

Thomas C. Harmon, Professor

School of Engineering

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EDUCATION

The Johns Hopkins University	B.S. Civil Engineering	1985
Stanford University	M.S. Civil & Environ. Engineering	1986
Stanford University	Ph.D. Civil & Environ. Engineering	1992

APPOINTMENTS

July 2005-present	Professor and Founding Faculty Member, School of Engineering, University of California, Merced
July 2003-2005	Associate Professor and Founding Faculty Member, School of Engineering, University of California, Merced
July 1999- 2003	Associate Professor, Department of Civil & Environmental Engineering, University of California, Los Angeles
July 1992- 1999	Assistant Professor, Department of Civil & Environmental Engineering, University of California, Los Angeles

PROFESSIONAL AFFILIATIONS:

Association of Environmental Engineering Scientists & Professors (AEESP), American Geophysical Union (AGU), American Chemical Society (ACS), American Society of Civil Engineers (ASCE)

PUBLICATIONS**5 most relevant to this proposal:**

- Harmon, T.C., Ambrose, R.F., Gilbert, R.M., Fisher, J.C., Stealey, M. and Kaiser, W.J. (2007). High Resolution River Hydraulic and Water Quality Characterization Using Rapidly Deployable Networked Infomechanical Systems (NIMS RD), *Environmental Engineering Science* 24(2), 151-159.
- Bendikov, T.A., S. Miserendino, Y-C. Tai and T.C. Harmon (2006). A Parylene-Protected Nitrate Selective Microsensor on a Carbon Fiber Cross Section, *Sensors and Actuators B: Chemical*, in press. doi:10.1016/j.snb.2006.08.007.
- Bendikov, T.A. and Harmon, T.C. Long-lived solid state perchlorate ion selective sensor based on doped poly(3,4-ethylenedioxythiophene) (PEDOT) films, *Analytica Chimica Acta*, 551, 30-36, 2005.
- Bendikov, T.A., Kim, J. and Harmon, T.C., Development and Environmental Application of a Nitrate Selective Microsensor Based on Doped Polypyrrole Films, *Sensors and Actuators B: Chemical*, 106(2), 512-517, 2005.
- Kim, J., Y. Park and T. C. Harmon, Real-Time Model Parameter Estimation in Support of Analyzing Transport in Porous Media, *Groundwater Monitoring and Remediation*, 25(2), 1-9, 2005.

5 other significant papers:

- Bendikov, T.A. and T.C. Harmon. A Sensitive and Highly Selective Nitrate Ion Selective Electrode from a Pencil Lead: An Analytical Laboratory Experiment, *Journal of Chemical Education*, 82(3), 439-442, 2005.

Saez, J.A. and T.C. Harmon, Optimal two-stage ground water pump-and-treat subject to slowly desorbing and persisting sources, in press *Ground Water*, June 2005.

Shih, T., Y. Rong, T. Harmon and M. Suffet. Evaluation of the Impact of Fuel Hydrocarbons and Oxygenates on Groundwater Resources, *Environmental Science and Technology*, 38(1), 42-48, 2004.

Khachikian, C S. and Harmon, T.C., Long-Term Studies of the Effects of NVOCs on the Surface Areas of Porous Media, *Journal of Environmental Quality*, 31(4), 1309-1315, 2002.

Burks, G.A. and Harmon, T.C., Volatilization of Solid Phase PAH Mixtures, *Journal of Chemical & Engineering Data*, 46, 944-949, 2001.

SYNERGISTIC ACTIVITIES

Thomas Harmon (PI) is Harmon is currently collaborating on the science and technology *Center for Embedded Networked Sensing* (CENS) (#CCR-012077, 8/02-7/07, \$20M), where he is directing the contaminant assessment and management applications research thrust areas. He is also a member of the CENS Research Executive Committee. One doctoral student and one postdoctoral scholar are currently receiving training on this project. To date three journal articles are in press [Ben05a, Ben05b; Kim05]. He is currently one of 5 co-PIs on the NSF *ITR Networked Infomechanical Systems (NIMS)*, funded at a level of \$7.5M from 10/2003 to 9/2008; one of 5 co-PIs on the *Biocomplexity Award Automated-Minirhizotron and Arrayed Rhizosphere Soil Sensors (10/04-9/09; \$2M)*; and PI of a *CLEANER Planning Grant (8/04-7/05, \$86K) Embedded Networked Sensing in Support of a CLEANER California Water Cycle*. Prof. Harmon was previously PI of a *CAREER Award (BES 9502170, 1995-2000) Phase Equilibria and Mass Transfer Characteristics of Nonvolatile Organic Chemicals in Unsaturated Soils*. This project resulted in 6 journal papers [Yu99, Kha00a,b, Bur01, Har01, Kha02] and 3 PhDs, and 3 undergraduates received research experience on the project. He was also PI of a *Combined Research-Curriculum Development Award (1998-2002) Virtual Reality in the Environmental Engineering Curriculum*. Several undergraduate programmers and two graduate students received pedagogical development experience on this project, which results in to educational research journal articles [Chu01; Har02].