

Eric L. Faulring, Ph.D.
Chicago PT, LLC
2510 Gross Point Road
Evanston, IL 60201 USA

TEL 847-864-1005 x104
FAX 847-864-0150
efaulring@chicagopt.com
<http://lims.mech.northwestern.edu/students/faulring/>

Employment

Design and Controls Engineer (present), *Chicago PT, LLC*, Evanston, IL, USA February 2006 to present
Principle engineer for the development of a novel mechanical drive-train for a prosthetic limb (funded by the Defense Advanced Research Projects Agency *Revolutionizing Prosthetics* program).

Education

Ph.D. in Mechanical Engineering (2005), *Northwestern University*, Evanston, IL, USA 3.905/4.0 GPA
Dissertation Title: *The Cobot Hand Controller: Design, Control and Analysis of a Novel Haptic Display*
Advisors: J. Edward Colgate, Ph.D. and Michael A. Peshkin, Ph.D.

M.S. in Mechanical Engineering (2002), *Northwestern University*, Evanston, IL, USA 3.833/4.0 GPA
Thesis Title: *Human Interaction with a Cobot Pallet Jack*
Advisors: J. Edward Colgate, Ph.D. and Michael A. Peshkin, Ph.D.

B.S. in Mechanical Engineering (2000), *State University of New York at Buffalo*, Buffalo, NY, USA 3.944/4.0 GPA
University Honors Program Member - Graduated Summa Cum Laude

Honors

2004 – 2005, Royal E. Cabell Fellowship, Northwestern University
2004, Best Student Paper, 2004 IEEE International Conference on Robotics and Automation
2001 – 2004, National Defense Science and Engineering Graduate Fellow
2000 – 2001, Walter P. Murphy Fellow, Northwestern University

2005, NSF Student Travel Grant for ICRA 2005
2005, Northwestern Graduate School Conference Travel Grant
2002, ASME DSCD Student Travel Grant for IMECE 2002
2000, James McLernon Scholarship
1999, Grace W. Capen Scholarship
1999, Tau Beta Pi Engineering Honor Society
1998, Golden Key National Honor Society
1996 – 2000, Buffalo Society of Professional Engineers Scholarship

Journal Publications

Faulring, E.L., Colgate, J.E., Peshkin, M.A. The cobotic hand controller: design, control and performance of a novel haptic display. Accepted for publication, *International Journal of Robotics Research*, August 24, 2006.

Faulring, E.L., Lynch, K.M., Colgate, J.E., Peshkin, M.A. Haptic display of constrained dynamic systems via admittance displays. Accepted for publication, *IEEE Transactions on Robotics*, August 4, 2006.

Faulring, E.L., Colgate, J.E., Peshkin, M.A. Power efficiency of the rotational-to-linear continuously variable cobotic transmission. Accepted for publication, *ASME Journal of Mechanical Design*, May 24, 2006.

DeJong, B.P., Faulring, E.L., Colgate, J.E., Peshkin, M.A., Kang, H., Park, Y.S., Ewing, T.F. Lessons learned from a novel teleoperation testbed. *Industrial Robot* 33(3): 187-193, 2006.

Conference Publications

Faulring, E.L., Colgate, J.E., Peshkin, M.A. "Cobotic architecture for prosthetics." To appear in proceedings of the 28th *IEEE EMBS Annual International Conference*, 2006.

Faulring, E.L., Colgate, J.E., Peshkin, M.A. "Control and performance of the rotational-to-linear cobotic transmission." In proceedings of the *IEEE 14th Symposium on Haptic Interfaces for Virtual Environments and Teleoperator Systems*, 2006.

Conference Publications (continued)

Faulring, E.L., Colgate, J.E., Peshkin, M.A. "High performance cobotics." In proceedings of the *IEEE 9th International Conference on Rehabilitation Robotics*, 2005.

Faulring, E.L., Lynch, K.M., Colgate, J.E., Peshkin, M.A. "Haptic interaction with constrained dynamic systems." In proceedings of the *IEEE International Conference on Robotics and Automation*, 2005.

Faulring, E.L., Colgate, J.E., Peshkin, M.A. "A high performance 6-DOF haptic cobot." In proceedings of the *IEEE International Conference on Robotics and Automation*, 2004. *Best Student Paper Award*

Faulring, E.L., Colgate, J.E. "Run-time three-dimensional blend-path generation for cobot constraint surfaces." In proceedings of the *ASME International Mechanical Engineering Congress and Exposition*, 2002.

Park, Y., Kang, H., Faulring, E.L., Colgate, J.E., Peshkin, M.A. "Enhanced teleoperation for D&D." In proceedings of the *IEEE International Conference on Robotics and Automation*, 2004.

Park, Y., Kang, H., Ewing, T.F., Faulring, E.L., Colgate, J.E., Peshkin, M.A. "Semi-automatic teleoperation for D&D." In proceedings of the *American Nuclear Society Conference*, 2004.

Kang, H., Park, Y., Ewing, T.F., Faulring, E.L., Colgate, J.E. "Visually and haptically augmented teleoperation in D&D tasks using virtual fixtures." In proceedings of the *American Nuclear Society Conference*, 2004.

Park, Y., Kang, H., Ewing, T.F., Faulring, E.L., DeJong, B.P., Peshkin, M.A., Colgate, J.E. Semi-autonomous telerobotic manipulation: a viable approach for space structure deployment and maintenance. In proceedings of the *American Institute of Physics Conference*, 2005.

Teaching

Winter Quarter 2005 – Teaching Assistant for Mechatronics Laboratory

Fall Quarter 2004 – Grader for Random Data and Spectral Analysis

Invited Talks

November, 2001, "Collaborative Robots (Cobots)" - Integrative Graduate Education and Research Traineeship Program

Professional Activities

2005 – logistics committee, International Conference on Rehabilitation Robotics, 2005

2003 – present, member of IEEE Robotics and Automation Society

1998 – present, member of American Society of Mechanical Engineers

Reviewer, Presence: Teleoperators and Virtual Environments, 2005

Reviewer, ASME Journal of Dynamic Systems and Control, 2005

Reviewer, International Conference on Robotics and Automation, 2005

Reviewer, International Conference on Robotics and Automation, 2004

Reviewer, Haptics Symposium 2004

Reviewer, ASME International Mechanical Engineering Congress and Exposition, 2004