

Curriculum Vitae

James G. Wright

Address	Personal Details	Contact Details
On request	Date of Birth: On request Citizenship: On request Country of residence: On request Language: English	Email: On request Phone: On request ORCID: 0000-0003-0477-7573

Education

- 2015** Royal Holloway, University of London
- 2020** Information Security Group
Thesis: “On the Use of Queuing Networks to Test the Robustness of Security Protocols: An Analysis of the Security Vulnerabilities of IEC61850 & IEC62351”
Advisor: Prof. Stephan D. Wolthusen
- 2010** MPhys Physics with Theoretical Physics *2:1*
- 2015** University of Manchester
Department of Physics
Thesis “A Comparison of the Capabilities of the Plasma Accelerator Research Station at the Proposed Compact Linear Accelerator for Research and Applications facility with linear limit of Plasma Wakefield theory”
Advisor: Dr. Guoxing Xia

Research Interests

- Formal methods development
- Heterodox cryptographic primitives
- Cyber-physical system security
- Socio-technical risk methods

Previous Positions

- 2020** Norwegian University of Science and Technology
Researcher
- 2014** University of Manchester’s Mathematical Physics group
Intern
- 2013** Science & Technology Facilities Council, Cockcroft Institute
Accelerator physicist
- 2012** University of Manchester’s Popelier group
Intern

Prizes, Awards and Fellowships

- 2017** Young CRITIS Award *Third place*
- 2012** University of California Education Abroad Program

Publications

J. G. Wright and S. D. Wolthusen, A Formal Method for Discerning the Functional Limits of Security Protocols in the Face of Disruptive Advresaries. *Unpublished Manuscript*

J. G. Wright and S. Wolthusen. Time Accuracy De-Synchronisation Attacks Against IEC 60870-5-104 and IEC 61850 Protocols. In *2019 IEEE Power Energy Society Innovative Smart Grid Technologies Conference (ISGT)*, pages 1-5, 2019

J. G. Wright and S. D. Wolthusen. De-Synchronisation Attack Modelling in Real-Time Protocols Using Queue Networks: Attacking the ISO/IEC 61850 Substation Automation Protocol. In G. D’Agostino and A.

Scala, editors, *Critical Information Infrastructures Security*, pages 131-143, Cham, 2018. Springer International Publishing

J. G. Wright and S. D. Wolthusen. Stealthy Injection Attacks Against IEC61850's GOOSE Messaging Service. In *2018 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe)*, pages 1-6, 2018

J. G. Wright and S. D. Wolthusen. Access Control and Availability Vulnerabilities in the ISO/IEC 61850 Substation Automation Protocol. In G. Havarneanu and R. Setola and H. Nassopoulos and S. Wolthusen, editors, *Critical Information Infrastructures Security*, pages 239-251, Cham, 2017. Springer International Publishing

J. G. Wright and S. D. Wolthusen. Limitations of IEC62351-3's Public Key Management. In *2016 IEEE 24th International Conference on Network Protocols (ICNP)*, pages 1-6, 2016

G. Xia and Y. Nie and O. Mete and K. Hanahoe and M. Dover and M. Wigram and J. G. Wright and J. Zhang and J. Smith and T. Pacey and Y. Li and Y. Wei and C. Welsch. Plasma Wakefield Acceleration at CLARA Facility in Daresbury Laboratory. In *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 829:43-49, 2016. 2nd European Advanced Accelerator Concepts Workshop - EAAC 2015

O. Mete and K. Hanahoe and G. Xia and M. Dover and M. Wigram and J. G. Wright and J. Zhang and J. Smith. Design Studies and Commissioning Plans for PARS Experimental Program. In *6th International Particle Accelerator Conference*, page WEPWA048, 2015

O. Mete and G. Xia and K. Hanahoe and M. Dover and M. Wigram and J. G. Wright and J. Zhang and J. Smith. Design studies and commissioning Plans for Plasma Acceleration Research Station Experimental Program. In *Physics of Plasmas*, 22(10):103117, 2015

Invited Talks

2020 The Reflective Mathematician
Cambridge Ethics in Mathematics Society

2018 Over the Mountain of Abstraction
The first meeting on Ethics in Mathematics

2018 The Dangers of Researching in STEM
Cambridge Ethics in Mathematics Society

2017 Queen Mary, University of London's Intersections Cryptoparty

Scientific Activity

2015 Member
2019 RHUL ISG and Maths Staff Student Committee

2016 Founder & Organiser
2017 RHUL Security Ethics Discussion Group

2014 Representative
2015 UoM Physics Department Staff Student Committee