

CAREER SUMMARY:

- More than 12 years of R&D engineering experience with several small, fast-paced companies leading the development of cutting edge technologies in robotics, aerospace, and medical fields.
- Developed advanced robotic exoskeleton technologies at Sarcos Research Corp. (now Raytheon-Sarcos) to aid the future war fighter with increased power and stamina. Implemented high dynamic range hydraulic mechanisms into robotic systems driven by closed loop controls.
- Designed and developed a patented, ultra-high efficiency drug infusion pump with technology to eliminate the risk of excess (intended or unintended) fluid delivery.
- Led product development of multiple generations of portable power systems which included project management/planning, technology assessment, intellectual property procurement, conceptual and detailed design, CFD analysis, prototype fabrication, and testing.
- Extensive experience designing prototypes and systems for compliance to various CE, UL, and MIL-STD specifications including MIL-STD 461F (EMI) and MIL-STD 810G (battlefield ruggedization)
- Performed FEA (finite element analysis) and CFD (computational fluid dynamics) simulations on mechanical and fluidic designs for optimization and to improve overall design cycle times.
- Over 15 years of cumulative 3-D modeling experience with experience doing complex mechanism and control design for advanced robotic applications.
- Support of aerospace, medical, and motorsports clients in system engineering and mechanical/electrical design including analysis and optimization of the flow dynamics for high specific power internal combustion engines using 3-D CFD simulation and theoretical principles.

TECHNICAL SKILLS:

CAD Design, GD&T-Solidworks; FEA/CFD-Solidworks Simulation; CNC Machine (Mill, Lathe) Operation and Programming; MS Office, Excel, Powerpoint, Project, Visio; Graphic Design-Photoshop, Illustrator; Technical/Proposal Writing; Electronics Prototyping, Assembly and Troubleshooting, Programming; Firmware/Software; Web Design; Database Management/Custom Front End Applications

EDUCATION:

B.S. Mechanical Engineering **May 2000**
University of Utah, Salt Lake City, UT
3.8 GPA

M.S. Mechanical Engineering **August 2004**
University of Utah, Salt Lake City, UT
3.9 GPA; Emphasis: Exp. Fluid Dynamics

PROFESSIONAL EMPLOYMENT HISTORY:

• **Design Engineer** **June 2001 – January 2005**
Raytheon-Sarcos (formerly Sarcos Research Corp.), Salt Lake City, UT
Responsibilities: Research and development of prototype robotic systems utilizing expertise in all areas of engineering including design, analysis, fabrication, testing, and reporting. Main emphasis: mechanical component design and testing with underlying analysis in hydraulic, pneumatic, and electronic systems.

• **Sr. Design Engineer/Product Development Team Lead** **February 2005 – November 2009**
Trulite, Inc., El Dorado Hills, CA (formerly Bluffdale, UT)
Responsibilities: Lead product development engineer for hydrogen generation devices and hydrogen-based fuel cell power systems. Involved in research, technology assessment, design, and testing, including project/program management and planning of development personnel and activities.

• **Contract/Consulting Sr. Mechanical Engineer** **November 2009 - Present**
Brydon Engineering, Salt Lake City, UT
Responsibilities: Support various clients in the aerospace, medical, and energy sectors. Duties include program/project management; conceptual design; detailed mechanical design and solid modeling; CFD computer simulations of complex fluid flow and heat transfer; development and execution of product qualification test programs; industrial design; writing for technical proposals and product literature.

Publications and Patents

Patents Awarded:

- 7,438,732** **October 21, 2008**
Hydrogen Generator Cartridge
Shurtleff, James Kevin; Ladd, Eric J.; Brydon, Chris A.; Patton, John M.; Anderson, J. Howard
- 7,628,590** **December 8, 2009**
Method and Apparatus for Reducing Free Flow Risk
Jacobsen, Steven C.; Beck, Jon; Brydon, Christopher
- 7,648,786** **January 19, 2010**
Apparatus, system, and method for generating electricity from a chemical hydride
Shurtleff, Kevin; Ladd, Eric; Patton, John; Brydon, Chris; Pearson, Ken
- 7,651,542** **January 26, 2010**
Apparatus, system, and method for generating hydrogen from a chemical hydride
Shurtleff, Kevin; Ladd, Eric; Patton, John; Brydon, Chris; Pearson, Ken
- 8,152,873** **April 10, 2012**
System for generating hydrogen from a chemical hydride
Shurtleff, Kevin; Ladd, Eric; Patton, John; Brydon, Chris; Pearson, Ken

Patents Pending:

- 20080020260** **January 24, 2008**
Apparatus, system, and method for manifolded integration of a humidification chamber for input gas for a proton exchange membrane fuel cell
Brydon, Chris; Pearson, Ken
- 20080025880** **January 31, 2008**
Apparatus, system, and method for generating hydrogen from a chemical hydride
Shurtleff, Kevin; Ladd, Eric; Patton, John; Brydon, Chris; Pearson, Ken
- 20090025293** **January 29, 2009**
Apparatus, system, and method for processing hydrogen gas
Patton, John; Pearson, Ken; Brydon, Chris
- 20090029227** **January 29, 2009**
Apparatus, system, and method for securing a cartridge
Patton, John; Brydon, Chris; Pearson, Ken
- 20090053134** **February 26, 2009**
Process, composition of matter, and apparatus for generating hydrogen from a chemical hydride
Shurtleff, James Kevin; Ladd, Eric J.; Brydon, Chris A.; Patton, John M.; Anderson, J. Howard
- 20090076661** **March 19, 2009**
Apparatus, system, and method to manage the generation and use of hybrid electric power
Pearson, Ken; Brydon, Chris; You, Eugene; Wang, Guangde