PETER ASPINALL

PeterJRAspinall@gmail.com
Portfolio Site: PeterJRAspinall.com

References Upon Request

TECHNICAL SKILLS

- SolidWorks Design, Drawings and Assemblies
- Traditional Machining and Rapid Prototyping Methodologies
- Iterative Design and Fast-Paced Prototyping
- Optical System Design, Fabrication, Calibration and Testing

Deep experience in Full Product Lifecycle Development, Project Management, Mechanical Design and Iteration, Optical System Design, Ansys Zemax OpticStudio, Assemblies and Drawings, GD&T, Prototyping, Microsoft Word, Excel, and PowerPoint including producing documents and presentations for clients
Experienced in LabVIEW, Controls, System Identification, C++, Arduino, MATLAB, Java, Robotic Systems

Certifications

- Certified SolidWorks Design Expert (CSWE) CAD, Certificate ID: C-LDH485JA7E
- CSWP Drawing Tools, Certificate ID: C-MAS824BQTC
- CSWP Sheet Metal, Certificate ID: C-CP5RFLGM67
- CSWP Weldments, Certificate ID: C-WLMV8QGCK9
- MEWP Lift Certified, ID: 450159143 (Valid through Oct 20, 2028)

ENGINEERING EXPERIENCE

Misapplied Sciences, Inc. Pasadena, CA
Facilities and Product Manager July 2025 – Current

As a part of Misapplied Sciences' Production team, I am supporting Misapplied Sciences in the development and production of their novel Parallel Reality™ displays. I am responsible for:

- Updating and reviewing designs and drawings for manufacturing
- Improving fabrication package and documentation including proposing updates for faster and cheaper fabrication and improved functionality
- Supporting the digital artist and computer scientist teams in R&D
- Facility management, upkeep and improvement

ChromoLogic, LLC., Monrovia, CA
Senior Engineer September 2021 – March 2024

Lead engineer and project manager for diverse, highly skilled teams of engineers and scientists. Responsible for taking Phase I research into commercially viable products. This includes prototype design and fabrication, testing and validation, DFM and vendor sourcing, navigating regulatory requirements and milestones, budget, and team management. Examples of my projects include:

- Malaria detection system: Portable and low cost (both device and per test)
    - Redesigned optics and magnetics from Phase I prototype
    - Implemented new signal processing approach to drastically improve sensitivity
    - Designed benchtop device for client-facing testing and deployment
    - Created scalability plan including potential part vendors and manufacturing sites. Targeting 100 devices and 100,000 test kits annually
- Opti-Cell: Cell culture monitoring using OCT imaging technology
    - Designed and built functioning OCT system at a fraction of commercial cost
    - Fabricated and tested custom attachments for OCT imaging to fit client requirements
    - Determined and addressed critical issues for both custom OCT system and off-the-shelf OCT system

The Pilot Group, Monrovia, CA
Project Engineer August 2017 – March 2021

Planned and executed clients' projects from conception through testing to proof of concept to fabrication and installation. Rapidly assessed client's goals and constraints. Responsible for scheduling, budget, and project completion. Led teams of other engineers and technology staff to complete projects successfully. Managed client communications, ensuring deliverables continue to work well for clients after final product delivery. Created all instructions for use and required documentation. Presented ideas and products directly to clients. Managed ordering and validation for all projects. Projects include:

- Digital design, testing and production of telescope actuators, including all documentation
    - Created new design iterations including full document package for client's database
    - Prototyped and sourced parts, including cost management
    - Wrote full assembly plan including custom tooling designs and implementation
    - Coordinated with overseas fabricators for most effective design and assembly
- Design and fabrication of custom IOL (Intraocular Lens) optical testing equipment
    - Both manual and automated systems for lab and manufacturing applications
    - Included custom support and on-site installation

Singer Laboratories, Monrovia, CA
Laboratory Director July 2018 – March 2021

Managed A2LA Accredited Testing Laboratory. Lab functions include temperature and humidity testing, IOL power and optical clarity measurements and glass lens measurements. Provide leadership including technical guidance to laboratory employees and contractors. Duties included:

- Performed testing and demos, compiled and analyzed data and results, including comprehensive summary reports
- Kept equipment calibration and certifications up to date and performed maintenance when required
- Ensured full lab traceability documentation for internal, client and industry requirements

BioSensics, Cambridge, MA
Engineering Intern June 2012 – September 2012

Designed, evaluated, and coded for wearable medical sensors monitoring gait and motion to provide diagnostic and developmental insight for clinicians

- Created custom enclosures for new wearable sensors using CAD

Wolf Greenfield & Sacks, P.C., Boston, MA
Legal Intern – Technology Patent Research June 2010 – September 2011

EDUCATION

UCLA, Los Angeles, CA
Master of Science, Mechanical Engineering 2015-2017
Concentration: Design, Robotics, and Manufacturing
PI: Prof. Veronica Santos – Biomechatronics Lab
Coursework Included: Control of Robotic Systems, Linear Dynamic Systems, Dynamic System Control, Dynamic Structures

Union College, Schenectady, NY
Bachelor of Science, Bioengineering. Chinese Language Minor 2010-2014
Honors: Tau Beta Pi, Magna Cum Laude, Dean's List, Department Honors
Term Abroad: Fudan University, Shanghai, China 2012

RESEARCH

UCLA Biomechatronics Lab, Los Angeles, CA **PI**: Dr. Veronica Santos

Graduate research lab focusing on haptic sensing for robotic applications. Exploring haptic sensing with machine learning as alternatives to robotic vision systems.

Graduate Engineering Researcher August 2014 – July 2017

Performed research into synthetic sensor skin development in collaboration with University of Washington to quantify sensor capabilities. Designed modular testing apparatus to increase capabilities of lab's existing Barrett WAM robotic arms.

- Designed in-house circuit setup to support sensor skin with available equipment, saving the lab extensive costs.
- Tested and analyzed data from sensor skin using the lab robotic test bed, data and visuals collected for publications.
- Created CAD model, drawings, documentation on assembly and stress analysis for testing apparatus and machined all necessary parts personally prior to assembly.

Union College – Bioengineering Thesis Project, Schenectady, NY

Created low-cost unique material prosthetic.

Undergraduate Senior Thesis September 2013 – June 2014

Designed, prototyped, and constructed a low-cost prosthetic hand and wrist for under-served groups in amputee community. Selected to present findings at Union College's Steinmetz Symposium.

- Investigated and created thermoplastic molds for low cost, user-fitted model.
- Designed and prototyped 1-DOF end-effectors, using both traditional and rapid prototyping.

Union College – Rice Lab, Schenectady, NY

Laboratory researching peat moss to determine its changing effect on atmospheric carbon.

Research Fellow January – July 2013

Designed and drafted testing apparatus using CAD and then built a device for evaluating the mechanical properties of moss to determine carbon absorption properties with relevance in global climate change trends.

- Completed CAD design, bill of materials and budget spreadsheet to PI's price and design specifications.
- Programmed an Arduino microcontroller and designed and constructed the accompanying circuitry.

PUBLICATIONS

J. Yin, P. Aspinall, V. J. Santos and J. D. Posner, "Measuring Dynamic Shear Force and Vibration with a Bioinspired Tactile Sensor Skin," in *IEEE Sensors Journal*, vol. 18, no. 9, pp. 3544-3553, 1 May1, 2018, doi: 10.1109/JSEN.2018.2811407.