

Sean Benjamin Kelly, Ph.D., P.E., CMAT

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ADVANCED TECHNOLOGIST | PROTOTYPING ENGINEER | FLUID AND THERMAL EXPERT

Progressive and motivated engineer with 10+ years experience building and analyzing complex multi-disciplinary systems. Real-world expertise in prototyping, testing, automotive technology, thermofluids, and manufacturing. Independent and diverse researcher with excellent communication and organizational skills. Top performer in companies and groups both small and multi-national.

Professional Strengths:

Emerging and Advanced Technologies	Technical Consulting
Research and Development	Rapid Prototyping
Automotive Engineering	Testing and Failure Analysis
Project Management	Metalworking and Machining
Product Design and Development	Design for Manufacture

PROFESSIONAL EXPERIENCE

INDEPENDENT TECHNICAL CONSULTANT, Los Angeles, CA **5/2017-Present**

- Provide technology development, prototyping, and manufacturing consultancy to startups, corporations, and individuals.
- Business development of in-house clean-tech and advanced chemical reactor design products.
- R&D and IP development advisory.
- Failure analysis, engineering forensics, and fire cause & origin investigations.

RAPID EQUIPPING FORCE, UNITED STATES ARMY, Afghanistan **5/2013-9/2013** **Rapid Prototyping Engineer (contractor)**

- Develop tactical hardware and solutions directly to soldiers and deployed units.
- CNC, 3D printing, welding, electronics and embedded microcontrollers, wireless communications, and repair of tactical equipment and machines.
- Projects included soldier-worn systems; vehicle modifications; weapon systems modifications; Intelligence, Surveillance and Reconnaissance (ISR) systems; Force Protection systems.

EXPONENT FAILURE ANALYSIS ASSOCIATES, San Francisco, CA **9/2012-5/2017** **Senior Engineering Consultant**

- Failure analysis and expert testimony for clients in the automotive, consumer appliance and electronics, and public utility industries.
- Product testing, design analysis, regulatory compliance, and technical project management in transportation, aerospace, oil and gas, and consumer electronics (lithium ion battery), unmanned aerial vehicles; sensor systems, industrial equipment and manufacturing processes.
- Fire and explosion investigations.

PROFESSIONAL EXPERIENCE (CON'T)

- COMBUSTION AND PROPULSION LAB,**
UNIVERSITY OF FLORIDA, Gainesville, FL **2/2009-8/2012**
Graduate Research Assistant
- Experimental investigation into cryogenic fluid flow in the low-pressure fuel pump of the Space Shuttle Main Engines.
 - Laser (UV-VIS-IR) diagnostics and high-speed imaging including PLIF, Mie scattering, and fluorescent-PIV.
 - Construction of large water tunnel, high-speed DAQ, and automated test routines (LabView).
- GREEN LIQUID AND GAS TECHNOLOGIES,** Gainesville, FL **9/2008-2/2009**
Research Engineer
- Designed prototype waste pyrolyzer – converts military waste to power, waste heat, syngas, and charcoal.
 - Application and management of SBIR program for DARPA.
- NEPTUNE TECHNOLOGY GROUP,** Tallahassee, AL **2/2008-8/2008**
Senior Engineering Consultant
- R&D for fluid flow measurement (domestic water meters, gas meters).
 - Flowpath design, metal and plastic casting, and injection molding.
- C-TECH RACING,** Daytona Beach, FL and Auburn, AL **12/2002-1/2008**
Owner and Engineer
- Fabrication of automotive forced induction and performance systems.
 - Track and dynamometer testing and engine calibration.
- AUBURN UNIVERSITY,** Auburn, AL **1/2006-5/2007**
Machinist/Instructor
- Manual and CNC machining for research hardware.
 - Taught courses in machine shop safety and operations.
- Michelin North America,** Opelika, AL **1/2005-12/2006**
Engineering Co-Op
- Design and maintenance of tire build machinery; plant engineering; PLCs.
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EDUCATION

Ph.D., Aerospace Engineering, University of Florida, 2012
B.S., Mechanical Engineering, Auburn University, 2007

ACADEMIC APPOINTMENTS

Adjunct Faculty, Department of Mechanical Engineering, San Francisco State University

LICENSES AND CERTIFICATIONS

- ASE Certified Master Automobile Technician (CMAT) – # 5507-4728
- Licensed Mechanical Engineer in California, Colorado, Utah, and Nevada
- Fire Investigation 1A Certification, accredited by the California State Fire Marshal
- Certified Fire and Explosion Investigator (CFEI, Registration No. 20906-11895)