

# WILLIAM FITZGERALD

[info@williamfitzgerald.net](mailto:info@williamfitzgerald.net) | (IE) +353879527083 | <https://www.linkedin.com/in/williamfitzgerald/> | Ireland

## Experienced Leader of Industrial IoT Product Cybersecurity Engineering, Innovation & Services Cybersecurity Governance | Cybersecurity Risk Management | Cybersecurity by Design | Cybersecurity Consultancy

**Entrepreneurial-spirited executive strategic leader**, technologist and engineer for a fortune 500 in the Industrial Automation, Smart Building & Internet of Things domain. Over 20 years' expertise in cybersecurity IT & OT program development, security by design, secure software development lifecycle, research & development. A powerful blend of cybersecurity vision and business acumen that results in consistent delivery of cost-effective high performance business strategies and customer oriented value propositions. Proven track record of identifying, qualifying and building consensus for enabling product solutions and services that facilitate business critical processes and strategic commercial offerings.

Core competencies include Revenue Generation, Professional Services, Cybersecurity Program, Cybersecurity & Privacy by Design, Risk & Vulnerability Management, Penetration Testing Services, Product Development, Software Development Lifecycle, Technical Architectures, R&D, Team Building, Agile Project Management, Rationalization & Transformation, Internet of Things, Operational Technology, Industry 4.0. Educational credentials include Ph.D., M.Sc., B.Sc.

### PROFESSIONAL EXPERIENCE

**Director Global Product Cybersecurity Engineering, Innovation & Services** July 2017 – Present  
*Johnson Controls* - a global diversified technology and multi industrial leader serving a wide range of customers in more than 150 countries. Our 120,000 employees create intelligent buildings, efficient energy solutions, integrated infrastructure and next generation transportation systems that work seamlessly together to deliver on the promise of smart cities and communities.

Accountable for building and accelerating from new, a product cybersecurity engineering and innovation center of excellence. Highlights include:

- **Trusted adviser** to senior executives for global product **cybersecurity strategic initiatives, programs and services**.
- Development of a new **cybersecurity OT professional service** offering servicing external **customer value propositions**.
- Development of product cybersecurity **Minimal Viable Offers** and Proof of Concepts.
- Development of a new global product cybersecurity (ethical hacking) **penetration testing services** organization.
- Development of product cybersecurity **standards and procedures** across global business units.
- Development of cybersecurity reference **architectures** such as **Cloud, Fog, Embedded, IoT, ICS**.
- Deployment, **consolidation & integration** of cybersecurity tools within Software Development Lifecycle process.
- **Intellectual Property** generation.
- **Agile management** to optimize cadence, velocity and burndown metrics.
- Consult and support in **Merger & Acquisitions**.
- **Support** the global product security **program office** and product **incident response** teams.
- **Business-positive approach** to **managing** business cybersecurity **risk**.

**Senior Manager Global Enterprise IT & Product Cybersecurity** March 2016 – June 2017  
*Johnson Controls*

Accountable for building and accelerating from new, a product cybersecurity **program office**. Highlights include:

- **Member of the CISO executive leadership strategic team** leading and facilitating multiyear initiative programs.
- Established and executed a product cybersecurity **governance, risk and compliance** program.
- Application of **International Standards** and Best Practices for IT and Application Security.
- Development & execution of product cybersecurity **Policy & Security by Design** requirements across BUs.
- Development of **automated cybersecurity** test standards across an integrated SDLC.
- Procured & integrated development team **cybersecurity tools support** such as Static Application Security Testing.
- **Product Incident Response** awareness and technical recommendations to product development teams.

**Senior Research Scientist** March 2015 – March 2016  
*United Technologies* – is a global leader in aerospace and smart building industries with 240,000 employees.

Responsible for capability building and advancing the state-of-the-art for cyber physical systems and **IoT** cybersecurity. Highlights include:

- Lead, collaborate and develop a cybersecurity **Industrial Internet of Things** strategic & research direction.

- Lead and collaborate on the application and execution of multiyear European funded **research & development** projects.
- Research and advance cybersecurity and resilience of **smart grids**.

### Senior Technologist

November 2013 – February 2015

*Dell EMC – provides the essential infrastructure for organizations to build their digital future, transform IT and protect critical assets.*

Responsible for capability building and advancing the state-of-the-art for Cloud cybersecurity as a service offerings.

Highlights include:

- Lead, collaborate and develop the **Cloud** cybersecurity strategic direction.
- Research and advance secure provisioning of Cloud services and **next generation data centers**.
- Cybersecurity **Service Level Agreement** framework for automated negotiation, monitoring and enforcement.

### Post-Doctoral Fellow

September 2010 – November 2013

*University College Cork – one of Irelands top ranked universities and was established in 1845.*

Responsible for developing new and advanced cybersecurity research skills and competences at the university.

Highlights include:

- Lead in the development and management of **funding proposals**.
- **Teaching** and **mentorship** of graduate and postgraduate students.
- **Master thesis supervision** topics included: Botnets, Firewalls and Intrusion Detection Systems.
- **Publish peer review scientific journals** and present at international cybersecurity conferences.
- Research included: **Federated Autonomic Cybersecurity**, Network Security, Cyber-Physical Systems.

### Applied Cybersecurity Researcher

September 2004 – December 2005

*Telecommunications Software & Systems Group (TSSG) – Internationally recognized CoE for ICT research and Innovation.*

Responsible for developing new and advanced cybersecurity research skills and competences.

Highlights include:

- Lead in the development of National and European funding proposals.
- Research included: Automated Smart Homes, Pervasive & Ubiquitous Computing and **Autonomic Computing**.

### Research Scientist

January 2003 – March 2004

*Ericsson – Comprehensive portfolio ranges from Networks, Digital & Managed Services and Emerging Business powered by 5G, IoT Platforms.*

Responsible for capability building and advancing the state-of-the-art for network security technologies.

Highlights include:

- Collaborated on and developed a dynamic game theoretical model of node cooperation within **ad-hoc networks**.
- Research included: Evolutionary Game Theory, **Trust** and **Reputation Schemes**.

## **EDUCATION**

---

**Ph.D. Cybersecurity**, “*An Ontology Engineering Approach to Network Access Control Configuration*”

August 2010

University College Cork, Ireland

**M.Sc. Computer Science**, “*Performance Analysis of Host Based Routing*”

October 2002

National University of Ireland Maynooth, Ireland

**B.Sc. Computer Science**,

June 2000

National University of Ireland Maynooth, Ireland

## **PUBLICATIONS**

---

Categories include Book Editor, Peer-Reviewed Journals & Conferences, Technical Articles. Subject Matter Expertise areas include Firewall Automation, Network Access Controls, Automated Home Area Networks, Threat Management, Internet of Things, Policy Conflict Analysis, Storage Area Network Security, Semantic Web, Intrusion Detection, Physical Access Controls, Automated Security Configuration, Smartphone Security, Risk Metrics, Expert Reasoning Systems, Best Practice Controls Catalogue, Formal Modelling. <http://www.williamfitzgerald.net/publications/publications.html>

## **PUBLIC ENGAGEMENTS**

---

Public speaking - Keynote Speaker, Subject Matter Expert Speaker at various Cybersecurity Conferences & Summits.

## SAMPLE PEER REVIEWED R&D PUBLICATIONS

---

### Book Editor

- J. Garcia-Alfaro, G. Lioudakis, N. Cuppens-Bouahia, S. Foley, W.M. Fitzgerald (Eds.): *8<sup>th</sup> International Workshop, DPM 2013, and 6<sup>th</sup> International Workshop, SETOP 2013*, Egham, UK, September 12-13, 2013, LNCS Vol. 8247, ISBN 978-3-642-54567-2.
- F. Martinelli, J. Lanet, W. M. Fitzgerald, S. N. Foley (Eds.): *7<sup>th</sup> International Conference on Risks and Security of Internet and Systems (CRiSIS)*, Cork, Ireland, October 10-12, 2012. IEEE Computer Society 2012, ISBN 978-1-4673-3087-9.

### Peer-Reviewed Journals

- W. M. Fitzgerald, U. Neville, S. N. Foley: “*MASON: Mobile Autonomic Security for Network Access Controls*”, Journal of Information Security & Applications, Elsevier, Vol 18, 2013.
- S. N. Foley, W. M. Fitzgerald: “*Management of Security Policy Configuration using a Semantic Threat Graph Approach*”, Journal of Computer Security, IOS Press, Vol. 19, No. 3, 2011.
- W. M. Fitzgerald, S. N. Foley: “*Aligning Semantic Web Applications with Network Access Controls*”, Computer Standards & Interfaces, Volume 33, Issue 1, Elsevier, January 2011.
- W. M. Fitzgerald, S. N. Foley, M. O’Foghlú: “*Network Access Control Configuration Management using Semantic Web Techniques*”, Journal of Research and Practice in Information Technology, Vol. 41, No. 2, May 2009.

### Peer-Reviewed Conferences & Workshops

- R. Brennan, Z. Etzioni, K. Feeney, D. O’Sullivan, W. M. Fitzgerald, S. N. Foley: “*Consumer Managed Federated Homes*”, IEEE Communications Magazine, 52(6): 194-201, 2014.
- W. M. Fitzgerald, S. N. Foley: “*Avoiding Inconsistencies in the Security Content Automation Protocol*”, IEEE 6<sup>th</sup> Symposium on Security Analytics and Automation (SafeConfig), Washington, D.C., USA, October 2013.
- F. Turkmen, S. N. Foley, B. O’Sullivan, W. M. Fitzgerald, T. Hadzic, S. Basagiannis, M. Boubekeur: “*Explanations and Relaxations for Policy Conflicts in Physical Access Control*”, IEEE 25<sup>th</sup> International Conference on Tools with Artificial Intelligence (ICTAI), 2013.
- W. M. Fitzgerald, F. Turkmen, S. N. Foley and B. O’Sullivan: “*Anomaly Analysis for Physical Access Control Security Configuration*”, 7<sup>th</sup> International Conference on Risks and Security of Internet and Systems (CRiSIS), October 2012.
- W.M. Fitzgerald, U. Neville and S. N. Foley: “*Automated Smartphone Security Configuration*”, 5<sup>th</sup> International Workshop on Autonomous and Spontaneous Security (SETOP), ESORICS, September 2012.
- S. N. Foley, W. M. Fitzgerald: “*Decentralized Semantic Threat Graphs*”, 26<sup>th</sup> Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec), France, July 2012.
- W. M. Fitzgerald, S. N. Foley: “*Reasoning about the Security Configuration of SAN Switch Fabrics*”, 4<sup>th</sup> IEEE Symposium on Configuration Analytics and Automation (SafeConfig), Arlington, VA, USA, October 2011.
- W. M. Fitzgerald, S. N. Foley: “*Management of Heterogeneous Security Access Control Configuration using an Ontology Engineering Approach*”, 3<sup>rd</sup> ACM Workshop on Assurable & Usable Security Configuration (SafeConfig), Chicago, USA, October 2010.
- S. N. Foley, W. M. Fitzgerald: “*An Approach to Security Policy Configuration using Semantic Threat Graphs*”, 23<sup>rd</sup> Annual IFIP WG 11.3 Working Conference on Data and Applications Security (DBSec), Concordia University, Montreal, Canada, July 2009.
- W. M. Fitzgerald, S. N. Foley, M. O’Foghlú: “*Network Access Control Interoperation using Semantic Web Techniques*”, 6<sup>th</sup> International Workshop on Security in Information Systems (WOSIS), Barcelona, Spain, June 2008.
- S. N. Foley, W. M. Fitzgerald: “*Semantic Web and Firewall Alignment*”, 1<sup>st</sup> International Workshop on Secure Semantic Web (SSW), IEEE CS Press, Cancun, Mexico, April 2008.
- S. N. Foley, W. M. Fitzgerald, S. Bistarelli, B. O’Sullivan, M. O’Foghlú: “*Principles of Secure Network Configuration: Towards a Formal Basis for Self-Configuration*”, Springer LNCS, 6<sup>th</sup> IEEE International Workshop on IP Operations and Management, Volume 4268/2006, ISBN 978-3-540-47701-3, October 2006.
- W. M. Fitzgerald, J. Clarke: “*SecurIST: Co-ordinating the development of a Strategic Research Agenda for Security and Dependability R&D*”, 39<sup>th</sup> IEEE International Carnahan Conference on Security Technology, Las Palmas de G.C., Spain, October 2005.
- W. M. Fitzgerald, K. Doolin, F. Mahon, C. Hauser, A. Gomez-Skarmeta, S. Butler, P. Schlosser, B. Weyl: “*Daidalos Security Framework for Mobile Service*”, eChallenges, Slovenia, October 2005.
- M. G. George, W. M. Fitzgerald, J. Doody: “*An Approach for Network Forwarding Systems Quality*”, 1<sup>st</sup> Information Technology and Telecommunications (IT&T) conference, Athlone, Ireland, pp 103-111, ISSN 1649 - 1246, September 2001.