# BIOGRAPHICAL SKETCH

| Name & Address: | POSITION TITLE |
|---|---|
| **Devin R. Berg**<br>Engineering & Technology Department<br>University of Wisconsin – Stout<br>807 3rd St. East<br>Menomonie, WI 54751 | Assistant Professor |

EDUCATION

| INSTITUTION AND LOCATION | DEGREE | YEAR CONFERRED | FIELD OF STUDY |
|---|---|---|---|
| University of Wisconsin<br>Madison, WI | B.S. | 2008 | Mechanical Engineering |
| University of Minnesota<br>Minneapolis, MN | M.S. | 2011 | Mechanical Engineering |
| University of Minnesota<br>Minneapolis, MN | Ph.D. | 2013 | Mechanical Engineering |

**University of Wisconsin – Stout** — Menomonie, WI
*Assistant Professor,* Engineering & Technology Department — (8/12-Present)

**University of St. Thomas** — St. Paul, MN
*Adjunct Faculty,* Department of Mechanical Engineering — (1/12-5/12)

**3M Science and Technology Fellowship** — Minneapolis, MN
*Science and Technology Fellowship Program* — (9/08-5/12)

**Products – closely related**

**Berg, D.R.**, "Evaluation of Student Learning Outcomes Due to Self-Guided Engineering Analysis of Surroundings." Proceedings of the ASEE Annual Conference, Indianapolis, IN, 2014. Submitted.

**Berg, D.R.**, "Experiences with Inquiry-Based Learning in an Introductory Mechanics Course." Proceedings of the ASEE North Midwest Section Conference, Fargo, ND, 2013.

Capaldi, F. and **Berg, D.R.**, "Outcomes of Using an Infinitely Explorable Online Learning System." Proceedings of the ASEE Annual Conference, Atlanta, GA, 2013.

**Berg, D.R.**, Harder, L.A., and Erdman, A.G., "Generating Interest in Technology and Medical Devices Through an Interactive Educational Game." Proceedings of the ASEE Annual Conference, San Antonio, TX, 2012.

**Berg, D.R.**, Carlson, A., Durfee, W.K., Sweet, R.M., and Reihsen, T., "Low-Cost, Take-Home, Beating Heart Simulator for Health-Care Education." Proceedings of Medicine Meets Virtual Reality 18, Newport Beach, CA, 2011.

## Other Significant Products

**Berg, D.R.**, Li, P.Y., and Erdman, A.G., "Achieving Dexterous Manipulation for Minimally Invasive Surgical Robots Through the Use of Hydraulics." Proceedings of the ASME Dynamic Systems and Control Conference, Fort Lauderdale, FL, 2012.

**Berg, D.R.**, Kinney, T.P., Li, P.Y., and Erdman, A.G., "Determination of Surgical Robot Tool Force Requirements Through Tissue Manipulation and Suture Force Measurement." Proceedings of the Design of Medical Devices Conference, Minneapolis, MN, 2011.

J. Schmidt, **D. R. Berg**, L. Ploeg, and H. L. Ploeg. "Precision, Repeatability and Accuracy of Optotrak Optical Motion Tracking Systems." *International Journal of Experimental and Computational Biomechanics*, 1(1):114-127, 2009.

Z. G. Liu, **D. R. Berg**, V. N. Vasys, M. E. Dettmann, B. Zielinska, and J. J. Schauer. "Analysis of C1, C2, and C10 through C33 particle-phase and semi-volatile organic compound emissions from heavy-duty diesel engines." *Atmospheric Environment*, 44(8):1108-1115, 2010.

Z. G. Liu, **D. R. Berg**, T. A. Swor, and J. J. Schauer. "Comparative Analysis on the Effects of Diesel Particulate Filter and Selective Catalytic Reduction Systems on a Wide Spectrum of Chemical Species Emissions." *Environmental Science and Technology*, 42(16):6080-6085, 2008.

## Synergistic Activities

Pioneering Implementation of New Educational Software: Early adopter of a new educational software for engineering courses to better serve students of diverse learning styles.

Pursuing Open Access Education: Building a collaborative online repository for engineering information and sample problems geared towards engineering students.

Contributing as External Reviewer: Reviewer of conference proceedings for the 2014 ASEE Annual Conference and the 2012 ASME Dynamic Systems and Control Conference.

Developing Hands-On Classroom Tools: Design and fabrication of in-class tools for demonstrating engineering concepts consistent with the concept of experiential learning.

Promoting K-12 Outreach: Exploring new methods for generating interest in engineering and technology among K-12 aged school children.

## Collaborators and Other Affiliations

Collaborators: Franco Capaldi (Merrimack College), Lucas Harder (Heart Leaflet Technologies), Andrew Carlson (Novo Engineering), Timothy Kinney (Ridgeview Medical Center), Jordan Nadeau (University of Minnesota – Twin Cities), Adam Gladen (University of Minnesota – Twin Cities, Jerry Liu (Cummins Emission Solutions), James Schauer (University of Wisconsin – Madison), Heidi-Lynn Ploeg (University of Wisconsin – Madison), Jill Schmidt (University of Wisconsin – Milwaukee), Ulla Häggblom (Tampere University of Applied Sciences), Anneli Kakko (Jyväskylä University of Applied Sciences)

Graduate Advisors: Perry Y. Li, U. Minnesota (MS and PhD) and Arthur G. Erdman (PhD), U. Minnesota