

# Eric Gilbertson

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## Education

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- Massachusetts Institute of Technology Cambridge, MA  
Doctor of Philosophy (Ph.D.) in Mechanical Engineering. Advisor: Dr. Franz Hover 2010 – 2014
  - Thesis: "Describing Factors 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 Acted Gas Lift Safety Valve."
- Bachelor of Science in Mechanical Engineering, Mathematics Minor. 2004 – 2008

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## Teaching and Work Experience

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

## Other Skills

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- 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.
  - Has completed 25 mountaineering first ascents documented in the American Alpine Journal (2015-2017)
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## Issued Patents (4)

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- Gilbertson, E., Hoer, F., Freeman, B., and Arellano, J., "Sharp Phase Change Shape Memory Alloy Thermal Actuator," US Patent No. 9638343 B2, date May 2, 2017.
  - Yu C., Gilbertson, E., and Hoer, F., "Gas Lift Safety Valve Actuated by a Sensor," US Patent Application No. 92848258, date March 15, 2016
  - Gilbertson, E., Yu C., and Hoer, F., "Apparatus for Adjusting Shape Memory Alloy Transition Temperatures to Track Slowly Changing Ambient Temperature," US Patent No. 9145974A, date Sept 29, 2015.
  - Gilbertson, E. and Hoer, F., "Thermally Actuated Gas Lift Safety Valve," US Patent No. 8,800,590 B2, date Aug 12, 2014.
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## Selected Publications

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- Gilbertson, E., Hoer, F., "Describing Factors for Scalar Information Channels Subject to Packet Loss and Quantization," Journal of Dynamic Systems, Measurement and Control, 1 July 2015.
- Gilbertson, E., Describing Factors for Information Channels Subject to Packet Loss and Quantization, Ph.D. Thesis Massachusetts Institute of Technology 2014.
- Gilbertson, E., Hoer, F., "Limit Cycling in Control of Underwater Vehicles Caused by Lossy Quantized Communication Channels," International Symposium on Unmanned Undersea Remotely Operated Technology (UUST), Portsmouth, NH, USA, Aug 2013.
- Gilbertson, E., Reed, B., Leighton, J., Cheung, M., Hoer, 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. Hoer, and B. Freeman, "A Thermally Actuated Gas Lift Safety Valve," SPE Production and Operations, 28, no. 01 (2013): 77-84.
- Gilbertson, E. and Hoer, F., "AC Transmission System Planning on Large Scale and Realistic Systems," IEEE PES International Conference on Power System Technology (Povcon), Auckland, New Zealand Oct/Nov 2012.
- Gilbertson, E., F. Hoer, and B. Freeman, "Sharp Phase Change in Shape Memory Alloy Thermal Actuators for Sea Flow Control," ASME International Conference on Ocean, Offshore and Arctic Engineering (OMAE), Rio de Janeiro, Brazil, July 2012.
- Gilbertson, E., F. Hoer, J. Arellano, and B. Freeman, "Design of a Thermally Actuated Gas Lift Safety Valve," ASME International Conference on Ocean, Offshore 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. Hoer, 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, C., Gilbertson, E., Sheikh, A., Eppinger, S., and Dobby, S., "On the Feasibility of Solar Powered Irrigation," Journal of Renewable and Sustainable Energy Research 4 December 2010, 2669-2682.