Thomas Pasquier

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Academic Experience

2021–present	**Assistant Professor** at University of British Columbia
2021–2022	**Honorary Senior Lecturer** at University of Bristol
2018–2021	**Lecturer (Assistant Professor)** at University of Bristol
2018–2019	**Visiting Scholar** at University of Cambridge
2017–2018	**Research Associate and Research Fellow** at University of Cambridge
2017–2019	**Associate** at Harvard University
2016–2017	**Postdoctoral Fellow** at Harvard University CRCS
2013–2016	**Graduate Research Assistant** at University of Cambridge

Leaves

2022	**Paternity Leave** at University of British Columbia

Education

2012–2016	**PhD in Computer Science** University of Cambridge, United Kingdom
2011–2012	**MPhil in Computer Science** University of Cambridge, United Kingdom.
2008 – 2011	**Diplôme d'Ingénieur in Software R&D** Institut Supérieur d'Électronique de Paris, France
2006 – 2008	**Diplôme Universitaire de Technologie in EEE** Conservatoire National des Arts et Métiers, France

Industry Experience

2012	**R&D Software Engineer** at Public Health England, Cambridge
2008–2011	**R&D Software Engineer** at Gemalto, Paris
2006–2008	**R&D Electronic Engineer** at SRETT, Paris

University Duties

2023–2024	**Faculty Search Committee** at University of British Columbia
2023	**Head Search Committee** at University of British Columbia
2021–2022	**Graduate Admission Committee** at University of British Columbia
2020	**Workload Committee** at University of Bristol
2019–2021	**Study Abroad Academic Director** at University of Bristol
2019–2020	**Mentor for Postdocs (Bristol CLEAR)** at University of Bristol
2018–2021	**Academic Tutor** at University of Bristol
2018–2020	**Seminar Organiser** at University of Bristol

Teaching

2022–2023	**CPSC 538S: Accountable Computer Systems** Graduate – University of British Columbia
2023–2024	**CPSC 436A: Operating Systems Design and Implementation** Year 4 UG – University of British Columbia
2022–2023	**CPSC 538P: Topic in Computer Systems: Systems Security** Graduate – University of British Columbia
2022–2023	**CPSC 436A: Operating Systems Design and Implementation** Year 4 UG – University of British Columbia
2020–2021	**Computer Systems B: Introduction to Operating Systems & Security** Year 2 UG – University of Bristol
2020–2021	**Systems & Software Security** Year 4 UG – University of Bristol
2019–2020	**Systems Security** Year 4 UG – University of Bristol
2018–2019	**Systems Security** Year 4 UG – University of Bristol
2013–2016	**Computer Science** High School – Teacher – Cambridge Centre for Sixth Form Studies

Program committees

2023	ACM Conference on Computer and Communications Security (CCS)
2023	ACM Symposium on Operating Systems Principles (SOSP)
2023	ACM European Conference on Computer Systems (EuroSys)
2023	ACM Symposium on Cloud Computing (SoCC)
2022	ACM Conference on Computer and Communications Security (CCS)
2022	IEEE/ACM International Symposium on Cluster, Cloud and Internet Computing (CGRID)
2022	IEEE Conference on Dependable and Secure Computing (DSC)
2022	IEEE International Conference on Cloud Engineering (IC2E)
2021	ACM/IFIP Middleware Doctoral Workshop
2021	IEEE International Conference on Cloud Engineering (IC2E)
2021	ACM Workshop on Middleware and Applications for the Internet of Things (M4IoT)
2020	ACM European Conference on Computer Systems (EuroSys)
2020	ACM Workshop on Middleware and Applications for the Internet of Things (M4IoT)
2020	ACM/IFIP Middleware Doctoral Workshop
2019	IEEE International Conference on Cyber Security and Protection of Digital Services

2019	ACM Workshop on Middleware and Applications for the Internet of Things (M4IoT)
2019	USENIX Workshop on Theory and Practices of Provenance (TaPP)
2018	ACM Workshop on Middleware and Applications for the Internet of Things (M4IoT)
2018	IEEE International Workshop on Legal and Technical Issues in Cloud Computing and the Internet of Things (CLAW)
2017	USENIX Workshop on Theory and Practices of Provenance (TaPP)
2017	IEEE International Workshop on Legal and Technical Issues in Cloud Computing and the Internet of Things (CLAW)
2017	ACM Workshop on Middleware and Applications for the Internet of Things (M4IoT)
2016	IEEE International Workshop on Legal and Technical Issues in Cloud Computing and the Internet of Things (CLAW)
2016	ACM International Workshop on Mashups of Things and APIs

External Review Committees

2021	ACM International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)

Organizing Committees

2021	USENIX Workshop on Theory and Practice of Provenance Program co-chair
2021	IEEE International Conference on Cloud Engineering Workshop and Tutorial co-chair
2020	USENIX Workshop on Theory and Practice of Provenance Program chair
2018	Provenance-based Security Workshop Program chair
2017	IEEE International Conference on Cloud Engineering Publicity chair

Steering Committees

2020-present	USENIX Workshop on Theory and Practice of Provenance

Invited Talks & Keynotes

Nov 2022	**Invited Talk to Industry** Huawei (virtually)
Dec 2021	**Invited Talk to Industry** IBM (virtually)
Jan 2021	**Invited Talk to Industry** Two Sigma (virtually)
Dec 2020	**Annual China-UK-Australia AI Frontier Symposium** virtually
Nov 2020	**Invited Talk to Industry** Toshiba (virtually)
Nov 2020	**UK-Israel Network and Data Infrastructure Security Online Workshops** virtually

Nov 2020	**Azure Data ML Talk Series** Microsoft (virtually)
Jan 2020	**UK PhD Winter School on Cyber Security** University of Newcastle
Nov 2019	**Workshop on Provenance, Security & Machine Learning** The Alan Turing Institute, London
Jun 2019	**Invited Talk to Industry** HP Labs, Bristol
Mar 2019	**Workshop on Machine Learning for Cyber Security** Loughborough University
Jan 2019	**Computer Science Seminar** Royal Holloway, University of London
Jun 2018	**Trusted System Design Group Seminar** University of Cambridge
Jan 2018	**Institute for Computing Systems Architecture Colloquium** University of Edinburgh

Journal Reviews

IEEE Transactions on Information Forensics & Security
IEEE Transactions on Dependable and Secure Computing
Springer Personal and Ubiquitous Computing
ACM Transactions on the Web
IEEE Transactions on Cloud Computing
IEEE Transactions on Parallel and Distributed Systems
IEEE Access
IEEE Computing in Science and Engineering
Nature Springer Humanities & Social Sciences Communications

Grant Reviews

2018–2023	Luxembourg National Research Fund CORE
2022	Natural Sciences and Engineering Research Council of Canada
2022	UKRI ESRC Digital Security by Design Hub+
2020	UK Royal Society Industrial Fellowship
2018	Cyprus Research Promotion Foundation

Publications (citations $\geq$ 1865, h-index 22)

[1] Cheng, Z., Lv, Q., Liang, J., Wang, Y., Sun, D., Pasquier, T., and Han, X. Kairos: Practical Intrusion Detection and Investigation using Whole-system Provenance. In *Symposium on Security and Privacy (S&P'24)* (2024), IEEE

[2] Lim, S. Y., Han, X., and Pasquier, T. Unleashing Unprivileged eBPF Potential with Dynamic Sandboxing. In *SIGCOMM Workshop on eBPF and Kernel Extensions* (2023), ACM

[3] Trisovic, A., Lau, M. K., Pasquier, T., and Crosas, M. A large-scale study on research code quality and execution. *Nature Scientific Data* (2022)

[4] Lerner, B., Boose, E., Brand, O., Ellison, A. M., Fong, E., Lau, M. K., Ngo, K., Pasquier, T., Perez, L., Seltzer, M., et al. Making provenance work for you. *R Journal 14*, 4 (2022)

[5] Abbas, M., Khan, S., Monum, A., Zaffar, F., Tahir, R., Eyers, D., Irshad, H., Gehani, A., Yegneswaran, V., and Pasquier, T. Paced: Provenance-based automated container escape detection. In *International Conference on Cloud Engineering (IC2E)* (2022), IEEE

[6] Raimondo, F., Erol, U., Gunner, S., Pope, J., Zakrzewski, R., Faulks, M., McConville, R., Pasquier, T., Piechocki, R., and Oikonomou, G. Iot key exchange performance analysis. In *International Conference on Embedded Wireless Systems and Netwroks* (2022), ACM, pp. 238–243

[7] Han, X., Yu, X., Pasquier, T., Li, D., Rhee, J., Mickens, J., Seltzer, M., and Chen, H. SIGL: Securing Software Installations Through Deep Graph Learning. In *Security Symposium (USENIX Sec'21)* (2021), USENIX

[8] Lim, S. Y., Stelea, B., Han, X., and Pasquier, T. Secure Namespaced Kernel Audit for Containers. In *Symposium on Cloud Computing (SoCC'21)* (2021), ACM

[9] Han, X., Pasquier, T., Bates, A., Mickens, J., and Seltzer, M. UNICORN: Runtime Provenance-Based Detector for Advanced Persistent Threats. In *Network and Distributed System Security Symposium (NDSS'20)* (2020), Internet Society

[10] Fekry, A., Carata, L., Pasquier, T., Rice, A., and Hopper, A. To Tune or Not to Tune? In Search of Optimal Configurations for Data Analytics. In *Conference on Knowledge Discovery and Data Mining (KDD'20)* (2020), ACM

[11] Fekry, A., Carata, L., Pasquier, T., and Rice, A. Accelerating the Configuration Tuning of Big Data Analytics with Similarity-aware Multitask Bayesian Optimization. In *International Conference on Big Data (BidData'20)* (2020), IEEE

[12] Han, X., Mickens, J., Gehani, A., Seltzer, M., and Pasquier, T. Xanthus: Push-button Orchestration of Host Provenance Data Collection. In *International Workshop on Practical Reproducible Evaluation of Computer Systems (P-RECS'20)* (2020), ACM

[13] Lau, M. K., Pasquier, T., and Seltzer, M. Rclean: A Tool for Writing Cleaner, More Transparent Code. In *The Journal of Open Source Software (JOSS)* (2020)

[14] O'Keeffe, D., Asma, V., Pasquier, T., and Eyers, D. Facilitating plausible deniability for cloud providers regarding tenants' activities using trusted execution. In *International Conference on Cloud Engineering (IC2E'20)* (2020), IEEE

[15] Chan, S. C., Cheney, J., Bhatotia, P., Gehani, A., Irshad, H., Pasquier, T., Carata, L., and Seltzer, M. ProvMark: A Provenance Expressiveness Benchmarking System. In *International Middleware Conference* (2019), ACM/IFIP

[16] Pasquier, T., Eyers, D., and Bacon, J. Viewpoint — Personal Data and the Internet of Things: It is time to care about digital provenance. *Communications of the ACM* (2019)

[17] Pasquier, T., Eyers, D., and Seltzer, M. From Here to Provtopia. In *VLDB Workshop on Towards Polystores that manage multiple Databases, Privacy, Security and/or Policy Issues for Heterogenous Data (Poly'19)* (2019), Springer

[18] Fekry, A., Carata, L., Pasquier, T., Rice, A., and Hopper, A. Towards Seamless Configuration Tuning of Big Data Analytics. In *International Conference on Distributed Computing Systems (ICDCS'19)* (2019), IEEE

[19] Pasquier, T., Han, X., Moyer, T., Bates, A., Hermant, O., Eyers, D., Bacon, J., and Seltzer, M. Runtime analysis of whole-system provenance. In *Conference on Computer and Communications Security (CCS'18)* (2018), ACM

[20] Pasquier, T., Singh, J., Powles, J., Eyers, D., Seltzer, M., and Bacon, J. Data provenance to audit compliance with privacy policy in the Internet of Things. *Springer Personal and Ubiquitous Computing* (2018)

[21] Pasquier, T., Lau, M., Han, X., Fong, E., Lerner, B., Boose, E., Crosas, M., Ellison, A., and Seltzer, M. Sharing and Preserving Computational Analyses for Posterity with encapsulator. *IEEE Computing in Science and Engineering (CiSE)* (2018)

[22] Han, X., Pasquier, T., and Seltzer, M. Provenance-based intrusion detection: Opportunities and challenges. In *Workshop on the Theory and Practice of Provenance (TaPP'18)* (2018), USENIX

[23] Pasquier, T., Han, X., Goldstein, M., Moyer, T., Eyers, D., Seltzer, M., and Bacon, J. Practical whole-system provenance capture. In *Symposium on Cloud Computing (SoCC'17)* (2017), ACM

[24] Han, X., Pasquier, T., Ranjan, T., Goldstein, M., and Seltzer, M. FRAPpuccino: Fault-detection through Runtime Analysis of Provenance. In *Workshop on Hot Topics in Cloud Computing (HotCloud'17)* (2017), USENIX

[25] Pasquier, T., Lau, M., Trisovic, A., Boose, E., Couturier, B., Ellison, A., Gibson, V., Jones, C., and Seltzer, M. If these data could talk. *Nature Scientific Data* (2017)

[26] Pasquier, T., Eyers, D., and Bacon, J. PHP2Uni: Building Unikernels using Scripting Language Transpilation. In *International Conference on Cloud Engineering (IC2E'17)* (2017), IEEE

[27] Singh, J., Pasquier, T., Bacon, J., Diaconu, R., Powles, J., and Eyers, D. Big Ideas paper:Policy-driven middleware for a legally-compliant Internet of Things. In *ACM/IFIP/Usenix Middleware* (2016), ACM
University of Cambridge's Computer Laboratory "The Ring" **Hall of Fame publication of the year award**.

[28] Pasquier, T., Bacon, J., Singh, J., and Eyers, D. Data-centric access control for cloud computing. In *Symposium on Access Control Models and Technologies* (2016), ACM

[29] Pasquier, T., Singh, J., , Bacon, J., and Eyers, D. Information Flow Audit for PaaS clouds. In *International Conference on Cloud Computing Engineering (IC2E)* (2016), IEEE

[30] Singh, J., Pasquier, T., Bacon, J., Ko, H., and Eyers, D. Twenty Cloud Security Considerations for Supporting the Internet of Things. *IEEE Internet of Things Journal* (2016)

[31] Singh, J., Powles, J., Pasquier, T., and Bacon, J. Data Flow Management and Compliance in Cloud Computing. *IEEE Cloud Computing Magazine* (2015)

[32] Bacon, J., Eyers, D., Pasquier, T., Singh, J., Papagiannis, I., and Pietzuch, P. Information Flow Control for Secure Cloud Computing. *IEEE Transactions on Network and System Management, SI Cloud Service Management 11*, 1 (2014), 76–89

[33] Pasquier, T., Singh, J., and Bacon, J. Clouds of Things need Information Flow Control with Hardware Roots of Trust. In *International Conference on Cloud Computing Technology and Science (CloudCom'15)* (2015), IEEE

[34] Pasquier, T., Singh, J., Bacon, J., and Hermant, O. Managing Big Data with Information Flow Control. In *International Conference on Cloud Computing (CLOUD)* (2015), IEEE

[35] Singh, J., Pasquier, T., and Bacon, J. Securing Tags to Control Information Flows within the Internet of Things. In *International Conference on Recent Advances in Internet of Things (RIoT'15)* (2015), IEEE

[36] Pasquier, T., Singh, J., and Bacon, J. Information Flow Control for Strong Protection with Flexible Sharing in PaaS. In *IC2E, International Workshop on Future of PaaS* (2015), IEEE

[37] Pasquier, T., and Powles, J. Expressing and Enforcing Location Requirements in the Cloud using Information Flow Control. In *IC2E International Workshop on Legal and Technical Issues in Cloud Computing (Claw'15)* (2015), IEEE

[38] Pasquier, T., Singh, J., Eyers, D., and Bacon, J. CamFlow: Managed Data-Sharing for Cloud Services. *IEEE Transactions on Cloud Computing* (2015)

[39] Singh, J., Pasquier, T., Bacon, J., and Eyers, D. Integrating Middleware with Information Flow Control. In *International Conference on Cloud Computing Engineering (IC2E)* (2015), IEEE

[40] Pasquier, T., Bacon, J., and Eyers, D. FlowK: Information Flow Control for the Cloud. In *International Conference on Cloud Computing Technology and Science (CloudCom'14)* (2014), IEEE

[41] Pasquier, T., Bacon, J., and Shand, B. FlowR: Aspect Oriented Programming for Information Flow Control in Ruby. In *International Conference on Aspect-Oriented Software Development (Modularity'14)* (2014), ACM