

VICTOR A. POPP, P.E.

Curriculum Vitae

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Mr. Popp has been a degreed Mechanical Engineer since 1984, and has provided mechanical and structural engineering services to a wide range of clients since that time. In 2004, Mr. Popp formed, VPOPP Inc., a design and consulting service which provides expert engineering, design, and consulting services. Mr. Popp selected mechanical engineering as his discipline, because of his abilities and interests in mechanical things as a child. As the sixth of nine children, most of the toys he acquired were in need of repair, and he learned how to take things apart and fix them. These abilities resulted in him getting hired as a bicycle mechanic while a junior in high school. He became a Schwinn Certified mechanic in 1974, and in 1976 he became a Certified Machinist. This certification led to a job manufacturing machinery, doing electrical and mechanical assembly, metal working, and welding. At the recommendation of his employer and mentor, Mr. Popp went back to college and got an Engineering degree.

Mr. Popp selected Mechanical Engineering as his area of study after researching the profession. Mechanical engineering was reported to offer the most career variety of all the disciplines, and he felt it was a good match for his abilities and interests. Mechanical engineers are typically required on many types of projects, and often have to collaborate with the other disciplines. As a result of this choice, Mr. Popp was able to work with Mechanical, Structural, Electrical, Materials, Manufacturing, and Building Systems engineers.

Throughout his career, Mr. Popp has been lucky enough to utilize his mechanical engineering training and experience to play key design, management, and consulting roles. Part of his success in this area was his willingness to volunteer for challenging projects; in doing so, he knew he would be afforded more opportunities. These projects often included international travel to coordinate complicated projects.

Prior to starting his own company, Mr. Popp received steady promotions. He went from engineer, to senior engineer, to principal engineer, project manager, and finally to engineering manager. As an Engineering Manager, he was directly responsible for the professional, technical, and budgetary performance of a team of mechanical, electrical, and software engineers. He also performed safety reviews and signoffs for all products in his group. He has managed up to 20 engineers at one time.

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While Mr. Popp's professional experience started in manufacturing and machinery, it evolved into designing structures. His personal interest in carpentry and working with his father-in-law (a union carpenter) resulted in him doing construction projects, including working with the Hingham Building Inspector. This led to his serving on Hingham's Zoning Board of Appeals (5 years), and Energy Committee (1 year).

He has worked and consulted for a wide variety of clients, applications, and industries. These include working in the consumer, aerospace, materials, testing, biomedical, automotive and construction markets. He has experience in state-of-the-art design and manufacturing ("CAD/CAM"), in both production and R&D environments.

Mr. Popp's professional experience also included perform failure analysis investigations of material and product failures as well as structural engineering analyses. This includes training and experience in Finite Element Analysis (FEA), and Failure Effect Mode Analysis (FEMA). These experiences have allowed him to evolve his career into forensics engineering.

EDUCATION:

- Masters/Phd Level Engineering Coursework: Biomechanical Engineering Program, from University of Massachusetts: Including Bio-Mechanics (3 evening courses completed: 2004-2005)
- Master of Science Degree: Administrative Studies, from Boston College (Graduation: 2001)
- Masters Level Engineering Coursework: Computer Aided Design, Thermodynamics, Numerical Analysis. Northeastern University; evening courses in 1996.
- Bachelor of Science Degree: Mechanical Engineering, from University of Massachusetts – Lowell and Dartmouth (Graduated with BSME in 1984)
- Associate in Arts Degree: Communications, from Cape Cod Community College (1981)
- Engineering Management Certificate; Worcester Polytechnic Institute (Product Design and Failure Modes and Effects Analysis (FMEA); 1999)
- Certificates and Training in Project Management, Engineering, and other Ongoing Education Opportunities as part of Licensing requirements (2003 to Present)

PROFESSIONAL EXPERIENCE:

ENGINEERING CONSULTANT: VPOPP, Inc.: (May, 2004 until Present)

As Principal performs the following design, inspection, and forensics engineering services:

- Residential and commercial engineering and design work
 - Wood and steel framing for buildings

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- Steel storage rack calculations
- Steel walkways, platforms, bridges for manufacturing equipment
- Commercial Inspections:
 - Construction project monitoring
 - Property condition assessments (PCAs) for real estate due diligence studies (per ASTM 2018)
 - Steel storage rack and mezzanine inspections
- Performs forensics engineering investigations for client forensic engineering companies, insurance companies, contractors, and attorneys:
 - Structural and mechanical expert witness
 - Building envelope investigations
 - Investigate failures of products and systems leading to personal and/or property damage.

Major Projects include:

- *Design Projects:* Residential and industrial construction projects, including special design steel mezzanines and steel pallet racks; typical projects range in the \$500 to \$20,000 range.
- *Property Condition Assessments and Construction Monitoring:* ASTM 2018 PCAs and Engineering investigations and inspections for a variety of nationally based clients (clients include: AEI, GRS, EFI Global, Nova Consulting, and others). On average, I do approximately 5 per month for multi-million dollar sites.
- *Product Failure Investigations:* Investigate defective consumer products for injury liability lawsuits. Applicable standards review; designing and building test machines and fixtures for accident reconstruction; test method development; laboratory analysis; and reports. Some example investigations include:
 - Consumer injury from aquarium top (debilitating laceration from carrying; successfully settled)
 - Consumer injury from sheet metal edge (debilitating laceration during installation; successfully settled)
 - Exploding wood pellet stove accelerant (successfully settled)
 - Snow blower amputation prevention tests
 - Other Consumer Product Failure/Injury Cases: exploding plastic tire rim, exploding pool filter cap; automatic garage door opener; plate glass; air conditioner; can opener
 - Industrial product failures (hydraulics, manufacturing, and structural)
 - Failures from and investigations of façade and roof leaks; water penetration, plumbing leaks

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ENGINEERING MANAGER CUSTOM DESIGN GROUP: Instron Corporation, Canton, MA.
(October, 1988 to May, 2004);

- Prior to management at Instron, held increasingly responsible positions including:
- PRINCIPAL ENGINEER
 - SENIOR DESIGN ENGINEER
 - DESIGN ENGINEER
- Duties included engineering design of custom test equipment for testing structures and materials, as well as project management of these projects
- Other responsibilities: Safety reviews and signoffs as manager

- *Major Products Include:*
 - *Steering Simulator:* Design leadership on a \$9.5 million project; lead team of 10 mechanical and electrical engineers to develop and build five (5) “Key Life Test” systems simulating road conditions in a temperature/humidity chamber.
 - *Flight Simulator:* \$500K; directed several engineers, concept to completion in 9 months, on time/on budget. Interface with California partner. Several systems installed.
 - *NASA Fatigue System:* \$3.3 million; international team; on-time, on-budget; 4-axis 100,000 lb. test machines. *World’s first* 1500 C radiant bulb heating in high vacuum.
 - *Drive Shaft Tester:* \$1.9 million; 550 Hp/7000 rpm/20,000 inch-lb. torque drive-shaft test system. Computer control of drives, gearboxes, air-cooling, pyrometers, hydraulics, and lubrication.
 - *Fatigue Test System; world’s first 1100 deg. C in Environmental Scanning Electron Microscope;* international team.

ADVANCED MANUFACTURING ENGINEER: General Electric Aircraft Instruments,
Wilmington, MA. (MAY 1986 TO OCTOBER 1988)

- Enhanced welding and metal working methods for automated (robotic and manual welding work cells
- Credited with improving weld yields saving \$120K per year; and eliminating a \$125K capital expense by properly diagnosing and fixing a machine with recurring downtime

PROJECT ENGINEER/MACHINE DESIGN ENGINEER: Design Technology, Inc., Billerica,
MA. (SEPTEMBER 1984 TO MAY 1986)

- Developed custom machines and processes for a wide variety of clients and industries in a consultancy environment with design and build capability

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- Did prototyping, testing, and design for large scale, FORTUNE 500 companies who had special projects

TRAINED MACHINIST, TECHNICIAN, CERTIFIED BICYCLE MECHANIC: High School and College; for: Noble's Bike Shop (1972-1975; Paramus, NJ); Allen Brown's Cyclery and Jasons Bike Shop (circa 1980; West Yarmouth, MA); Terkelsen Machine Co. (1976 to 1980; Hyannis, MA); Cheeney Engineering (1981; West Yarmouth, MA)

Other Relevant Experience:

- Product Safety reviews as Engineering Manager at Instron included conducting product safety reviews and signoffs, which included doing FMEA risk analyses to cover possible injury scenarios including assessing the probability of and severity of possible injuries from products, as well as assessing any "three tier mitigation" possibilities (i.e., design out, guard out, or warn and train against hazards).

LICENSES, CERTIFICATIONS, PROFESSIONAL QUALIFICATIONS, AFFILIATIONS, PRESENTATIONS AND AWARDS:

REGISTERED PROFESSIONAL ENGINEER: Massachusetts (# 41566)

REGISTERED PROFESSIONAL ENGINEER: Connecticut (# 26727)

REGISTERED PROFESSIONAL ENGINEER: Maine (# 12027)

REGISTERED PROFESSIONAL ENGINEER: New Hampshire (# 12946)

REGISTERED PROFESSIONAL ENGINEER: New York (# 087359)

REGISTERED PROFESSIONAL ENGINEER: Rhode Island (# 9819)

REGISTERED PROFESSIONAL ENGINEER: Colorado (# 42874)

LICENSED Construction Supervisor Massachusetts (Unrestricted) (# 99105)

LICENSED Home Inspector Massachusetts (#658)

NCEES Registered

American Society of Mechanical Engineers (ASME)

Previous Membership:

- National Society of Professional Engineers (NSPE)
- National Academy of Building Inspection Engineers (NABIE)
- Structural Engineering Certification Board (SECB)

Approved to Provide Structural Engineering Continuing Education training for Home Inspectors (State of Massachusetts Board of Home Inspectors)

Seminar Teacher: Halfmoon Education Inc. for Design Professionals (CEU credits given):

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- Structural Forensics Engineering (HalfMoon)
- International Residential Code (HalfMoon)
- “Forensics Engineering” Graduate Student Seminar; University of Fair Haven Graduate School of Forensic Engineering
- National Academy of Forensic Engineers (National Conference 2007)

Winner: 1995 Firestone National Design Contest

US Patent Holder: # 5567866

Presentation given at the 1995 National Meeting of the American Society of Materials Testing (ASTM) in Dayton, OH, “High Temperature Biaxial Test Equipment”.

Acknowledged for Special Biaxial Grip design in a paper presented at the 1992 International Symposium of Ultra High Temperature Mechanical Testing (Petten N.H.), the Netherlands.

(Previously) Certified Bicycle Mechanic (Schwinn Bicycle Company); Certified Manufacturing Engineer (Society of Manufacturing Engineers: circa 1985)

TECHNOLOGIES USED:

- Commercial Facilities and Residential Construction
- Advanced Engineering Software and Tools:
 - Computer Aided Design (CAD)
 - Finite Element Analysis (FEA)
 - Failure Effect Mode Analysis (FMEA)
- Hydraulics, Pneumatics, Servo Systems
- Applied Materials and Research
- Production: Metal Working; Machining; Welding (Laser, Plasma, MIG, TIG)
- Transducers and Instrumentation
- Environmental: High and Low Temperature; Vacuum, Inert and Hostile Gas
- Medical Products and Laboratory Equipment
- High Speed Rotational Equipment (up to 12,000 RMP)
- Robotics and Automation; High Speed Production/Packaging Equipment

PROJECT TYPES:

- Construction
- Research and Development
- Consumer Goods
- Project Management
- International Teams and Companies

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- Inter and Intra Corporate Projects
- Crossfunctional Engineering Teams (mechanical, electrical and software)
- “Skunk Works” projects (fast track, dedicated team projects).

Testimony List

December 1, 2017; *Judith Kissel Vs. Center for Women’s Health, P.C., et al*; Stamford Superior Court; State of Connecticut Superior Court; Judicial District of Stamford; Docket Number: FST-CV-12-6013562-S; Heat Lamp Mechanical Issues, Testimony

November 25, 2013: Carla Fitzgerald against Contractor; Massachusetts State Department of Public Safety Hearing; Re: Carla Fitzgerald Vs. Allen DesRoches (Contractor); One Ashburton Place; Boston MA; Contractor License Complaint.

March 24, 2011; *Mellissa Martin Vs. Brite Builders Inc.*; Homeowner Vs Residential Contractor; Re: 66 Elm St.; Berkely, MA Construction Issues; JAMS Mediation (Judge Ryan); #1 Beacon Street Boston; Arbitration Hearing

December 14 and 15, 2009; *Shannon O’Rourke Vs. Glen T. Kaplan and Stanley Kowalski, III*; Western Division Housing Court Springfield, MA; Civil Action No. 07-CV-1952; Residential Structural Issues; Testimony

February 25 and February 26, 2008; *Lowe Vs Dollar Tree Stores*; New York State Supreme Court 60 Centre St.; Room 222; Child Toy Injury/Product Liability Case; Docket Number 118668/03; Testimony

January 11, 2008; *Robert Lens, Executor. Vs. Alice Wright*; Worcester Superior Court; Docket Number: not recorded by me; Fatal Accident due to Substandard Handrail; Testimony

February 16, 2005; *Eugene Supernor Jr. Vs. Joe and Marie Dyer*; Docket Number: 03-62CV2170; Worcester Central District Court; Substandard Roofing Job; Testimony

January 15, 2005; *Ameriquest Mortgage CO. Vs. Robert L. Pingaro*; United States Bankruptcy Court; District of Massachusetts; Eastern Division; Case Number: 03-11854CJK; Residential Structural Issues, Testimony

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