Eric Gilbertson

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Education

- Massachusetts Institute of Technology — Cambridge, MA
  Doctor of Philosophy (Ph.D.) in Mechanical Engineering. Advisor: Dr. Franz Hover — 2010 – 2014
  - Thesis: "Describing Functions for Information Channels Subject to Packet Loss and Quantization."
  - Concentration: Controls. Minor: Mechanical Design.

  Master of Science in Mechanical Engineering. Advisor: Dr. Franz Hover — 2008 – 2010
  - Thesis: "Gas Lift Failure Mode Analysis and the Design of a Thermally-Actuated Gas Lift Safety Valve."

  Bachelor of Science in Mechanical Engineering, Mathematics Minor. — 2004 – 2008

Teaching and Work Experience

- Seattle University — Seattle
  Instructor — 2018-2021
  - Taught undergraduate Statics, Dynamics, Dynamic Systems, Advanced Controls, Integrated Design, and graduate Ad-

Other Skills

- Software: MATLAB, SolidWorks, Labview, LaTeX, Microsoft Office, HTML.
- Fabrication skills: CAD/CAM, lathe, mill, hand tools, soldering, GD&T.
- Conversational in Spanish.
- Served as president and member of the board of directors of the MIT Outing Club (>1500 members) (2007-2014).
- World-record-holding juggler.
- Have completed 25 mountaineering first ascents documented in the American Alpine Journal (2015-2017)

Issued Patents (4)

- Gilbertson, E., Hover, F., Freeman, B., and Arellano, J., "Sharp Phase Change Shape Memory Alloy Thermal Actuator," US Patent No 9638343 B2, issue date May 2, 2017.
- Yu, C., Gilbertson, E., and Hover, F., "Gas Lift Safety Valve Actuated by a Sensor," US Patent Application No 9284825, issue date March 15, 2016
- Gilbertson, E., Yu, C., and Hover, F., "Apparatus for Adjusting Shape Memory Alloy Transition Temperature to Track Slowly Changing Ambient Temperature," US Patent No 9145974, issue date Sept 29, 2015.
- Gilbertson, E. and Hover, F., "Thermally-Actuated Gas Lift Safety Valve," US Patent No 8,800,590 B2, issue date Aug 12, 2014.

Selected Publications

- Gilbertson, E., Hover, F., "Describing Functions for Scalar Information Channels Subject to Packet Loss and Quantization," Journal of Dynamic Systems, Measurement, and Control, 1 July 2015.
- Gilbertson, E., Describing Functions for Information Channels Subject to Packet Loss and Quantization, Ph.D. Thesis, Massachusetts Institute of Technology, 2014.
- Gilbertson, E., Hover, F., "Limit Cycling in Control of Underwater Vehicles Caused by Lossy Quantized Communication Channels," International Symposium on Unmanned Untethered Submersible Technology (UUST), Portsmouth, NH, USA, Aug 2013.
- Gilbertson, E., Reed, B., Leighton, J., Cheung, M., Hover, F., "Experiments in Dynamic Control of Autonomous Marine Vehicles Using Acoustic Modems," International Conference on Robotics and Automation (ICRA), Karlsruhe, Germany May 2013.
- Gilbertson, E., F., Hover, and B. Freeman, "A Thermally-Actuated Gas Lift Safety Valve," SPE Production and Operations, 28, no. 01 (2013): 77-84.
- Gilbertson, E. and Hover, F., "AC Transmission System Planning on Large Scale and Realistic Systems," IEEE PES International Conference on Power Systems Technology Powercon, Auckland, New Zealand Oct-Nov 2012.
- Gilbertson, E., F. Hover, and B. Freeman, "Sharp Phase Change in Shape Memory Alloy Thermal Actuators for Subsea Flow Control," ASME International Conference on Offshore Mechanics and Artic Engineering (OMAE), Rio de Janiero, Brazil, July 2012.
- Gilbertson, E., F. Hover, J. Arellano, and B. Freeman, "Design of a Thermally-Actuated Gas Lift Safety Valve," ASME International Conference on Offshore Mechanics and Arctic Engineering (OMAE), Rotterdam, Netherlands, June 2011.
- Gilbertson, E., Gas Lift Valve Failure Mode Analysis and the Design of a Thermally-Actuated Positive-Locking Safety Valve, Masters Thesis, Massachusetts Institute of Technology, 2010.
- Gilbertson, E., F. Hover, and E. Colina, "Failure Mode and Sensitivity Analysis of Gas Lift Valves," 29th International Conference on Ocean, Offshore, and Arctic Engineering (OMAE), Shanghai, China, June 2010.
- Kelley, L. C., Gilbertson, E. Sheikh, A., Eppinger, S., and Dubowsky, S., "On the Feasibility of Solar Powered Irrigation," Journal of Renewable and Sustainable Energy Reviews, 14 December 2010, 2669-2682.