

# Curriculum Vitae

## Ahlam I. Shalaby

### Personal Information

**Office Address:** Department of Civil  
Engineering, Howard University, 2300  
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### Education

**Ph.D.** 1986 Civil Engineering, University of Maryland, College Park, MD,  
Dissertation: Probable Maximum Flood in Hydrologic Design.  
**M.S.** 1982 Civil Engineering, University of Maryland, College Park, MD, Thesis: A  
Comparison of Methods for Estimating Time Parameters of Hydrologic Models.  
**B.S.** 1979 Civil Engineering, Howard University, Washington, DC, graduated magna  
cum laude.

### Languages

English and Arabic

### Research and Teaching Experience

**Tenured Associate Professor:** Department of Civil Engineering, Howard  
University, Washington, DC (1986-present). Research and publishing (see  
Appendices A and B for details), teaching and academic mentoring of  
undergraduate and graduate students (see Appendices C and D for details),  
professional development (see Appendix E for details), and service (see Appendix  
F for details).

**Hydrology Consultant:** The World Bank, Washington, DC (1991-1992).  
Provided the World Bank with executive summary results of European  
consultants to assess the potential of funding the Sub-Saharan African countries  
for future water resources projects.

**Teaching Assistant:** Department of Civil Engineering, University of Maryland,  
College Park, MD (1983-1986). Taught undergraduate courses in Surface Water  
Hydrology, Fluid Mechanics, and FORTRAN computer language.

**Hydrologist:** Dewberry and Davis, Civil Engineers and Consultants, Fairfax, VA  
(1982). Engineering accuracy of flood insurance studies for FEMA contract.  
Areas of study included Texas, New York and New Jersey.

**Graduate Research Fellow:** NASA Goddard Space Flight Center, Greenbelt,  
MD (1980-1982). Conducted research on process development feasibility for

estimating hydraulic length using the digital satellite imagery of the 30-meter resolutions for the Thematic Mapper.

**Research Assistant:** University of Maryland, College Park, MD funded by the USDA (1979-1980). Conducted research on 1) "Evaluation of Methods for Estimating Time Parameters of Hydrologic Models" (USDA/ARS), 2) "Evaluation of Methods for Determining Urban Runoff Curve Numbers" (USDA/ARS), and 3) "Testing the SCS TR-55 Chart Methods for Coastal Regions" (Tidewater Administration).

**Civil Engineer** (Structural): Bechtel Power Corporation, Gaithersburg, MD (summer 1979). Conducted analysis and redesign of as-built and original structural configurations of the pipe hangers and seismic restraints throughout the Turkey Point Nuclear Power Plant, Florida. Also, tested existing structures for validity and conformance with NRC standards in reaction to the Three-Mile Island nuclear incident.

**Civil Engineer** (Student Intern): Bechtel Power Corporation, Gaithersburg, MD (summer 1978). Quality assurance for the Joseph M. Farley Nuclear Power Plant, Dothan, Alabama.

### **Specialized Areas of Expertise**

Research and Teaching in the areas of: hydrologic modeling, remote sensing, geographic information systems, probability and statistics, fluid mechanics, hydraulics, and open channel flow.

### **Computer Software Skills**

Watershed Modeling System, ERDAS Imagine, ESRI ArcView GIS, Mathsoft Mathcad, Haestad Methods FlowMaster, WaterCAD, CulvertMaster, and StormCAD, and Microsoft Windows, Excel, and PowerPoint.

### **Awards and Honors**

**Distinguished Faculty Author Award for Scholarly Work Published**, presented by Howard University President H. Patrick Swygert, Esq., and Provost and Chief Academic Officer A. Toy Caldwell-Colbert, Ph. D., at the sixth annual Faculty Authors Reception in the Founders Library, April 2003.

**Associate Expert on Remote Sensing and Associate Expert on Hydrological Models for Forecasting** for the World Meteorological Organization Commission for Hydrology, United Nations, Geneva, Switzerland, 1998-2000.

**AT&T Teaching Incentive Award** presented by Howard University School of Engineering Dean M. Lucius Walker, Jr., Ph. D., 1987.

**Member of Graduate Faculty**, Howard University, 1988-present.

**Member of Dean's Honor Roll**, School of Engineering, Howard University, 1976-1979.

**Member and Corresponding Secretary, Tau Beta Pi**, National Engineering Honor Society, DC Alpha Chapter, 1978-1979.

**ASTM Student Award**, Howard University, 1979.

Ahlam I. Shalaby

**Faculty Senior and Junior Prizes**, Department of Civil Engineering, Howard University, 1978-1979.

**Professional Affiliations**

**Memberships in Professional Societies:** American Society of Civil Engineers, American Water Resources Association, American Water Works Association, Association of Environmental Engineering and Science Professors, American Society for Engineering Education, American Association of University Professors

**Research Experience** (see Appendix A for details)

**Externally funded research from** US Army Corps of Engineers CRREL, USDA ARS, the World Bank, US EPA, and the Department of Education  
**Volunteer research for** the United Nations World Meteorological Organization

**Publications** (see Appendix B for details)

**Authored and co-authored** textbook, chapter in textbook, laboratory manual, refereed publications including operational handbook, externally funded research reports, conference proceedings, and college and department project reports

**Teaching Experience** (see Appendices C and D for details)

**Teach** undergraduate and graduate courses, laboratory development, and graduate student advisor

**Professional Development** (see Appendix E for details)

**Honorary international appointments** by the United Nations WMO  
**Textbook reviews** for McGraw-Hill and John Wiley & Sons  
**Publication peer reviews** for numerous professional journals  
**Research proposal reviews** for NASA and the National Science Foundation  
**Fellowship review panel** for the Dwight D. Eisenhower and the US EPA  
**Research faculty mentor** for the Howard University (HUSEM) program  
**Statistical Expert** for the Department of Civil Engineering at Howard University  
**Presentations and participation in conferences** at professional organizations  
**Attendance of workshops** at numerous professional organizations

**Service** (see Appendix F for details)

**References** (see Appendix G for contact information)

**Timothy Pangburn**  
**Ted Engman**  
**Errol Noel**  
**Mohamed Tawfik**

**Albert Rango**  
**Richard McCuen**  
**James Johnson**  
**Mahmoud Abu-Zeid**

**Appendix A**  
**Externally Funded Research**

**US Army Corps of Engineers Cold Regions Research and Engineering Laboratory** contract (\$213,666, FRS# 633898, DACA42-03-C-005, 2003-2006). Assessing the accuracy of distributed snow processing model SWE using AVHRR satellite/ground sensors derived SWE as applied in the Sacramento and San Joaquin River Basins, CA.

**US Army Corps of Engineers Cold Region Research and Engineering Laboratory** contract (\$25,000, FRS# 634319, DACW61-99-D-0005-0001, 2000-2001). Snow Distribution Project to conduct statistical analysis/model assessment of one of Army Corps's distributed snow water equivalent models applied in the Sacramento and San Joaquin River Basins, CA.

**World Meteorological Organization (WMO) / NASA Goddard Space Flight Center** project (*VOLUNTEER*, 1998-2000). To assist the WMO Rapporteur, Dr. Edwin T. Engman, in adding remote sensing updates to the Fifth Edition of the WMO *Guide to Hydrological Practices, Data Acquisition and Processing, Analysis, Forecasting and Other Applications*, World Meteorological Organization (WMO) No. 168, United Nations, Geneva, Switzerland.

**US Army Corps of Engineers Cold Region Research and Engineering Laboratory** contract (\$25,000, FRS# 634265, DACA89-96-K-0005, 1996-1998). Assessment of analytical field sampling methods for characterization of site hydrogeology for the CRREL site in Hanover, NH.

**World Meteorological Organization (WMO) / USDA Hydrology Lab, Agricultural Research Service** contract (*VOLUNTEER* / \$40,000, FRS# 634541, 58-1270-3-057, 1993-1996). Applicability of remote sensing for operational hydrology. To assist the World Meteorological Organization (WMO) Rapporteur, Dr. Albert Rango, in research and writing of the 1999 WMO Report on "Current Operational Applications of Remote Sensing in Hydrology," Operational Hydrology Report Series No. 43, World Meteorological Organization (WMO), United Nations Geneva, Switzerland.

**The World Bank** contract (\$13,500, FRS# 635905, WB45-0000-1, 1991-1992). Summary reports for hydrological assessment of Sub-Saharan African countries by the World Bank. To provide the World Bank with the executive summary results to assess the potential of funding the Sub-Saharan African countries for future water resources projects.

**US Environmental Protection Agency** contract (\$55,000, FRS# 635833, UDC, 1990-1992). Assessing the quantitative and qualitative potential of the District of Columbia's groundwater resources.

**Department of Education** grant (\$129,144, FRS# 523086, G008730235, 1988-1991). Undergraduate computer assisted fluid mechanics laboratory center. To upgrade and expand the Fluid Mechanics Laboratory in the Department of Civil Engineering at Howard University.

## Appendix B Publications

### Textbook

**Shalaby, A. I., and McCuen, R. H.**, (in preparation, 2006). Engineering Fluid Mechanics: An Introduction, CRC Press-Taylor and Francis Group, LLC.

### Chapter in Textbook

**Shalaby, A. I.**, (1989). "Probable Maximum Flood Determination," Chapter 13, pp. 598-665, Hydrologic Analysis and Design, (Author: R.H. McCuen), Prentice-Hall, Inc., Englewood Cliffs, NJ.

### Laboratory Manual

**Serrette, C. S. and Shalaby, A. I.** (1992). "Fluid Mechanics Laboratory Manual," Department of Civil Engineering, Howard University.

### Referred Publications

**Shalaby, A. I., Pangburn, T., Davis, R. E., and Daly, S. F.** (2006). "Assessing the Accuracy of Distributed Snow Process Model SWE Using AVHRR Satellite/Ground Sensors Derived SWE for Operational Snowmelt Runoff Forecasting," (to be submitted for publication as a CRREL *Technical Report* and a *refereed journal publication*).

**Shalaby, A. I. and Engman, E. T.**, (October, 2006). Contributed to the publication of the Sixth Edition of the *World Meteorological Organization Guide to Hydrological Practices, Data Acquisition and Processing, Analysis, Forecasting and Other Applications*, WMO No.\_\_\_\_, United Nations, Geneva Switzerland.

**Rango, A. and Shalaby, A. I.**, (1999). "Current Operational Applications of Remote Sensing in Hydrology," *Operational Hydrology Report Series No.43*, *World Meteorological Organization* (WMO), United Nations, Geneva Switzerland, 73 pp.

**Rango, A. and Shalaby, A. I.** (1998). "Operational Applications of Remote Sensing in Hydrology: Success, Prospects and Problems," *Hydrological Sciences Journal*, Vol. 43, No. 6, pp. 947-968.

**Rango, A., and Shalaby, A. I.**, (1997). "Current Operational Remote Sensing Applications in Hydrology and Water Resources," abstract published as a supplement to *Eos, Transactions, American Geophysical Union*, Vol. 78, No. 46, p. F284.

**Shalaby, A. I.**, (1995). "Sensitivity to Probable Maximum Flood," *American Society of Civil Engineers, Journal of Irrigation and Drainage*, Vol.121, No. 5, pp. 327-337.

**Shalaby, A.I.**, (1994). "Estimating Probable Maximum Flood Probabilities," *Journal of the American Water Resources Association*, Vol. 30, No. 2, pp. 307-318.

**Rawls, W. J., Shalaby, A.I., and McCuen, R.H.,** (1981). "Evaluation of Methods for Determining Urban Runoff Curve Numbers," *Transactions of the American Society of Agricultural Engineers*, Vol. 24, No.6, pp.1562-1566.

### **Externally Funded Research Reports**

**Shalaby, A. I.,** (2005). End of Year 2 Report for the U.S. Army Engineer Research and Development Center (CRREL) Contract # DACA42-03-C-0055, "Assessing the Accuracy of Distributed Snow Process Model SWE Using AVHRR Satellite/Ground Sensors Derived SWE for Operational Snowmelt Runoff Forecasting," CRREL Hanover, NH.

**Shalaby, A. I.,** (2004). End of Year 1 Report for the U.S. Army Engineer Research and Development Center (CRREL) Contract # DACA42-03-C-0055, "Assessing the Accuracy of Distributed Snow Process Model SWE Using AVHRR Satellite/Ground Sensors Derived SWE for Operational Snowmelt Runoff Forecasting," CRREL Hanover, NH.

**Shalaby, A. I.,** (2001). Final Report for the U.S. Army Engineer Research and Development Center (CRREL) Contract # DACW61-99-D-0005-0001, "Statistical Assessment of Distributed Snow Processing Model Snow Water Equivalent Estimates," CRREL Hanover, NH.

**Shalaby, A.I.,** (1998). Final Report for the U.S. Army Engineer Research and Development Center (CRREL) Contract # DACA89-96-K-0005, "Assessment of Analytical Field Sampling Methods for Characterization of Site Hydrogeology," CRREL, Hanover, NH.

**Shalaby, A. I.,** (1992). Summary Reports for the World Bank Contract # WB45-0000-1, "Hydrological Assessment of Sub Saharan African Countries, a) The IGADD Countries, b) Djibouti, c) the Sudan, and d) Uganda", the World Bank, Washington, DC.

**Shalaby, A. I.,** (1992). Summary Reports for the World Bank Contract # WB45-0000-1, "Hydrological Assessment of Sub Saharan African Countries, a) The SADCC Countries, b) Angola, c) Botswana, d) Lesotho, e) Malawi, f) Mozambique, g) Swaziland, h) Tanzania, i) Zambia, and j) Zimbabwe", the World Bank, Washington, DC.

**Shalaby, A. I., and Cannon, J.,** (1992). Final Report, for the Department of Education Grant # G008730235, "Undergraduate Computer Assisted Fluid Mechanics Laboratory Center", Department of Education, Washington, DC.

**Shalaby, A. I.,** (1990). Final Project Report for the U.S. Environmental Protection Agency Contract, "Assessment of Groundwater Resources in the District of Columbia," Environmental Protection Agency, The D.C. Water Resources Research Center, Washington, DC.

**McCuen, R. H., and Shalaby, A. I.,** (1985). "Evaluation of TR-55 Methods in Coastal Areas," the Tidewater Administration, Department of Natural Resources, Annapolis, MD.

### Conference Proceedings

**Shalaby, A. I., and Zanganeh, S. E.**, (2000). “Teaching Fluid Mechanics Using Mathcad,” No. 1492, presented and published in the Proceedings of the *American Society of Engineering Education* Annual Conference and Exposition, St Louis, MO, June 18-21, 2000.

**Rango, A., and Shalaby, A. I.**, (1997). “Current Operational Remote Sensing Applications in Hydrology and Water Resources,” No. H41F-1 0830h, presented at the Fall Meeting of the *American Geophysical Union*, San Francisco, CA, November 18, 1997.

**Shalaby, A. I.**, (1986). “The Sensitivity of Probable Maximum Flood to Meteorological Factors,” presented and abstract published in the Proceedings of the Sixth Annual *American Geophysical Union* Front Range Branch Hydrology Days, Colorado State University.

### College and Department of Civil Engineering Project Reports

**Shalaby, A. I.**, (2003). Report on “Statistical Analyses for Satisfying the Program and Course Outcomes Assessments Criteria for the Department of Civil Engineering at Howard University in Response to the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).”

**Shalaby, A. I.**, (2000, 2001, and 2002). Reports on “Statistical Analyses for Satisfying the Program and Course Outcomes Assessments Criteria for the Department of Civil Engineering at Howard University in Response to the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET).”

**Shalaby, A. I.**, (1999). Reports on “Summary of Senior Interview Questions and Survey,” Department of Civil Engineering, Howard University, Washington, DC.

**Shalaby, A. I.**, (1994). Report on “Assessment of School of Engineering Departmental Performance, A Summary of the Statistical Analysis of Performance Data,” School of Engineering, Howard University, Washington, DC.

## **Appendix C**

### **Teaching Experience**

#### **Undergraduate and Graduate Courses**

**Probability and Statistics**

**Water Resources Engineering/Hydrology**

**Water Resources Planning**

**Fluid Mechanics**

**Hydraulics**

**Advanced Hydrology (Graduate)**

**Open Channel Flow (Graduate)**

**Hydraulic Project Research (Graduate)**

#### **Course and Laboratory Development**

**Designed and incorporated the accreditation-required course in Senior Design Project** (faculty team effort) into the Civil Engineering course curriculum, 2002.

**Updated the Fluid Mechanics Laboratory** with the Haestad Methods software FlowMaster, WaterCAD, CulvertMaster, and Storm CAD, 2002.

**Developed and teach the accreditation-required course in Probability;** use is made of the mathematical software Mathcad, spring 2001.

**Updated the course curriculum for Advanced Hydrology and Water Resources Engineering** to include the study of Distributed Hydrologic Models, the use of the WMS Hydrologic Modeling software platform (to run the U.S. Army Corps of Engineers HEC-1 model, the Natural Resources Conservation (SCS) TR-20 and TR-55, the Rational Method, and the National Flood Frequency model), the use of the Geographic Information Systems (GIS) software ArcView, and the application of remote sensing data, 2000.

**Updated the course curriculum for Fluid Mechanics, Water Resources Engineering, Hydraulics, Advanced Hydrology, and Open Channel Flow** to include the use of the mathematical software Mathcad, 2000.

**Developed the Fluid Mechanics Laboratory Manual** for the Department of Civil Engineering at Howard University; manual incorporates 10 physical experiments, some using commercially obtained computerized laboratory procedures, 1992.

**Updated and expanded the Fluid Mechanics Laboratory** procedures in the Department of Civil Engineering at Howard University through the purchase of updated laboratory equipment and repair of existing equipment, computerizing the laboratory procedures, and purchase of IBM computers for the laboratory; all made possible by a grant from the Department of Education, 1991.

## **Appendix D**

### **Graduate Student Advisor**

#### **Graduate Students (Principal Advisor)**

- Karl Joseph**, MS candidate (present). A Statistical Analysis of the U.S. Army Corps of Engineers Operational Snowmelt Forecasting System.
- Antho A. Antoine**, MS candidate (present). Space-Time Kriging: Eliminating Some Fundamental Weak Points of the Kriging Technique for Analysis of Groundwater Quality Data.
- Della R. Morrison**, July 1997. Safe Yield Computation for an Aquifer in Carroll County, MD.
- Mushtaq Khan**, July 1994. A Study to Develop a Short-term Forecasting Model for Urban Water Demand in Washington, DC: An Application of ARIMA Models.
- Mark Jeremie**, December 1989. Sensitivity of Probable Maximum Precipitation to Meteorological Factors.
- Raynetta Curry**, December 1988. A Statistical Analysis of the Rational Formula.
- Okechukwu, E.**, 1989. Groundwater Exploration.
- Demetrius, D.**, 1988. A Comparative Analysis of the TR-20 Flood Routing Capabilities in Light of Other Classical Techniques.

#### **Graduate Students (Secondary Advisor)**

- Ebo Duker**, 2006. Evaluating the Effect of Countdown Pedestrian Signals Applied to the Full Walk Phase.
- Michelle Samuel**, December 2005. Pilot Scale Investigation of Spent Backwash Wastewater by Folded Flow Dissolved Air Flotation Process.
- Simon K. Baidoo**, May 2005. Bioavailability of Organic Nitrogen from Wastewater Effluents.
- Kenyatta K. Miles**, 2003. Nitrate-Enhanced Bioremediation of PAH Contaminated Arctic Soils.
- Stephanie Celeste Roberts**, May 2003. Development of a Three-Phase Partition Coefficient to Predict Metals Transport in Anacostia River Sediment.
- Marvin G. Donaldson**, May 2002. The Use of Pervaporation for the Separation of Tetrachloroethylene from a Surfactant Solution.
- Charles Turpin**, May 2000. The Politics of Global Warming: Searching for Ethics and Integrity.
- Bill A. Anderson**, May 2000. Operational Guidelines for Replacing Roundabouts with Intersections.
- Mohammed M. Hossain**, August 1999. A Non-point Source Pollution Predictor for the Anacostia River Watershed.
- Katus O. Watson**, April 1998. Extended Period Simulation of the City of Annapolis Water Distribution System.
- Carlton S. Serrette**, May 1993. The Effect of Freezing and Thawing on the Permeability of Fly Ash.
- Antoinette C. Weeks**, August 1993. A Technique to Enhance Soil Washing in Fine-Grained Soils.

## Appendix E Professional Development

### Honorary International Appointments

**Associate Expert on Remote Sensing** for the World Meteorological Organization Commission for Hydrology, United Nations, Geneva, Switzerland; appointed by the WMO Commission for Hydrology. Contributed to the updating and correction of all references to remote sensing applications to hydrology in the 735-page Fifth Edition of the *WMO Guide to Hydrological Practices, Data Acquisition and Processing, Analysis, Forecasting and Other Applications*, WMO No. 168. Contributed to updating of the *WMO Hydrology Operational Multipurpose System (HOMS)* to reflect applications of remote sensing technology in both meteorology and hydrology. Worked with WMO Hydrology Division Chief Dr. Mohamed M. Tawfik (Chief Scientist in Geneva, Switzerland), Remote Sensing Experts NASA Scientist Dr. Ted Engman and Dr. Mark Lointier (Scientist in France) and six other international Associate Experts (1998-2000).

**Associate Expert on Hydrological Models for Forecasting** for the World Meteorological Organization Commission for Hydrology, United Nations, Geneva, Switzerland; appointed by the WMO Commission for Hydrology. Performed an Intercomparison of Forecast Models for Streamflow Routing; Conducted a Review of Basic Types of Distributed Hydrological Models; reviewed and updated the *WMO HOMS Components and Sequences*, and the *WMO Guide to Hydrological Practices*. Worked with Hydrological Modeling Experts Hydrologic Research Center (HRC) Scientist Dr. Konstantine Georgakakos and Dr. Petru Serban (Scientist in Romania) (1998-2000).

### Textbook Review

**FLUID MECHANICS WITH ENGINEERING APPLICATIONS**, 10e, Finnemore and Franzini, published by McGraw-Hill, 2006.

**Applied Statistics and Probability for Engineers**, 4e by Douglas C. Montgomery, George C. Runger, published by John Wiley & Sons, 2005.

**FLUID MECHANICS: Fundamentals and Applications** by Yunus A. Cengel and John M. Cimbala, published by McGraw-Hill, 2005.

### Publication Peer Review

**“Common Cattail (*Typha latifolia*) as a Vegetative Component for Constructed Wetland in the Treatment of Prawn Farm Wastewater Under Different Retention Time,”** for publication in the *Journal of Environmental Informatics*, 2005.

**“Managing Petroleum Contaminated Soil: A Department of Transportation Perspective,”** by Brian Kamniker, for publication in the *ASCE Journal of Environmental Engineering*, 2001.

**“Composting and Storage of Air and Wastewater Samples-A Quality Assurance Investigation,”** by Moschandreas, Tata, and Basu for the *ASCE Journal of Environmental Engineering*, 1998.

**“The Dilemma of Scale in Monitoring and Modeling,”** by Rango and Brubaker for presentation at the International Clean Water Conference, and publication in the Environmental Professional, 1997.

**“Effects of Global Warming on Runoff in Mountain Basins Representing Different Climate Zones,”** by Rango and Martinec for presentation at the British Hydrological Society, and publication in the Proceedings of the International Symposium on Hydrology in a Changing Environment, 1997.

**“Model Accuracy in Snowmelt-Runoff Forecasts Extending from One to 20 Days,”** by Rango and Martinec for publication in the Water Resources Bulletin, 1993.

#### **Research Proposal Peer Review Panel**

**NASA research proposals** for NASA’s HPCC Grand Challenge Applications and Enabling Scalable Computing Testbeds, October 16-18, 1995.

**The National Science Foundation** research proposals, 1989.

#### **Fellowship Review Panel**

**The Dwight David Eisenhower HBCU Transportation Fellowship** Review Panel at Howard University, 1993-present.

**The United States Environmental Protection Agency**, National Center for Environmental Research, Competitive Greater Research Opportunities Fellowships Review Panel, April 7-9, 2004, Washington, DC.

#### **Research Faculty Mentor**

**HUSEM undergraduate student** Mr. John Sodimu, who conducted research entitled” Comparing Two Approaches for SWE Estimates: Satellite-Derived and DSPM-Derived” and presented it at the HUSEM seminar, 2004.

#### **Statistical Expert for the Department of Civil Engineering at Howard University**

**Statistical analyses** for satisfying the Program and Course Outcomes Assessments Criteria for the Department of Civil Engineering at Howard University in response to the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET), 2000-2005.

**Statistical analyses** and summary for the Civil Engineering Graduating Senior Surveys, as part of the ABET 2000 Outcomes Assessment Criteria, 1999-2005.

**Statistical analyses** for the Department of Civil Engineering Transportation project “Crash Models/C-D Roads Guidelines”, April-May 2001.

**Statistical analyses** and summary for data collected to assess School of Engineering Departmental Performance at Howard University, 1994.

#### **Conference Presentations**

**“Teaching Fluid Mechanics Using Mathcad,”** No. 1492, at the 2000 American Society of Engineering Education Annual Conference and Exposition, June 18-21, 2000, St. Louis, MO.

**“Current Operational Remote Sensing Applications in Hydrology and Water Resources,”** Work Presented (by co-author Albert Rango) Conference Paper No. H41F-1 0830-h, at the 1997 Fall Meeting of the American Geophysical Union in San Francisco, CA; abstract published as a supplement to Eos, Transactions, AGU Volume 78, No. 46, November 18, 1997.

**“Assessment of Analytical Field Sampling Methods for Characterization of Site Hydrogeology,”** research proposal presented to the Geochemical Sciences Branch of the US Army Corps of Engineers Cold Regions Research and Engineering Laboratory in Hanover, NH, August 1993.

**“The Sensitivity of Probable Maximum Flood to Meteorological Factors,”** at the Sixth Annual American Geophysical Union Front Range Branch Hydrology Days at Colorado State University, April 1986.

### **Conferences Attended**

**The ERDAS User’s Conference 2000** on Remote Sensing and GIS at the Omni Shoreham Hotel, Washington, DC, May 22-23, 2000.

**The 1993 Annual Meeting of the World Bank Group and the International Monetary Fund** at the Sheraton Washington Hotel, Washington, DC, September 1993.

**The Commemorative Symposium** celebrating the Twentieth Anniversary of the DC Water Resources Research Center with the theme “Water Resources Management in the Nation’s Capital; Towards the Year 2000,” 1993.

**The African Group Seminar** at the University of the District of Columbia, 1993.

**The Africans of the Americas Meeting** at AMEX International in Washington DC, 1993.

**The Minority Science Improvement Program (MISIP) Project Directors Annual Meetings** at the Georgetown Marbury Hotel, Washington, DC, November 1988 and December 1989.

### **Workshops Attended**

**Training in Introduction to Microsoft Windows, Excel, and Power Point** at the Howard University Leadership Academy, November 2001.

**Training in the Remote Sensing Image Processing software ERDAS Imagine** at ERDAS Headquarters in Alexandria, VA, June 19-21, 2000.

**Training in the Geographic Information Systems (GIS) software ESRI ArcView** at SAIC in McLean, VA, June 13-14, 2000.

**Training in the mathematical software Mathcad,** (eight-weeks) taught by Professor Shahram E. Zanganeh, Department of Civil Engineering, Howard University, June-July, 1999.

**Training in the Geographic Information Systems (GIS) software MapInfo** (one-week) at the 15<sup>th</sup> Annual HBCU GIS Summer Faculty Workshop at the Howard University Continuing Education Urban Environment Institute, July 26-August 1, 1998.

## **Appendix F**

### **Service at Howard University**

#### **The Department of Civil Engineering**

**Member** of the Department of Civil Engineering Appointment, Promotion & Tenure Committee, 2004-present.

**Director** of Graduate Studies for the Department of Civil Engineering, 2000-2002.

**Chair** of the Department of Civil Engineering Program Assessment Committee (PAC), 2001-present.

**Chair** of the Department of Civil Engineering Industrial Affiliates Committee (IAC), 2001-present.

**Member** of the Department of Civil of Engineering at Howard University ABET Steering Committee to prepare our Department's Review by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET), 1999-present.

**Member** of the Department of Civil Engineering Faculty Team Review Session (sponsored by Tau Beta Pi and ASCE) to prepare the students for their Fundamentals of Engineering Exam 1992-present.

**Member** of the Judging Panel in the Department of Civil Engineering Student Paper Contest "What Civil Engineering Means to Me," 1992.

#### **The College of Engineering, Architecture and Computer Sciences (CEACS)**

**Member** of the CEACS Undergraduate Student Affairs Committee, 2004-present.

**Member** of the CEACS Safety Committee, 2000-present.

**Member** of the CEACS Sabbatical Committee, 2000-present.

**Chair** of the CEACS Grievance Committee, 1998-2003.

**Chair** of the CEACS Educational Services Committee, 1986-1999, 2003.

**Member** of the CEACS Advisory Committee on Computer Utilization, 2001-2002.

**Member** of the Howard University CEACS Executive Committee, 1989-1992.

**Member** of the Howard University CEACS Educational Policy Committee, 1989-1992.

#### **Howard University**

**Member** of the Health Sciences Library/Learning Resources Center (HSL/LRC) Advisory Committee; to assist in planning for a state-of-the-art HSL/LRC at Howard University; appointed by Dean of the College of Medicine, Dr. Floyd J. Malveaux, 1996-1997.

**Member** of the Dean Search Advisory Committee; to identify and recommend qualified candidates for the position of Dean of the School of Engineering at Howard University; appointed by President H. Patrick Swygert, 1995.

**Appendix G**  
**References**

**Mr. Timothy Pangburn, P.E., Chief**  
US Army Engineer ERDC-CRREL Remote  
Sensing/GIS and Water Resources Branch  
72 Lyme Road  
Hanover, NH 03755-1290  
(603) 646-4296  
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**Dr. Ted Engman, Physical Scientist**  
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**Dr. Richard H. McCuen, Professor**  
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**Dr. James H. Johnson, Professor and  
Dean**  
College of Engineering Architecture and  
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