

TENNESSEE TECHNOLOGICAL UNIVERSITY
Civil & Environmental Engineering

February 2011

1. Name. Daniel Augustus Badoe

2. Academic Rank. Professor of Civil and Environmental Engineering; Full-time

3. Degrees with fields, institutions and dates.

B.Sc. - *First Class Honors* (Civil Engineering), University of Science and Technology, Ghana, 1984

M.Sc.E. (Civil Engineering - Transportation), University of New Brunswick, Canada, 1988

Ph.D. (Civil Engineering - Transportation Planning), University of Toronto, Canada, 1994

4. Number of years of service on this faculty, including date of original appointment and dates of advancement in rank. 12 years 1 month

Initial appointment: Assistant Professor of Civil and Environmental Engineering; January 21, 1998

Tenure and Promotion: Associate Professor of Civil and Environmental Engineering: August 2003

Promotion: Professor of Civil and Environmental Engineering: August 2008

5. Other related experience - teaching, industrial, etc.

Research Associate, Joint Program in Transportation, University of Toronto, Toronto, 1995-1997

Post-Doctoral Associate, Joint Program in Transportation, University of Toronto, Toronto, 1994-1995

Special Lecturer, Department of Civil Engineering, University of Toronto, Fall-term 1995, and Fall-term 1995

Graduate Teaching and Research Assistant, Department of Civil Engineering, University of Toronto, 1990-1994

Highway Design Engineer, Twum Boafo and Partners, Consulting Engineers and Planners, Accra, Ghana, 1988-1990

Teaching Assistant, Department of Civil Engineering, University of Science and Technology, Ghana, 1984-1986

Assistant Engineer, Tahal Engineering Consultants, 1984

6. Consulting, patents, etc. None

7. States in which registered. None

8. Principal Publications of last five years:

Badoe, D.A. and Mwakalonge, J. (2011), **Estimating Household Trip-rates for Cross-Classification Cells with No Data: Alternative Methods and their Performance in Prediction of Travel**, *in press ASCE Journal of Urban Planning and Development*

Mwakalonge, J. and Badoe, D.A. (2011) **Trip Generation Modeling Using Data Collected in Single and Repeated Cross-Sectional Surveys**. Proceedings of the 90th Annual Transportation Research Board Conference, Washington D.C., 2011

Mwakalonge, J. and Badoe, D.A. (2010). **Comparison of forecast performance of alternative methods for estimating trip rates of cells of cross-classification matrix with inadequate data**. Proceedings of the 89th Annual Transportation Research Board Conference, Washington D.C

Ivey, S.S. and Badoe, D.A. (2010). **A Survey of Policies on Access to Transportation Planning Data, Models, and Cost Recovery**. Proceedings of the 89th Annual Transportation Research Board Conference, Washington D.C

Badoe, D. A. (2009), **Synthesizing Reliable Trip-Rates for Cross-Classification Cells with Inadequate Data in Trip Generation Modeling**. Final Research Report submitted to the Faculty Research Committee, Tennessee Technological University (October 2009)

Badoe, D. A. (2008), **Modeling Metropolitan Region-Wide Trip Generation**. Final Research Report submitted to the Faculty Research Committee, Tennessee Technological University (August 2008)

Badoe, D.A. and Yendeti, M.K. (2007), **Impact of Transit Pass Ownership on Daily Number of Trips Made by Urban Public Transit**, *ASCE Journal of Urban Planning and Development* Vol. 133, no. 4, December 2007, p. 242 - 249

Badoe D.A. (2007), **Forecasting Travel Demand with Alternately Structured Models of Trip Frequency**. *Transportation Planning and Technology Journal*, Volume 30 Number 5, pp. 455 - 475

Couch, K.L. and Badoe, D.A. (2007), **Travel Behavior of University Students in the Weekday Journey to Campus and its Implications for Campus Transport Planning**. Proceedings of the 85th Annual Meeting of the *Transportation Research Board*, National Research Council, Washington, D.C.

9. Scientific and professional societies of which a member

Member, Institution of Transportation Engineers

Member, Southeastern Division of the Institute of Transportation Engineers

Volunteer, Transportation Research Board Committee on Travel Demand Forecasting

Volunteer, TRB Committee on Transportation Planning for Small and Medium-Sized Communities

10. Honors and awards

Kinslow Research Award, 2003

Post Doctoral Fellow, Joint Program in Transportation, University of Toronto, 1994-1995

University of Toronto Doctoral Fellowship, 1991 - 1993

Canadian Commonwealth Fellowship, 1986 - 1988

11. Institutional and professional service in the past five years

Institutional Service

(a) Student Advising

(b) Member, College of Engineering Kinslow Engineering Research Award

(c) Member, College of Engineering Committee on Retention

(d) Member, College of Engineering Search Committee for Engineering Dean

(e) Member, College of Engineering Engineer of Distinction Committee

(f) Member, University Advisory Committee on Patents and Copyright

(g) University Administrative Council Committee (Fall 2006 – Spring 2009)

(h) University Faculty Senate (Fall 2006 – Spring 2009)

(i) University Commission on the Status of Blacks

(j) Chairperson, Departmental Admissions and Curriculum Committee (2007 -)

(k) Departmental Graduate Affairs Committee

(l) Departmental Technology Committee

(m) Departmental Computer Committee

Professional Service

(a) Judge, American Council of Engineering Companies of Tennessee Engineering Excellence Awards

(b) Editorial Board Member, ASCE Journal of Urban Planning and Development

(c) Proposal Reviewer for National Science Foundation

(d) Paper Reviewer for National Science Foundation, Graduate Research Fellowship Program, European Journal of Operations Research, Journal of the Korean Society of Civil Engineers, Journal of the Transportation Research Board, Growth and Change, Transportation Research Part B: Methodological, and Environment and Planning

12. Percentage of time available for research or scholarly activities: 45%

13. Percentage of time committed to the program: 100%

TENNESSEE TECHNOLOGICAL UNIVERSITY
Civil & Environmental Engineering
January 2010

1. Name. Steven M. Click

2. Academic rank. Associate Professor, full time

3. Degrees with fields, institutions and dates.

Doctorate of Philosophy in Transportation Engineering. North Carolina State University, 2001.
Masters of Civil Engineering in Transportation Engineering. North Carolina State University, 1996.
Bachelor of Science in Civil Engineering. Tennessee Tech University, 1993.
Bachelor of Science in Mathematics. Tennessee Tech University, 1993.

4. Number of years service on this faculty, including date of original appointment and dates of advancement in rank. 4 years

2005-08-01: Initial Appointment as Assistant Professor
2010-08-01: Promoted to Associate Professor

5. Other related experience--teaching, industrial, etc.

Teaching

NCDOT Internal and External Training. Multiple occasions and topics, 1998 to present.
CE 401/501 Transportation Systems Analysis. NC State, Fall 1996, via "Preparing the Professoriate".
Interpersonal Management Skills Training. NC State Leadership Development Series, 1994-1996.

Industrial

Senior Systems Engineer (TE III), 2001-2005, NCDOT Signals & Geometrics Section.
Project Engineer (TE II), 2000-2001, NCDOT Signals & Geometrics Section..
Design Engineer (TE I), 1999-2000, NCDOT Signals & Geometrics Section..
Design Technician (Tech IV, temp), 1998-1999 NCDOT Signals & Geometrics Section.

6. Consulting, patents, etc.

Consulting with:

Mekuria Engineering 2006 – Synchro 6.0 Training Development
2007 – NC 62 Corridor Timing
2010 – Charlotte, NC Traffic Signal System Specifications

7. States in which registered.

Professional Engineer 027470, North Carolina, Active since 2002.
Professional Engineer 00110910, Tennessee, Active since 2006.

8. Principal publications of last five years.

“Evaluation of Traditional and Non-Traditional Interchange Treatments to Preserve the Service Life of Narrow Over- and Underpass Roadways” *Transportation Research Record: Journal of the Transportation Research Board*. Volume 2171, 2010.

“Using Dynamic Maximum Greens to Reduce Traffic Signal Timing Maintenance Needs” *ITE Journal* April 2010.

“Evaluation of Variable Maximum Green Time to Improve Rural Traffic Signal Operations.” *The Transportation Research Record: The Journal of the Transportation Research Board*. Record No. 2080, 2008. With Aswini Rajagopalan.

“Application of the ITE Change and Clearance Interval Formulas in North Carolina.” *ITE Journal*, Institute of Transportation Engineers, Washington, DC, January 2008.

“Evaluation of Variable Maximum Green Time to Improve Rural Traffic Signal Operations.” Proceedings of the 87th Annual Meeting of the Transportation Research Board, Washington, DC, 2008.

“Calculation of Yellow Change and All-Red Clearance Intervals - The North Carolina Experience.” Proceedings of the 85th Annual Meeting of the Transportation Research Board, Washington, DC, 2006.

9. Scientific and professional societies of which a member.

Transportation Research Board
Institute of Transportation Engineers
American Society for Engineering Education

10. Honors and awards.

Awards

Exceptional Paper Award, the Transportation Research Board Committee on Traffic Signal Systems, 2008
Tablet Initiative Recipient, Tennessee Technological University, 2007-08
Exemplary Course Award, Tennessee Technological University, 2007
Teaching/Learning Enhancement Grant to Support the QEP, 2006.

Honors

Eno Transportation Foundation Fellow, Inducted April, 1995.
The Honor Society of Phi Kappa Phi, Inducted 1993.
Tau Beta Pi, the National Engineering Honor Society, Inducted 1992.
Chi Epsilon, the National Honor Society of Civil Engineering, Inducted 1992.
Kappa Mu Epsilon, the Mathematics Honor Society, Inducted 1991.

11. Institutional and professional service in the past five years.

Institutional Service

Student Advising
Chair, Departmental Recruitment and Retention Committee (2008-present)
Departmental Curriculum Committee (2006-present)
Faculty Advisor, Student Chapter of ITE (2006-2010)

Professional Service

Member, Traffic Signal Systems Committee of the Transportation Research Board (2008-present)
Reviewer of Papers for the ASCE Journal of Transportation Planning (2006-2008)
Proctor, Fundamentals of Engineering Exam (2006-present)
Reviewer of Papers for the 85th Annual Meeting of the Transportation Research Board (2006-present)
Workshop on Non-Traditional Intersection Treatments, developed and presented to the TDOT (2006)

12. Percentage of time available for research or scholarly activities: 40%

13. Percentage of time committed to the program: 100%

TENNESSEE TECHNOLOGICAL UNIVERSITY
Civil & Environmental Engineering

March 21, 2011

1. Name. Lewis Keith Crouch

2. Academic rank. Professor; full-time

3. Degrees with fields, institutions and dates.

B.S. (Geology), Murray State University, 1984

B.S. (Geological Engineering), University of Missouri-Rolla, 1986

M.S. (Geological Engineering), University of Missouri-Rolla, 1986

Ph. D. (Civil Engineering), University of Missouri-Rolla, 1990

4. Number of years service on this faculty, including date of original appointment and dates of advancement in rank. 20 years

Initial appointment: Assistant Professor of Civil Engineering, Fall 1990

Advancement in rank: Associate Professor of Civil Engineering, Fall 1995

Advancement in rank: Professor of Civil Engineering, Fall 2000

5. Other related experience--teaching, industrial, etc.

Laboratory Instructor: University of Missouri-Rolla Civil Engineering Continuing Education Short Courses,
 University of Missouri- Rolla, Rolla, MO. 1987-1990

Laboratory Instructor and Teaching Assistant, Civil Engineering Department, University of Missouri-Rolla,
 1986-1989

Laboratory Instructor and Substitute Lecturer, UMR Summer Training Course for the U.S. Army Corps of
 Engineers, Rolla, MO. 1988

Engineer-Aide (Senior), Kentucky Department of Transportation Bureau of Highways Construction Division,
 Paducah, KY. 1977-1981

6. Consulting, patents, etc.

Tennessee Ready Mixed Concrete Association (1999)

Rogers Group, Inc. (1999)

7. States in which registered.

Professional Engineer 00101274, Tennessee, 1994

Masonry Inspector 052194062, Tennessee 1994

8. Principal publications of last five years.

23 publications in refereed Journals, conference proceedings, magazines and research reports within the past five years. Selected principal publications are:

Crouch, L. K., Pitt, Jordan and Hewitt, Ryan, “**Aggregate Effects on Pervious Portland Cement Concrete Static Modulus of Elasticity**,” Journal of Materials in Civil Engineering ASCE, Vol. 19, No. 7, July 1, 2007, pp. 561-568.

Crouch, L. K., Sparkman, Alan, Dunn, Tim R., Hewitt, Ryan, Mittlesteadt, Wes, Byard, Ben and Pitt, Jordan, “**Estimating Pervious PCC Pavement Design Inputs with Compressive Strength and Effective Void Content**”, Concrete Technology Forum: Focus on Pervious Concrete, Nashville, May 24-25, 2006, Conference Proceedings, Publication 2PCTF06, National Ready Mixed Concrete Association.

Crouch, L. K., Hewitt, Ryan, and Byard, Ben, “**High Volume Fly Ash Concrete,**” Proceedings of the 2007 World of Coal Ash (WOCA), May 7-10, 2007, Covington, Kentucky, USA.

Crouch, L. K., Byard, Ben, and Self, J.D., “**Making Precast Concrete Mixtures More Sustainable with Byproduct Fine Aggregate,**” The National Bridge Conference , PCI Annual Convention Proceedings, October 4-7, 2008, Orlando, Florida.

Crouch, L. K., and Phillips, Jason, “**Lean, Green and Mean (LGM) Concrete,**” Proceedings of the 2009 World of Coal Ash (WOCA), May 4-7, 2009, Lexington, Kentucky, USA.

“**Five Part Series on the New TDOT 204.06 CLSM Specification Part 5: The Future of CLSM in Tennessee**”, L. K. Crouch, J. D. Self, Adam C. Walker, Jason Phillips and Alan Sparkman, *Tennessee Concrete*, Vol. 23, No. 1, Spring 2009.

“**Early TCA Experiments with Self-Compacting Pervious PCC**”, L. K. Crouch, Marcus L. Knight and Alan Sparkman, *Tennessee Concrete*, Vol. 23, No. 3, Winter 2009.

9. Scientific and professional societies of which a member.

American Concrete Institute International
American Society for Testing and Materials

10. Honors and awards.

1998 Brown-Henderson Outstanding Engineering Faculty Award for Excellence in Teaching, Research and Service
2006-2007 Caplenor Faculty Research Award
Chi Epsilon

11. Institutional and professional service in the past five years

Institutional Service

Student advising
Department Facilities Committee
Department ABET 2000 Committee
Departmental Tenure and Promotion Committee

Professional Service

Member, American Concrete Institute International
American Society for Testing and Materials
Member, Committee D-04 on Road and Paving Materials
Member, Committee C-09 on Concrete and Aggregates

12. Percentage of time available for research or scholarly activities: 45%

13. Percentage of time committed to the program: 100%

TENNESSEE TECHNOLOGICAL UNIVERSITY
Civil & Environmental Engineering

February 2011

1. **Name.** Guillermo Ramirez
2. **Academic Rank.** Associate Professor; Full-time
3. **Degrees with fields, institutions and dates.**

B.S. (Civil Engineering), Universidad Nacional de Colombia, 1985
M.S. (Civil Engineering), Colorado State University, 1994
Ph.D. (Civil Engineering), Colorado State University, 1998

4. **Number of years service on this faculty, including date of original appointment and dates of advancement in rank.** 8 years

Initial appointment: January 2000

5. **Other related experience—teaching, industrial, etc.**

Visiting Professor, Naval Postgraduate School, Summer 2001-2005, 2007, 2009
Visiting Professor, Universidad Nacional de Colombia, Summer 2006, 2010
National Research Council Research Associate, Naval Postgraduate School, 1998-1999
Instructor, Colorado State University, 1996-1998
Graduate Teaching Assistant, Colorado State University, 1991-1996
Graduate Research Assistant, Colorado State University, Summer: 1991, 1993
Project Engineer, Bolivar Aliadas Constructors, 1987-1989
Structural Design Engineer, Concrete Engineering, 1985-1987
Field Engineer, Medellin, Colombia, 1985

6. **Consulting, patents, etc.** None
7. **State in which registered.** None
8. **Principal publications of last five years.**

Ramirez, F., P.R. Heyliger, G. Ramirez, J. Tamasco, "Monte Carlo Simulation of Low Density Fiber Composites," presented at the 9th World Congress on Computational Mechanics WCCM8/9th Asian-Pacific Congress on Computational Mechanics, Sidney, Australia, 2010.

Ramirez, F., J. Tamasco, P.R. Heyliger, G. Ramirez, "Simulacion Computacional de Compuestos Fibrosos de Baja Densidad," Published by the Universidad de Antioquia, Vol. 54, pp. 75-83, August 2010.

Ramirez, F., J. Tamasco, P.R. Heyliger, G. Ramirez, "Simulacion de Monte Carlo para Compuestos Fibrosos de Baja Densidad," VII Colombian Congress of Numerical Modeling, Bogota, 2009.

Ramirez, G., A. Gupta, "Contact Problems in Magneto-Electro-Elastic Layered Half-planes Using Local/Global Approach", paper accepted to be presented in ICCE-16 Conference in Kunming, China, July 2008.

Ramirez, G., "Frictionless Contact in a Layered Piezoelectric Medium Characterized by Complex Eigenvalues," Journal of Smart Materials and Structures, Vol. 15, No 5, 1287-1295, 2006.

Joseph, J., J. Peddieson and G. Ramirez, "Boundary Layer Analysis of Large Deflections of Rotationally Symmetric Membrane Caps," AIAA Journal, Vol. 44, No 7, 1402-1410. 2006.

Ramirez, G. and K. Prakash, "magneto-electro-elastic laminated plates: Statics and Dynamics Modeling using Discrete-layer Finite Elements," International Journal of Structural Stability and Dynamics (in review).

Ramirez, G. and G. Buchanan, "Free Vibrations of Homogeneous and Layered Piezoelectric Hollow Spheres," International Journal of Structural Stability and Dynamics, 4, 443-458, 2004.

Ramirez, G. and P. Heyliger, "Frictionless Contact in a Layered Piezoelectric Half-Space," Journal of Smart Materials and Structures, 12, 612-625, 2003.

Buchanan, G. and G. Ramirez, "A note on the Vibration of Transversely Isotropic Solid Spheres," Journal of Sound and Vibration, 254 (3), 724-732, 2002.

Buchanan, G., J. Peddieson, G. Ramirez, and S. Idem, "Solid-State Friction Stir Welding," NCAM-NASA quarterly report.

Buchanan, G. and G. Ramirez, "Comment on paper "Free Vibration Analysis of Laminated Piezoceramic Hollow Spheres," Letters to the Editor, Journal of the Acoustical Society of America, 110(2), 1188-1189, 2001.

Helyliger, P and G. Ramirez, "Free Vibration of Laminated Circular Piezoelectric Plates and Discs," Journal of Sound and Vibration, 229(4), 935-956, 2000.

Ramirez, G. and P. Heyliger, "Frictionless Contact in a Layered Piezoelectric Half-Space with Complex Eigenvalues," Proceedings 20th Iberian Latin-American Congress on Computational Methods in Engineering, November-1999, Brazil.

G. Ramirez and P. Heyliger, "Contact Problems in Layered Piezoelectric Half-Planes," presented in The International Conference on Computational Engineering science, Atlanta, October 1998.

Heyliger, P. and G. Ramirez, "A Local/Global Matrix Formulation for Laminated Piezoelectric Media," Mechanics Research Communications, Vol. 25, 701-708, 1998.

9. Scientific and professional societies of which a member.

Sigma Xi, Scientific Research Society

10. Honors and awards. (last five years)

NRC Research Associateship Award, 1998

Chi Epsilon Golden Key Award, 1998

College of Engineering Outstanding Graduate Teaching Assistant Award of Excellence, 1997

11. Institutional and professional service in the past five years.

Institutional Service

Student Advising

Structural Mechanics Faculty Search Committee

CEE Computer Committee

CEE Admissions and Curriculum Committee

CEE Library Committee

Professional Service

Coordinator of Visual Presentation Competition, ASCE 2000 Southeast Regional Conference

Reviewer for:

McGraw-Hill, textbook: Mechanics of Materials, Beer/Johnston 6e

Journal of Intelligent Material Systems and Structures
McGraw-Hill, textbook: Strength of Materials, Beer/Johnston
Quarterly Journal of Mechanics and Applied Mathematics
Journal of Applied Mechanics
Journal of Smart Materials and Structures
International Journal of Structural Engineering and Mechanics
Journal of the Acoustical Society of America
Structural Engineering and Mechanics
AIAA Journal
Invited to be member of a review panel of NASA Solar Sail Propulsion Project

- 12. Percentage of time available for research or scholarly activities:** 25%
- 13. Percentage of time committed to the program:** 100%

TENNESSEE TECHNOLOGICAL UNIVERSITY
Civil & Environmental Engineering
February 2011

1. Name. Robert Craig Henderson

2. Academic Rank. Professor; full-time

3. Degrees with fields, institutions, and dates.

B.S. (Civil Engineering), University of Tennessee, 1986
M.S. (Civil Engineering), University of Tennessee, 1987
Ph.D. (Civil Engineering), University of Tennessee, 1994

4. Number of years on this faculty, including date of original appointment and dates of advancement in rank. 14.5 years

Initial Appointment: Assistant Professor of Civil Engineering, August 1995.
Tenure Granted: July 2000
Promotion: Associate Professor, July 2000
Promotion: Professor, July 2008

5. Other related experience -- teaching, industrial, etc.

Martin Marietta Energy Systems, Inc., 1991-1995
Lockwood Greene Engineers, Inc., 1998-1991

6. Consulting: None

7. State in which registered: P.E. in Tennessee (License No. 100606).

8. Principle publications of last five years.

Journal Publications

1. Tucker, C.J. (former grad student), **Henderson, R. C.**, Bennett, R.E., Thompson, J. (Accepted for publication). "Predicting the In-plane Stiffness of Masonry Infilled Frames" *The Masonry Journal*.
2. **Henderson, R. C.**, Murchison, J. (in progress), "Toward Excellence and Efficiency in Engineering Education". ASEE Journal.
3. **Henderson, R.C.**, Tucker, C.J., Bennett, R.M., and Thompson, J., (in progress) "Determining the Ultimate Capacity of Masonry Infills Under In-Plane Loads", *The Masonry Journal*.

4. **Henderson, R.C.**, Yeager, Matt, (in progress) “Experimental vs. Analytical Comparison of Out-of-plane Pressure Loads on Masonry Infills”, *The Masonry Journal*.
5. **Henderson, R. C.**, Porter, M.L., Jones, W.D., Burdette, E.G. (2006). “Prior Out-of-plane Damage on the In-plane Behavior of Masonry Infilled Frames” *The Masonry Journal*, TMS, 24 (1), 71-82.
6. **Henderson, R. C.**, Lowhorn, D.E., Tindall, W.R., Larimore, D.L. (2006). “Designing Interactive Instructional Tools to Serve Both Students and Instructors – a Case History”, *Computers in Education Journal*, ASEE, 16 (4), 35-49.
7. **Henderson, R. C.**, Larimore, D.L., Lowhorn, D.E., and Mayfield, V.E. (2006) “Testing and Improving Educational Software” *Computers in Education Journal*, ASEE, 16 (1), 2-15.

Code Publications:

1. ACI 530-11 Masonry Standards Joint Committee (2011). *Building Code Requirements for Masonry Structures*, [**Henderson** served as a member of the ACI 530 Executive Subcommittee, Main Subcommittee, Flexure and Axial Load Subcommittee, and Chair of the Infill Subcommittee.]
2. ACI 530-08 Masonry Standards Joint Committee (2008). *Building Code Requirements for Masonry Structures*, [**Henderson** served as a member of the ACI 530 Executive Subcommittee, Main Subcommittee, Construction Subcommittee, and Chair of the Infill Subcommittee.]
3. ACI 530-05 Masonry Standards Joint Committee (2005). *Building Code Requirements for Masonry Structures*, [**Henderson** served as a member of the ACI 530 Executive Subcommittee, Main Subcommittee and Chair of the Infill Subcommittee.]

Conference and Trade Publications

1. **Henderson, R. C.**, Murchison, J. (2007), “What Effect? Studying Technological Changes (Specifically Distance Learning) in the Classroom” *Proceedings 2007 ASEE SE Conference*, Louisville, KY.
2. **Henderson, R. C.**, Tindall W.R., Lowhorn, D.E., and Larimore, D.L., (2005) “Helping Students Become Proficient at Solving Fundamental Engineering Problems through Practice – The Homework Laboratory” *Proceedings ASEE SE Conference*, Chattanooga, Tennessee.

9. Scientific and professional societies of which a member:

Chi Epsilon

The ASCE/ACI/TMS Masonry Standards Joint Committee (MSJC)

10. Honors and awards:

Leighton Sissom Innovation and Creativity Award

11. Institutional and Professional Service in the past five years

Institutional Service

Graduate Advising

Undergraduate Advising

Chi Epsilon (CEE Honor Society) Advisor

ASCE Regional Conference Steel Bridge Advisor

Information Technology Committee

Library Committee

ABET Committee

Computer Committee (Chair)

Professional Service

ACI 530-11 Masonry Standards Joint Committee: Serving as Chairman of the Infill subcommittee which meets semi-annually to write and appropriate code sections for masonry infilled structures into the ACI Masonry Code and Commentary.

Expert Review Panels

- National Science Foundation, “Science in Energy and Environmental Design (SEED): Engineering Sustainable Buildings”, NSF Headquarters, January 4-6, 2010, Washington, D.C.,
- Department of Homeland Security, Office of Science and Technology, September 2-3, 2009, Oak Ridge, TN
- Department of Homeland Security, Office of Science and Technology, August 27-28, 2008, Oak Ridge, TN

Text Reviewer:

- *Engineering Mechanics – Statics* (1st, 2nd, 3rd Ed.; Bedford & Fowler; Addison-Wesley Longman and Prentice Hall Publishing)
- *Engineering Mechanics – Statics* (4th Ed.; Merriam & Kraige; Wiley Publishing)
- *Design of Concrete Structures* (13th Ed.; Nilson et al.; McGraw Hill)

Journal Reviewer:

The Masonry Journal (The Masonry Society)

Journal of Structural Engineering (ASCE)

Structural Engineering and Mechanics (Techno Press)

Earthquake Spectra (Earthquake Engineering Research Institute)

12. Percentage of time available for research or scholarly activities: 35%

13. Percentage of time committed to the program: 100%

1. **Name.** Faisal Hossain
2. **Academic rank.** Associate Professor; Full-time

3. **Degrees with fields, institutions and dates.**

Ph.D. in Environmental Engineering, The University of Connecticut, USA, 2004
M.Eng. in Civil Engineering, The National University of Singapore, Singapore 1999
B.Tech in Civil Engineering, Banaras Hindu University, 1996

4. **Number of years service on this faculty, including date of original appointment and dates of advancement in rank.** 5 years

Initial appointment: Assistant Professor of Civil Engineering (starting August 2004)

5. **Other related experience--teaching, industrial, etc.**

Graduate Research Assistant, Ph.D. Candidate. Department of Civil Engineering, The University of Connecticut, Storrs, USA, 1999-2004
NASA Earth System Science Fellow – 2002-2004.
Research Scholar, Department of Civil Engineering, The National University of Singapore, Singapore, 1997-1999.

6. **Consulting, patents, etc.**

Geophysical Resources Institute, Mississippi State University, Sept 2008 – Jan 2009.
Elsevier Sciences, June, 2010-May – 2013.

7. **State in which registered.** None

8. **Principal publications of last five years. (* with students)**

Degu*, A.M., F. Hossain, D. Niyogi, R. Pielke Sr., J.M. Shepherd, N. Voisin and T. Chronis. (2011). The Influence of Large Dams on Surrounding Climate and Precipitation Patterns, *Geophysical Research Letters*, (doi:10.1029/2010GL046482).

Moffit*, C.B., F. Hossain, R.F. Adler, K. Yilmaz and Harold Pierce.(2010). Validation of TRMM Flood Detection System over Bangladesh, *International Journal of Applied Earth Observation and Geoinformatics*, (doi:10.1016/j.jag.2010.11.003).

Hossain, F. (2010). On the empirical relationship between the presence of large dams and extreme precipitation, *Natural Hazards Review (ASCE)*, (doi: 10.1061/(ASCE)NH.1527-6996.0000013).

Hossain, F. (2009). Introduction to the featured collection on 'Satellites and Transboundary Water: Emerging Ideas', *Journal of American Water Resources Association*, vol. 45(3), June, 2009, (doi: 10.1111/j.1752-1688.2009.00333.x).

Hossain, F., I. Jeyachandran* and R. Pielke, Sr.(2009). Have large dams altered extreme precipitation? *EOS-AGU*, vol 90(48): 453-454.

Tang*, L. and F. Hossain (2009). Transfer of satellite rainfall error from gauged to ungauged locations: How realistic will it be for the Global Precipitation Mission? *Geophysical Research Letters*, vol. 36, doi:10.1029/2009GL037965.

Chowdhury*, M., A. Alouani, and F. Hossain (2009). How much does inclusion of Non-linearity affect the spatial mapping of complex patterns of groundwater contamination? *Non-Linear Processes in Geophysics*, vol. 16: 313-317.

Rahman, S., A.C. Bagtzoglou, F. Hossain, L. Tang*, L. Yarbrough, G. Easson. (2009). Investigating spatial downscaling of satellite rainfall data for stream flow simulation in a medium-sized basin, *Journal of Hydrometeorology*, vol. 10: 1063-1079 (doi: 10.1175/2009JHM1072.1).

Schwenk*, J., F. **Hossain** and D. Huddleston. (2009). A computer-aided visualization tool for stochastic theory education in water resources engineering, *Computer Applications in Engineering Education*, vol. 14: 1-1

Harris*, A., F. **Hossain** (2008). Investigating Optimal Configuration of Conceptual Hydrologic Models for Satellite Rainfall-based Flood Prediction for a Small Watershed, *IEEE Geosciences and Remote Sensing Letters* vol. 5(3), July.

Hossain, F. and G.J. Huffman. (2008). Investigating Error Metrics for Satellite Rainfall at Hydrologically Relevant Scales, *Journal of Hydrometeorology* vol. 9(3): 563-575.

Hossain, F., N. Katiyar*, A. Wolf, and Y. Hong. (2007). The Emerging role of Satellite Rainfall Data in Improving the Hydro-political Situation of Flood Monitoring in the Under-developed Regions of the World, *Natural Hazards (Special Issue)*. INVITED PAPER 43: 199-210 (doi 10.1007/s11069-006-9094-x)

Hossain, F. and D. P. Lettenmaier (2006). Flood Prediction in the Future: Recognizing Hydrologic Issues in anticipation of the Global Precipitation Measurement Mission - Opinion Paper *Water Resources Research*. vol. 44 (doi:10.1029/2006WR005202)

Hossain, F., and N. Katiyar* (2006). Improving Flood Forecasting in International River Basins *EOS (AGU)* 87(5): 49-50.

Katiyar*, N., and F. **Hossain**, (2007). An Open-book Watershed Model for Prototyping Space-borne Flood Monitoring Systems in International River Basins. *Environmental Modeling and Software*. 22(12): 1720-1731

Hossain, F., and B. Sivakumar. (2006). Spatial Pattern of Arsenic Contamination in Shallow Tubewells of Bangladesh: Regional Geology and Non-linear Dynamics *Stochastic Environmental Research and Risk Assessment* , vol 20(1-2): 66-76 (doi:10.1007/s00477-005-0012-7).

9. Scientific and professional societies of which a member.

Sigma Xi, Scientific Research Society; American Society of Engineering Education (ASEE); American Geophysical Union (AGU); American Society of Civil Engineers (ASCE); American Meteorological Society (AMS)

10. Honors and awards.

National Education Excellence Award by National Association of Environmental Professionals, 2010
Outstanding New Faculty Research Award (First Place), American Society of Engineering Education Southeast Section, 2009.

NASA New Investigator Program Award, 2008-2011.

Outstanding PhD Thesis Award, School of Engineering, University of Connecticut, 2005.

NASA Earth System Science Fellowship, 2002-2004.

11. Institutional and professional service in the past five years.

Institutional Service

Student Advising (MS and PhD)

Computer Committee – 2006-2007; Recruitment & Retention Committee – 2006-2007; Graduate Affairs Committee – 2006-2010 (Chair); Coordinator, Graduate Seminar Series, 2007-present.

Professional Service

- i) Leading an international effort for a scientific society and a new journal on transboundary water resources management for developing nations. Initial effort is focused on building a Featured Collection of research papers in JAWRA by 2010 by researchers from developed nations and agencies from developing nations.
- ii) Co-Editor (with Dr. Mekonnen Gebremichael of University of Connecticut) for a Springer-Verlag book volume on ‘*Satellite Applications for Surface Hydrology*’. 2008-2010
- iii) Associate Editor for advanced computing and artificial intelligence, *Journal of American Water Resources Association* (JAWRA) – 2006-2010.
- iv) Proposal Review Panelist, National Science Foundation (NSF), Graduate Fellowship Application in GEOSCIENCES, 2006; NASA ROSES Science program.
- v) Mentoring of undergraduate students for Research Experience in Undergraduate (REU), 2006, Cookeville High School (2009) and Jackson High School (Project Lead the Way – 2009).
- vi) Reviewer for: *Journal of Hydrologic Engineering*; *Water Resources Research*; *Journal of American Water Resources Association*; *Non-linear Processes in Geo-physics*; *Environmental Modeling and Software* (Short Communications); *IEEE Transactions in Geosciences and Remote Sensing*; *Water, Air and Soil Pollution*; *Environmental Forensics*; *Science of Total Environment*; *Journal of Hydrometeorology*; *Stochastic Environmental Research and Risk Assessment*

12. Percentage of time available for research or scholarly activities: 40%

13. Percentage of time committed to the program: 100%

David H. Huddleston, Ph.D., P. E.
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Education

Ph.D., Engineering Science, University of Tennessee, 1989
M. S., Engineering Science and Mechanics, Virginia Polytechnic Institute and State University, 1978
B. S., Engineering Science, Tennessee Technological University, 1977

Employment

Professor and Chair

Department of Civil & Environmental Engineering, Tennessee Tech University, 2004 to Present, Tenured 2004

Professor

Department of Civil Engineering, Mississippi State University, 2003 to 2004

Associate Professor

Department of Civil Engineering, Mississippi State University, 1995 to 2003, Tenured 1999

Research Engineer

NSF Engineering Research Center, Mississippi State University, 1991 to 1995

Senior Engineer I

Sverdrup Technology, Inc., AEDC Group, CFD Section, Tullahoma, TN, 1983-1991

Engineering Analyst

Pan Am World Services, Inc., Engineering Services Section, Tullahoma, TN, 1981-1983

Part-time Faculty

Middle Tennessee State University, Industrial Studies Department, Murfreesboro, TN, 1982

Manufacturing/Quality Control Engineer

TRW, Ross Gear Division, Lebanon, TN, 1978-1981

Professional Awards & Honors

AcademicKeys Who's Who in Engineering Education (2005 to present)
Manchester Who's Who Among Executives and Professional (2005 to present)
Hearin-Hess Distinguished Professor, College of Engineering, Mississippi State University (1997-98)
Hearin-Hess Distinguished Professor, College of Engineering, Mississippi State University (1996-97)
Outstanding Instructional Paper, College of Engineering, Mississippi State University (1996-97)

Academic Awards & Honors

VPISU Pratt Presidential Fellowship (1977-78)
Phi Kappa Phi - National Honor Society
Tau Beta Pi - National Engineering Honor Society
Kappa Mu Epsilon - National Mathematics Honor Society

Professional Activities

Professional Engineer Registration, Mississippi I. D. 14068
Professional Engineer Registration, Tennessee I. D. 103765
Member, American Society of Civil Engineers
Member, American Society for Engineering Education
Member, American Institute of Aeronautics and Astronautics
Publication Reviews (Past and Present)
· *Journal of the American Water Resources Association*

- *Journal of Water Resources Planning and Management (ASCE)*
- *Journal of Hydraulic Engineering (ASCE)*
- *Journal of Environmental Engineering (ASCE)*
- *International Journal of Modeling and Simulation*
- *Journal of Environmental Modeling and Software (Elsevier)*
- *McGraw-Hill Companies*
- *Haestad Press*
- *Water Research (IAWQ)*
- *Journal of Computational and Applied Mathematics*
- *AIAA Journal*
- *Journal of Computational Physics*
- *Inverse Problems in Engineering*
- *Computers and Fluids*
- U. S. Army Corps of Engineers
- U. S. Environmental Protection Agency
- NASA Lewis Research Center
- National Science Foundation

Technical Review Panels

- The Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET)
- U. S. Environmental Protection Agency
- U. S. Army Corps of Engineers

Areas of Teaching and Research Specialization

- Computational fluid dynamics (CFD)
- Computational design coupling CFD with nonlinear optimization
- Water resources engineering
- Open-channel flows
- Fluid mechanics
- Applied aerodynamics

Grants and Contracts

1. Mississippi Department of Environmental Quality
 - \$500,000 Annual Task Order Contract
 - Member Technical Review Committee and TTU PI
 - Project participants: Camp-Dresser-McGee (lead company), Moffatt & Nichol, Crane Creek Environmental, LLC, Jackson State University, Tennessee Technological University, CiViLTech, Inc., Mann & Associates
 - Engineering and Scientific Technical Support for Waste Load Allocations, Total Maximum Daily Load Determinations and Watershed Management Activities
 - June 1, 2006 – June 30, 2011
2. Mississippi Department of Environmental Quality (via CDM Task Order Contract)
 - \$50,000 (PI)
 - Application of St. Louis Bay Water Quality Model to Develop TMDLs for Tributaries
 - November 1, 2006 - May 15, 2007
3. Mississippi State University
 - \$35,000 (PI)
 - Professional Services for St. Louis Bay Estuary and Watershed Model Refinement and Calibration
 - October 1, 2004 - August 31, 2006
4. Mississippi Agricultural and Forestry Experiment Station
 - \$98,670 (co-PI)
 - Hydrologic, Hydrodynamic, and Water Quality Modeling for Mississippi Land and Water Resources

- July 1, 2004 - June 30, 2005
- 5. Advanced Spatial Technologies for Agriculture Program, United States Department of Agriculture
 - \$27,338 (co-PI)
 - Critical Assessment of Agricultural Watershed Characterization Approaches Used in Total Maximum Daily Load (TMDL) Development
 - July 1, 2004 – June 30, 2005
- 6. NOAA/Estuarine Reserves Division
 - \$57,200 (co-PI)
 - Guidelines for Development of a Grand Bay Hydrology and Water Quality Simulation Model: Criteria and Data Assessments
 - June 1, 2004 – May 31, 2006
- 7. Mississippi Department of Environmental Quality
 - \$95,710 (co-PI)
 - St. Louis Bay Estuary and Watershed Model Refinement and Calibration
 - February 1, 2004 – December 31, 2005
- 8. Tetra Tech, Inc.
 - \$20,000 (co-PI)
 - Technical Review of Escatawpa River and Estuary Hydrodynamic and Water Quality Model
 - March 14, 2004 – June 30, 2004
- 9. Mississippi Agricultural and Forestry Experiment Station
 - \$113,670 (co-PI)
 - Hydrologic, Hydrodynamic, and Water Quality Modeling for Mississippi Land and Water Resources
 - July 1, 2003 - June 30, 2004
- 10. Applied Technology and Management, Inc.
 - \$32,702 (co-PI)
 - Charleston Harbor Modeling Support
 - April 15, 2003 – August 30, 2003
- 11. U.S. Army Corps of Engineers, Waterways Experiment Station Engineer Research and Development Center
 - \$299,920 Annual Task Order Contract (co-PI)
 - Estuarine Engineering Tools
 - October 1, 2003 – September 30, 2009 (Submitted)
- 12. Mississippi Department of Environmental Quality
 - \$700,000 Annual Task Order Contract (MSU Technical Contact)
 - Technical Support for Environmental Fate and Transport Models, Environmental and Ecological Assessments, Environmental Permit Activities, Total Maximum Daily Load Determinations, Sources and Control of Nonpoint Source Pollution, Data Base Development and Management, and Technical and Public Outreach Activities
 - October 1, 2002 – September 30, 2007
- 13. Mississippi Agricultural and Forestry Experiment Station
 - \$101,039 (co-PI)
 - Hydrologic, Hydrodynamic, and Water Quality Modeling for Mississippi Land and Water Resources
 - July 1, 2002 - June 30, 2003
- 14. MSU Graduate Student Recruitment Grant
 - \$600 (PI)
 - December 3, 2001 - August 15, 2002
- 15. U. S. Environmental Protection Agency
 - \$145,000 (PI, Rejected)
 - Development of a Three-Dimensional Water Quality Model for TMDL Evaluation in the Pascagoula River Basin
 - July 1, 2001 – December 31, 2002

16. Mississippi Department of Environmental Quality
 - \$176,132 (PI)
 - Development of a Comprehensive Water Quality Model of the Saint Louis Bay Watershed
 - October 1, 2000 - January 31, 2003
17. Mississippi Department of Environmental Quality
 - \$390,184 (PI)
 - Watershed, Hydrodynamic and Water Quality Models for Selected Water Segments
 - September 7, 1999 - December 31, 2000
18. U. S. Environmental Protection Agency
 - \$130,000 (PI)
 - Development of Water Quality Models for TMDL Evaluation in the Escatawpa Estuary System
 - August 23, 1999 – December 31, 2000
19. U.S. Army Corps of Engineers, Waterways Experiment Station DACA39-99-P-0617
 - \$23,652 (PI)
 - Development of Cohesive Sediment Computations on Parallel Processing Computers
 - August 1, 1999 - September 30, 1999
20. Mississippi Department of Environmental Quality
 - \$248,000 (co-PI)
 - Development of Total Maximum Daily Load (TMDL) for Fecal Coliform in the Saint Louis Bay Watershed
 - August 16, 1998 - September 30, 2000
21. Mississippi Department of Transportation Material Division
 - \$220,597 (PI)
 - AASHTO National Transportation Product Evaluation Program Field Evaluation of Pavement Marking Materials
 - January 1, 1999 – December 31, 2001
22. National Science Foundation NSF CTS-9424512
 - \$154,549 (PI)
 - Aerodynamic and Thermal Design Optimization Tool for Turbine Airfoil Cascades
 - September 15, 1995 - August 31, 2000
23. U.S. Army Corps of Engineers, Waterways Experiment Station DACA39-96-M-1846
 - ~\$225,000/yr
 - Program Training and Environment (PET) in Support of the CEWES HPC Major Shared Resource Center (MSRC)
 - Academic Lead for Computational Fluid Dynamics
 - April 1, 1996 - March 31, 2001
24. NSF Engineering Research Center for Computational Field Simulation Internal Project
 - \$50,090 FY98 (PI)
 - Environmental Quality Modeling: An ERC-MAFES Collaborative Project
 - April 16, 1998 - April 15, 1999
25. NSF Engineering Research Center for Computational Field Simulation Internal Project
 - \$22,857 FY98 (PI)
 - Computational Hydraulics Simulation and Design Support
 - April 16, 1996 - April 15, 1999
26. U.S. Army Corps of Engineers, Waterways Experiment Station DACA39-96-M-1846
 - \$22,000 (co-PI)
 - Parallel Implementation of CH3D Using MPI Message Passing Constructs
 - August 5, 1996 - September 30, 1996
27. MSU Research Initiation Grant
 - \$6,000 (PI)
 - Design Optimization Tool for High-Velocity Channels
 - January 1, 1996 - August 15, 1997
28. National Air and Space Museum, Smithsonian T9436CC10153

- \$40,000 (co-PI)
- Interactive Computer Graphics for Aerodynamics of Lift and Drag
- March 8, 1994 - December 31, 1995

Personal Consulting

1. Ray Montgomery Associates, Inc.
 - Brandon, MS
 - July 2003 – December 2003
2. Cook-Coggin Engineers, Inc.
 - Tupelo, MS
 - February, 2000
3. U. S. Army Corps of Engineers, Waterways Experiment Station
 - Vicksburg, MS
 - May 1995 - August 1995, May 1999 - September 1999
4. U. S. Army Corps of Engineers, Rock Island District Office
 - Rock Island, IL
 - July 1998 - October 1998
5. U. S. Environmental Protection Agency
 - Washington, DC
 - June 1998, November 1999
6. U. S. Army Corps of Engineers, Chicago District Office
 - Chicago, IL
 - September 1995 - October 1995

Advising

- Ph.D. Committees
 1. U. S. Kasavajjula (Current), Tennessee Technological University, Department of Civil and Environmental Engineering.
 2. J. Hill (Current), Tennessee Technological University, Department of Civil and Environmental Engineering.
 3. Z. Liu (August 2006), Mississippi State University, Department of Plant and Soil Sciences, *Effective Modeling of Agricultural Practices Within Large Scale Hydrologic and Water Quality Simulations*, Committee Co-Chair and Research Co-Director.
 4. R. Vickery (Dec. 2003), Mississippi State University, Department of Computational Engineering, *New Visualization Techniques for Multi-Dimensional Variables in Complex Physical Domains*.
 5. N. B. Hashim (May 2001), Mississippi State University, Department of Civil Engineering, *Watershed, Hydrodynamic, and Water Quality Models for Total Maximum Daily Load St. Louis Bay Watershed Mississippi*, Research co-Director.
 6. W. Rivera (Aug. 2000), Mississippi State University, Department of Computational Engineering, *Efficient and Accurate Domain Decomposition Algorithm for Solving Time Dependent Partial Differential Equations*, Research co-Director.
 7. C. O. E. Burg (Aug. 1999), Mississippi State University, Department of Computational Engineering, *A Design Optimization Strategy For Open-Channel Flows Using Discrete Sensitivity Analysis*, Committee Chair & Research Director.
 8. B. T. Vu (Aug. 1999), Mississippi State University, Department of Aerospace Engineering, *The Use of Non-Uniform Rational B-Splines in Overset Grid Generation*.
 9. Hazem Tleimat, (Dec. 1996), Mississippi State University, Department of Physics, *Computational Simulation of High-Energy Heavy-Ion Collisions*.
 10. T. Yu, (Dec. 1996), Mississippi State University, Computational, *CAGD Techniques in Grid Generation*.
- M. S. Committees
 1. A. L. Harris (December 2006), Tennessee Technological University, Department of Civil and Environmental Engineering.

2. N. Katiyar (December 2006), Tennessee Technological University, Department of Civil and Environmental Engineering.
3. P. S. Raj (December 2006), Tennessee Technological University, Department of Civil and Environmental Engineering.
4. T. Stewart (December 2002), Mississippi State University, Department of Civil Engineering, Non-thesis.
5. R. Vadapalli (December 2002), Mississippi State University, Department of Computational Engineering, *Accuracy Study of a Free Particle Using Quantum Trajectory Method on Message Passing Architecture*.
6. D. R. Cooper (May 2002), Mississippi State University, Department of Civil Engineering, Non-thesis, Committee Chair.
7. J. M. Kieffer (May 2002), Mississippi State University, Department of Civil Engineering, *Development of a Nutrient and Dissolved Oxygen Water Quality Model for the Saint Louis Bay Watershed*, Committee Chair & Research Director.
8. B. D. Fuller (Dec. 2001), Mississippi State University, Department of Civil Engineering, Non-thesis, Committee Chair.
9. E. D. Hardy (Aug. 2001), Mississippi State University, Department of Civil Engineering, Non-thesis.
10. M. E. Renick (Aug. 2001), Mississippi State University, Department of Civil Engineering, *Watershed Based Simulation of Fecal Coliform Within the Back Bay of Biloxi and Its Surrounding Streams*, Committee Chair & Research Director.
11. J. P. Hallberg (May 2001), Mississippi State University, Department of Civil Engineering, *Automated Design of a Site-Specific High Velocity Channel*, Committee Chair & Research co-Director.
12. G. W. Kilpatrick (May 2001), Mississippi State University, Department of Civil Engineering, *Watershed Based Analysis For Water Quality Management Within the Escatawpa River System*, Committee Chair & Research Director.
13. N. D. Gardner (Dec. 2000), Mississippi State University, Department of Civil Engineering, Non-thesis, Committee Chair.
14. T. Shelton (Dec. 2000), Mississippi State University, Department of Civil Engineering, Non-thesis.
15. S. Tingle (Dec. 2000), Mississippi State University, Department of Civil Engineering, *Development of a Methodology for Predicting the Fate of Dredged Material Planed on River Banks*, Committee Chair.
16. L. Poh (Dec. 1998), Mississippi State University, Department of Civil Engineering, *Water Quality and Hydrodynamic Models for Big Sunflower River*.
17. V. Valsalam (Dec. 1998), Mississippi State University, Department of Computational Engineering, *Tools for Improving the Out-of-Core Performance of Data and Computation Intensive Applications*.
18. S. A. Gill (May 1998), Mississippi State University, Department of Civil Engineering, *Determination of C_t and C_p Constants for a Drainage Subbasin on Middle BYWY Creek in Mississippi*.
19. R. Felder (Dec. 1995), Mississippi State University, Department of Aerospace Engineering, *Implementation of a Multigrid Method For Computing Steady-State Two-Dimensional Cascade Flow Fields*.
20. X. Zheng (Dec. 1994), Mississippi State University, Department of Computational Engineering, Non-thesis.
21. E. Craft (May 1994), Mississippi State University, Department of Aerospace Engineering, *A CFD Analysis of a Full Configuration Fighter Aircraft*.
22. D. H. Loe (Dec. 1993), Mississippi State University, Department of Aerospace Engineering, *Numerically Stable Unsteady Viscous Flow Predictions for Oscillating Cascades*.

Refereed Publications

1. Liu, Z., Kieffer, J. M., Hashim, N. B., Kingery, W. L., and Huddleston, D. H. (2005), "The Influence of Crop Fertilization Practices on Nutrient Input Parameters for Water Quality Modeling in the Wolf River Watershed Using HSPF," *International Journal of Civil and Environmental Engineering*, Vol. 1, No. 1, pp. 1-19, April.
2. Huddleston, D. H., Alarcon, V. J., and Chen, W. (2004), "Water Distribution Network Analysis Using Excel," *ASCE Journal of Hydraulic Engineering*, Vol. 130, No. 10, pp. 1033-1035, October.

3. Huddleston, D. H. and Walski, T. M. (2003), "Using Commercial Analysis Software to Teach Hydraulic and Hydrologic Design," *Computers in Education Journal*, Vol. 13, No. 3, pp. 43-52, July.
4. Rivera, W. Zhu, J., and Huddleston, D. H. (2003), "An Efficient Parallel Algorithm with Application to Computational Fluid Dynamics," *Computers and Mathematics with Applications: Numerical Methods in Physics, Chemistry and Engineering*, Vol. 45, pp 165-188.
5. Huddleston, D. H. (2002), "Spreadsheet Tools Utilized to Introduce Computational Field Simulation Concepts to Undergraduate Engineering Students," *Computers in Education Journal*, Vol. 12, No. 1, pp. 6-11, January.
6. Burg, C. O. E., Huddleston, D. H., and Berger, R. C. (2001), "An Efficient, Robust Design Tool for Open-Channel Flow," *ASCE Journal of Hydraulic Engineering*, Vol. 127, No. 1, pp. 62-70, January.
7. Hashim, N. B., Shindala, A., Zitta, V. L., and Huddleston, D. H. (1999), "Evaluating Hydrodynamic and Contaminant Transport Models for Application to St. Louis Bay, Mississippi," *Journal Teknologi: Environment and Technology Process*, No. 30, pp. 71-86, June.
8. Bangalore, P. V., Zhu, J., Huddleston, D. H., Skjellum, A., Welsh, D. J. S., Bedford, K. W., Wang, R. and Sadayappan, P. (1999), "Parallelization of a Coupled Hydraulics and Sediment Transport Model," *DoD High Performance Computing Modernization Program U.S. Army Corps of Engineers Waterways Experiment Station Major Shared Resource Center/PET TR 99-08, CD Version*, Vicksburg, MS, pp. 1-15, March.
9. Huddleston, D. H., Berger, R. C. and Burg, C. (1998), "A Computational Design Method for High-Velocity Channels," *DoD High Performance Computing Modernization Program U.S. Army Corps of Engineers Waterways Experiment Station Major Shared Resource Center/PET TR 98-09, CD Version*, Vicksburg, MS, pp. 1-21, January.
10. Zhu, J., Johnson, B., Bangalore, P., Huddleston, D. H., and Skjellum, A. (1998), "On Parallelization of CH3D," *DoD High Performance Computing Modernization Program U.S. Army Corps of Engineers Waterways Experiment Station Major Shared Resource Center/PET TR 98-07*, Vicksburg, MS, pp. 1-18, January.
11. Huddleston, D. H., Stokes, M. L., Anderson, J. D., and Soter, S. (1997), "An Interactive Exhibit For the Smithsonian *How Things Fly Gallery*," *Computer Applications in Engineering Education*, Vol. 5, No. 1, pp. 13-20.
12. Huddleston, D. and Soni, B. (1996), "Application of a Factored Newton-Relaxation Scheme to Calculation of Discrete Aerodynamic Sensitivity Derivatives," *Inverse Problems in Engineering* Vol. 3, pp.115-130.
13. Huddleston, D. H., Stokes, M. L., and Remotigue, M.G. (1995), "A Practical Model for Multidisciplinary Analysis Data and Algorithm Abstraction," *Journal of Applied Mathematics and Computation*, Vol. 65, 111-123.

Peer Reviewed Reports

1. American Society of Civil Engineers Committee on Academic Prerequisites For Professional Practice, Corresponding Committee Member (2006), "Development of Civil Engineering Curricula Supporting the Body of Knowledge For Professional Practice," American Society of Civil Engineers, Reston, VA, December, pp. 1-109.
2. Huddleston, D. H., Kingery, W. L., and Liu, Z. (2006), "Refinement and Calibration of the Comprehensive Water Quality Model for St. Louis Bay Estuary," *EPA Gulf of Mexico and Mississippi Department of Environmental Quality*, Mississippi State University, Mississippi State, May, pp. 1-308.
3. Huddleston, D. H., Kingery, W. L., Kieffer, J. M., Alacron, V., and Chen, W. (2003), "Development of a Comprehensive Water Quality Model of the St. Louis Bay Estuary and Watershed," *EPA Gulf of Mexico and Mississippi Department of Environmental Quality Contract #MX974070-00 Completion Report*, Mississippi State University, Mississippi State, June, pp. 1-273.
4. Huddleston, D. H., Epps, J. W., and Huddleston, M. H. (2002), "Second Year and Final Report of Field Performance Evaluation of Pavement Marking Materials (1999 Mississippi Test Deck)," *AASHTO's National Transportation Product Evaluation Program Report 02 NTPEP 220*, Washington, D.C., pp. 1-69, February.
5. Huddleston, D. H., Renick, M. E., and Hashim, N. B. (2001), "Utilization of Watershed Based Simulation of Fecal Coliform for TMDL Development Within the Back Bay of Biloxi Watershed," *Mississippi Department of Environmental Quality Contract Completion Report*, Mississippi State University, Mississippi State, MS, pp. 1-117, July.

6. Huddleston, D. H., Shindala, A., and Kilpatrick, G., (2001), "Development of Water Quality Models for TMDL Evaluation in the Escatawpa Estuary System," *United States Region IV Environmental Protection Agency Contract #CP984723-99 Completion Report, Mississippi State University, Mississippi State, MS*, pp. 1-102, June.
7. Huddleston, D. H., Shindala, A., Zitta, V. L., and Hashim, N. B. (2001), "Mathematical Modeling for Development of Total Maximum Daily Load (TMDL) for Fecal Coliform Bacteria in the St. Louis Bay Watershed," *EPA Gulf of Mexico and Mississippi Department of Environmental Quality Contract #MX984308-98 Completion Report, Mississippi State University, Mississippi State, MS*, pp.1-218, January.
8. Huddleston, D. H., Epps, J. W., and Huddleston, M. H. (2000), "Summary of Laboratory Test Results on Pavement Marking Materials Volume II: Laboratory Test Results (1999 Mississippi Test Deck)," *AASHTO's National Transportation Product Evaluation Program Report 00 NTPEP 213*, Washington, D.C., pp. 1-22, November.
9. Huddleston, D. H., Epps, J. W., and Huddleston, M. H. (2000), "First Year Interim Report on Field Evaluation of Pavement Marking Materials Volume I: Field Evaluation (1999 Mississippi Test Deck)," *AASHTO's National Transportation Product Evaluation Program Report 00 NTPEP 205*, Washington, D.C., pp. 1-144, November.
10. Huddleston, D. H. (1990), "Development of a Free-Jet Forebody Simulator Design Optimization Method," AEDC-TR-90-22, *Arnold Air Force Base, TN*, October.
11. Huddleston, D. H., Cooper, G. K., and Heikkinen, B. D. (1987), "Computational Fluid Dynamics Simulation of High-Bypass Turbofan Test Cell Flow Fields," AEDC-TR-86-48, *Arnold Air Force Base, TN*, March.

Refereed Conference Proceedings

1. Huddleston, D. H., Alarcon, V. J., and Chen, W. (2004), "Spreadsheet Replacement for Hardy Cross Piping System Analysis in Undergraduate Hydraulics," *World Water & Environmental Resources Congress 2004*, Salt Lake City, UT, 8 pages, June.
2. Huddleston, D. H. (2004), "Commonly Available Technology Applied To The Analysis of Hydraulic Systems," *2004 ASEE Annual Conference*, Salt Lake City, UT, 13 pages, June.
3. Kieffer, J., Liu, Z., Alarcon, V., Kingery, W., and Huddleston, D. H. (2004), "Assessment of Nutrient-Related Input Parameters Developed for Watershed Modeling," *Advances in Hydroscience and Engineering*, Brisbane, Australia, May.
4. Huddleston, D. H. (2003) "Using Technology to Enrich Undergraduate Water Resources Instruction," *World Water & Environmental Resources Congress 2003*, Philadelphia, PA, 10 pages, June.
5. Huddleston, D. H. (2003) "Water Resource Engineering Illustrations Using Excel," *Proceedings of the 2003 ASEE-SE Southeastern Section Annual Conference*, Macon, Georgia, 9 pages, April.
6. Hashim, N. B., Huddleston, D. H., and Shindala, A. (2002) "Watershed Modeling of Fecal Coliform Bacteria in the St. Louis Bay, Mississippi, USA," *4th Asian Science and Technology Congress*, Kuala Lumpur, Malaysia, November.
7. Hashim, N. B., Huddleston, D. H., Shindala, A., and Renick, M. E. (2002) "Watershed Based Simulation of Fecal Coliforms for Back Bay of Biloxi and its Surrounding Streams," *International Conference on Urban Hydrology for the 21st Century (ICUH 2002) – Urban Problems in the New Millenium*, Kuala Lumpur, Malaysia, October.
8. Huddleston, D. H., Hashim, N. B., and Shindala, A. (2001) "Fecal Coliform Water Quality Model of the St. Louis Bay Estuary," *7th International Conference on Estuarine and Coastal Modeling*, St. Pete Beach, FL, November.
9. Hashim, N. B., Huddleston, D. H., and Shindala, A. (2001) "Watershed Modeling of Fecal Coliform in the St. Louis Bay, Mississippi," *IWA 2001 World Water Congress*, Berlin, Germany, October.
10. Rivera, W. Zhu, J., and Huddleston, D. H. (2001) "An Efficient Parallel Algorithm for Solving Unsteady Nonlinear Equations," *Proceedings of the International Conference on Parallel Processing (ICPP-2001)*, Valencia, Spain, September.
11. Rivera, W. Zhu, J., and Huddleston, D. H. (2002) "An Efficient Parallel Algorithm for Solving Unsteady Euler Equations," *Parallel Computational Fluid Dynamics --- Recent Development and Advances*, P. Wilders, A. Ecer, J. Periaux, N. Satofuka, and P. Fox, Eds. 293-300, Elsevier Science, Amsterdam, May 2001.

12. Rivera, W. Zhu, J., and Huddleston, D. H. (2001) "Parallel Performance Investigation of a Domain Decomposition Algorithm," *Proceedings of the 10th SIAM Conference of Parallel Processing for Scientific Computing*, SIAM, Philadelphia, PA, March.
13. Burg, C. O. E., Huddleston, D. H., and Berger, R. C. (2000), "Efficient and Accurate Numerical Optimization via the Complex Taylor's Series Expansion Method," *Finite Elements in Flow Problems 2000*, Austin, TX, May.
14. Green, R. A. and Huddleston, D. H. (1998), "Changing the Engineering Undergraduate Experience by Appropriate Use of Computer Technology," *1998 ASEE/IEEE Frontiers in Education Conference*, Tempe, AZ, November.
15. Huddleston, D. H., Burg, C. O. E., and Berger, R. C. (1998), "Coupling Nonlinear Optimization and Computational Simulation to Design Flood Control Channels," *Advances in Hydroscience and Engineering*, Vol. 3, Cottbus, Germany, September.
16. Huddleston, D. H., Stokes, M. L., Anderson, J. D., and Soter, S. (1996), "An Interactive Exhibit For the Smithsonian *How Things Fly Gallery*," *18th Southeastern Conference on Theoretical and Applied Mechanics, Developments in Theoretical and Applied Mechanics*, Vol. 18, 319-327, Tuscaloosa, AL, April.
17. Huddleston, D. H., and Mastin, C. W. (1989), "Optimization of Aerodynamic Designs Using Computational Fluid Dynamics," *AGARD Specialists' Meeting on Computational Methods for Aerodynamic Design (Inverse) and Optimization*, AGARD-CP-463, pp. 23.1-23.10, Loen, Norway, May.

Non-refereed Conference Proceedings

1. Zitta, V. L., Shindala, A., Huddleston, D. H., and Hashim, N. B. (1999), "Application of GIS to the Modeling of Bacterial Contamination in St. Louis Bay," *1999 ASCE International Water Resources Engineering Conference*, Seattle, WA, August.
2. Bangalore, P. V., Zhu, J., Huddleston, D. H., Skjellum, A., Welsh, D. J. S., and Wang, R. (1999), "Parallelization of a Hydraulics and Sediment Transport Simulation Code," *DoD HPCMP User Group Meeting*, Monterey, CA, June.
3. Rivera-Gallego, W., Zhu, J., and Huddleston, D. H. (1999), "Stability and Accuracy Analysis of a Parallel Explicit-Implicit Finite Difference Algorithm for Solving Time Dependent PDEs," *Fourth Mississippi State Conference on Differential Equations and Computational Simulations*, Mississippi State University, MS, May.
4. Huddleston, D. H., Berger, R. C. and Burg, C. O. E. (1998), "A Numerical Design Method for Open-Channel Flow," *1998 ASCE International Water Resources Engineering Conference*, Memphis, TN, August.
5. Zhu, J., Johnson, B., Bangalore, P., Huddleston, D. H., and Skjellum, A. (1998), "On the Development of a Parallel Hydrodynamic Simulator," *1998 ASCE International Water Resources Engineering Conference*, Memphis, TN, August.
6. Zhu, J., Johnson, B., Bangalore, P., Huddleston, D. H., and Skjellum, A. (1997), "A Portable and Scalable Three-Dimensional Hydrodynamic Simulator for Parallel Computers," *SC97: High Performance Networking and Computing*, San Jose, CA, November.
7. Keasler, J., Johnson, B., Skjellum, A., and Huddleston, D. H. (1996), "Parallelizing a Hydrodynamics Code for the SGI Power Challenge," *DoD HPCMP User Group Meeting*, Urbana-Champaign, IL, November.
8. Stokes, M. L., Soni, B., Huddleston, D. H., and Shih, M. S. (1995), "Flow Simulation in a Parallel, Distributed Environment," *AIAA-95-2338, 31st Joint Propulsion Conference and Exhibit*, San Diego, CA, July.
9. Huddleston, D. H. and Johannsen, A. (1995), "Color Wheel Visualizations of 2D Flow Fields," *AIAA-95-1716, 12th AIAA Computational Fluid Dynamics Conference*, San Diego, CA, June.
10. Huddleston, D. H., Stokes, M. L., Anderson, J. D., and Soter, (1995), "An Interactive Exhibit For the Smithsonian *How Things Fly Gallery*," Open Forum presentation, *12th AIAA Computational Fluid Dynamics Conference*, San Diego, CA, June.
11. Huddleston, D., Soni, B., and Zheng, X. (1994), "Application of a Factored Newton-Relaxation Scheme to Calculation of Discrete Aerodynamic Sensitivity Derivatives," *AIAA-94-1894, 12th AIAA Applied Aerodynamics Conference*, Colorado Springs, CO, June.

12. Vu, B., McConnaughey, P., and Huddleston, D. (1994), "Computational Aerodynamics Analysis of Future Launch Vehicle Configurations," AIAA-94-1936, *12th AIAA Applied Aerodynamics Conference*, Colorado Springs, CO, June.
13. Swafford, T., Loe, D., Huff, D., Huddleston, D., and Reddy, T-S (1994), "The Evolution of NPHASE: Euler/Navier-Stokes Computations Of Unsteady Two-Dimensional Cascade Flow Fields," AIAA-94-1834, *12th AIAA Applied Aerodynamics Conference*, Colorado Springs, CO, June.
14. Huddleston, D. H., Stokes, M. L., and Remotigue, M. G. (1993), "A Practical Model for Multidisciplinary Analysis Data and Algorithm Abstraction," *1st Mississippi State Conference on Differential Equations and Computational Simulations*, Mississippi State University, MS, April.
15. Stokes, M. L., Huddleston, D. H., and Remotigue, M. G. (1993), "A Practical Model for Multidisciplinary Analysis Data and Algorithm Abstraction," *Sixth SIAM Conference on Parallel Processing for Scientific Computing*, Norfolk, VA, March.
16. Soni, B. K., Huddleston, D. H., Arabshahi, A., and Vu, B. (1993), "A Study of CFD Algorithms Applied to Complete Aircraft Configurations," AIAA-93-0784, *31st Aerospace Sciences Meeting*, Reno, NV, January.
17. Huddleston, D. H., and Mastin, C. W. (1989), "Optimization Methods Applied to Aerodynamic Design Problems in Computational Fluid Dynamics," *7th International Conference on Finite Element Methods in Flow Problems*, Huntsville, AL, April.
18. Huddleston, D. H., Cooper, G. K., and Phares, W. J. (1986), "A Computational Fluid Dynamics Evaluation of Test Cell Recirculation Effects on High-Bypass Turbofan Engine Surface Pressure Distributions," AIAA 86-1384, *AIAA/ASME/SAE/ASEE 22nd Joint Propulsion Conference*, Huntsville, AL, July.
19. Huddleston, D. H., and Nayfeh, A. H. (1979), "Resonant Acoustic Frequencies of Parallel Plates," AIAA 79-1522, *AIAA 12th Fluid and Plasma Dynamics Conference*, Williamsburg, VA, July.

Conference Presentations

1. Gonzalez, R., Kingery, W. L., and Huddleston, D. H. (2004), "The Use of Physical Watershed Models for Grades 6 through 12 Science Students in Mississippi," *68th Mississippi Academy of Sciences Meeting*, Biloxi, MS, February.
2. Liu, Z., Kingery, W. L., Alarcon, V. J., and Huddleston, D. H. (2004), "Development of a Nutrient and Dissolved Oxygen Water Quality Model for the Saint Louis Bay Watershed," *68th Mississippi Academy of Sciences Meeting*, Biloxi, MS, February.
3. Alarcon, V., Huddleston, D. H., and Kingery, W. (2003) "Sensitivity Analysis of the Wolf Watershed Hydrologic Model," *AWRA 2003 Spring Specialty Conference Agricultural Hydrology and Water Quality*, Kansas City, MO, May.
4. Huddleston, D. H., and Berger, R.C. (1996), "A Computational Design Method for Water Resources," *Mississippi Section American Society of Civil Engineers Spring '96 Meeting*, Diamondhead, MS, April.
5. Stokes, M. L., Soni, B., Huddleston, D. H., and Shih, M. S. (1995), "Towards an Integrated CFD System in a Parallel Environment," *Parallel CFD 95*, California Institute of Technology, CA, August.
6. Shih, M. S., Stokes, M. L., Huddleston, D. H., and Soni, B. (1995), "Towards an Integrated CFS System in a Parallel Environment," *31st Joint Propulsion Conference and Exhibit*, San Diego, CA, July.

Technical Reports and University Reports

1. Huddleston, D. H., Epps, J. W., and Huddleston, M. H. (2001), "First Year Interim Report on Field Evaluation of Pavement Marking Materials Volume I: Field Evaluation (1999 Mississippi Test Deck)," *Mississippi Transportation Research Center MTRC Report Number: 01-002*, Mississippi State University, MS, April.
2. Huddleston, D. H., Epps, J. W., and Huddleston, M. H. (2001), "Summary of Laboratory Test Results on Pavement Marking Materials Volume II: Laboratory Test Results (1999 Mississippi Test Deck)," *Mississippi Transportation Research Center MTRC Report Number: 01-001*, Mississippi State University, MS, April.
3. Huddleston, D. H., Swafford, T. W., Busby, J. M., and Chesser, B. L. (1992), "Computation of Steady and Unsteady Quasi-One-Dimensional Viscous/Inviscid Interacting Internal Flows at Subsonic, Transonic, and Supersonic Mach Numbers," MSSU-EIRS-ERC-92-1, *Engineering & Industrial Research Station*, June.

- Huddleston, D. H. (1989), "Aerodynamic Design Optimization Using Computational Fluid Dynamics," Ph.D. Thesis, *University of Tennessee*, Knoxville, TN, December.
- Huddleston, D. H. (1978), "A Mode Matching Analysis of a Two-Dimensional Duct Containing a Splitter-Plate," MS Thesis, *Virginia Polytechnic Institute and State University*, Blacksburg, VA, December.

Creative Works

- Huddleston, D. H. and Stokes, M. L. (1996-), "*How Wings Work*," A permanent, interactive exhibit in the *How Things Fly* Gallery of the Smithsonian National Air and Space Museum.

Invited Colloquia

- Huddleston, D. H. (2006), "Some Hydrodynamic and Water Quality Modeling Issues in Estuaries," *Alabama State University Department of Math and Science national Science Foundation HBCU-UP Program*, AL, November.
- Huddleston, D. H., and Jackson, G. (2001), "Model Application in Mississippi TMDL Development," *Gulf of Mexico Program Monitoring, Modeling and Research Committee Meeting*, Stennis Space Center, MS, April.
- Huddleston, D. H. and Burg, C. O. E. (1997), "Computational Design in Hydrodynamics," *U. S. Army Corps of Engineers, Waterways Experiment Station (CEWES)*, Vicksburg, MS, September.
- Huddleston, D. H. and Janus, J. M. (1997), "Multidisciplinary Analysis and Optimization Within MSU's Engineering Research Center," *Mississippi State University Engineering Research Center for Computational Field Simulation*, MS, July.
- Huddleston, D. H. (1996), "A Computational Design Method for Water Resources Applications," *Center for Computational Hydrosience and Engineering, University of Mississippi*, Oxford, MS, November.
- Huddleston, D. H. (1996), "A Survey of Computational Design Methods," *Mississippi State University Engineering Research Center for Computational Field Simulation*, Mississippi State, MS, September.
- Huddleston, D. H. (1995), "Application of a Factored Newton-Relaxation Scheme to Calculation of Discrete Design Sensitivity Derivatives," *Mississippi State University Department of Civil Engineering*, Mississippi State, MS, April.
- Huddleston, D. H. (1995), "A Computational Design Method for Water Resources Applications," *U. S. Army Corps of Engineers, Waterways Experiment Station (CEWES)*, Vicksburg, MS, July.

University Service

- Faculty Advisor, Tau Beta Pi Tennessee Gamma Chapter (2005-present)
- Faculty Advisor, Tau Beta Pi Mississippi Alpha Chapter (2002-2004)
- College of Engineering Representative, Mississippi State University Robert Holland Faculty Senate (1998-present)
- Member, Mississippi State University Hazardous Waste Management Committee (2001-present)
- Member, College of Engineering Computer System Steering Group (1998-2002)
- Chairman, Engineering College Hearin Grant Computational Team (1997-2001)
- Mississippi State University Campus Software Committee (1999-2001)
- Graduate Coordinator, Department of Civil Engineering (1998-2000)
- Chairman, Engineering College Faculty Council (1998)
- Vice-chairman, Engineering College Faculty Council (1997)
- Member, Engineering College Faculty Council (1996-1998)
- Chairman, Engineering College Information Technology Committee (1997)

Service to Profession

- Chair, ASCE/EWRI Computational Hydraulics Committee (Hydraulics & Waterways Council), 2006-2008, member, 2000-present.
- Member, ASCE/EWRI Task Committee on Computational Modeling of Hydraulic Structures, 2000-present.
- Member, ASCE/EWRI Task Committee on Applying Evolutionary Computing Techniques to Reservoir Control, 2000-present.

4. Organizing Committee Member, *Second International Conference on Nonlinear Problems in Aviation & Aerospace*, Daytona Beach, FL, May 1998.
5. Session Organizer, *First International Conference on Nonlinear Problems in Aviation & Aerospace*, Daytona Beach, FL, May 1996.

Chairmanship of Technical Sessions

1. Session Chairman and Moderator, Panel Discussion for Present and Future Analysis and Simulation Needs for Hydraulic Structures, *World Water & Environmental Resources Congress 2005*, Anchorage, AK, May, 2005.
2. Session Chairman, Incorporating Hydrologic and Hydraulic Software in Engineering Education Symposium, *World Water & Environmental Resources Congress 2003*, Philadelphia, PA, June, 2003.
3. Session Chairman, *World Water & Environmental Resources Congress 2001*, Orlando, FL, May, 2001.
4. Session Chairman, *3rd International Conference on Hydrosience and Engineering*, Cottbus/Berlin, Germany, September, 1998.
5. Session Chairman, *Third Mississippi State Conference on Differential Equations and Computational Simulations*, Mississippi State University, MS, May 1997.
6. Session Chairman, *18th Southeastern Conference on Theoretical and Applied Mechanics*, Developments in Theoretical and Applied Mechanics, Tuscaloosa, AL, April 1996.
7. Session Chairman, *12th AIAA Computational Fluid Dynamics Conference*, San Diego, CA, June 1995.
8. Session Chairman, *First Mississippi State Conference on Differential Equations and Computational Simulations*, Mississippi State University, MS, April 1995.

TENNESSEE TECHNOLOGICAL UNIVERSITY
Civil & Environmental Engineering

February 2011

1. **Name.** Xiaoming Sharon Huo

2. **Academic Rank.** Professor; Full-time

3. **Degrees with fields, institutions and dates.**

B.S. (Civil Engineering), Tsinghua University, 1983
M.S. (Civil Engineering), Tsinghua University, 1987
Ph.D. (Civil Engineering), University of Nebraska-Lincoln, 1997

4. **Number of years service on this faculty, including date of original appointment and dates of advancement in rank.** 11 years

Initial appointment: Assistant Professor of Civil Engineering, 1998
Advancement in rank: Associate Professor, 2003; Professor, 2008; Interim Chair of CEE Department, 2007

5. **Other related experience--teaching, industrial, etc.**

Structural Engineer and Project Manager, Rupprecht Engineering Inc., Omaha, Nebraska, 1998
Structural Engineer and Project Manager, Ebmeier Engineering, Omaha, Nebraska, 1997
Research Assistant, University of Nebraska-Lincoln, Omaha, Nebraska, 1992-1997
Guest Researcher, National Institute of Standards and Technology, Gaithersburg, Maryland, 1993-1994
Structural Engineer, China Academy of Building Research, Beijing, China, 1987-1992
Instructor, Tsinghua University, Beijing, China, 1983-1984

6. **Consulting, patents, etc.**

Load Analysis and Design Recommendations of Cold-Form Steel Trusses for Putnam Portable Storage Co.,
Cookeville, Tennessee, 2000
Mezzanine Load Analysis for Brown Manufacturing Corporation Inc, Nashville, Tennessee, 2000
(through Center for Industrial Services, University of Tennessee, Knoxville)

7. **State in which registered.** Nebraska, E-8762

8. **Principal publications of last five years.**

Thirty-nine publications in refereed Journals, books, research project reports, and conference proceedings within the past five years. Selected principal publications are:

Hayworth, R., **Huo, X.S.**, Zheng, L. (2008) "Effects of State Legal Loads on Bridge Rating Results Using the LRFR Procedure," *ASCE Journal of Bridge Engineering*, vol. 13, No. 6, pp. 565-572.

Zheng, L., **Huo, X.S.**, Yuan, Y. (2008) "Strength, Modulus of Elasticity, and Brittleness Index of Rubberized Concrete," *ASCE Journal of Materials in Civil Engineering*, Vol. 20, No. 11, pp. 692-699.

Huo, X.S., Zhang, Q. (2008) "Effect of Skewness on the Distribution of Live Load Reaction at Piers of Continuous Skewed Bridges," *ASCE Journal of Bridge Engineering*, Vol. 13, No. 1, pp. 110-114.

Zheng, L., **Huo, X.S.**, and Yuan, Y. (2008) "Experimental Investigation on Dynamic Properties of Rubberized Concrete," *Construction and Building Materials*, Vol. 22, No. 5, pp 939-947.

Huo, X.S., Zhu, P., Ung, F., and Wasserman, E.P. (2006) "Case Study of a High-Performance Concrete Bridge in Tennessee," *ASCE Practice Periodical on Structural Design and Construction*, Vol. 11, No. 4, pp. 229-237.

Huo, X.S. and Wong, L.U. (2006) "Experimental Study of Early-Age Behavior of High Performance Concrete Deck Slabs under Different Curing Methods," *Construction and Building Materials*, Vol.10, No. 4, pp. 1049-1056.

Conner, S.O. and **Huo, X.S.** (2006) "Influence of Parapets and Aspect Ratio on Live Load Distribution," *ASCE Journal of Bridge Engineering*, pp 188-196.

Patrick, M.D., **Huo, X.S.**, Puckett, J.A., Jablin, M., and Mertz, D. (2006) "Sensitivity of Live Load Distribution Factors to Vehicle Spacing," *ASCE Journal of Bridge Engineering*, Vol. 11, No. 1, pp.131-134.

Huo, X.S., Wasserman, E.P., and Iqbal, R. (2005) "Simplified Method for Calculating Lateral Distribution for Live Load Shear," *ASCE Journal of Bridge Engineering*, Vol. 10, No. 5, pp.544-554.

Huo, X.S., Zhu, P., and Ung, F. (2005) "Experimental Study on the Behavior of High-Strength and Normal Strength Concrete Beams in a Tennessee Bridge" *ACI SP-228*, pp. 862-882.

Puckett, J.A., **Huo, X.S.**, Patrick, M.D., Jablin, M.C., and Mertz, D. (2005) "Simplified Live-Load Distribution-Factor Equations for Bridge Design," *Journal of the Transportation Research Board* CD-11S, TRR, pp. 67-78.

9. Scientific and professional societies of which a member.

American Society of Civil Engineers (ASCE); American Society for Engineering Education (ASEE); Precast/Prestressed Concrete Institute (PCI)

10. Honors and awards. (last five years)

2009 Brown-Henderson Outstanding Engineering Faculty Award, College of Engineering, Tennessee Tech University, February 2009

11. Institutional and professional service in the past five years.

Institutional Service

Student Advising; University Senate; University Academic Council; University Curriculum; University Graduate School Executive, University Library; College of Engineering Curriculum; College of Engineering Graduate Committee; Brown-Henderson Outstanding Faculty Award; Leighton E. Sissom Innovation and Creativity Award; Department ABET Committee (Chair); Department Graduate Affairs, Advisement and Student Affairs, Admissions and Curriculum, and three faculty Search Committees

Professional Service

Reviewers: ASCE, PCI/FHWA/FIB, TRB, and Journal of Engineering Education

12. Percentage of time available for research and scholarly activities: 10%

13. Percentage of time committed to the program: 100%

TENNESSEE TECHNOLOGICAL UNIVERSITY

Civil & Environmental Engineering

February 2011

1. Name. Y. Jane Liu

2. Academic rank. Associate Professor

3. Degrees with fields, institutions and dates.

Ph.D. in Structural Engineering, University of Hawaii, Honolulu, U.S.A, 2002

M.S. in Structural Engineering, University of Hawaii, Honolulu, U.S.A, 1998

B.S. in Engineering Solid Mechanics, Hohai University, Nanjing, P.R.China

4. Number of years service on this faculty, including date of original appointment and dates of advancement in rank.

Assistant Professor, August 1, 2002; Associate Professor, August 1, 2007

5. Other related experience--teaching, industrial, etc.

Research Assistant (the research projects were funded by NASA Langley Research Center under Grants NAG-1-1487 and NAG-1-1850), Teaching Assistant, and Lecturer, Department of Civil Engineering, University of Hawaii (1995-2002)

6. Consulting, patents, etc. None.

7. States in which registered. FE, State of Hawaii, 1997

8. Principal publications of last five years.

Journal Papers

1. Y. J. Liu, G. R. Buchanan, "Free Vibration of Transversely Isotropic Solid and Thick-walled Toroidal Shells," International Journal of Structural Stability and Dynamics, 2006, vol. 6: No. 3, 359-575
2. G. R. Buchanan, Y. Jane Liu, "An Analysis of the Free Vibration of Thick-walled Isotropic Toroidal Shells," International Journal of Mechanical Sciences, 2005, vol. 47: 277-292
3. Y. Jane Liu, H.R. Riggs, "The MIN-N Family of Pure-Displacement, Triangular Mindlin Plate Elements," The Structural Engineering and Mechanics, An International Journal, 2005, vol.19: No. 3, 297-320
4. Y. Jane Liu, G. R. Buchanan, "Free Vibration of Stepped Cantilever Mindlin Plates," Journal of Sound and Vibration, 2004, vol. 271: 1083-1092

Conference Proceedings

1. Jane Liu, George Buchanan "Application of Groebner Bases in Methodology to Nonlinear Analysis of an Underwater Cable," (full paper accepted) Proc. 30th International Conference on Ocean, Offshore and Arctic Engineering on CD, Rotterdam, The Netherlands, June 19-24, 2011.
2. Jane Liu, George Buchanan "An example of using the Groebner Bases in an inverse problem of damage prediction by inverse method in nonlinear plates," Proc. 10th National Congress on Computational Mechanics on CD, the Ohio State University, Columbus, Ohio, July 16-19, 2009.
3. J. Ning, W. Gao, G. Radman and J. Liu, "The Application of the Groebner Basis Technique in Power Flow Study," (full paper) the 41th North American Power Symposium, Mississippi, October 4-6, 2009.
4. Jane Liu, George Buchanan "Application of Algebraic Geometry to Vibration Control of Geometrically Nonlinear Hygrothermal-elastic Composite Plates," Proc. 45th Annual Technical Meeting Society of

- Engineering Science 2008 on CD, University of Illinois at Urbana-Champaign, Champaign, Illinois, October 12-15, 2008.
5. Jane Liu, Rafal Ablamowicz "Using Maple Computer Algebra System in Teaching Mechanics Courses," Proc. 45th Annual Technical Meeting Society of Engineering Science 2008 on CD, University of Illinois at Urbana-Champaign, Champaign, Illinois, October 12-15, 2008.
 6. Rafal Ablamowicz, Jane Liu "Solving Systems of Polynomial Equations with Groebner Bases: Examples and Applications," Proc. 45th Annual Technical Meeting Society of Engineering Science 2008 on CD, University of Illinois at Urbana-Champaign, Champaign, Illinois, October 12-15, 2008.
 7. Jane Liu, Rafal Ablamowicz "Advanced Computational Methods Course for Engineering Graduate Students," Proc. 44th Annual Technical Meeting Society of Engineering Science 2007 on CD, Texas A&M University, College Station, Texas, October 21-24, 2007.
 8. George Buchanan, Jane Liu "Geometrically Nonlinear Vibration of thermo-elastic Plates with Method of Groebner Bases," Proc. 44th Annual Technical Meeting Society of Engineering Science 2007 on CD, Texas A&M University, College Station, Texas, October 21-24, 2007.
 9. Robert VanDervort, Jane Liu "Geometrically Nonlinear Analysis of Rectangular Plates with the Groebner Bases," Proc. 44th Annual Technical Meeting Society of Engineering Science 2007 on CD, Texas A&M University, College Station, Texas, October 21-24, 2007.
 10. Rafal Ablamowicz, Jane Liu "A Note on the Rodrigues Matrix of Rotation," Proc. 44th Annual Technical Meeting Society of Engineering Science 2007 on CD, Texas A&M University, College Station, Texas, October 21-24, 2007.
 11. Jane Liu, "Applications of Algebraic Geometry Methods to Damage Detection in Plates with Large Deformation," Proc. 9th US National Congress on Computational Mechanics 2007 on CD, San Francisco, California, July 22 - 26, 2007.
 12. Jane Liu, Sirisha Madhavapeddy, and George Buchanan "Algebraic Geometry Approach in the Modeling of a Free Vibration Analysis of Laminated Toroidal Shells with Elliptical Cross-Section," Proc. 43rd Annual Technical Meeting Society of Engineering Science 2006, University Park, Pennsylvania, August 13 - 16, 2006, 70
 13. Rafal Ablamowicz, Jane Liu "On the Parallel Lines for Bézier Cubics and Surfaces," Proc. 43rd Annual Technical Meeting Society of Engineering Science 2006, University Park, Pennsylvania, August 13 - 16, 2006, 69
 14. Siphay Douangvilay, Jane Liu "Free Vibration Analysis of a Bézier Cubic Composite Shell," Proc. 43rd Annual Technical Meeting Society of Engineering Science 2006, University Park, Pennsylvania, August 13 - 16, 2006, 63
 15. Eric S. Fox, Y. Jane Liu and George R. Buchanan "Vibration of a Tire Modeled as a Composite Three-Dimensional Toroidal Shell," Proc. 14th International Conference on Composites/NANO Engineering, July 2006, Boulder, Colorado July 2-8, 2006, CDROM-ICCE-14

9. Scientific and professional societies of which a member.

Associate Member, ASCE; Member, ASME; Member, USACM

10. Honors and awards.

College of Engineering Faculty Productivity Award, TTU, 2010

11. Institutional and professional service in the past five years.

Committee service:

Member of the departmental Computer, Library, Equipment Committees

Member of the university Art Committee; The Commission on the Status of Women

Graduate Advising:

8 M.S. students (Committee chair or Co-Chair); 6 M.S. and 14 Ph.D. students (Committee member)

Reviewers:

ASME Journal of Offshore Mechanics and Arctic Engineering 2010

Journal of Sound and vibration papers, 2007, 2008

Journal of Computational and Applied Mathematics papers, 2006

5th Hawaii international Conference on Statistics, Mathematics and Related Fields 2006 papers

12. Professional development activities in the last five years.

Co-organizer, Symposium “Advanced Mathematical Tools: A Frontier Between Mathematics and Engineering”, 43rd/44th/45th Annual Technical Meeting Society of Engineering Science, (SES) 2006, 2007, and 2008.

TENNESSEE TECHNOLOGICAL UNIVERSITY
Civil & Environmental Engineering

March 2011

1. **Name:** Jessica Oswald Matson

2. **Academic rank:** Professor, Full-time

3. **Degrees with fields, institutions, and dates:**

Ph.D. (Industrial Engineering), Georgia Institute of Technology, 1982

M.S. (Industrial Engineering), Georgia Institute of Technology, 1979

B.S. (Industrial Engineering), Mississippi State University, 1975

4. **Number of years service on this faculty, including date of original appointment and dates of advancement in rank:** 11.5 years

Initial appointment: Professor and Chair of Industrial and Manufacturing Engineering Department, 1998;
Appointed Professor of Industrial and Systems Engineering in 2006.

5. **Other related experience – teaching, industrial, etc.:**

Associate Professor, IE Dept., University of Alabama, 1987-98; Also Dir., IE Design Clinic, 1994-97

Associate Professor, 1986-87, & Assistant Professor, 1983-86, IE Dept., Mississippi State University

Also Training Assoc., Rehab. Research and Training Center on Blindness & Low Vision, 1986-87

Assistant Professor, Business Info. Sys. & Quant. Analysis Dept., Mississippi State University, 1982-83

Graduate Research Asst., Prod. & Dist, Research Center, School of ISyE, Georgia Tech, 1979-82

Data Systems Design Supervisor, AT&T Long Lines, Atlanta, Georgia, 1976-77

Operations Supervisor, AT&T Long Lines, Jacksonville, Florida, 1975-76

6. **Consulting (past five years):**

ABET Self-Study Review for UTEP IE Program, 2007

ABET Mock Review Program Evaluator for FAMU-FSU IE Program, 2008

7. **State in which registered:** Mississippi, #09685

8. **Principal publications of last five years:** (all refereed)

K. Hunter, **J. Matson**, R. Loutzenheiser, and M. Phelps, "Professional Development for Science, Technology and Mathematics Teachers," *Proc. of the 2010 ASEE Annual Conf. & Expo.*, Louisville, KY, June 2010.

J. Matson and **J. Matson**, "Supply Chain Issues of Automotive Manufacturing in the Southern USA," *Supply Chain Management: An International Journal*, 12(6), 2007.

D. Elizandro and **J. Matson**, "Taking a Moment to Teach Engineering Economy," *The Engineering Economist*, 52(2), April 2007.

J. Matson, J. Mozrall, P. Patterson, and D. Schaub, "An Industrial Engineering Body of Knowledge?" *Proc. of the ASEE 2007 Annual Conf. & Expo.*, Honolulu, HI, June 2007.

J. Matson, K. Craven, S. Pardue, C. Darvennes, & A. Wachs, "Assessing Participant Engagement in a Middle School Outreach Program," *Proc. of the ASEE 2007 Annual Conf. & Expo.*, Honolulu, HI, June 2007.

J. Matson and J. Matson, "Industrial Engineering and Other Characteristics of Southern USA Automotive Suppliers," *Proc. of the IERC*, Nashville, TN, May 2007.

K. Hunter, **J. Matson**, and S. Elkins, "Preparing for Emerging Technologies: A Grassroots Approach to Enhancing K-12 Education," *Proc. of the ASEE 2006 Annual Conf. & Expo.*, Chicago, IL, June 2006.

9. Scientific and professional societies of which a member:

Institute of Industrial Engineers (IIE); American Society for Engineering Education (ASEE); Society of Women Engineers (SWE); Sigma Xi

10. Honors and awards (last five years):

Outstanding Faculty Award for Professional Service, Tennessee Technological University, 2009
Fred C. Crane Distinguished Service Award, Institute of Industrial Engineers, 2007
Distinguished Engineering Fellow, Mississippi State University, 2007

11. Institutional and professional service in last five years:

Institutional Service

Student advising; University and College Curriculum Committees, 2006; Institutional Animal Care and Use Committee, 2003-present; Research Committee, 2009-present; Faculty Advisor - Alpha Pi Mu, 2004-present, and Institute of Industrial Engineers, 2005-present; Faculty Co-advisor - Tau Beta Pi, 2008-present

Professional Service

Committee of Visitors, NSF Engineering Education and Centers Division, March 2007.

IIE - Senior Vice President at Large for Academia (Board of Trustees position), 2004-06; VP, Middle TN Chapter, 2006-10; Chair of Student Design Competition Committee (national), 2005-07; Member of Curriculum Innovation Award Committee (national), 2005-06; Representative to ABET Systems Engineering Task Force (national), 2006-2008; Board of Trustees Secretary (non-voting member), 2011. ASEE (national) - Chair of New Awards Committee for IE Division, 2006-2008; IE Division Awards Chair, 2005-06; Professional Interest Council I Chair (Board of Directors member), 2008-2010; Nominating Committee, 2010-present.

External reviewer for tenure and promotion dossiers, 2002-present; reviewer for *European Journal of Industrial Engineering*, 2006; reviewer for IIE and ASEE conference proceedings.

ABET - Program Evaluator for IE and Engineering Management program visits in 2006-2008; EAC member and team chair for two visits each year, 2009-2010.

Outreach - Engineering A Future, FIRST Lego League referee, high school visits.

Grant Participation - Senior Personnel on Tennessee Pre-Engineering Math-Science Partnership Grant, 2007-2010, and Math Success for STEM Majors Grant, 2010-present.

Workshop Leader, ASEE Southeastern Section Conference, Tuscaloosa, AL, 2006.

12. Percentage of time available for research and scholarly activities: 10%

13. Percentage of time committed to program:

TENNESSEE TECHNOLOGICAL UNIVERSITY
Civil & Environmental Engineering

March 2011

1. Name. Benjamin John Mohr

2. Academic rank. Associate Professor, Full-time

3. Degrees with fields, institutions and dates.

Ph.D. (Civil Engineering), Georgia Institute of Technology, August 2005

M.S. (Civil Engineering), Georgia Institute of Technology, August 2002

B.S. (Civil Engineering), University of Delaware, May 2001

4. Number of years service on this faculty, including date of original appointment and dates of advancement in rank. 5.5 years

Promotion: Associate Professor of Civil Engineering, August 2010

Initial appointment: Assistant Professor of Civil Engineering, August 2005

5. Other related experience--teaching, industrial, etc.

Graduate Research Assistant, School of Civil and Environmental Engineering, Georgia Institute of Technology, 2001-2005

Undergraduate Teaching Assistant, Department of Civil and Environmental Engineering, University of Delaware, 1999-2001

6. Consulting, patents, etc.

Benjamin J. Mohr, Kimberly E. Kurtis, Hiroki Nanko. "Methods for Internally Curing Cement-Based Materials and Products Made Therefrom," US patent application #11/738,906 filed by Georgia Tech Research Corporation/Georgia Institute of Technology on April 23, 2007.

Consultant - GAF Corporation (2005)

7. States in which registered. N/A, Certified Engineer-in-Training

8. Principal publications of last five years.

Fifteen publications in refereed journals, conference proceedings, and research reports within the past five years. Selected principal publications are:

Mohr, B.J., Hood, K.L. "Influence of Bleed Water Reabsorption on Cement Paste Autogenous Deformation." *Cement and Concrete Research*, 2010; 40(2):220-225.

Ojo, J.O., Mohr, B.J. "A Review of the Analysis of Cement Hydration Kinetics via ¹H Nuclear Magnetic Resonance." In: *Proceedings of the 3rd International Symposium on Nanotechnology in Construction (NICOM3)*, Prague, Czech Republic, May 31-June 2, 2009, Eds. Bittnar, Z., Bartos, P.J.M., Nemecek, J., Smilauer, V., Zeman, J., 2009: 107-112.

Mohr, B.J., Hood, K.L., Kurtis, K.E. "Mitigation of Alkali-Silica Expansion in Pulp Fiber Mortar Composites." *Cement and Concrete Composites*, 2009; 31(9):677-681.

Mohr, B.J., Biernacki, J.J., Kurtis, K.E. "Supplementary Cementitious Materials for Mitigating Kraft Pulp Fiber-Cement Composite Degradation." *Cement and Concrete Research*, 2007;37(11): 1531-1543.

Mohr, B.J., Biernacki, J.J., Kurtis, K.E. "Microstructural and Chemical Effects of Wet/Dry Cycling on Pulp Fiber-Cement Composites." *Cement and Concrete Research*, 2006; 36(7): 1240-1251.

9. Scientific and professional societies of which a member.

American Concrete Institute (ACI)
Voting Member, ACI Committee 231, Properties of Concrete at Early Ages, 2005-
Voting Member, ACI Committee 236, Materials Science of Concrete, 2005-
Associate Member, ACI Committee 308, Curing Concrete, 2007-
RILEM (International Union of Laboratories and Experts in Construction Materials, Systems and Structures)
Member, RILEM Committee TC196-ICC, Internal Curing of Concrete, 2006-
American Ceramic Society (ACerS), Cements Division
Chair-Elect, 2011-2012
Secretary, 2010-2011
American Society of Civil Engineers (ASCE)
American Society of Engineering Education (ASEE)

10. Honors and awards.

TTU Kinslow Award, 2011
ASCE ExCEED Teaching Fellowship, 2010
TTU Sigma Xi Research Award, 2007
ASEE-SE New Faculty Research Award, 2nd place, 2007
Georgia Institute of Technology President's Fellow, 2002-2005
Sigma Xi, The Scientific Research Society, 2006
Tau Beta Pi National Engineering Honor Society, 2000
Chi Epsilon National Civil Engineering Honor Society, 2000

11. Institutional and professional service in the past five years.

Institutional Service

Student Advising
Faculty Advisor, American Society of Civil Engineers (ASCE) TTU Chapter, 2006-
TTU University and Department of Civil and Environmental Engineering Committees:
Undergraduate Research Committee
CEE Facilities/Equipment Committee
CEE Recruitment and Retention Committee
Sigma Xi Award Committee Chair, 2008

Professional Service

Session co-chair at 3rd International Symposium on Nanotechnology in Construction, Nanostructure
Characterization, June 2009
Editor, organizer and co-moderator of ACI TAC convention session and subsequent conference proceedings:
Internal Curing of High Performance Concretes: Laboratory and Field Experiences (Fall 2007, Puerto Rico)
Panel Moderator: CEAT Workshop on Moisture and Temperature Modeling for Concrete Pavements – Testing
Methodologies, July 2007.
Reviewer:
ACI Concrete International, ACI SP-XXX - Modeling as a Solution to Concrete Problems, ACI SP-256CD
– Internal Curing of High Performance Concretes: Laboratory and Field Experiences, ACI SP-241CD –
Concrete Heat Development: Monitoring, Prediction, and Management, ASCE Journal of Materials in Civil
Engineering, Cement and Concrete Research, Journal of ASTM International

12. Percentage of time available for research or scholarly activities: 45%

13. Percentage of time committed to the program: 100%

Industrial and Manufacturing Engineering

25 March 2011

1. **Name and academic rank:** James R. Smith, Professor
2. **Degrees with field, institution and date:**
 - PH.D (I.E.O.R.) – Virginia Polytechnic Institute and State University 1971
 - M.S. (Statistics) – Virginia Polytechnic Institute – 1967
 - B.S. (I.E.) – Virginia Polytechnic Institute – 1965
3. **Number of years service on this faculty, including date of original appointment and dates of advancement in rank:**
 - 39 years service
 - Original appointment, assistant professor - 1971
 - Appointed to associate professor - 1974
 - Appointed to full professor - 1979
4. **Other related experience—teaching, industrial, etc. :**

Member of faculty of University of Tennessee Institute for Productivity through Quality, Knoxville, TN 1987-1992
5. **Consulting, patents:**
 - Carrier Corporation, McMinnville, TN – three 30-hour workshops (1997, 1983, 1984)(including SPC implementation)
 - Batesville Casket Company, Manchester, TN – 15 hour workshop (1983)
 - Nissan Motor Corporation, Smyrna, TN – 30 hour workshop (1985)
 - Teledyne-Stillman, Cookeville, TN – 3 hour seminar for management, 30 hour workshop for technical staff, 8 hour workshop for foreman. (1985) (including SPC implementation)
 - Mueller Brass, Hartsville, TN – 3 hour seminar for management, 30 hour workshop for technical staff. (1986)
 - Tennessee Tech – Three 24 hour workshops (1985, 1986, 1987), 30 hour workshop (1985), two 2-day workshops (1983 and 1984). Prep courses for CQE, CQT, and CMI exam (1993-1996).
 - University of Tennessee – Training at the Quality Clinic (1983, 1984, 1985, 1986, 1987)
 - Holley Automotive, Bowling Green, KY, and Water Valley, MS – Two 56 hour courses in design of experiments. (1986)
 - Micro Metals, Inc., Jamestown, TN – Two 36 hour courses in statistics and process control. (1987)
 - Stemco, Inc., Longview, TX – 36 hour course in design of experiments. (1987)
 - S&S Screw Company, Sparta, TN – 24 hour course in statistics and process control. (1989)
 - Robertshaw, Inc., Cookeville, TN – 30 hour course in design of experiments.
 - Kantus Corporation, Lewisburg, TN – Two day workshop on design of experiments. (1992)
 - Aquatech Corporation, Cookeville, TN and McMinnville, TN – Two 18-hour courses on statistical process control (1992-93)
 - Wilson Sporting Goods, Humboldt, TN – Two day workshop on design of experiments (1992)
 - Alcan Packaging, Shelbyville, TN – One day CIS project on quality of torqueing machine. (2007)
 - Mattingly Hitting Products, Hendersonville, TN – Three day CIS project on design of an experiment and analysis of data for evaluating a new bat handle design. (2008)
 - U. S. Army Corps of Engrs., Center Hill Dam, Quality Control of the Grout Process, Nov. 2010.
6. **State in which registered:** None

7. Principal publications of last five years:

Black, G.W., Wells, S.D., Smith, J.R. and Sundaram, M.R., "Shewhart and EWMA Control Charts in the Presence of Autocorrelation and Weibull Data," Proceedings of the Decision Sciences Institute Annual Conference, November 2005 (San Francisco, CA).

Black, G.W., Ard, D., and Smith J.R., "An Empirical Investigation of the Effects of the Weibull Distribution on the One-Way Fixed Effects ANOVA Model", Proceedings of the Decision Sciences Institute Annual Meeting, November 2004 (Boston, MA).

Black, G.W., Ard, D., Smith, James and Tim Schibik, "The Impact of the Weibull Distribution on the Performance of the Single Factor ANOVA Model", Int'l Journal of IE Computations, Vol. 1, Issue 2, Sept. 2010, 185-198.

Black, G.W., Smith, James and Sabrina Wells, "The Impact of Weibull Data and Autocorrelation on the Shewhart and Exponentially Weighted Moving Average Control Charts," Int'l Journal of IE Computations, March 2011.

8. Scientific and professional societies of which a member: None

9. Honors and Awards: Outstanding IE Faculty 1983, 1991, 1998

10. Institutional and professional service in the last five years:

Advisor - Industrial & Manufacturing Engineering students

Library Committee

Worked on the MIS system for ABET evaluation

11. Professional development activities in the last five years: none

TENNESSEE TECHNOLOGICAL UNIVERSITY
Civil and Environmental Engineering
Jan 2011

§ **Name.** Lenly Joseph Weathers

§ **Academic rank.** Associate Professor; full-time

§ **Degrees with fields, institutions and dates.**

B.S. (Mechanical Engineering), The University of Missouri, Columbia, Missouri, 1982
M.S. (Mechanical Engineering), The University of Missouri, Columbia, Missouri, 1987
M.S. (Civil Engineering), Texas A&M University, College Station, Texas, 1990
Ph.D. (Civil and Environmental Engineering), The University of Iowa, Iowa City, Iowa, 1995

§ **Number of years service on this faculty, including date of original appointment and dates of advancement in rank.** 12 years

Initial appointment: Assistant Professor of Civil Engineering, Fall 1998
Advancement in rank: Associate Professor of Civil Engineering, Fall 2002

§ **Other related experience--teaching, industrial, etc.**

Assistant Professor, Department of Civil and Environmental Engineering, The University of Maine, 1996-1998
Post-Doc, Department of Civil and Environmental Engineering, The University of Iowa, August 1995 to December 1995
Research Assistant, Department of Civil and Environmental Engineering, The University of Iowa, 1991-95
Hazardous Waste Remediation Engineer, Hart Crowser, Inc., Seattle, WA, 1989-91
Research Assistant, Civil Engineering Department, Texas A&M University, 1987-89
City of Columbia, MO, Environment and Energy Commission, 1984-1987
Energy Engineer, Energy Management Office, The University of Missouri, 1984-87

§ **Consulting, patents, etc.** None

§ **States in which registered.** Tennessee PE # 107425

§ **Principal publications of last 5 years.**

Weathers, L.J., Fostering Critical Thinking Skills in an Environmental Engineering Water and Wastewater Treatment Class Through A Hands-On Semester Project, 2008 ASEE Southeast Section Conference, Memphis, TN, April, 2008.

§ **Scientific and professional societies of which a member.**

American Society of Engineering Education

§ **Honors and awards.**

Tennessee Tech University QEP Award, 2007

§ **Institutional and professional service in the past five years.**

- University Committees
 - Learning Village Advisory Committee
 - Learning Village Faculty Head Search Committee
 - Learning Village Operations Committee

- Retention and Recruitment Roundtable
 - Sustainable Campus Fee Committee
 - Environmental and Sustainability Studies Program Committee
 - Institutional Review Board for the Protection of Human Subjects
 - Critical Thinking Assessment Test (CAT) Scoring Committee
 - QEP Grant Committee
 - Service Learning Committee
 - University Safety Committee
- CEE Departmental Committees:
 - Admissions and Curriculum,
 - Advisement and Student Affairs
 - Library Committees.

KEVIN S. YOUNG, P.E., B.C.E.E.

- ADDRESSES

Business: 2835 Lebanon Road
Nashville, TN 37214

Home: 67 Main Street East
Gordonsville, TN 38563

- TELEPHONE NUMBERS

Business: 615-883-3243

Personal: 615-683-6406 (home)
731-426-2722 (cellular)

- EDUCATION

Bachelor of Science in Civil Engineering from Tennessee Technological University, 1978
Master of Science in Sanitary Engineering from Syracuse University, Syracuse, New York, 1981

- PROFESSIONAL REGISTRATIONS

Tennessee
Arkansas

Kentucky
Maine

Ohio
Mississippi

- SPECIALTY CERTIFICATION

American Academy of Environmental Engineers Board Certified Environmental Engineer (B.C.E.E.) with Specialty in Water Supply and Wastewater

- MEMBERSHIPS/AWARDS

Water Environment Federation
American Water Works Association
Tennessee Water and Wastewater Association
(Outstanding Contribution as an Associate Member, 1992 and 2004)
American Society of Civil Engineers
(Environmental Engineering Research Council, 1991-1994)
Upstate Freshwater Institute, Syracuse, New York
(Board of Directors, 2000 to present)
Tennessee Society of Professional Engineers
(West Section Engineer of the Year, 1995)

KEVIN S. YOUNG, P.E. (CONTINUED)

- PRESENT POSITION

- Senior Consultant - J. R. Wauford & Company,
Consulting Engineers, Inc.
2006 – Present
- Instructor - Department of Civil and Environmental
Engineering
Tennessee Technological University
2010 - Present

- PREVIOUS POSITIONS

- Adjunct Faculty - Department of Civil and Environmental
Engineering
Tennessee Technological University
2008 - 2010
- Manager, Jackson, Tennessee
Office - J. R. Wauford & Company,
Consulting Engineers, Inc.
1983 – 2006
- Environmental Project Manager - J. R. Wauford & Company,
Consulting Engineers, Inc.
1980 – 1983
- Research Assistant - Syracuse University
1978 – 1980
- Engineer I - Tennessee Department of Transportation
1978
- Engineering Cooperative
Education Student - Tennessee Department of Transportation
1974 – 1975

- PUBLICATIONS AND PRESENTATIONS

- “Seasonal Nutrient Limitation in Cazenovia Lake, N.Y.”, presented at 42nd Annual Meeting of American Society of Limnology and Oceanography, Inc. (Co-Author)
- “New Observations with Fixed Film Anaerobic Reactors”, presented at DOE-EPA Seminar. (Co-Author)

- “Water Quality Analysis of Limestone Creek”, presented at Syracuse University Civil Engineering Seminar Series. (Co-Author)
- “Pretreatment of Tannery Beamhouse Wastewater Using an Anaerobic Filter: Preliminary Results”, presented at 12th Mid-Atlantic Industrial Waste Conference.
- “Treatment of Combined Municipal/Packing House Wastewater Using an Innovative Continuously Fed – Intermittently Operated Activated Sludge Process: A Design Rationale”, presented at 41st Annual Purdue Industrial Waste Conference.
- “Performance of World’s Largest Cyclical Activated Sludge Process Treating Combined Municipal/Packing House Wastewater”, presented at 42nd Annual Purdue Industrial Waste Conference.
- “Techniques for Treating Prewash Denim Laundry Wastewater”, presented at 44th Annual Purdue Industrial Waste Conference.
- “Performance Analysis of a Continuously Fed, Intermittently Decanted Activated Sludge Plant Receiving a High Ammonia Packing House Waste”, presented at the 44th Annual Purdue Industrial Waste Conference. (Co-Author)
- “Methods for Treating Prewashed Denim Laundry Wastewater”, presented at 44th Annual Kentucky-Tennessee Section Meeting, Water Pollution Control Association.
- “Treatment of Prewash Denim Laundry Wastewater – Case Histories”, presented at the 46th Annual Purdue Industrial Waste Conference.
- “Implementation of Sequencing Batch Reactor Technologies in the United States”, presented at the 1991 annual conference of the Water Pollution Control Federation. (Co-Author)
- “Results of First Year’s Operation of the Jackson Energy Authority Middle Fork Wastewater Treatment Plant”, presented at the 56th Annual Kentucky-Tennessee Section Meeting, Water Environment Association.