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EDUCATION:

Ph.D. Civil Engineering: Studying the effects of deicing additives on the properties of asphaltic materials in terms of their resistance to permanent deformation, moisture damage and low temperature cracking.
University of Rhode Island, Kingston, RI, May 1989.
M.Sc. Civil Engineering - University of Rhode Island, Kingston, RI, May 1984.
B.Sc. Civil Engineering - Kuwait University, Kuwait, May 1981.

Additional Education

- SUPERPAVE Mixture Test Equipment, The Asphalt Institute, Lexington, Kentucky.
- SUPERPAVE Binder Test Equipment, The Asphalt Institute, Lexington, Kentucky.
- NHI course 13114 - Highway Pavements, Michigan State University, East Lansing, Michigan.
- Professor Training Program in Asphalt Technology, National Center for Asphalt Technology, Auburn University, Auburn.
- AutoCAD Level One - Operating Systems and Applications, New England Institute of Technology, Warwick, Rhode Island.
- Instron's Operator Training Course, No. 2150 OP-0121, Canton, Massachusetts.

EXPERIENCE:

2002 – Present Professor – Civil and Environmental Engineering Department – UMass Dartmouth

2002 – Present Director – Pavement Materials Laboratory – Advanced Technology Center – Umass Dartmouth

2002 – 2004 Chair – Civil and Environmental Engineering Department – UMass Dartmouth

1996 – 2001 Associate Professor – Civil and Environmental Engineering Department – UMass Dartmouth

1989 – 1996 Assistant Professor – Civil and Environmental Engineering Department – UMass Dartmouth

1989 – Present Adjunct Professor - Civil and Environmental Engineering Department – University of Rhode Island

1988 – 1989 Instructor – Civil and Environmental Engineering Department – University of Rhode Island

1982 – 1987 Teaching and Research Assistant – Civil and Environmental Engineering Department – University of Rhode Island

1981 – 1982 Construction Engineer – Al Ghanem Construction Company - Kuwait

PROFESSIONAL EXPERIENCE

Ongoing Awarded Research:

ROLE	TITLE	SPONSOR	DURATION	AMOUNT
PI	Laboratory and Field Evaluation of Warm Mix Asphalt Technology	MassHighway	2005-2006	47,337
PI	Shared Use Path Fencing Usage	Vermont Agency of Transportation	2005-2006	53,915
PI	Relating HMA Pavement Density to Performance	New England Transportation Consortium	2001 - 2006	103,524
Co-PI	Determining the Effective PG Grade of Binder in RAP Mixes	New England Transportation Consortium	2004 - 2005	39,483
PI	Validation and Correlation of Pavement Profiling Devices for QC/QA	MassHighway	2003 - 2006	170,774

Completed Awarded Research

ROLE	TITLE	SPONSOR	DURATION	AMOUNT
Co-PI	Evaluation of a Field Permeameter as a Longitudinal Joint Quality Indicator	New England Transportation Consortium	2004 - 2006	8,773
PI	Development of Testing Protocol for QC/QA of HMA	New England Transportation Consortium	2001 - 2002	80,000
PI	Implementation of Superpave	MassHighway	2002-2005	485,750
PI	Design of Superpave HMA for Low Volume Roads	New England Transportation Consortium	2001 - 2003	123,000
PI	Evaluation of Asphaltic Expansion Plug Joints	New England Transportation Consortium	2001 - 2003	62,236
PI	Evaluation of Permeability of Superpave Mixes	New England Transportation Consortium	2000 - 2001	100,002
PI	Evaluation of Use of Manufactured Waste Shingles in HMA	Chelsea Center for Recycling and Economic Development, UMass	2000 - 2001	17.791
PI	Updating MassHighway Distress Manual	MassHighway	2000 - 2001	30,162

ROLE	TITLE	SPONSOR	DURATION	AMOUNT
PI	Phase I: Implementation of Superpave	MassHighway	1997 - 2000	404,000
PI	A Procedure for Correlating Distress/Ride Indices	MassHighway	1995 - 1997	100,396
PI	Freeze and Thaw Study	MassHighway	1996 - 1997	60,000
PI	Evaluation of the Road System in Massachusetts	MassHighway	1996 - 1997	100,000
PI	Phase Two: ADA Compatible Soft-Surface Multi-use Trail	MassHighway	1996 - 1997	40,000
PI	ADA-Compatible and Environmentally Sensitive Soft-Surface Trail Materials for Construction of Multi-Use Trails	MassHighway	1995 - 1996	60,000
Co-PI	Structural Numbers for Reclaimed Base Course Mix	MassHighway	1994 - 1995	45,000
PI	Enhancing the Materials Testing Laboratory	National Science Foundation	1993 - 1994	120,000

CONSULTING EXPERIENCE

Project: **"Existing Conditions and Pavement Design Recommendations for Route 3 North Transportation Improvement Project"**
Company: VHB/Vanasse Hangen Brustlin, Inc. Middletown, Connecticut.

Project**: "Evaluation of Complex Polymer-Modified Asphalt Binders Using the FHWA ALF"**
Company: SaluT, Inc.
Project sponsored by: Federal Highway Administration

Project**: "Evaluation of Complex Polymer-Modified Asphalt Binders"**
Project sponsored by: Federal Highway Administration
Duration: 5/2000 to 3/2001

Project**: "Preparing Superpave Specimens using Different SGC Angles"**
Project sponsored by: The Asphalt Institute
Duration: 8/2000 – 11/2000

Project**: "Validation of Superpave Binder and Mixture Tests and Other Mixture Tests Using the FHWA's Accelerated Loading Facility"**
Project sponsored by: Federal Highway Administration
Duration: 5/1995 to 9/1995, 5/1996 to 3/1997, 5/1997 to 3/1998, and 5/1998 to 3/1999

Project: **"Effects of Different Mineral Fillers on Stone Matrix Asphalt Properties"**
Project sponsored by: Federal Highway Administration

Duration: 5/1994 to 9/1994.

Project: **"Study of Stone Mastic Asphalt Gradations"**
Project sponsored by: Federal Highway Administration
Duration: 05/1993 to 09/1993.

Project: **"Evaluation of Stone Mastic Asphalt Mixtures versus Dense Graded Mixtures"**
Project sponsored by: Federal Highway Administration
Duration: 05/1992 to 09/1992.

Project: **"Evaluation of Test Methods Used to Quantify Sand Shape and Texture"**
Project sponsored by: Federal Highway Administration
Duration: 05/1991 to 09/1991.

SHORT COURSES TAUGHT/DEVELOPED

Superpave Technology – Funded by MassHighway Department

Developed a one course that covered the Superpave grading system for binders and the Superpave mix design method. Also, construction experience with placing Superpave mixes was covered.

Hot Mix Asphalt Technology – Funded by MassHighway Department

Developed a one course that covered the following topics: Develop a working knowledge of HMA construction, Develop an understanding of how construction affects performance, Recommend good construction practices, Show how to identify and solve problems quickly, and to Facilitate communication and cooperation

ACADEMIC EXPERIENCE

Graduate Courses Taught/Developed

- Pavement Design
- Hot Mix Asphalt Materials: Design, Construction, and Characteristics
- Pavement Management

Undergraduate Courses Taught/Developed

- Highway Engineering
- Introduction to Transportation Engineering
- Materials of Construction Laboratory
- Traffic Engineering
- Engineering Economy
- Statics
- Geotechnical Laboratory

University Services

- Chair, College of Engineering Academic Council
- Graduate Coordinator for Civil and Environmental Engineering Department
- Advisor, American Society of Civil Engineers

- Chair, Search and Screen committee for the Dean of the College of Engineering

PUBLICATIONS

Refereed Publications

K. D. Stuart, J. S. Youtcheff and W. S. Mogawer, "Evaluating the Performances of Modified Asphalt Binders with Identical High-Temperature PG's but Varied Polymer Chemistries," Presented at the 83rd Annual Meeting of the Transportation Research Board, Washington, D.C., January, 2004.

A. Shenoy, K. D. Stuart and W. S. Mogawer, "Do Asphalt Mixtures Correlate Better with Mastics or Binders in Evaluating Permanent Deformation Transportation Research Record No. 1829, Bituminous Binders 2003, Transportation Research Board, Washington, D.C., 2003, pp 16-25.

Mogawer W. and Stuart, K.D. Evaluation of the Superpave Asphalt Binder Fatigue Binder G*/sinδ. Journal of the Association of Asphalt Pavement Technologists, 2002.

P. Romero, K. D. Stuart, and W. S. Mogawer, "Fatigue Response of Asphalt Mixtures Tested by the Federal Highway Administration*s Accelerated Loading Facility," Asphalt Paving Technology 2000, Volume 69, Association of Asphalt Paving Technologists, St. Paul, MN, pp. 212-235.

K. D. Stuart, W. S. Mogawer, and P. Romero, "Evaluation of the Superpave Asphalt Binder Specification for High-Temperature Pavement Performance," Asphalt Paving Technology 2000, Volume 69, Association of Asphalt Paving Technologists, St. Paul, MN, pp. 148-176.

J. A. Sherwood, X. Qi, P. Romero, K. D. Stuart, and W. S. Mogawer, "Full-Scale Pavement Testing from FHWA Superpave Validation Study," International Conference on Accelerated Pavement Testing, Reno, NV, October 18-20, 1999.

K. D. Stuart, W. S. Mogawer, and P. Romero, "Validation of the Superpave Asphalt Binder Rutting Parameter," American Society of Civil Engineers, Proceedings of the Fifth ASCE Materials Engineering Congress, Cincinnati, OH, May 10-12, 1999.

K. D. Stuart and W. S. Mogawer, "Validation of Asphalt Binder and Mixture Tests that Predict Rutting Susceptibility Using the Federal Highway Administration*s Accelerated Loading Facility," Asphalt Paving Technology 1997, Volume 66, Journal of the Association of Asphalt Paving Technologists, Salt Lake City, UT, pp 109-152.

K. D. Stuart and W. S. Mogawer, "Effect of Compaction Method on Rutting Susceptibility Measured by Three Laboratory Wheel-Tracking Devices," Presented at the 76th Annual Meeting of the Transportation Research Board, Washington, D.C., 1997.

W. S. Mogawer and K. D. Stuart, "Effects of Mineral Fillers on the Properties of Stone Matrix Asphalt (SMA) Mixtures," Transportation Research Record 1530, Recycled Rubber, Aggregate, and Filler in Asphalt Paving Mixtures, Transportation Research Board, Washington, D.C., 1995, pp 86-94.

K. D. Stuart and W. S. Mogawer, "Effect of Coarse Aggregate Content on Stone Matrix Asphalt Durability and Low-Temperature Cracking," Transportation Research Record 1492, Hot-Mix Asphalt Design, Testing, Evaluation, and Performance, Transportation Research Board, Washington, D.C., 1995, pp 26-35.

W. S. Mogawer and K. D. Stuart, "Effect of Coarse Aggregate Content on Stone Matrix Asphalt Rutting and Draindown," Transportation Research Record 1492, Hot-Mix Asphalt Design, Testing, Evaluation, and Performance, Transportation Research Board, Washington, D.C., 1995, pp 1-11.

W. S. Mogawer and K. D. Stuart, "Evaluation of Stone Matrix Asphalt Versus Dense-Graded Mixtures," Transportation Research Record 1454, Asphalt Concrete Mixture Design and Performance, Transportation Research Board, Washington, D.C., 1994, pp 58-65.

K. D. Stuart and W. S. Mogawer, "Evaluation of Natural Sands Used in Asphalt Mixtures," Transportation Research Record 1436, Asphalt Concrete Mix Materials, Transportation Research Board, Washington, D.C., 1994, pp 115-123.

W. S. Mogawer and K. D. Stuart, "Evaluation of Test Methods Used to Quantify Sand Shape and Texture," Transportation Research Record 1362, Aggregate and Pavement-Related Research, Transportation Research Board, Washington, D.C., 1992, pp 28-37.

K. D. Stuart and W. S. Mogawer, "Laboratory Evaluation of Verglimit and PlusRide," Public Roads, Volume 55, Number 3, Federal Highway Administration, McLean, VA, December 1991, pp 79-86.

W. S. Mogawer, K. D. Stuart, and K. W. Lee, "Evaluation of the Effects of Deicing Additives on Properties of Asphalt Mixtures," Transportation Research Record 1228, Asphalt Mixtures and Asphalt Chemistry, Transportation Research Board, Washington, D.C., 1989, pp 41-53.

Bonaquest, R., Roger, S., and Mogawer, W.S., "Effect of Tire Pressure on Flexible Pavement and Performance", Transportation Research Record, No. 1227, Transportation Research Board, 1989, pp. 97-106.

Lee, K.W., and Mogawer, W.S., "Utilization of Oil Spill Cleanup Debris into Bituminous Concrete Mixtures", Australian Road Research Board, 1988, pp. 54-64.

Technical Reports

K. D. Stuart and W. S. Mogawer, “Comparison of the Fatigue Cracking Performances of Pavements to the Continuous Intermediate-Temperature Grades of the Asphalt Binders,” Federal Highway Administration, McLean, VA, January 2004, 17 pp.

Mogawer W. S., et al., “Evaluation of Permeability of Superpave Mixes”. Final Report. NETC July 3, 2002.

Mogawer W. S., et al., “Implementation of Superpave in Massachusetts”. Final Report. MassHighway December 2001.

K. D. Stuart, J. S. Youtcheff, and W. S. Mogawer, “Understanding the Performance of Modified Asphalt Binders in Mixtures: Evaluation of Moisture Sensitivity,” Publication No. FHWA-RD-02-

029, Federal Highway Administration, McLean, VA, October 2001, 17 pp.

K. D. Stuart and W. S. Mogawer, "Understanding the Performance of Modified Asphalt Binders in Mixtures: Permanent Deformation Using a Mixture with Diabase Aggregate," Publication No. FHWA-RD-02-042, Federal Highway Administration, McLean, VA, December 2001, 57 pp.

K. D. Stuart, W. S. Mogawer, and P. Romero, *Validation of Asphalt Binder and Mixture Tests That Measure Rutting Susceptibility Using the Accelerated Loading Facility*, Publication No. FHWA-RD-99-204, Federal Highway Administration, McLean, VA, November 1999, 348 pp.

K. D. Stuart, W. S. Mogawer, and P. Romero, *Validation of the Superpave Asphalt Binder Fatigue Cracking Parameter Using The FHWA's Accelerated Loading*, Publication No. FHWA-RD-01-093, Federal Highway Administration, McLean, VA, April 2001, 87 pp.

Mogawer, W.S., "Freeze and Thaw Study." UMTC-97-17, December 1997.

Mogawer, W.S., "Evaluation of the Road System in Massachusetts." UMTC-97-11, December 1997.

Mogawer, W.S., "Phase Two: ADA Compatible Soft-Surface Multi-Use Trail." UMTC-97-19, December 1997.

Mogawer, W.S., "Correlation of Pavement Distress/Ride Indices." UMTC-96-7, December 1997.

K. D. Stuart and W. S. Mogawer, "Evaluation of Natural Sands Used in Asphalt Mixtures," FHWA-RD-93-070, Federal Highway Administration, McLean, VA, August 1993, 56 pp.

K. D. Stuart and W. S. Mogawer, "Laboratory Evaluation of Verglimit and PlusRide," FHWA-RD-90-013, Federal Highway Administration, McLean, VA, March 1991, 119 pp.

Kim, T.J., Lee, K.W., Veyera, G.E., Mogawer, W.S. and J. Zheng, "Utilization of a Waterjet Cutting Unit for Infrastructure Management." Final Report to the Region One University Transportation Center, Department of Civil and Environmental Engineering, University of Rhode Island, Kingston, RI, January, 1990.

Invited Papers/Presentations:

"Evaluating the Performances of Modified Asphalt Binders with Identical High-Temperature PG's but Varied Polymer Chemistries," Presented at the 83rd Annual Meeting of the Transportation Research Board, Washington, D.C., January, 2004.

"Do Asphalt Mixtures Correlate Better with Mastics or Binders in Evaluating Permanent Deformation Transportation Research Board, Washington, D.C., 2003.

"A New look at the Use of Open Graded Friction Course in Massachusetts," NESMEA, 2002.

"Evaluation of the Superpave Asphalt Binder Fatigue Binder G*/sinδ," Association of Asphalt Paving Technologists Journal, 2000.

"Evaluation of the Superpave Asphalt Binder Specification for High-Temperature Pavement Performance," Association of Asphalt Paving Technologists Journal, 2000.

"Validation of Asphalt Binder and Mixture Tests that Predict Rutting Susceptibility Using the Federal Highway Administration's Accelerated Loading Facility." Association of Asphalt Paving Technologists Journal, 1997.

"Effect of Coarse Aggregate Content on Stone Matrix Asphalt (SMA) Rutting and Draindown." The 74th Annual Meeting of Transportation Research Board, Washington, DC, January 1995.

"Evaluation of Stone Matrix Asphalt Mixtures versus Dense-Graded Mixtures." The 73rd Annual Meeting of Transportation Research Board, Washington, DC, January 1994.

"Evaluation of Test Methods Used to Quantify Sand Shape and Texture," the 71st Annual Meeting of Transportation Research Board, Washington, DC, January 1992.

"An Evaluation of Deicing Additives on Properties of Asphalt Mixtures," The 68th Annual Meeting of the Transportation Research Board, Washington, DC, January 1989.

PROFESSIONAL REGISTRATION

Registered Professional Engineer in the State of Rhode Island.

HONOR SOCIETY

Member of Tau Beta Bi Engineering Honor Society.

Member of Tau Alpha Pi National Honor Society.

PROFESSIONAL AWARDS

The Eisenhower Faculty Fellowship, U.S. Department of Transportation, 1994 & 1995.
The FHWA 1989 Outstanding Technical Accomplishment Award, Federal Highway Administration. Graduate Research Fellowship, National Highway Institute9/87 – 7/88: Conducted and directed research projects to examine the effects of higher tire pressures on flexible pavement using the Accelerated Loading Facility (ALF), and to study the effects of PlusRide and Verglimit deicing additives on asphalt pavement performance.

PROFESSIONAL SOCIETY MEMBERSHIPS

a. Membership

- Transportation Research Board
  Member of Committee AFK50: Characteristics of Bituminous Paving Mixtures to Meet Structural Requirements
- Association of Asphalt Paving Technologists
- American Society of Civil Engineers
  Member Bituminous Materials Committee
- International Society for Asphalt Pavements
- National Society of Professional Engineers

- New England Transportation Consortium, Advisory Board

b. Reviewer

- Journal of the Association of ASPHALT Paving Technologists
- Transportation Research Board Committee AFK50
- International Society for Asphalt Pavements