

# RANDY DYMOND, Ph.D., PE, CFM

(October 2007)

## EDUCATION

*Penn State University*, Ph.D. in Civil Engineering, 1987.

*Penn State University*, Master of Engineering degree in Civil Engineering, 1980.

*Penn State University*, Bachelor of Science degree in Civil Engineering, Magna Cum Laude, 1979.

*Bucknell University*, Bachelor of Science degree in Chemistry, 1978.

## WORK EXPERIENCE

**July 1998-present: Assoc. Prof of Civil and Env Eng., ('98-'02) Dir. of CEE Computing, ('03 - ) Founding Dir. of the Center for Geospatial Information Technology (<http://www.cgis.vt.edu>), Coordinator of the Land Development Design Initiative, Virginia Tech, Blacksburg, VA ([www.lddi.net](http://www.lddi.net))**

Major responsibilities in the GIS/CAD Applications, Water Resources, and Land Development areas. Research in all aspects of applying GIS, CAD, and Remote Sensing technology to CEE applications. Ongoing and recent projects:

- FEMA Map Modernization for Montgomery County, VA, Redelineation of FEMA Flood Maps
- Providing Map Modernization Management Support (MMMS) for VA DCR.
- Development of the Statewide Hazard Mitigation Plan for Virginia
- Assistance with several regional All-Hazards Mitigation Plans in Virginia
- EPA study on Optimization of Urban Stormwater Best Management Practice Methods
- Low Impact Development Study for the Northern Shenandoah Valley
- Virginia Tech Facilities Infrastructure GIS Integration
- Correlation of Land Use and Water Quality Changes in Urbanizing Areas of Northern Virginia
- A Web-based Spatial Decision Support System for determining the hydrologic, ecologic, and economic impacts of land use change in the Roanoke watershed

-Course development and teaching in GIS/CAD, Water Resources, and Land Development areas

-Undergraduate new course development: CEE Measurements (4 cr.), CEE Drawings & CAD (1 cr)

**1988-1998: Professor/Assoc./Asst. Prof. of Civil Eng., Univ. of Wisconsin at Platteville, WI.**

(On leave from May 92 to Nov. 93 as Director of Research, Dev., and Support for Eagle Point Software)

(On leave from Oct 1996 to Sept 1997 as Interim Asst. Vice Chancellor of Info. Technology at UWP)

-Taught various undergraduate courses including:

Environmental Engineering	Advanced Environmental Engineering
Computer Applications for Civil Engineers	Geographic Information Systems
Hydrology	Fluid Mechanics
Engineering Graphics	Surveying

-Research included work on:

Multimedia and WWW in Teaching	Pilot GIS for a Municipality
Stream Reaeration Modeling	Anaerobic Sequencing Batch Reactors

**Oct 96-Sept 97: Interim Asst. Vice Chancellor for Information Technology, UW-Platteville**

Responsible for the Office of Information Technology budget of more than \$3 million and 15+ staff members, Participated in Cabinet meetings and management retreats, Dean's Council meetings, Faculty and Student Senate meetings, UW System CIO meetings. Authored the campus-wide Information Technology Strategic Plan with major advisory committees.

**May 92-Nov 93: Dir. of Research, Development, and Support, Eagle Point, Dubuque, IA**

-Responsible for all software product design and testing, engineering support and training for clients, and documentation. I grew a staff from 7 to 70 professionals in the engineering, programming, and technical writing areas in under 2 years. Other responsibilities included personnel management and hiring, budgetary control of \$2 million, strategic planning for the department, preparing marketing information, and sales presentations to potential clients.

-During this time, Eagle Point developed into one of the largest civil engineering software developers in the world, developing design tools for the engineering professional within the DOS, AutoCAD, and Microstation CAD environments. The company currently employs a staff of more than 200.

**Other Noteworthy Work Experience includes:**

1986-88: Research Assoc & Asst., Environmental Resources Research Institute, Penn State, University Park, PA.

1984-86: Instructor of Civil Engineering, Penn State, University Park, PA.

1982-84: Instructor of Civil Engineering Technology, Fairmont State College, Fairmont, WV.

1980-82: Consulting Environmental Engineer with Huth Engineers, Inc., Lancaster PA.

## ORGANIZATIONS

American Society of Civil Engineers

VA Floodplain Managers Association

American Society for Engineering Education

Association of State Floodplain Managers

American Water Resources Association

## HONORS AND CERTIFICATION

1995-96 UW-P College of Engineering, Mathematics, and Science Exemplary Teaching Award

Who's Who Among America's Teachers - 1996 (student nominated)

ASCE North Midwest Section DOW Outstanding Young Faculty Award, 1991

Chi Epsilon Outstanding Teacher Designation 1988-89

Professional Engineer: Virginia, Pennsylvania, Wisconsin

Certified Floodplain Manager (CFM), Association of State Floodplain Managers

## RESEARCH INTERESTS

Use of geospatial technologies (GIS, GPS, CAD, and remote sensing) to improve design, monitoring, modeling and decision making methodologies in all areas of civil and environmental engineering. These include watershed management, communications, visualization, web-enabled spatial decision support systems, infrastructure and asset management, emergency management, and utility planning.

## RECENT PUBLICATIONS AND PRESENTATIONS

"FEMA Floodplain Map Modernization GIS Processes & Issues", R. Dymond and R. Herman, Virginia Annual GIS Conference, Roanoke, VA, October, 2006.

"GIS Issues in Urban Stormwater Modeling", R. Dymond and T. Dickerson, Virginia Annual GIS Conference, Roanoke, VA, October, 2006.

"Quantifying Long Term Hydrologic Response in an Urbanizing Watershed", M. Dougherty, R. Dymond, T. Grizzard, A. Godrej, C. Zipper, J. Randolph, ASCE Journal of Hydrologic Engineering, Vol. 12, Issue 1, pp. 33-41, Jan/Feb. 2007

"Empirical Modeling of Hydrologic and NPS Pollutant Flux in an Urbanizing Basin", M. Dougherty, R. Dymond, T. Grizzard, A. Godrej, C. Zipper, J. Randolph, Anderson-Cooke, JAWRA, Vol. 42, Oct. 2006, pp 1406-1419.

"Quantifying Long Term NPS Pollutant Flux in an Urbanizing Watershed", M. Dougherty, R. Dymond, T. Grizzard, A. Godrej, C. Zipper, J. Randolph, ASCE Journal of Environmental Engineering, April 2006, Volume 132, Issue 4, pp. 547-554

"Evaluation of Impervious Surface Estimates in a Rapidly Urbanizing Watershed", M. Dougherty, R. Dymond, S. Goetz, C. Jantz, N. Goulet, Photogrammetric Engineering and Remote Sensing, (70)11:1275-1284, Nov. 2004.

"An Interdisciplinary Web-Enabled SDSS for Watershed Management", R. Dymond, B. Regmi, V. Lohani, and R. Dietz, Journal of Water Resources Planning and Management--July/August 2004, Volume 130, Issue 4, pp. 290-300.

"Review of State Practices on Use of Geographic Information Systems for Pavement Management Applications, Gerardo W. Flintsch, Randy Dymond, John Collura and Jeff Kuttesch, 83rd TRB Annual Meeting, January 11-15, 2004.

"From Landscapes to Waterscapes: A PSE for Landuse Change Analysis", R. Dymond, V. Lohani, D. Kibler, D. Bosch, C. Shaffer, N. Ramakrishnan, L. Watson, E. Rubin, R. Dietz, J. Chanat, C. Speir, Engineering with Computers, (2003) 19:9-25.

"Hydrological and Fiscal Impacts of Residential Development: A Virginia Case Study", Darrell Bosch, Vinod Lohani, Randy Dymond, David Kibler, Kurt Stephenson, ASCE Journal of Water Resources Planning and Management, Vol 129:2, pp. 107-114, (March/April 2003)

"Integrated Computing Environments for Watershed Management", Layne T. Watson, Vinod K. Lohani, David F. Kibler, Randel L. Dymond, Naren Ramakrishnan, Clifford A. Shaffer, ASCE Journal of Computing in Civil Engineering, Vol 16:4, pp. 259-268, Oct. 2002.

"GIS Techniques for Flood Map Modernization and Hazard Mitigation Plans", Shane Parson, Randy Dymond, Rachael Heltz Herman, Proceedings of the 2004 ESRI Annual User Conference, San Diego, CA, August 2004.

- “Evaluation of Land Use and Population Change on Pollutant Delivery from an Urbanizing Watershed in Northern Virginia”, Mark Dougherty, Randy Dymond, Tom Grizzard, Adil Godrej, Carl Zipper, Virginia Water Research Symposium, Richmond, VA, November 6-7, 2002.
- “A GIS Model for Minefield Site Prediction”, Ed Chamberlayne and Randy Dymond, 2002 Virginia GIS Conference, Roanoke, VA, October 28-29, 2002.
- “Distributed Hydrologic Modeling of the Upper Roanoke River Watershed Using GIS Derived Inputs”, Brian McCormick and Randy Dymond, 2002 Virginia GIS Conference, Roanoke, VA, October 28-29, 2002.
- “Incorporation of Green Engineering Contents in Engineering Courses”, Lohani, V., Kibler, D., Dymond, R., Regmi, B., Proceedings of the 2002 International Conference on Engineering Education, Manchester, England, August 2002
- “Web-L2W: A Web-Based system for Integrated Analysis of Watershed Development”, B. Regmi, V. Lohani, R. Dymond, ASCE Environmental and Water Resources Institute Conference, Roanoke, VA, May 2002
- “The I-77/81 Re-Location Visualization Project”, R. Dymond, P. Thota, Proceedings of the 15th Annual Geo-spatial Information Systems for Transportation Symposium, Atlanta, GA, April 2002.
- “Enabling Web-based Wireless Data Transfer: Stroubles Creek Watershed Case Study”, P. Thota, P. Bartholomew, R. Dymond, D. Kibler, D. Sweeney, T. Younos, S. Mostaghimi, T. Burbey, Virginia Water Research Symposium, Charlottesville, VA, Nov, 2001.
- “L2W PSE for Green Engineering Education”, Binaya Regmi, Vinod Lohani, Randy Dymond, David Kibler, Proceedings of the Conference on Green Engineering, August 2001, Roanoke, VA
- “CEE Measurements, A New Approach”, Randy Dymond, Craig Moore, Paul Bartholomew, Proceedings of the 2001 Surveying and Mapping Educators Conference, Wilkes-Barre, July 2001.
- “A Web-Enabled System for Integrated Assessment of Watershed Development”, Randy Dymond, Vinod Lohani, Binaya Regmi, Robert Dietz, Proceedings of the 2001 ASCE World Water and Environmental Resources Congress, Orlando, FL, May 2001.
- “GIS Issues in Integrated Hydrologic, Economic, and Ecological Watershed Analysis”, Randy Dymond and Robert Dietz, proceedings of Integrated Decision-Making for Watershed Management Symposium, Chevy Chase, MD 2001.
- “The Role of Problem Solving Environments in Watershed Assessment”, Clifford A. Shaffer, Naren Ramakrishnan, Layne T. Watson, Randy Dymond, and Vinod Lohani, proceedings of Integrated Decision-Making for Watershed Management Symposium, Chevy Chase, MD 2001
- “Landscapes: A Decision Support System for Integrated Watershed Assessment”, Erik Rubin, Clifford A. Shaffer, Randel L. Dymond, Robert W. Dietz, Darrell Bosch, proceedings of Integrated Decision-Making for Watershed Management Symposium, Chevy Chase, MD 2001
- “A GIS Framework for Monitoring and Managing the Occoquan Watershed”, R. L. Dymond and N. Agbenowosi, 2000 Virginia GIS Conference, October 2000, Richmond VA
- “From Landscapes to Waterscapes: A PSE for Landuse Change Analysis,” E.J. Rubin, R. Dietz, S. Lingam, J. Chanat, C. Speir, R. Dymond, V. Lohani, D. Kibler, D. Bosch, C.A. Shaffer, N. Ramakrishnan, and L.T. Watson, Proceedings of the 16th IMACS World Congress, Lausanne, Switzerland, Special Session on ‘PSEs for Scientific Computing’, August 2000.
- “Evolution of Monitoring Program Strategies for Water Quality Management in the Occoquan Watershed”, Randy Dymond, T. J. Grizzard, A.N. Godrej, and N. Agbenowosi, Virginia Water Research Symposium’2000, Advances in Water and Land Monitoring Technologies and Research for Management of Water Resources, November 7-9, 2000.