

Curriculum Vitae
Mark A. Ross

POSITIONS AND CONTACT INFORMATION

Professor, Department of Civil and Environmental Engineering
Director, Center for Modeling Hydrologic and Aquatic Systems, College of Engineering, University of South Florida, Tampa, FL, 33620, CMHAS, (813) 974-5836, fax: (813) 974-5835, CEE Office (813) 974-2275,
Email: maross@usf.edu, Website: <http://www.eng.usf.edu/~mross/>

EDUCATION

Ph.D, Civil Engineering, Coastal Hydraulics, University of Florida, 1988
MSE, Civil Engineering, Water Resources, University of South Florida, 1982
BSE, Civil Engineering, Water Resources, University of South Florida, 1982

PROFESSIONAL EXPERIENCE

Present Affiliations

Professor, Department of Civil & Environmental Engineering, University of South Florida, September 2007-present. (Joint appointment: Professor, College of Public Health)

Associate Professor, Department of Civil & Environmental Engineering, University of South Florida, September 1994-2007. (Joint appointment, College of Public Health)

Director, Center for Modeling Hydrologic and Aquatic Systems, University of South Florida, 1998c 0.004 Tw [(-)4()7(Ju)-5(e)-

Past Positions/

RESEARCH

RESEARCH INTERESTS

Dr. Ross's research interests are in water resources engineering, especially in the areas of hydrologic; hydraulic and water quality modeling with an emphasis on shallow water table systems. Recent research includes developing a new integrated surface and groundwater flow model; developing and conducting field studies and exploring new measurement technologies to quantify surface & groundwater interactions; use of GIS and remote sensing technologies in hydrology; and coastal storm surge modeling, coastal sediment transport and tidal inlet interaction studies. Dr. Ross continues to be active in the development of lake and estuary water quali

equipment matching by USF (~\$200,000), USF Nos. 2104353 & 21040000, 2001-2004, \$439,000. 2004.

Funding Agencies

Ayers Associates Inc. (AA), Bromwell and Carrier, Inc (BCI), Florida Department of Environmental Protection (FDEP), Florida Department of Transportation (FDOT), Southwest Florida Water Management District (SWFWMD), Florida Institute of Phosphate Research (FIPR), South Florida Water Management District (SFWMD), Hillsborough County Stormwater (HCS) Section, King Engineering Inc (KEI), Mosaic, National Science Foundation (NSF), North Atlantic Treaty Organization (NATO), Pinellas County Department of Environmental Management (PCDEM), Tampa Bay Water (TBW), United States Army Corps of Engineers (USACE), United States Department of Agriculture (USDA), United States Department of Energy (USDOE), United States Fish and Wildlife Service (USFWS), United States Geological Survey (USGS), University of Florida (UF), University of South Florida (USF), Zenon Environmental Systems Inc (ZES)

10.1109/GEOINFORMATICS.2009.5293541

- Murphy, Kathryn, E., Rains, Mark C., Michael G. Kittridge, Mark T. Stewart, and Mark A. Ross, 2008. "Hydrology of Clay Settling Areas and Surrounding Landscapes in the Phosphate Mining District, Peninsular Florida", Journal of the American Water Resources Association (JAWRA), Vol. 2, No.11, pp1752-1788, June 2008.
- Nilsson, K., Mark A. Ross, and Kenneth E. Trout, Analytical Method to Derive Wetland Stage-Storage Relationships Using GIS areas, Journal of Hydrologic Eng., ASCE, Vol. 13, No. 4, pp. 278-282, April 2008.
- Shah, N., M. Ross, and G.S. Ladde. 2008. Dynamic Modeling of Root Water Uptake Using Soil Moisture Data. Neural, Parallel and Scientific Computations, Vol.16, No. 1, pgs. 105-124, Dynamic Publishers, USA.
- Foster, L. N. Shah, M.Ross, and G.S. Ladde, P. Wang. 2008, "Using Frequency Analysis to Determine Wetland Hydroperiod, Neural, Parallel and Scientific Computations, Vol.16, No. 1, pgs 17-34, Dynamic Publishers, USA.
- Murch, Renee, Zhang, J., Ross, M., and Nachabe, Mahmood, 2008. Evaluation of Statistical Disaggregation Methods using Rain-Gage Information for West-Central Florida,

Conceptualization in the HSPF-MODFLOW Integrated Models, Journal of the American Water Resources Association (JAWRA), 41(5), 1013-1025, October, 2005.

Nachabe, Mahmood, N. Shah, M. Ross, J. Vomacka, Evapotranspiration of Two Vegetation Covers in a Shallow Water Table Environment, Soil Sci. Soc. Am. J., 69:492-499, 2005.

Hernandez, T., Nachabe, M. and Ross, M., Modeling Runoff from Variable Source in Humid, Shallow Water Table Environments,

- Stage/Storage/Discharge Behavior in Hydrologic Modeling , Proceedings of World Environmental and Water Resources Conference 2008, doi , pp.1-14, May 19th- 25th, 2008, Honolulu, Hawaii.
- Clayback, K. B., Ross, M. A., and M. Scott. Investigation Of Normalized Streamflow in West Central Florida and Extrapolation to Ungaged Coastal Fringe Tributaries, Proceedings Of The 2007 Annual Conference, AWRA, November 2007.
- Shah, N., G.S. Ladde, M. Ross. 2007. A Dynamic Model for Root Water Uptake. Proceedings of the 5Th International Conference on Dynamic Systems and Applications. May 30th – June 2nd 2007, Atlanta, GA.
- Foster, L., N. Shah, M. Ross and G.S. Ladde 2007. Spectral Analysis to Define Wetland Hydroperiod. Proceedings of the 5Th International Conference on Dynamic Systems and Applications. May 30th – June 2nd 2007, Atlanta, GA.
- Geurink, Jeffrey S., Alison Adams and Mark A. Ross. Water management of Comprehensive Representation of Wetlands in an Integrated HSPF-Modflow Hydrologic Model. Proceedings of World Environmental and Water Resources Conference 2007, doi 10.1061/40927(243)305, pp. 1-22, May 14th –May 19th 2007, Tampa, Florida.
- Nachabe.M., N.Shah, and M.Ross. 2007. Evapotranspiration of Two Vegetative Covers in Shallow Water Table Environment. Proceedings of ASCE EWRI conference, May 14th –May 19th 2007, Tampa.
- Rahgozar, Manda., Nirjhar Shah and Mark Ross, Estimation of Evapotranspiration and Water Budget Using Continuous Soil Moisture an Water Table Monitoring. Proceedings of World Environmental and Water Resources Conference 2007, doi 10.1061/40927(243)335, pp. 1-23, May 14th –May 19th 2007, Tampa, Florida.
- Shah, Nirjhar, Mark Ross, and Ahmed Said,. Vadose Zone Evapotranspiration Distribution Using One-Dimensional Analysis and Conceptualization for Integrated Modeling. Proceedings of World Environmental and Water Resources Conference 2007, doi 10.1061/40927(243)336, pp. 1-10, May 14th – May 19th 2007, Tampa, Florida.
- Zhang, J., J.Geurink, and M. Ross. 2007. Modeling Vadose Zone Moisture Dynamics with the Integrated Hydrological Model (IHM). Proceedings of ASCE EWRI conference, May 14th –May 19th 2007, Tampa.
- Nilsson, Kenneth, A., Mark A. Ross, and Kenneth E. Trout, Deriving Wetland Stage-Storage Relationships from GIS Data, Proceedings of World Environmental and Water Resources Conference 2007, doi 10.1061/40927(243)326, pp. 1-16, May 14th –May 19th 2007, Tampa, Florida.
- Said, A., M.Ross, and K.Trout. Calibration of HSPF Using Active Ground Water Storage. Proceedings of World Environmental and Water Resources Conference 2007, doi 10.1061/40927(243)342, pp. 1-16, May 14th –May 19th 2007, Tampa, Florida.
- Shah, N. and M. Ross. Measurement of Seasonal Variation in Vertical Root Uptake Distribution using High Resolution Soil Moisture Data. EOS Transaction, AGU 87(52), fall meeting supplement H12B-03., 2006.
- Ross, Mark, Patrick Tara, Jeffrey Geurink, and Ahmed Said, Evapotranspiration Conceptualization in the HSPF-MODFLOW Integrated Models, presented at the 2004 Annual Meeting of the American Institute of Hydrology, Las Vegas, Nevada, October 17-20, 2004.
- Trout, Ken

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District, CMHAS Water Resources Report, SWFWMD.95.02, Department of Civil and Environmental Engineering, University of South Florida, Tampa, Florida, October 1995.

Geurink, Jeff S., Stewart, Mark T., and Ross, Mark A., A GIS-Based Multi-Scale Integrated Model for Comprehensive Water Management Evaluation, Task One Report: Data Collection and Assessment, prepared for Southwest Florida Water Management District, CMHAS Water Resources Report,

Coast, Fla., April 1988.

SERVICE

SERVICE TO THE PROFESSION

Professional Organizations

American Society of Civil Engineers
American Society of Engineering Education
American Water Resources Association
Sigma Xi, USF Chapter
Chi Epsilon National Chapter
Order of The Engineer

Technical Advisory Committees

Florida Coastal Hydraulics Council, State Advisory Council on Coastal Hydraulics, sponsored by FDOT (one of five invited advisors), Present
National Estuary Program - Tampa Bay, Present
Resource Advisory Committee - Tampa Bay Water, Present
Spill Response and Preparedness Committee-United States Coast Guard, 1998-2003
Committee A2A03, Hydraulics and Hydrology, Transportation Research Board, 1993-2001

Reviewer

United States Geological Survey Water Resources Division and The National Institute of Water Resources (NIWR) competitive grant program
ASCE Journal of Irrigation and Drainage Engineering
ASCE Journal of Hydrologic Engineering
Journal of Hydrology
AWRA Journal, JAWRA (2003)
International Journal on Ecological Modelling and Systems Ecology, Elsevier (2005)
Journal of Applied Mathematics Letters Mathematical and Computer Modelling (2004)

UNIVERSITY SERVICE

Advisory Committee Member, Dr. Kiran C. Patel Center for Global Solutions, Formerly the USF Center for Globalization, current.
Contributory participant, USF Water Data Center Initiative, (2003).
Contributory participant, USF Water Institute, 199?- 2003 (since inception).
ESP Affiliated Faculty, Department of Environmental Science and Policy.
Courtesy Faculty Appointment, College of Public Health, Department of Environmental and Occupational Health, 2005-2006.

DEPARTMENT SERVICE

Tenure and promotion review
Faculty Advisor for Chi Epsilon which received the "Student Chapter of the Year Award" from the national

organization.

Director, Center for Modeling Hydrologic and Aquatic Systems (USF-CMHAS), present.

Department Representative, faculty Governance Committee, 2007-present.

Chair, Faculty Search Committee for new computational fluid mechanics/ ecological engineering position, 2005

TEACHING

COURSES TAUGHT (No. of times, as of fall 2008)

Graduate (33)

Advanced Hydrologic Modeling (4), Coastal and Estuary Modeling (6), Coastal Waves and Beach Protection (3), Coastal Waves and Structures (3), Directed Research, Dissertation Doctoral , Free Surface Flow (5), Hydrologic Modeling (8), Masters Thesis, Special Topics: GIS and Watershed Modeling (2), Urban Hydrology (4), Water Quality Modeling of Receiving Waters (1); Topics in Hydrologic modeling (1)

Undergraduate (35)

Fluid Mechanics (1), Hydraulics (3), Hydraulics Lab (5), Water Resources Engineering (20), Water Resources Capstone Design (3), Water Resources/Environmental Engineering Capstone Design (7)

Other (24)

Review Course for the Florida Professional Engineer Exam, Fluid Mechanics and Hydraulic Machines (6), Open Channel Hydraulics and Hydrology (19)

CONTINUING EDUCATION COURSES

Advanced HSPF Workshop, Panel Participant, St. Johns Water Management District, 2.0 CEUs , Sept 2006
Feeds Instructor, Florida Professional Engineers, Rules and Practice, 2.0 CEUs, Tampa, Florida. December 2004.

Watershed Modeling Workshop: EPA Storm Water Management Model SWMM4, Pinellas County Environmental Management Training Center, 2.0 CEU's, St. Petersburg, Fla., April 1996.

EPA Storm Water Management Model Version 4.3 (SWMM4) Workshop, University of Florida TREEO Center, 2.2 CEU's, Gainesville, Fla., March 1996.

ASCE Urban Storm Water Quality Management Short Course, ASCE Continuing Education, 1.2 CEU's, March 1990.

NSF/USGS Undergraduate Faculty Enhancement Workshop, Participant, SONY, 4.0 CEU's, Fall 1989.

Introduction to Computer-Aided Design and Drafting, Participant, USF, 1.5 CEU's, Spring 1989.

STUDENTS DIRECTED

Philosophy

Working with my graduate and undergraduate students is the most rewarding aspect of my profession. I strive to facilitate and contribute to their academic advancement and I expect to learn something from each one. These individuals have gone on to be successful leaders in their fields, professional colleagues, and personal friends.

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graduation Fall 2009.

Scott, Michael, GIS investigation of streamflow/rainfall fractionation, Univ. of South Florida, mhscott@retentionpond.com, CEE, USF, awarded Spring 2007.

Stephanakou, Georgia, Investigation of artificial recharge in westcoast Florida wellfields. CEE, USF, 19 .

Taylor, Marsha, Investigation of stream/aquifer response in two Florida watersheds, Saint Johns Water Management District, Palatka, Florida, marsha_taylor@district.sjrwmd.state.fl.us, CEE, USF, 1997.

Tara, Patrick David, A geographic information system interface for hydrologic modeling, Intera Inc., Tampa, FL ptara@intera.com, CEE, USF, 1991.

Vincent, Mark S., A numerical scour deposition model for tidal inlets, NOAA, Reston, VA., CEE, USF, 1992.

Undergraduate Honors Theses/Senior Projects (7)

Baudean, Jodi Ann, Design of the proper calibration framework of integrated hydrologic models for phosphate mine site reclamation, Department of Civil and Environmental Engineering, 1994.

Hope, III, Vernon D., Design of a graphics display and analysis program for hydrodynamic and water quality modeling, Department of Civil and Environmental Engineering, 1991.

Jacobsen, James, Design of a procedure to evaluate wetland uses for stormwater quality control, Department of Civil and Environmental Engineering, 1992.

Odom, Larry, Design of a modified double-ring infiltrometer test, Department of Civil and Environmental Engineering, 1991.

Scott, Eric, Design of a stormwater loading analysis of the Lake Tarpon watershed using a geographical information system, Department of Civil and Environmental Engineering, 1991.