



Mitchell David Hewes

CYBER SECURITY EXPERT · INTERNATIONAL NUCLEAR SECURITY LEADER

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Skills

Security Leadership	International Standards & National Regulations Development, Integrated Management System Design
Research Coordination	Modelling and Simulation, Digital Twins, AI/ML, International Collaboration, Cross-cultural Exchange
Programme Management	RBM/LFA, Resource Mobilisation, Risk Management, Monitoring & Evaluation, Stakeholder Engagement
Technical Expertise	Cybersecurity, ICS/IloT, Instructional Design, Technical Writing, Policy Development
International Relations	Government & Diplomatic Communication, Public Speaking, Global Engagement, Consensus Building
Information Technology	Node.js, Python3, Rust, LaTeX, MATLAB/Simulink, Docker, Kubernetes, Terraform, ITIL v3

Experience

International Atomic Energy Agency (IAEA)

Vienna, Austria

INFORMATION AND COMPUTER SECURITY OFFICER

May 2020 - Present

- Spearheaded the design and delivery of international research projects and technical assistance initiatives to strengthen regulatory frameworks and capabilities for secure, peaceful uses of nuclear and radioactive materials globally, securing over €10M in donation-based funding.
- Pioneered the release of the IAEA's first-ever open-source software project, setting a new UN-wide standard for transparency and collaboration.
- Leveraged technical expertise and diplomatic skills to foster collaboration and consensus among 178 Member States, industry bodies, experts, NGOs and standards organisations. Navigated complex geopolitical dynamics to drive progress and harmonisation on critical security issues.
- Designed and delivered high-impact training programmes that equipped over 1,000 nuclear professionals from 100+ countries with essential skills and knowledge to defend against cyber-attacks. Consistently achieved the highest participant ratings among all nuclear security courses.
- Authored and co-authored 10+ international standards and guidance documents on nuclear security. Built global consensus around these resources, which have become regulatory bases and go-to references for nuclear engineers and cybersecurity professionals worldwide.
- Coordinated support and procurement for countries facing acute security challenges, including during active conflicts. Collaborated with national authorities to assess needs, develop targeted solutions, and implement graded protections, significantly enhancing national security.

Australian Nuclear Science and Technology Organisation (ANSTO)

Sydney, Australia

COMPUTER SECURITY ADVISOR

Nov 2011 - Present

- Led the defence of ANSTO's IT and OT systems, including critical nuclear infrastructure, from evolving cyber threats by designing and implementing comprehensive cybersecurity risk management solutions aligned with the ISM, PSPF, and industry best practices. Developed and executed systematic approaches to identify, assess, monitor, and mitigate cyber risks, ensuring protection while maintaining operational continuity.
- Established a cross-functional community of interest, bringing together computer, software, security, and electronic engineers to collaborate on cybersecurity strategies. Facilitated knowledge sharing, fostered a systems engineering culture, and drove the adoption of innovative cybersecurity approaches to enhance the organisation's overall security posture.
- Developed and expanded messaging on a functions-based cyber-informed engineering approach to Australia's wider critical infrastructure community and the global nuclear industry. Shared operational insights and best practices, positioning ANSTO as a trusted authority.
- Collaborated on several large international nuclear projects, representing ANSTO as an Australian expert to IAEA, ITER, CERN, and JACoW.

International Atomic Energy Agency (IAEA)

Vienna, Austria

COMPUTER SECURITY SPECIALIST; RESEARCH COORDINATION EXPERT; & COMPUTER SECURITY FOR I&C TRAINING EXPERT

July 2016 - May 2020

- Developed new guidance documents, led the design and delivery of an entirely renewed training programme, systematised significant information exchange efforts, and coordinated international multi-institute research projects.
- Served as Scientific Secretary for various meetings, missions, visits and training courses, ensuring events attracted funding and were efficient and well-organised to deliver results-based outcomes.
- Significantly contributed to the organisation's efforts to enhance computer security for nuclear security worldwide during a challenging period of resource shortage.
- Drew upon prior leadership experience from coordinating research on computer security incident response and developing hands-on training curricula to drive the IAEA's shift from awareness to technical capacity building in nuclear computer security.

Education

University of Wollongong

Wollongong, Australia

B.S. IN COMPUTER SCIENCE WITH DISTINCTION, DIGITAL SYSTEMS SECURITY

2009 - 2012

- Most Highly Commended Major Project award.
- Dean's Merit List - Yearly result in top 5% of Engineering and Information Sciences Faculty (2009-2012).

Extracurricular Activity

United Nations - Nuclear Young Generation (UN-NYG)

Vienna, Austria

VICE PRESIDENT

Nov. 2020 - Nov. 2022

- Established a mentoring programme for UN-NYG and presented results-based outcomes to the IAEA Director General, securing buy-in to inter-nalise the initiative as the first ever offered by a UN system agency in Vienna, now serving as a model for other agencies and fostering a culture of professional development and knowledge sharing across the system.

Australian Young Generation in Nuclear (AusYGN)

Sydney, Australia

VICE PRESIDENT

Jul. 2018 - Jun. 2019

- Directed advocacy efforts for young nuclear professionals in Australia, playing a pivotal role in the lead-up to the 2020 International Youth Nuclear Congress (IYNC). Collaborated with the IAEA to ensure diverse representation, securing attendance support for young professionals from all regions. Delivered on AusYGN's objectives, securing \$40k in ongoing donations to establish an educational grants programme to support early-career growth. Actively championed the vital contributions of young professionals to advancing nuclear science and technology, participating in panel discussions and engaging with industry leaders to highlight the importance of investing in the next generation of experts.

Honors & Awards

2023 **Merit Award for Outstanding Performance**, International Atomic Energy Agency

Vienna, Austria

2020 **Director General's Recognition Award for Exceptional Service**, International Atomic Energy Agency

Vienna, Austria

Contributions to Papers & Publications

International Atomic Energy Agency (IAEA) Publications

Vienna, Austria

- WHO-IAEA JOINT TECHNICAL DOCUMENT, SUSTAINABLE MANAGEMENT OF RADIOTHERAPY FACILITIES AND EQUIPMENT
- IAEA BULLETIN VOL. 64-2, HOW AI WILL CHANGE INFORMATION AND COMPUTER SECURITY IN THE NUCLEAR WORLD
- IAEA-TDL-011, COMPUTER SECURITY APPROACHES TO REDUCE CYBER RISKS IN THE NUCLEAR SUPPLY CHAIN
- IAEA/ART/INT, ARTIFICIAL INTELLIGENCE FOR ACCELERATING NUCLEAR APPLICATIONS, SCIENCE AND TECHNOLOGY
- CRP SUCCESS STORY: ENHANCING COMPUTER SECURITY INCIDENT ANALYSIS AT NUCLEAR FACILITIES (J02008)
- IAEA NUCLEAR SECURITY SERIES NO. 42-G, COMPUTER SECURITY FOR NUCLEAR SECURITY
- IAEA NUCLEAR SECURITY SERIES NO. 17-T (REV. 1), COMPUTER SECURITY TECHNIQUES FOR NUCLEAR FACILITIES

2018 - Present

International Conference on Small Modular Reactors and their Applications

Vienna, Austria

- ACHIEVING RESILIENCE THROUGH THE PRESERVATION OF FUNCTIONS — SAFETY AND SECURITY WORKING TOGETHER
- APPROACHES FOR COMPREHENSIVE SAFETY AND DIGITAL RISK MANAGEMENT FOR ADVANCED NUCLEAR TECHNOLOGY/SMRS

October 2024

International Conference on Computer Security in the Nuclear World: Security for Safety

Vienna, Austria

- SAFETY VERSUS SECURITY: WHAT'S THE DIFFERENCE AND WHY IT MATTERS
- SUPPORTING FLEXIBLE AND ENGAGING COMPUTER SECURITY TRAINING COURSES WITH THE ONLINE LEARNERS PLATFORM

June 2023

International Electrotechnical Commission (IEC) Standards

Geneva, Switzerland

- IEC 62645 NUCLEAR POWER PLANTS — I&C AND EPS — CYBERSECURITY REQUIREMENTS
- IEC 63096 NUCLEAR POWER PLANTS — I&C AND EPS — SECURITY CONTROLS

2016 - 2020

International Youth Nuclear Congress (IYNC)

Sydney, Australia

- UNDERSTANDING DIGITAL TRUST AND SEGMENTATION IN NUCLEAR FACILITIES

March 2020

International Conference on Nuclear Security: Sustaining and Strengthening Efforts

Vienna, Austria

- UNDERSTANDING DIGITAL TRUST: MAPPING TRANSITIVE DIGITAL TRUST RELATIONSHIPS IN COMPUTER-BASED SYSTEMS
- A CYBER-CAPABILITY MODEL FOR COMPROMISE OF I&C SYSTEM FUNCTIONS AT NUCLEAR FACILITIES
- BEYOND THE TANK LEVEL: SIMULATOR AND HIL SUPPORTED TRAINING FOR COMPUTER SECURITY OF NUCLEAR I&C
- BLENDED THREAT NUCLEAR-CYBER SCENARIO DEVELOPMENT
- ENABLING MULTICULTURAL EXCHANGE ON INTERNATIONAL TECHNICAL RESEARCH PROJECTS
- NUCLEAR POWER PLANT IN A BOX
- UNDERSTANDING NUCLEAR CYBER SECURITY MEASURES, RISKS AND CONSEQUENCES

February 2020

18th meeting of the International Group On Research Reactors (IGORR)

Sydney, Australia

- SECURE ENTERPRISE INTEGRATION FOR MULTIPURPOSE RESEARCH REACTORS

December 2017

International Symposium on Future I&C for Nuclear Power Plants (ISOFIC)

Gyeongju-si, Republic of Korea

- SECURITY MANAGEMENT OF VIRTUALISED SUPERVISORY I&C SYSTEMS IN NUCLEAR FACILITIES

November 2017

International Conference on Physical Protection of Nuclear Materials and Facilities

Vienna, Austria

- CONSIDERATIONS FOR DEPLOYING A SIEM SUPPORTING PPS IN NUCLEAR FACILITIES

November 2017

International Conference on Computer Security in a Nuclear World

Vienna, Austria

- BUILDING AND BREAKING THE PROTECTION PROVIDED BY AN OPTICAL FIBRE DATA DIODE USING SPARE PARTS

June 2015