

Dr Liam Waldron

PhD BSc Hons GAICD FIML CMgr FIEAust CPEng EngExec NER
(Leadership & Management, ITEE, Electrical) APEC Engineer IntPE(Aus)
SMIEEE PRINCE2

Technical Curriculum Vitae

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Multidisciplinary Science, Technology, Engineering, Management, Innovation and Business Development Shaping effective R&D organisations, teams and networks

Highly motivated, achievement oriented professional • Accomplished Research Scientist, Chartered Manager & Chartered Professional Engineering Executive • Technical Program/Project Manager of significant human & material resources within frameworks of multi-disciplinary technical teams, ranging from research groups & central technical services, to international space-satellite consortia, commercial R&D & manufacturing industry • Director (& Chair) of NFP/FP Boards with proficiency in corporate governance, fiduciary duties, financials & facilitation of both individual & collective decision making • Dynamic & intuitive team leader, able to bring direction, energy, & enthusiasm to motivate team members to achieve potential & organisational objectives • Driver & facilitator of organisational strategic goals • Able to identify deficiencies & provide innovative solutions, continuous improvement initiatives & development of quality networks • High-level written, oral & listening communication skills, including sound interpersonal skills & negotiation skills with all stakeholders • Able to represent the organisation at all levels, including internally, nationally or internationally • Proficient in preparation, writing & interpretation of scientific, technical, engineering, financial & management data • Global Project Promotion & network development • Innovation, Commercialisation & Technology Start-up • Tertiary Course development • ICT and technology literate, including includes Microsoft suite, software development, data acquisition and analysis, numerical computation and simulation.

Core Competencies and Attributes include

- Strong ability to build & maintain productive working relationships to achieve stakeholder engagement & cross organisational outcomes
- Excellent communication & negotiation skills
- High level leadership capability (including intellectual leadership) & superior people management skills
- Strong Analytical & Problem Solving Skills
- Systems Engineering & Complex problem decomposition
- Multi-disciplinary Project & Programme Management
- Contract Management, Negotiation & Administration
- Requirements Analysis & System Design Specification
- Training and development of the project team
- Facilities, Services & operations Management
- Transcribing Strategic to Operational Plans
- Directorship, Board Governance & Financials
- Risk Analysis, Management & Mitigation
- Business Continuity & Contingency Planning
- Innovation, Commercialisation & Technology Startups
- Global Project networking, development, & promotion
- Professional Practice in I(C)T & Business Intelligence
- Incorporating EO principles into strategic planning
- Occupational/Workplace Health & Safety
- Physics, Hi-energy Astrophysics, Detectors & Instrumentation
- Balloon and Space-borne hardware qualification & testing
- Extensive computing & programming skills, including peripheral interfacing, software development, numerical modelling & simulation, data acquisition, statistical analysis, MS-Office suite
- University Course Development & Coordination; coordination of and advisor to a multitude of university systems engineering project teams involving multidisciplinary industry project

Primary Academic and Professional Qualifications and Certifications

Module of Graduate Certificate in Cyber Security Management: Cyber Security as an Ecosystem.	University of Canberra. CPD activity.	
Board Governance	Graduate, Australian Institute of Company Directors	GAICD
Management Professional	Chartered Manager & Fellow, Institute of Management & Leadership	CMgr FIML
Doctor of Philosophy (App.Phys)	Australian Defence Force Academy, UNSW	PhD
Bachelor of Science Hons (App.Phys)	Australian National University	BSc Hons
Chartered Professional Engineer	Engineers Australia	CPEng
Engineering Executive and Fellow	Engineers Australia (Stage 3 competency)	FIEAust EngExec
National Engineering Register, Asia Pacific Economic Commission Engineer	NER (Leadership & Management, Electrical, ITEE), Engineers Australia	NER IntPE(Aus) APEC Engineer
Senior Member, IEEE	Institute of Electrical and Electronics Engineers Inc.	SMIEEE
Prince2 Foundation & Practitioner Certificates in	The Knowledge Academy Australia	PRINCE2
Diploma of Project Management	UNE Partnerships, 2003 (partial completion, Exam Distinction)	
Commercialisation in Research and Development	National Graduate School of Management, BUSI8165, ANU,	Cert. Completion
Systems Engineering for Defence, Aerospace and Other Technology Based Sectors	Technology Australasia Pty. Ltd, Professional Development Course	Cert. Competence
Global Positioning Systems	University of Adelaide	Cert. Competence

Selection of Technical Societies, Committees and Panels

- **Member (from Industry)**, Faculty Innovation Working Group, Faculty of SciTech, UC, ACT, Oct2020-July 2021
- **Member & Deputy Chair (Past Chair)**, Information, Telecommunications, Electronics and Electrical Branch Committee, Engineers Australia (EA), Canberra Division, **1999-2015 (Chair 2001-Sept 2011)**
- **Member (past Chair)**, College of Leadership and Management (CLM) Branch, EA, Canberra Division, **2005-2015**
- **CPEng Professional Competencies Interviewer** (Management, Electrical, ITEE), EA, **2000-Present**
- **Member**, National Committee of Space Engineering (NCSPE), Engineers Australia (EA), **2008-2015**
- **Member and NCSPE Representative**, ITEE College Board, Engineers Australia, **2011-Feb2015**
- **Educational Activities Chair**, IEEE ACT Section, **Jan2004-2007, Jan2012-Oct2014.**
- **Secretary**, IEEE ACT Section Executive Committee, **Nov2014-2016**
- **Member**, College of Engineering and Computer Science Consultative Advisory Group, ANU, **Sept2009-Present.**
- **Industry Advisory Panel**, Network and Software Engineering Panel, Univ. Canberra, **June2010-2013**
- **Member**, Advisory Forum to the Canberra Division, Engineers Australia, **2011**
- **Senior Member**, IEEE Engineering Management Society (EMS), **1998-2018**
- **Senior Member**, IEEE Aerospace and Electronic Systems Society (AEES), **1998 -2002**
- **Member**, Australian Association for Engineering Education (AAEE), **2000-Present**
- **Executive Officer (Co-Deputy Chair)**, Electrical College, Engineers Australia (IEAust), **Feb2009-March2011**
- **Member (Canberra Div. Rep)** Electrical College Board, Engineers Australia (IEAust), **2000-2009**
- **Delegate**, SPECTRUM XG Technical Implementation Committee, Italian Space Agency and IAS, **Aug92-June95**

Company Board Directorships, Advisory or Association – Sample

- Advisor to Board of Directors & Senior Negotiator, Yahya Abu Diyab Trading Est, Abu Diyab, KSA Oct 2020-Present
- Invited Founding Council Member (Declined after due diligence), Meeman Foundation, NGO Trust, Sri Lanka, Jan2020-Jan2021
- Independent Chair, Advisory Board, SubSahara Consulting Pty Ltd, (Civil Engineering) ACT, ACN 139740784, Jan2018 – Present
- Non-Exec Independent Director & Chairman, Global Projects Development Company Pvt Ltd, Republic of the Maldives (Subsidiary of CIFL, UK) Oct2015-Sept2019
- Advisor to Board & International Senior Negotiator, Renewable Energy Projects, Omega Greenpower Limited, Nov 2015-2016.
- Independent Advisor to Board and Senior Negotiator, KSA, IT Power Renewable Energy Systems ACT, Nov 2015-2016.
- Advisor to the Board, Buyers Premium Property Pty Ltd, Nov 2015-2019
- Non-Exec Independent Director, Capital Investment and Finance Limited (CIFL), United Kingdom, Nov2014-Oct2015
- Exec Director and Chief Technology Officer, Kalman Water Production Company Pty Ltd, Nov2014-Jan2017
- Exec Director & Chief Technical Officer, Opala Water Pty Ltd, Jun2013-Nov2015
- Co-founder, Director, NTERN and Company Pty Ltd, March 2015-March 2016, internet-based Student one-stop-shop service
- Director and Co-founder, GetLINKs Pty Ltd, Oct 2013-2020 (Employment and Industry linkages)
- Non-Exec Independent Director (Chairman), Australian National Drag Racing Association (ANDRA) Limited, May2011-Oct2014
- Non-Exec Indep Director & Interim Chair (caretaker), Drag Racing Australia Group LTD, Sept2011-Oct2014
- Non-Exec Independent Director, Advocacy for Inclusion, The Association, ACT, Nov2010-July2013
- Founding Director and Managing Director, Waldron Solutions Pty Ltd (Management & Business Development), Sept2009-Present
- Non-Exec Independent Director, Engineers Australia Pty. Ltd. (Engineers Media), Jun2005-Aug2011

Awards

- Teaching Excellence Award, Faculty of Science and Technology, University of Canberra, 2018
- Adjunct Associate Professor, Faculty of SciTech, The University of Canberra, 2018-2020
- Visiting Fellow, University of New South Wales, Canberra (ADFA), Nov 2015-2016
- Adjunct Associate Professor, Business Government and Law, The University of Canberra, Jan 2015-2018
- Visiting Fellow, *Adjunct Senior Lecturer*, Research School of Engineering, CECS, ANU, July 2009-Present
- Visiting Fellow, School of Physics, ADFA, UNSW, 2003.
- Short Course Award, Commercialisation in Research and Development, ANU, 2002.
- Postdoctoral Research Fellowship (SPIRT), Physicist/Engineer, UC, ADFA, 1998.
- Postdoctoral Research Fellowship, Physicist/Engineer, University of Adelaide, 1997.
- Postdoctoral Research Fellowship, University of Western Sydney, 1997.
- European Community Research Fellowship, Physicist/Electronics-Engineer, 1995-1996.
- European Space Agency (ESA) Research Fellowship, 1992-1994.
- Australian Postgraduate Research Award, 1990.
- Commonwealth Postgraduate Research Award, 1988. ADFA, Rector's PG Research Award (declined)
- Summer Research Studentship in Science (*Re-design of a Ruby Laser*), University of Melbourne, 1985.

Scientific & Technical Publications, Papers and Patents

Refereed- 39 ; Non Refereed- 39; Recent Team Award proposals- 6; Significant Research Grant Applications- 15; Patents in ceramic membrane cleaning technology for desalination, in collaboration with KACST, Riyadh Saudi Arabia. Registered via KSA.

Employment and Management History

2015-2020, Strategic Alliance between Waldron Solutions & Green Construction, Kingdom of Saudi Arabia.

Global Promotor and Business Development Manager

- Global promotion of Australian, Saudi Arabian & MENA civil construction projects (investment & construction projects)
- European (UK, French, Swiss) projects in green sustainability and remote medical monitoring projects.
- Identification of Investors and Developers for Project Financing and Development

2014-Present, *Alliance & Consultancy Contracts under Waldron Solutions with Water Technology Program Department, KACST, Riyadh, Kingdom of Saudi Arabia*

Principle Investigator and Designer

- Design and provision of prototypes of cleaning mechanisms for ceramic-membranes used in water desalination
- Writing and submission of successful Patents with Waldron Solutions retaining 35% commercialisation rights
- Publications in progress for publication in major international refereed journals

July 2012-Present, University of Canberra, Faculty of Science & Technology (prior Education, Science, Technology & Mathematics)
(Semester 1 2016 Consultancy Contract under Waldron Solutions)

Co-unit Convenor, Lecturer, Tutor (Adjunct Associate Professor 2018- 2020)

- Probability, Statistics, Engineering Management, Systems Engineering Projects, Professional Practice in I(C)T, Professional Practice in Engineering, Technical Innovation and Entrepreneurship, Advisor to numerous technical project teams.
- In 2018, Dr Liam Waldron received the Research and Teaching Excellence Award for Sessional Staff, from the Faculty of Science & Technology, The University of Canberra, *“for his high-quality teaching outcomes, his enthusiastic student engagement, & his passionate dedication supporting students with special needs”*

July 2011-2015, University of Canberra, Faculty of Business, Government and Law

Tutor (2011-2013) & Adjunct Associate Professor (2013-2015)

- Faculty of Business, Government and Law: Business Intelligence Systems (2011-13)

July 2009-2016 Research School of Engineering, CECS, The Australian National University

Adjunct Senior Lecturer, Course Coordinator & Industry Liaison (Consultancy Contract under Waldron Solutions)

“The industry-based external Convenor of these courses, Dr Liam Waldron has been selected to have a broad range of industry expertise and connections. The sought-after but selective Engineering Internship Program is a clear example of effective & productive student projects, most of which are highly praised by the industry partner.”

- Engineering Management (2009-15)
- Systems Engineering Projects (2009-16);
- Supervisor, Honors/Masters theses (2011-18)
- Supply Chain Management (2009-11)
- Innovation 2012, 2017
- Engineering (Industry) Internships (2009-16)
- Member CECS Consultative Advisory Group
- Work Experience Program (2009-16)

Jun 2011-Oct 2013, Research School of Astronomy & Astrophysics, Australian National University

Project Manager (Consultancy Contract under Waldron Solutions Pty Ltd)

- Siding Spring Observatory 2.3m Telescope, Facility and Services Upgrade Project (Electrical, IT, Mechanical, Building Fabric)

June-Sept 2010, Office of Commercialisation, Australian National University

Interim Director (Consultancy Contract under Waldron Solutions Pty Ltd)

- Assumed duties and responsibilities of Director
- Audit, protection and business development of intellectual Property originated by university academia and staff

Sept 2009-Present, Waldron Solutions Pty Ltd (Management and Business Development Consultancy)

Managing Director (www.waldron-solutions.com.au)

Multi-portfolio, including

- ***Management:*** Multi-disciplinary Technical Project & Program Management; Technical & IP Audit, Advisory Critique; Design Review Participation; Documentation Review & Compilation; Systems Engineering Practice; Team Building and Specialist Resource Acquisition; Science, Technology & Management Advisory
- ***Corporate:*** Business Development & Continuity Planning; Board Directorship, Chairing & Governance; Board Advisory; Interim Executive Services; Confidential Investigations, Fact-finding & Advocacy; Individual & Team Transformation
- ***Work Ready:*** Private, Industry, University & Cultural Mission Sectors; Connecting Industry with Students & Transitioning Professionals; Coaching & Mentoring; Professional Practice, CPD & Accreditation; Project Management & Systems Engineering; Innovation & Entrepreneurship
- ***Global:*** Connecting parties to established trust networks Including Investors & Developers in various jurisdictions; Global partnering agreements; Business Development Partnerships; Project Promotion & Participation; Technology Transfer

2010, Joint Decision support Centre, Joint Operations Division, DSTO

Technical Manager (EL1, S&T Level 5, Classification Top Secret)

Position awarded May 2010 but declined at a later date after receiving *Restricted* clearance

Feb 2006 - July 2009, Locata Corporation Pty Ltd

Programme Manager (Locata Executive)

- Australian proxy of USA CTO. Responsible for management of Locata start-up Technology Program (Australian ground-based transceiver network positioning technology) and engineering team
- Charged with establishing an effective, disciplined engineering team and facilitating a responsive R&D culture, through company start-up to IPO. Project Manager of specific major projects

May 2002 - Feb 2006, RSAA (Mount Stromlo Siding Spring Observatory), ANU

Technical Programme Manager

- Integrated management of technical services of 30 engineers (electronics, IT, electrical, mechanical, cryogenic and engineering), Responsible for the integration and coordination of all international, national and local major projects and contracts [\$32M].
- Project manager for nominated significant projects (e.g. Systemic Infrastructure Initiative for Siding Spring Observatory [\$6M], Gemini South Adaptive Optics Imager [USD4M], "SkyMapper" Project [\$13M]).
- Maintained Business Continuity of technical program post Canberra bushfires 2003 and was major contributor to the design & requirements of the Advanced Instrument Technology Centre.

Oct 1998 - May 2002, Research School of Chemistry, ANU

School Facilities and Research Services Engineer

- Integrated management of technical services (electronics, electrical, mechanical, cryogenic and engineering)
- Oversight of maintenance of building, plant and services; Management of major projects and contracts;
- Success in proposing and managing upgrades to HVAC and ductwork, Loading Bay and Main-air intake, Lighting, OHS Compliance provisions, Cat-5 Cabling, Roofing, Chemical neutralisation pit, waste water lines, laboratory fume cupboards, 300kW Stand-by Generator, Workshops, Laser Laboratory, NMR Facility, Mass Spectrometry Facility, offices, Fire Safety, etc.
- Success in establishing a research culture amongst technical staff and within workshops and technical services
- commercialisation of technical/engineering designs; strategies for commercial use of technical facilities

July 1998-Oct 1998, School of Physics, Australian Defence Force Academy ADFA, University College UNSW

SPIRIT Research Associate, Scientist & Engineer

- Management and performance of modelling, software simulation and feasibility study of CW RF Boundary Layer Wind Profiler (radar) of atmosphere using pseudo-random phase coding (Spread Spectrum) and Doppler Techniques

May 1997-July 1998 School of Physics and Mathematical Physics, University of Adelaide,

Physicist/Electronic-Engineer

- Management & performance of refurbishment, upgrade and operation of Fourier Transform Spectrometer facility and control electronics for Thermo-Luminescence Archaeometry

Aug 1996-May 1997 School of Physics, Australian Defence Force Academy ADFA, University College UNSW

Research Associate, High-Energy Astrophysics and Low Temperature Mossbauer Physics.

- Management and engineering of data analysis software and data base for international X-ray Astronomy Consortium
- Management of design and construction of uniform field device (Helmholtz coil) and cryostat tail stack for Low Temperature Mossbauer cryogenic dilution fridge
- Tutor and Laboratory Demonstrator in Physics

May 1995 – June 1996

Research Scientist/Electronics Engineer, European Community Human Capital and Mobility Programme Fellowship

- Management, design, setup and operation of R&D test facility to characterise Hybrid photo-diode detector prototypes (optical) for European industry (DEP, DELF) and research institutes

1994-1995 Istituto di Astrofisica Spaziale (IAS), Rome Italy

Interim Project Manager

- XRM (INTEGRAL M2 Space Satellite, ESA, Phase A)
- IMAGER/IBIS (INTEGRAL M2 Space Satellite, ESA, Phase B)

Contracted Consultant

- Management, design and testing of integrated support window/collimator assembly of a high-speed, two dimensional, high-pressure xenon detector for space research applications. Quality assurance and risk analysis

Aug 1992-June 1995 Istituto di Astrofisica Spaziale (IAS), Italy, MART-LIME, Spectrum-XI Space Satellite Consortium

MART-LIME Project Manager and European Space Agency Research Fellow (Eire)

- MART-LIME and Italian Space Agency Delegate/Liaison to S-XI Consortium (Russia, UK, Denmark, US, Italy, Germany, Canada, Hungary, Turkey, Switzerland, Finland, Israel, Kirgizia).
- Responsible and accountable for overall project management and technical objectives of the project life cycle including schedules, budget, build model development, interface control, complex testing, Qualification and Conformance to Technical Requirements, resolution of different European/Russian standards, acceptance testing and philosophy, delivery and documentation.
- Responsible for acceptance testing - verification of design and manufacture in accordance with Technical Requirements before acceptance (eg. LABEN Alenia Spazio ISO-9001 certified space applications industry)
- Took MART-LIME from consortium laggard to consortium leader amongst all instrument groups

1990-1991 Department of Physics, Australian Defence Force Academy ADFA, University College UNSW

Post-Doctoral Teaching Fellow and Research Assistant in X-ray Astronomy

- Development, implementation and management of analysis software; computational simulation of particle transport;
- development, construction, calibration and laboratory testing of cylindrical high pressure proportional counters

1988 March: Joint Australian-NASA Balloon Launching Facility, Alice Springs (Airport), NT

Acting Facility Manager

- Management and coordination of balloon launch operations involving scientific payloads at high altitude.
- Management and support of NASA campaign (Involving 7 instrumentation groups) in 2007.

1991 Radio Astronomy, Parkes Radio Observatory, NSW., Australia

- operation and control of the Parkes 64m radio telescope.
- spectral observations of ammonia emission from dark-cloud complexes (part of southern hemisphere survey)

1986-1991 Department of Physics, Australian Defence Force Academy ADFA, University College UNSW

Undergraduate Physics Laboratory Demonstrator

1986-1990 Joint Australian-NASA Balloon Launching Facility, Alice Springs, NT

Balloon Launch and Operations Team

- Balloon launch operations, ground station control and recovery of international balloon-borne astronomical telescopes within frameworks of international collaborations
- Launch of Mirrabooka X-Ray Astronomy Space Satellite prototype detector system

1986-1991 Department of Physics, Australian Defence Force Academy ADFA, University College UNSW

Ph.D. Research Candidate

- cosmic-ray and high-energy astrophysics, X/Gamma-ray astronomy and instrumentation
- numerical analysis and simulation (Monte-Carlo) of photon-particle transport through detectors, multi-layer shielding geometries and stellar atmospheres; numerical calculation of detector response function and conversion efficiencies
- preparation and balloon-flight of hard X-ray multi-wire proportional counter detector prototype and X-ray beam tests on collimators of proposed Australian X-ray Astronomy satellite Mirrabooka
- development and laboratory testing of high-pressure proportional counter prototypes and balloon-borne control systems
- climatic testing of high-frequency receivers for balloon to ground segment telemetry
- Synthesis Imaging in Radio Astronomy
- development of PC(AT)-orientated ground station for real-time transfer of telemetered data stream to magnetic (cipher) tape, coded in C and assembler
- decoding, formatting, cleaning and spectral/temporal analysis of data telemetry stream
- feasibility study & proposal of satellite mission for cosmic-ray studies in the near-earth environment for Australian Space Office
- refurbishment and calibration of ADFA gamma-ray (50-500 MeV) spark-chamber
- design and construction of two PC-interfaced film projection-digitisation systems and all requisite driver software for analysis of spark-chamber film data obtained during balloon-borne observations of Supernova SN1987A in 1987 and 1988
- synthesis-imaged sky maps of incident gamma-rays, background and detector exposure
- hydrodynamics, Cosmic-ray genesis and X/G-ray emission models of Type-II supernovae
- radio emission model of SN1987A and radio jet gamma-ray emission model of Cyg X-3
- data analysis and archival distribution to collaborating institutes

1985 (10 weeks) University of Melbourne, Victoria

Summer Research Studentship in Science

- Successful redesign and refurbishment of a ruby laser control circuit.

1985 Physics Department, Australian National University.

Honours Year Candidate

- Successful numerical simulation of radiation transport observed in an atomic vapour of medium density under high intensity laser irradiation; spatial and temporal development of populations and photon densities in a cylindrical geometry

Referees

1. Roger Franzen FIEAust CPEng, AFAIAA
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(ex Managing Director Auspace Pty Ltd and
Consortium Leader, SKA International Dish,
CSIRO Astronomy and Space Science)
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2. Professor Elisa Martinez-Marroquin
PhD, MSc, BEng, FIEAust, CPEng, EngExec, NER APEC,
Eng IntPE(Aus), GAICD
Chair of Academic Board
Professor of Engineering, University of Canberra
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3. David Jam
CEO and Managing Director
Vertical Scope Group Pty Ltd
Vertical Scope Recruitment, WorkPath
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4. Dr (Prof.) Paul Compston
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