

Biomedical Engineering

[Home](#)[About Us](#)[Research](#)[Prospective Students](#)[Current Students](#)[Faculty & Staff](#)[Calendar](#)[Employment](#)[McCormick Home](#)[Study Abroad](#)[MS in Biomedical & Environmental Engineering](#)[Home](#) > [Faculty & Staff](#) > [Core Faculty](#) > Core Faculty Profile

Core Faculty Profile

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Suzanne A. Olds

Research Interests

Bioengineering Education

Suzanne Olds' research is in the area of engineering education. She participates in the VaNTH ERC in Engineering Educational Technologies and she conducts an engineering outreach program to local middle schools. She advises a group of over twenty student volunteers who have developed a challenge-based module in artificial limb design that addresses many of the Illinois Learning Standards in science, math, English language arts, and social science. The name of the module is called Get a Grip!

(www.middleschoolengineers.com)



Undergraduate and graduate students have worked with the Center for International Rehabilitation and faculty in the School of Engineering and Social Policy to develop the challenge, lesson plans, and activities for the unit. In 2006-07, students are implementing the 4-week unit in one middle school each quarter. They work with the teacher and observe student engagement in the various activities. Students continuously revise and expand the module based upon their observations and on feedback from the teachers and targeted students.

Undergraduate and graduate students in any discipline can become involved in several aspects of the project: implementing the module in the classroom, revising the curriculum, expanding the existing lesson plans, and/or developing assessment instruments and analyzing data. Those who are interested in contributing to the project should contact Suzanne Olds at s-olds@northwestern.edu.

Selected Publications:

1. *Get a Grip! A Middle School Engineering Challenge*, **S.A. Olds**, D.A. Harrell, M.E. Valente, , Science Scope, 30(3), 21-25 (2006)
2. *Instructor and Course Changes Resulting from an HPL-inspired Use of Personal Response Systems*, R.A. Linsenmeier, **S.A. Olds**, Y.B-D, Kolikant, Proceedings of the 36th ASEE/IEEE Frontiers in Education Conference, Session T1A4, 2006.
3. *Testing Hypotheses of Learning at the VaNTH Bioengineering Education Center: Applications to Nutrition and Metabolism*, J.C. Collins, A. Harris, R.A. Linsenmeier, **S. Olds**, Hargrove, J. L. and Berdanier, C. D. (eds.), Mathematical Modeling in Nutrition and Toxicology, Mathematical Biology Press, Athens, GA, 2005, 235-44.
4. *Developing a Standards-based K-12 Engineering Curricula through Partnerships with University Students and Industry*, **S. A. Olds**, Chirag D. Patel, Bugrahan Yalvac, David E. Kanter, Neha Goel. Proceedings of the American Society for Engineering Education, Session 2530: 6 pages, 2004.
5. *Designing an Outreach Project that Trains Both Future Faculty and Future Engineers*, **S.A. Olds**, D.E. Kanter, A. Knudson, and S.B. Mehta. Proceedings of the American Society for Engineering Education (CD-ROM DeStech Publications) Session 1609: 5 pages, 2003.
6. *The VaNTH Bioengineering Curriculum Project* R.A. Linsenmeier, T.R. Harris, and **S.A. Olds**. Proceedings of the Second Joint EMBS-BMES Conference (CD-ROM, Omnipress):2648-2649, 2002.



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