

JAMES M. MURPHY

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HIGHLIGHTS

- 11 years of Mechanical Engineering experience, including 8 years of R&D and design
- Bachelor and Masters degrees in Mechanical Engineering
- Creative, insightful thinker: 22 US patents
- Mechatronics and data acquisition experience at world's leading hard drive manufacturer

EXPERIENCE

Dynamic Air Shelters, Ltd. Calgary, Alberta Jan 2019 - May 2019

Mechanical Engineer

- Designed a system for load testing 50m air-inflated beams. Performed detailed component design in SolidWorks. Achieved cost targets through resourceful use of off-the-shelf components.
- Managed a team of 7 to assemble and run the load tester. Completed testing on schedule.
- Developed two analytical methods for calculating the strength of air-inflated fabric beams.

Mechanical Engineering Design Consultant Calgary, Alberta 2017 - 2020

Projects include:

- Design of a novel 18' aluminum-frame tent trailer (in SketchUp)
- Concept design of a new fall-arrest device for construction workers
- Feasibility assessment of a novel cart/stroller for carrying loads over rough terrain

Carbon Engineering (CE) Calgary, Alberta 2015 - 2016

Project Engineer

- Researched, designed and modeled CE's fuel synthesis system. Wrote a feasibility assessment of this system, resulting in CE being awarded \$3.75 million in funding.
- Established relationships with 30 OEMs; gathered accurate performance and cost information that formed the basis of the model.

The Delphi Group Calgary, Alberta 2013 - 2015

Management Consultant

- Assessed energy technologies and offset projects, created software tools using Excel VBA, and wrote energy policy briefs.

Panea Energy Evergreen, Colorado 2008 – 2009

Lead Engineer

- Invented a novel Compressed Air Energy Storage (CAES) system - the centerpiece of Panea's IP.
- Estimated performance, capital costs and operating costs for 3 different implementations.
- Managed project timelines and Panea's subcontractors: all deliverables were submitted on time.

Solix Biofuels Fort Collins, Colorado 2006 – 2008

Senior Engineer

- Led a 5-person engineering team to design and fabricate the Mariner 2 photobioreactor (PBR), on schedule and to budget.
- Designed PBR subsystems including a low-shear pump and metabolite filter.
- Fabricated parts in the machine shop, spec'ed and procured OEM parts, assembled it all.

Seagate Technology Longmont, Colorado 2000 – 2004

Development / Process Engineer

- Invented new hard drive technologies. Three of these are now used in millions of drives worldwide.
- Designed a 2-axis mechatronic head-disk tester; fabricated key components in Seagate's machine shop, assembled and operated it.
- Developed improved manufacturing processes, including a UV-cured adhesive assembly process.

EDUCATION

Masters of Science – Resources & Sustainability U. British Columbia, [IRES](#) 2009 – 2012

Masters of Engineering – Mechanical Engineering U. Colorado, Boulder 1997 – 2000

- Completed studies while working full-time. Earned 'A's in all classes
- Classes included Design-For-Manufacturing, Finite Element Analysis (FEA) and Heat Transfer

Bachelor of Engineering – Mechanical Engineering U. Queensland, Australia

- Top student in Mech. Engineering and awarded best senior thesis in all of Engineering
- Trained on milling machine, lathe, sheet metal fabrication, welding and casting

PATENTS AND TRAINING

- 22 US Patents awarded. First inventor for 13 of these. e.g. USPTO #[6388842](#), [6157522](#)
- 'Brown Belt' in Six Sigma statistics, design-of-experiments (DOE), and process control 2003