shailendra Fuloria** Robust security for the electricity network, University of Cambridge, 2011

External appointments

- ◇ **Visiting Professor, Department of Informatics, University of Piraeus** (2022–2023)
- ◇ **UK Cyber Security Council, Advisory Group** (2020–2021)
  Provide advice on establishing a new independent body to set standards and define career and learning paths for the cyber security sector.
- ◇ **EPSRC Peer Review College** (2016–present)
  Reviewer for EPSRC grant proposals.
- ◇ **Member of the Scientific Advisory Board, OpenClassrooms.com** (2016–2018)
  Distance learning degrees recognised by the French state.
- ◇ **Virtual Visiting Professor, AcademicPartnerships.com** (2014–2018)
  AP help universities transition their courses into interactive online modules.
- ◇ **External Examiner, University of Oxford** (2013–2016)
  MSc in Software and Systems Security, Department of Computer Science
- ◇ **External Examiner, The Open University** (2012–2016)
  M362: Developing Concurrent and Distributed Systems, Department of Computing

Awards and prizes

- ◇ My students were the winners of the Andreas Pfitzmann Best Student Paper Award at PETS 2022.
- ◇ Winner of the Best Academic Paper prize in the department, as judged by the Computer Lab Ring, the official department alumni association. (2020)
- ◇ **Google Security and Privacy Research Prize** worth $100,000 (2019)
- ◇ Winner of the Best Academic Paper prize in the department, as judged by the Computer Lab Ring, the official department alumni association. (2015)
- ◇ **Pilkington Prize in recognition of excellence in teaching** (2014)
- ◇ Research Fellow, Robinson College, Cambridge (2005–2006)
- ◇ Sponsored Ph.D. student, AT&T Labs – Cambridge (2000–2003)
- ◇ Sponsored 'A' level and undergraduate student, BT Laboratories (1994–1999)

Previous positions

- ◇ Reader in Computer Security, Computer Laboratory, University of Cambridge. (2017–2019)

- ◇ Senior Lecturer, Computer Laboratory, University of Cambridge. (2013–2017)
- ◇ Teaching Fellow, Robinson College, Cambridge. (2006–2017)
- ◇ University Lecturer, Computer Laboratory, University of Cambridge. (2012–2013)
- ◇ RCUK Academic Fellow, Computer Laboratory, University of Cambridge. (2007–2011)
  Responsibilities similar to a lecturer, including preparing and delivering undergraduate lectures and supervising PhD students and RAs.
- ◇ Visiting Scientist, Google London. (2011)
  Worked on Google Maps and wrote a Java implementation of the open source Nigori Protocol
- ◇ Research Associate, Computer Laboratory, University of Cambridge. (2004–2007)
  Designed and developed a prototype computer platform for collecting, processing and distributing data concerning road and rail networks.
- ◇ Senior Technical Associate, Fraser Research, Princeton, NJ, USA. (Summer 2004)
  Evaluation of a digital rights management system and the design and analysis of a naming scheme for future computer and communication networks.
- ◇ Internship, AT&T Labs – Research, Florham Park, NJ, USA. (Summer 2001)
  Designed and implemented a dynamic routing algorithm for 155Mb/s optical fibre residential cable network.
- ◇ Researcher, BT Labs, Martlesham Heath, Suffolk, UK. (1999–2000)
  Built a 2 GHz three-dimensional radio channel sounder, analysed ad-hoc network routing strategies and managed the BT Virtual University Research Initiative on Mobility.

Programme committees & journal editorships

- ◇ Proceedings of Privacy Enhancing Technologies Symposium (PoPETs) 2021, 2022, 2023
- ◇ IEEE Workshop on Research and Opportunities on Secure Software Development (DevSecOpsRO) 2023, 2024
- ◇ Cryptography And Network Security (CANS) 2022 [PC co-chair]
- ◇ ACM International Conference on Mobile Systems (Mobisys) 2019, 2020, 2021, 2022
- ◇ ACM Workshop on Mobile Computing Systems and Applications (HotMobile) 2019, 2020
- ◇ UK Mobile, Wearable and Ubiquitous Systems Research Symposium 2018, 2019, 2020
- ◇ ACM 1st International Workshop on Earable Computing (EarComp 2019) [PC co-chair] 2019
- ◇ Special Issue co-editor, IEEE Pervasive Computing 17(3), The specter of malicious computing: Securing the internet of things
- ◇ IEEE Workshop on Innovations in Mobile Privacy and Security (IMPS) 2017
- ◇ Associate Editor for the Proceedings of the ACM on Interactive, Mobile Wearable and Ubiquitous Technologies (IMWUT) 2016–2019.
- ◇ ACM Internet Measurement Conference (IMC) 2016
- ◇ ACM MobiSys workshop on Mobile Data (MobiData) 2016
- ◇ ESSoS workshop on Innovations in Mobile Privacy and Security (IMPS) 2016
- ◇ ACM CCS Workshop on Security and Privacy in Smartphones and Mobile Devices (SPSM) 2015
- ◇ EAI/ACM Mobiquitous 2014, 2015
- ◇ ACM Mobisys 2015
- ◇ ACM UbiComp 2014
- ◇ IEEE International Symposium on Policies for Distributed Systems and Networks 2012
- ◇ Privacy Enhancing Technologies (PET) 2010, 2009, 2008, 2007, 2006
  Proceedings published by Springer

- ◇ Distributed Applications and Interoperable Systems (DAIS) 2010, 2009, 2008
  Proceedings published by Springer
- ◇ PLACES 2010, 2009 [PC co-chair], 2008
  Workshop at ETAPS 2010, 2009 and IFIP DisCoTec 2008
- ◇ ACM Mobile and Ubiquitous Multimedia (MUM) 2012, 2010, 2009
- ◇ International Conference on Geosensor Networks (GSN) 2009, 2006
  Proceedings published by Springer
- ◇ Workshop on Privacy-Aware Location-based Mobile Services (PALMS) 2009, 2008, 2007
  IEEE International Conference on Mobile Data Management (MDM)
- ◇ Pervasive 2009
  Proceedings published by Springer
- ◇ Workshop on Privacy in the Electronic Society (WPES) 2008
  At ACM Conference on Computer and Communications Security (CCS) 2008
- ◇ Internet of Things 2008
  Proceedings published by Springer
- ◇ International Workshop on Pervasive Systems (PerSys) 2007
  Proceedings published by Springer
- ◇ Workshop on UbiComp Privacy 2007
  At UbiComp 2007. Proceedings published by Springer
- ◇ Workshop on *From Theory to Practice in Wireless Sensor Networks* 2007
  At IEEE Symposium on a World of Wireless, Mobile and Multimedia Networks (WoWMoM)
- ◇ IEEE Workshop on Trust, Security and Privacy for UbiComp (TSPUC) 2007
- ◇ IEEE Workshop on Pervasive Computing and Comms Security (PerSec) 2006
- ◇ International Conference on High Performance Computing and Comms (HPCC) 2006
- ◇ ACM Workshop on Wireless Security 2006 (held at ACM MobiCom) 2006
- ◇ International Conference on Ubiquitous Convergence Technology (ICUCT) 2006
  Proceedings published by Springer

Peer-reviewed publications

In computer science, top publication venues are often conferences which operate peer review with the same rigour as journals. The top computer security venues include Oakland, CCS and Usenix Security; PETS is the top specialist venue for work on privacy.

81 Daniel Hugenroth, Mario Lins, René Mayrhofer, Alastair R. Beresford Attestable Builds: Compiling Verifiable Binaries on Untrusted Systems using Trusted Execution Environments. Proceedings of the 32nd Conference on Computer and Communications Security (CCS), 2025.

80 Luis A. Saavedra, Hridoy Sankar Dutta, Alastair R. Beresford and Alice Hutchings ModZoo: A large-scale study of modded Android apps and their markets. Proceedings of the IEEE APWG Symposium on Electronic Crime Research (eCrime), pp 162–174, 2024. IEEE.

79 Markulf Kohlweiss, Roberto Di Pietro and Alastair R. Beresford (Editors) Proceedings of the 23rd Conference on Cryptology and Network Security (CANS), LNCS 14905 & 14906, 2024. Springer.

78 Ceren Kocaogullar, Daniel Hugenroth, Martin Kleppmann and Alastair R. Beresford. Pudding: Private User Discovery in Anonymity Networks. Proceedings of the Symposium on Security and Privacy (Oakland), pp 3203–3220, 2024. IEEE.

77 Daniel Hugenroth, Alberto Sonnino, Sam Cutler and Alastair R. Beresford. Sloth: Key Stretching and Deniable Encryption using Secure Elements on Smartphones. Proceedings on Privacy Enhancing Technologies (PETS), 4 pp 393–412, 2024.

76 Mario Lins, Rene Mayrhofer, Michael Roland and Alastair R. Beresford. Mobile App Distribution Transparency (MADT): Design and evaluation of a system to mitigate necessary trust in mobile app distribution systems. Proceedings of the Nordic Confeerence on Secure IT Systems (NordSec), LNCS 14324, pp 185–203, 2023. Springer.

75 Daniel Hugenroth Ceren Kocaogullar and Alastair R. Beresford. Choosing Your Friends: Shaping Ethical Use of Anonymity Networks. Proceedings of the 28th Workshop on Security Protocols (SPW), LNCS 14186, pp 162–173, 2023. Springer.

74 Kieron Ivy Turk, Alice Hutchings and Alastair R. Beresford. Can't Keep Them Away: The Failures of Anti-stalking Protocols in Personal Item Tracking Devices. Proceedings of the 28th Workshop on Security Protocols (SPW), LNCS 14186, pp 78–88, 2023. Springer.

73 Jovan Powar and Alastair R. Beresford. SoK: Managing risks of linkage attacks on data privacy. Proceedings on Privacy Enhancing Technologies (PETS), 2 pp 97–116, 2023.

72 Daniel Hugenroth and Alastair R. Beresford. Powering Privacy: On the Energy Demand and Feasibility of Anonymity Networks on Smartphones. Proceedings of the 32nd Usenix Security Symposium (Usenix Security), pp 5431–5448, 2023. Usenix Association.

71 Alastair R. Beresford, Arpita Patra and Emanuele Bellini (Editors) Proceedings of the 21st Conference on Cryptology and Network Security (CANS), LNCS 13641, 2022. Springer.

70 Luis A. Saavedra and Alastair R. Beresford. ACDC: Anonymous Crowdsourcing Using Digital Cash. Proceedings of the 21st Conference on Cryptology and Network Security (CANS 2022) pp 314–325, 2022. Springer.

69 Ricardo Mendes, Mariana Cunha, Joao P Vilela and Alastair R. Beresford. Enhancing User Privacy in Mobile Devices Through Prediction of Privacy Preferences. Proceedings of the European Symposium on Research in Computer Security (ESORICS 2022) pp 153–172, 2022. Springer.

68 Ricardo Mendes, Andre Brandao, Joao P Vilela and Alastair R. Beresford. Effect of User Expectation on Mobile App Privacy: A Field Study. Proceedings of the IEEE International Conference on Pervasive Computing and Communications (PerCom 2022) pp 207–214, 2022. IEEE.

67 Mansoor Ahmed-Rengers, Diana A. Vasile, Daniel Hugenroth, Alastair R. Beresford and Ross Anderson. CoverDrop: Blowing the Whistle Through A News App. Proceedings of Privacy Enhancing Technologies (PETS) pp 47–67, 2022. De Gruyter. *Winner of the Andreas Pfitzmann Best Student Paper Award at PETS 2022.*

66 Matthew Weidner, Daniel Hugenroth, Martin Kleppmann and Alastair R. Beresford. Key agreement for decentralized secure group messaging with strong security guarantees. Proceedings of the 2021 ACM SIGSAC Conference on Computer and Communications Security (CCS) pp 2024–2045, 2021. ACM.

65 Daniel Hugenroth, Martin Kleppmann and Alastair R. Beresford. Rollercoaster: An Efficient Group-Multicast Scheme for Mix Networks. Proceedings of the 30th Usenix Security Symposium (Usenix Security) pp 3433–3450, 2021. Usenix Association.

64 Jiexin Zhang, Alastair R. Beresford and Ian Sheret. Factory Calibration Fingerprinting of Sensors. IEEE Transactions on Information, Forensics and Security 16, pp 1626-1639, 2020. IEEE.

63 Mike Dodson, Alastair R. Beresford and Daniel R. Thomas. When will my PLC support Mirai? The security economics of large-scale attacks against Internet-connected ICS devices. Proceedings of the APWG Symposium on Electronic Crime Research (eCrime), 2020. IEEE.

62 Mike Dodson, Alastair R. Beresford, Jessica Clarke, A Richardson and Robert N. M. Watson. CHERI Macaroons: Efficient, host-based access control for cyber-physical systems. Proceedings of the IEEE European Symposium on Security and Privacy Workshops (EuroS&PW), p688–693, 2020. IEEE.

61 Mike Dodson, Alastair R. Beresford and Mikael Vingaard. Using Global Honeypot Networks to Detect Targeted ICS Attacks. Proceedings of the 12th International Conference on Cyber Conflict (CyCon) 1300, pp 275–291, 2020.

60 Andrea Franceschini, James Sharkey and Alastair R. Beresford. Inequality: multi-modal equation entry on the web. Proceedings of the 6th Conference on Learning@Scale, pp 1–10, 2019. ACM.

59 Jovan Powar and Alastair R. Beresford. A data sharing platform for earables research. Proceedings of the 1st International Workshop on Earable Computing (EarComp), pp 30-35, 2019. ACM.

58 Jiexin Zhang, Alastair R. Beresford and Stephan A. Kollmann. LibID: reliable identification of obfuscated third-party Android libraries. In the Proceedings of the 28th ACM SIGSOFT International Symposium on Software Testing and Analysis (ISSTA), pp 55–65), 2019. ACM.

57 Jiexin Zhang, Alastair R. Beresford and Ian Sheret. SensorID: Sensor Calibration Fingerprinting for Smartphones. In the Proceedings of IEEE Symposium on Security and Privacy (Oakland), pp 638–655, 2019. *Winner of the Best Academic Paper prize in the department in 2020, as judged by the Computer Lab Ring (the official department alumni association)*

56 Stephan A. Kollmann, Martin Kleppmann and Alastair R. Beresford. Snapdoc: Authenticated snapshots with history privacy in peer-to-peer collaborative editing. Proceedings on Privacy Enhancing Technologies (PETS), 2019(3):210–232, 2019. De Gruyter.

55 Diana A. Vasile, Martin Kleppmann, Daniel R. Thomas, and Alastair R. Beresford. Ghost trace on the wire? Using key evidence for informed decisions. In the Proceedings of the 27th International Workshop on Security Protocols, April 2019. Springer.

54 Martin Kleppmann, Victor B. F. Gomes, Dominic P. Mulligan, and Alastair R. Beresford. Interleaving anomalies in collaborative text editors. In the Proceedings of the 6th ACM Workshop on Principles and Practice of Consistency for Distributed Data (PaPoC), pp 1–7, March 2019. ACM.

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Other reports, papers and editorships

R12 Alastair R. Beresford. Whack-A-Mole Security: Incentivising the Production, Delivery and Installation of Security Updates. Proceedings of the International Workshop on Innovations in Mobile Privacy and Security (IMPS), 2016. CEUR Proceedings. ISSN 1613-0073. *Invited paper to summarize content of invited talk.*

R11 Daniel T. Wagner, Daniel R. Thomas, Alastair R. Beresford and Andrew Rice. Device analyzer: a privacy-aware platform to support research on the Android ecosystem. Proceedings of the 8th ACM Conference on Security and Privacy in Wireless and Mobile Networks (WiSec), 11:1–2, 2015. ACM Press.

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R9 Andrew Rice, Paula Buttery, Idris A. Rai and Alastair Beresford. Language learning on a next-generation service platform for Africa. W3C Workshop on an African Perspective on the Role of Mobile Technologies in Fostering Social and Economic Development, Maputo, Mozambique, 2009.

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R4 Robert Harle and Alastair Beresford. Keeping Big Brother off the road. IEE Review. 51(10):34–37, October 2005. ISSN 0953-5683.

R3 Alastair R. Beresford. Location privacy in ubiquitous computing (Ph.D. dissertation), University of Cambridge Computer Laboratory Technical Report UCAM-CL-TR-612, 2005.

R2 Alastair R. Beresford and Andrew C. Rice. Towards automated computation sharing for ubiquitous computing. British Council Workshop on Proactive Computing, Nizhni Novgorod, Russia. 2005.

R1 Alastair Beresford, Csaba Kiss Kallo, Ursula Kretschmer, Friedemann Mattern and Martin Muehlenbrock. The First Summer School on Ubiquitous and Pervasive Computing. IEEE Pervasive Computing, 2(1):84-88, 2003.

Selected academic talks

T16 *Smartphone Security and Privacy.* Invited seminar speaker, University of Nottingham, 2019.

T15 *Data-Driven Approaches to Android Security Analysis.* Invited speaker at the Android Security Research Day, Google (California), 2018.

T14 *Software Architecture.* Invited keynote speaker, 10th MANA Symposium, Tsukuba, Japan, 2017.

T13 *Smartphone Vulnerabilities.* Invited seminar speaker, Harvard University, 2016.

T12 *Smartphone Vulnerabilities.* Invited keynote speaker at Innovations in Mobile Privacy and Security (IMPS), a workshop at the International Symposium on Engineering Secure Software Systems, London, 2016.

T9-T11 *Smartphone Vulnerabilities.* Invited seminar speaker at Columbia University, Rutgers University and New York University (NYU), 2015.

T8 *Smartphone Vulnerabilities.* Invited seminar speaker with webcast to all employees worldwide, Microsoft Research, Seattle, 2014.

T7 *Smartphone Vulnerabilities.* Invited seminar speaker, Royal Holloway, London, 2014.

T6 *MockDroid: trading privacy for application functionality on smartphones.* Invited seminar speaker, Department of Computing, Imperial College, 2011.

T5 *Using sensors to improve public and private transport*. Invited talk at the British Council's Conference on Green ICT and Sensors in Gothenburg, 2010.

T4 *Pollution monitoring in the streets of Cambridge*. Invited talk at the Cambridge Transport Event organised by the former Chief Scientific Adviser to the Department for Transport, Christ's College, Cambridge. This was a joint talk with Professor Rod Jones.

T3 *TIME for better privacy*. Keynote talk at the Workshop on Privacy-Aware Location-based Mobile Services (PALMS) 2007; IEEE International Conference on Mobile Data Management (MDM'07).

T2 *Privacy issues in geographic information technologies*. Invited talk at the Association of American Geographers Annual Meeting, 2006.

T1 *Location privacy: technical issues and approaches*. Invited talk at BT Laboratories, Martlesham Heath, Suffolk, 2004.