

JEREMY P. SLADE

CONTACT

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EDUCATION

Master of Engineering Management

Queensland University of Technology
www.qut.edu.au
Brisbane, Australia 2000

Bachelor of Engineering in Manufacturing and Materials, Honors

University of Queensland
www.uq.edu.au
Brisbane, Australia 1993

CITIZENSHIP

US Citizen

PROFESSIONAL PROFILE

Diverse mechanical engineering skills in remote equipment design, waste and fluid stream process and instrumentation systems, plant machinery selection and specification development (performance, design, and construction).

Industries include research laboratory operations, aerospace components, automotive parts operations, utility power generation and nuclear waste processing facilities.

TECHNOLOGY CREDENTIALS

Computer Aided Design

SolidWorks Premium (3D Design and FEA) - 12+ years
Autodesk Inventor Professional (3D Design and FEA) - 15+ years
AutoCAD (2D Design and legacy engineering drawings) - 30+ years
AutoCAD Plant 3D (piping specification development and layout)
PTC Creo Parametric - 4+ years (3D Design, SNS, HFIR standard)

Specialized Engineering Software

ANSYS Workbench/Mechanical FEA | CodeWare COMPRESS (ASME B&PVcode) | PipeFlo Professional (pipe & pumping) | PipeFlo Compressible (pneumatics systems)

Product Data Management

Autodesk Vault Professional | SolidWorks PDM Professional Vault
PTC Windchill Product Lifecycle Management | ORNL Enterprise Document and Records Management System (EDRM)

Project Management and Process Development

MS Project Professional and MS Visio Professional

EXPERIENCE

Staff Mechanical R&D Engineer | Remote System Group, FED, FFESD | Oct. 2018 – Present

- Fusion Energy Division (FED) Material Plasma Exposure Experiment
 - Analysis of MPEX device frames, parts and assemblies under static, dynamic, and thermal loading using strength of materials concepts using hand calculations and structural Finite Element Analysis (FEA).
 - Equipment Design Specifications. Equipment Test Planning and Test Report generation
 - Cooling Water, and Vacuum System Process Instrumentation Diagrams (P&ID) development
- Nuclear Energy and Fuel Cycle Division (NEFCD) Versatile Remediation Module (VRM)
 - Mechanical designed and engineered remote automated welding unit and testing.
Resulting technical paper: ANS Nuclear Technology: *A Versatile Remediation Module for Remote Repair of Spent Nuclear Fuel and High-Level Waste Storage Containers*, October 2020
- Spallation Neutron Source (SNS) accelerator Proton Power Upgrade
 - Target Test Facility (TTF), Hg piping loop equipment design engineering and testing.
Resulting technical paper: ASME Journal of Fluids Engineering: *A Compact Gas Liquid Separator for the SNS Mercury Process Loop*, March 2022
 - Target Hot Cell (FHS), Pressure Vessel code calculations, remote equipment specification, tooling design and remote testing.
 - Accelerator Physics Ring Injection, remote equipment design and automation.

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- Molten Salt Reactor Experiment (MSRE) Drain Tank Cell Remote Mockup
 - Remote equipment design and fabrication.
 - Project management (with UCOR operations) and coordination of mockup equipment testing.

Senior Mechanical R&D Engineer | BAM Inc., Advanced Material Tech. | Oct. 2015 – Apr. 2018

- Innovated and implemented R&D activities (tooling and fixture design) centered on new manufacturing techniques of advanced carbon fiber products.
- Designed and project managed a two-year capacity improving project for production expansion, including two new modular production rooms, equipment specification for purchasing and warehouse layout to manage increased raw material inventory.
- Executed the development of a comprehensive 3D model plant layout. All major engineering assets (batch furnaces, heat treat ovens, dust collectors, textile looms, cooling towers and all HVAC equipment) were systematically coded as modeled.

Senior Mechanical Engineer | Mesa Associates, Inc. | Apr. 2009 – Aug. 2015

- Modeled full mechanical design and developed specifications for Hot Cell Muffle Furnace and Hot Cell Nuclear Safe Vacuum System within the ORNL U₂₃₃ downblend project.
- Developed vessel and tank nozzle design, process equipment skid design, piping modeling and waste stream process for DOE rad-waste replicant pilot plant project. Managed all CAD and PDM activities.
- Engineered multiple pump, valve, and piping replacement projects within TVA's hydroelectric plants, involving sizing with verification calculations, piping layout design and valve specifications.
- Transformed captured (laser scanning reality capture) point cloud data from hydro and fossil power plants into CAD solid models. This in turn was used to produce plant 3D (equipment, structure, and piping systems) for design, existing plant integration and refurbishment drawing packages.

Chief Engineer | Graphite Resistance Systems, LLC | Oct. 2005 – Feb. 2009

- Managed all mechanical engineering functions including component stress analysis, automation design, process piping design and thermal analysis on internal graphite components plus ASME Section VIII; Div1 pressure vessel code design for welded jacketed stainless steel furnace vessels.
- Responsible for all company engineering data and documentation including procedures, security and version control (3D CAD data, process diagrams, mechanical and electrical drawings) using Vault PDM. Largest project involved management of over 600 assembly/component drawing numbers. Directed team of mechanical designers in producing furnace drawing packages.

Team Coordinator - Machine Build Department | Mahle, Inc. | Oct. 2000 – July 2005

- Led the Machine Build Department activities of 560+ separate production machinery, material handling and automation projects with over \$16 million in revenue. Managed the department's 2D and 3D CAD system.
- Coordinated automation projects including concept to commissioning of an 8-station assembly machine utilizing a 6-axis robot, 3-axis gantry pick & place, part vibration feeders and complete mechanical design of laser marking/vision system inspection unit.

Production Engineer | Fisher & Paykel Manufacturing Refrigeration Div. | May 1994 – July 2000

- Innovated and implemented numerous major mechanical design projects ranging from problem solving techniques, economic analysis, lean manufacturing techniques and system concepts.
- Engineered, designed, installed, and successfully commissioned new production equipment, operator workstations and new material flow layouts.