

CRAIG M. GOEHLER
Assistant Professor

EDUCATION

Ph.D. University of Notre Dame, Mechanical Engineering, 2007
M.S. University of Notre Dame, Mechanical Engineering, 2004
B.A. University of Notre Dame, Mechanical Engineering, 2002

AREAS OF INTEREST

Robotic manipulator kinematics, dynamics and control; musculoskeletal modeling; mechanism analysis and synthesis; computer aided design (CAD)

PROFESSIONAL EXPERIENCE

Aug. 2009 – present Visiting Assistant Professor, Valparaiso University, Mechanical Engineering Department
Feb. 2008 – Aug. 2009 Postdoctoral Research Associate, Rehabilitation Institute of Chicago, Sensory Motor Performance Program
Aug. 2002 – May 2007 Teaching Assistant, University of Notre Dame, Department of Aerospace and Mechanical Engineering
Aug. 2000 – May 2002 Undergraduate Teaching Assistant/Grader, University of Notre Dame, Department of Aerospace and Mechanical Engineering

REGISTRATION

None

PROFESSIONAL ORGANIZATIONS

2009 – present American Society of Mechanical Engineers
2009 – present American Society for Engineering Education

CONSULTING

None

HONORS AND AWARDS

Kaneb Outstanding Graduate Student Teaching Award, Notre Dame, Spring 2004

SERVICE

2010 Reviewer for the 34th ASME Mechanisms and Robotics Conference, Symposium on “Mechanisms and Robotics Teaching and Education”
2009 – present Faculty Advisor ASME Student Section
2008 – present Reviewer for *Applied Bionics and Biomechanics*

PROFESSIONAL DEVELOPMENT

Feb. 2010: Selecting Conceptual Frameworks for Engineering Education Research, Valparaiso University, Valparaiso, IN (workshop attendee)
June 2009: Robotics: Science and Systems 2009 Workshop on Human and Robotic Hands, University of Washington, Seattle, WA (poster presentation, workshop attendee)

June 2009: ASME 2009 Summer Bioengineering Conference, Resort at Squaw Creek, Lake Tahoe, CA
(podium presentation, conference attendee)

JOURNAL PUBLICATIONS

- Goehler, C.M., and Murray, W.M., "Using an Anatomically Realistic Three-Dimensional Model of the Thumb to Predict Thumb-Tip Forces Produced by Single Muscles", *Journal of Biomechanics*, in press Feb. 2010.
- Mogk, J.P.M., Goehler, C.M., Hu, X., and Riley, Z.A., 2009, "Should the neural-mechanical behavior of a muscle be coupled or co-vary?", *Journal of Physiology*, 587(Pt 13), pp. 3065-3066.
- Stanisic, M.M., and Goehler, C.M., 2008, "Reproducing Human Arm Motion Using a Kinematically Coupled Humanoid Shoulder-Elbow Complex", *Applied Bionics and Biomechanics*, Vol. 5, No. 4, pp. 175-185.
- Stanisic, M.M., Goehler, C.M., and Tomsic, M., 2007, "A Quantified Description of the Coupling between the Reaching Direction and Elbow Axis Direction", *Applied Bionics and Biomechanics*, Vol. 4, No. 2, pp.47-55.
- Stanisic, M.M., and Goehler, C.M., 2007, "Singular Planes of Serial Wrist-Partitioned Manipulators and Their Singularity Metrics", *Mechanism and Machine Theory*, Vol. 42, No. 8, pp. 889-902.
- Goehler, C.M., Stanisic, M.M. and Perez, V.M., 2004, "A Generalization of T1 Motion Applied to the Synthesis of Planar Mechanisms", *Mechanism and Machine Theory*, Vol. 39, No. 11, pp. 1223-1244.

CONFERENCE PROCEEDINGS

- Goehler, C.M., Weir, R.F., and Murray, W.M., 2009, "EMG-driven Forward Dynamic Simulations of the Hand Performing American Sign Language", Proceedings of the *Robotics: Science and Systems 2009 Conference*, Seattle, WA, June.
- Goehler, C.M., and Murray, W.M., 2009, "The Effects of Joint Posture and Segment Lengths on the Thumb-Tip Force Produced by Flexor Pollicis Longus", Proceedings of the *ASME 2009 Summer Bioengineering Conference*, Lake Tahoe, CA, June.
- Goehler, C.M. and Stanisic, M.M., 2004, "Singular Planes of the Articulated Arm-Subassembly", 9th Intl. Meeting of *Advances in Robot Kinematics*, ed. J. Lenarcic and C. Galleti, Kluwer Academic Publishers, Genoa, July, pp. 275-282.