

ADAM P. DAMIANO

MECHANICAL ENGINEER

Design | Testing | Research

Utilizing problem solving and breakthrough technologies to engineer for the future

- Mechanical engineering designer who uses fundamental principles of analysis and optimization to develop new processes and products **to achieve efficiency and cost-containment goals**.
- Engineer who maintains **precise testing protocols that deliver quality assurance**, provides troubleshooting, and improves upon existing methodologies.
- Data interpreter who develops **theories on analyzing systems in new ways**; diligent researcher that maintains meticulous documentation and synthesizes robust data analyses using large data sets.
- Project manager who keeps mechanical engineering experiments **on-budget while maintaining on-time completion**.
- Collaborative team approach that **fosters community problem-solving and support** that creates positive work environments.

CAREER EXPERTISE:

Data Analysis | Uncertainty Analysis | Heat Transfer | Thin Films | Hydrodynamics | Microfluidics | Two-Phase Flow | Dynamic Modelling | Finite Difference Analysis | Testing | Documentation | Experimentation | Report Writing | Presentations | Computer Aided Design (CAD) | Computational Fluid Dynamics (CFD) | Mechanical Design | Instability Analysis | Process Optimization | Research | Machining | Project Management | Deadlines | Budgets

NOTABLE ACHIEVEMENT:

Honorable Mention, Best Written Undergraduate Honors Bachelor Thesis – Oregon State University (2013)

COMPUTER PROFICIENCIES:

MATLAB, SolidWorks, ANSYS Fluent, LabVIEW, Autodesk Fusion 360, EES, Adobe Creative Suite, MS Office, and LaTeX.

MECHANICAL ENGINEERING EXPERIENCE

OREGON STATE UNIVERSITY – CORVALLIS, OR

Laboratory Research Assistant, 2/2011–6/2012 and 9/2012–8/2013

Rehired as primary lab assistant based on integrity and quality of research produced. Oversaw \$50,000+ budget for mechanical engineering experiment to test thermal efficiency of new type of heat exchanger which had military, aerospace, and desalinization applications. Assessed degree of heat transfer enhancement and flow stabilization achievable within confined two-phase impinging jet with vapor extraction.

Top Contributions:

- **Standardized testing that validated primary experiment parameters** which had been previously shifting and had nullified years of data sets; conducted dedicated testing and research of surface treatments which stabilized experiment, as well as established reliable set up procedures.
- **Delivered on-time grant accountability report summarizing 2 years of laboratory work** to demonstrate value of funding received from Office of Naval Research; voluntarily added 30 hours/week for 10 weeks to collect more data to ensure on-time completion of summary.
- **Quantified and reduced uncertainty of experimental parameters** by writing computer programs to interface with several laboratory instruments which accurately recorded data during real-time testing.
- **Cut testing failures 50%** after creating two user manuals (basic operations and advanced design) that provided clarity to complex and sensitive experimental processes.
- **Optimized space utilization and added testing facility capacity which sped testing up ~10%** by centralizing controls after redesigning experiment and consolidating equipment.
- **Reduced weekly experiment down-time by 3 hours per week and tripled extraction rates** by redesigning support and attachment processes which reduced damage to fragile membranes used for vapor extraction.

THE BOEING COMPANY – SEATTLE, WA

Mechanical Engineering Intern, 7/2012–9/2012

Recruited to position based on mechanical engineering acumen to maintain, design, and repair equipment related to production. Functioned in ad-hoc project basis to provide design or redesign solutions to mechanical engineering tasks. Conducted maintenance on non-operational equipment, and selected and sized equipment to be purchased using mechanical design principles.

Top Contributions:

- **Accelerated production process by 5% for vertical fin stabilizers of Boeing Dreamliner 787** after resolving software error that impacted optical layout template device which cut parts during production; uncovered error source and applied quality engineering solution which permanently fixed issue.
- **Added 7.5% more capacity to testing lab** by redesigning layout using software and conducting in-person audit as well as interviewing personnel to gain better understanding of functionality.
- **Mitigated collision hazard on manufacturing floor which had previously cost company \$7 million** in damages and delayed aircraft delivery by 2 months; designed collision prevention system on production line that averted vertical fin damage of P-8A Poseidon military aircraft and collaborated with facility managers to ensure installation would be feasible, simple, and conform to building codes.

RELEVANT MECHANICAL ENGINEERING PROJECTS

L'Ecole Polytechnique Fédérale de Lausanne – Lausanne, Switzerland

- **Demonstrated effect of periodic operating conditions and how to avoid high temperature thermal cycling** in closed-loop thermosyphons by developing dynamic model that highlighted transient behavior resulting from heat load changes during normal data server operation.
- **Developed model to predict thin film dripping from inclined interfaces** with application to surface coating industry. Designed and carried out experiment while reducing project budget 80%. Results to be published in academic journal.

Oregon State University – Corvallis, OR

- **Acted as part of design team that developed experimental apparatus** that verified numerical predictions for small-scale aerodynamic flow control over airfoil using passively actuated flow control mechanism for micro air vehicles.

EDUCATION

Massachusetts Institute of Technology (Department of Mathematics) – Cambridge, MA

Visiting Graduate Student; completed Master Thesis with focus in experimental microfluidics and small-scale visualization; anticipated graduation: 8/2015

L'Ecole Polytechnique Fédérale de Lausanne (EPFL) – Lausanne, Switzerland

Master of Science (M.S.) in Mechanical Engineering with focus in Aerodynamics, Hydrodynamics, and Energy Systems

Oregon State University – Corvallis, OR

Honors Bachelor of Science (H.B.S.) in Mechanical Engineering with focus in Thermal and Fluid Sciences

Honors Bachelor of Arts (H.B.A.) in International Studies in Mechanical Engineering

AFFILIATIONS / INVOLVEMENT

Member, Pi Tau Sigma (International Mechanical Engineering Honor Society) – Corvallis, OR (2010–2013)

Member, Humane Society – Corvallis, OR (2012–2013)

Member, Broadway Rose Theatre Company – Portland, OR (2009)

Member, Habitat for Humanity – Portland, OR (2009)