

Vita

Name and Academic Rank: **Hubert J. Montas**, Associate Professor
Fischell Department of Bioengineering
University of Maryland at College Park
2006, Bioengineering

Date of Current Appointment: 2006, Bioengineering
Years of Service on This Faculty: 1

Date of Initial Appointment: 1998, Biological Resources Engineering
Years of Service on This Faculty: 8

Advancement in Rank:

<u>Rank</u>	<u>Date</u>
Associate Professor	2004
Assistant Professor	1998

Education:

Ph.D. Agr. And Bio. Engineering, Purdue University	1996
M.Sc. Agricultural Engineering, McGill University	1990
B.Sc. Agricultural Engineering, McGill University	1988

Other Related Experience:

Visiting Assistant Professor	Agr. And Bio. Eng. Purdue, 1996-1997.
Post-Doctoral Res. Asst.,	Agr. And Bio. Eng. Purdue, 1996.
Charge de Recherche,	Genie Rural, Universite Laval, 1990.
Database Specialist,	Ecolog. Agr. Projects, McGill, 1987.

Example Research Contributions in Last 5 Years (98 total since 1988, vitae p. 5-18):

Journal:

- Carleton, J.N. and H.J. **Montas**. 2007. A Modeling Approach for Mixing and Reaction in Wetlands with Continuously Varying Flow. Ecological Engineering 10.1016/j.ecoleng.2006.07.009.
- Sadegh Zadeh, K., H.J. **Montas** and A. Shirmohammadi. 2006. Identification of biomolecule mass transport and binding rate parameters in living cells by inverse modeling. Theoretical Biology and Medical Modelling 3:36, doi: 10.1186/1742-4682-3-36.
- Johnson, A. T., H.J. **Montas**, A. Shirmohammadi and F.W. Wheaton, 2005. Change is necessary in a Biological Engineering curriculum. Biotechnol. Prog., 22(1):167-172. DOI: 10.1021/bp050074k.
- Chu, T.W., A. Shirmohammadi, H. **Montas**, A.M. Sadeghi. 2004. Evaluation of the SWAT model's sediment and nutrient components in the Piedmont physiographic region of Maryland, 2005. Transactions of the ASAE. Vol. 47(5): 1523-1538.
- **Montas**, H.J., 2003. An Analytical Solution of the Three-Component Transport Equation with Application to Third-Order Transport. Water Resources Research, 39:(2), 1036, doi:10.1029/2002WR001288.

Conference:

- **Montas**, H.J., 2007. The Future According to Hubert. **Invited talk** and panel discussion for the Next 100 Years Session, presented at the Centennial, 2007, ASABE Annual International Meeting, Sponsored by ASABE. Minneapolis Convention Center, Minneapolis, MN, June 17-21, 2007. ASABE, St. Joseph, MI.

- Resop, J.P. and H.J. **Montas**. 2006. A Comparison of Artificial Neural Networks and Statistical Regression for Streamflow Prediction. Paper number 062132, presented at the 2006 ASAE/CSAE Annual International Meeting, Sponsored by ASAE/CSAE, Portland Convention Center, Portland, Oregon, 9-12 July 2006. ASAE, St. Joseph, MI.
- **Montas**, H.J. and A. Shirmohammadi, 2005. Numerical Solution of Fractional Equations of Nanoparticle Transport in Heterogeneous Bioenvironments. Paper Number 053085 presented at the 2005 ASAE/CSAE Annual International Meeting, Sponsored by ASAE/CSAE, Tampa Convention Center, Tampa, Florida, 17-20 July 2005. ASAE, St. Joseph, MI.
- **Montas**, H.J. and A. Shirmohammadi, 2004. Modeling of Soil Remediation by Nanoscale Particles. Paper Number 043053 presented at the 2004 ASAE/CSAE Annual International Meeting, Sponsored by ASAE/CSAE, Fairmont Chateau Laurier, The Westin, Government Centre, Ottawa, Ontario, Canada, 1-4 August 2004. ASAE, St. Joseph, MI.
- Haghighi, K. and H.J. **Montas**, 2003. Emerging Challenges in the Modeling of Nanoscale Processes. Talk presented at the **Special Invited Session** on Opportunities in Nanoscale Engineering, Sponsored by IET-217 (organized by Dr. H.J. Montas) at the 96th Annual International Meeting of ASAE, July 28-31 2003, Las Vegas, NV, USA. ASAE, St. Joseph, MI.

Software Developed:

2006, Armpit Scheme	LISP Interpreter for ARM microcontrollers, http://armpit.sourceforge.net
2003, Flexible FEM	Finite Elements in MATLAB, http://glue.umd.edu/~montas
2002, ImageMesher	N-Dimensional Delaunay Meshing of digital images, http://glue.umd.edu/~reddyg

Awards in Past 5 Years (Total of 9 since 1988, Vitae p. 22):

2006	ASABE IET Division Best Paper Award
2004	NABEC Young Engineer of the Year
2002-2007	NSF CAREER: Engineering Computations in Biological Resources

Teaching and Advising in Past 5 Years (14 courses/lectures since 1988, Vitae p. 24-):

Courses Developed and Taught:

ENES 100:	Intro. to Eng. Design (3 credits), 1998-
BIOE 241 (developed):	Biocomput. Meth. (online, 3 credits), 1999-
ENBE 486:	Capstone Design II (2 credits), 2000-
ENBE 633 (developed):	NPS Pollution Control (3 credits), 1999-
ENBE 643 (developed):	Advanced Biotransport (3 credits), 2001-

Lectures:

ENBE 110:	Intro to Biol. Res. Engr. (1 credit), 1998-
BIOE 121:	Engineering in Biology Lab. (1 cr.), 2006-

Undergraduate Advising:

Academic:	30 students per semester, 1998-
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Research:

Wendy Devaney (wavelet analysis), Ashlee Tipton and Swanee Daniels (heart dynamics), Finda Ogburu (arrhythmia control).

Graduate Research Advising:

Kouroush Sadeg Zadeh*
Jonathan Resop
Luc Hebou
Prabhakar Gudla (Reddy)
James Carleton
Ibari Iheanyi-Igwe

Ph.D. 2006, Parameter Optimization
M.S. 2006, Artificial Neural Networks
Ph.D. Candidate, 2006, Bioagent Control
Ph.D. 2007, Stochastic Image Analysis
Ph.D. Candidate, 2007, Wetland Modeling
Ph.D. Admitted, 2004, (paused by pregnancy)

Summary of Other Professional Items:

Grants (vitae p. 19-21):

Approx. \$900,000 as PI or Co-PI since 1999.

Reviews (vitae p. 22-23):

Approx. 15 reviews for 7 journals since '99.

Professional Affiliations (p. 34):

Alpha Epsilon Honor Society, ASABE, ASCE, ASEE, AGU, BMES, IBE, NABEC, NSBE.

University Service (p. 34-36):

Faculty Review Committee Chair, 2006
Bioengineering Curriculum Committee, 2006
Middle States Accreditation Committee Chair, 2005-2006
ABET Committee, 2005
Faculty Search Committee, 2000
ABET Committee, 1999
Faculty Search Committee, 1999

Society Service (vitae p. 36):

Technical Advisory Committee Member for Biological Sensorics, 2007; Organizer of the 2003 Invited Session on Nanotechnology; ASABE Meetings Council (2005-), IET Division (2005-), IET-217 Secretary to Past Chair (2001-), Technical Session Organizer (2001-), Technical Session Moderator (2001-).