

## Kevin J. Folliard, Ph.D.

Professor and Austin Industries Endowed Teaching Fellow  
Department of Civil, Architectural, and Environmental Engineering  
The University of Texas at Austin  
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### EDUCATION:

Florida Institute of Technology	Civil Engineering	B.S.	March 1990
University of California at Berkeley	Civil Engineering	M.S.	December 1991
University of California at Berkeley	Civil Engineering	Ph.D.	May 1995

### CURRENT AND PREVIOUS ACADEMIC POSITIONS:

Wentworth Institute of Technology	Lecturer	September 1996 – June 1997
University of Delaware	Assistant Professor	September 1997 – August 1999
University of Texas at Austin	Assistant Professor	September 1999 – August 2005
École Polytechnique Fédérale de Lausanne	Visiting Professor	March 2006 – July 2006
University of Texas at Austin	Associate Professor	September 2005 – August 2010
University of Texas at Austin	Professor	September 2010 – present

### OTHER PROFESSIONAL EXPERIENCE:

W.R. Grace & Co.	Senior Research Engineer	February 1995 – March 1997
W.R. Grace & Co.	Research Associate Engineer	April 1997 – August 1997

### HONORS AND AWARDS:

Alexander Klein Memorial Fellowship, University of California, Berkeley, 1991 – 1992  
Harry H. Hilp Research Fellowship, University of California, Berkeley, 1992  
Roy W. Carlson-Milos Polivka-Arthur E. Ross Fellowship, University of California, Berkeley, 1993  
American Concrete Institute Research Fellowship, 1993  
Vision Award, W.R. Grace & Co., Cambridge, MA, 1996  
Research Recognition Award, W.R. Grace & Co., Cambridge, MA 1997  
Outstanding Faculty Award, The University of Delaware American Society of Civil Engineers Student Chapter, 1999  
Eisenhower Fellowship, Federal Highway Administration, 1999  
Ervin S. Perry Student Appreciation Award, The University of Texas at Austin, 2001  
Ervin S. Perry Student Appreciation Award, The University of Texas at Austin, 2002  
American Concrete Institute Young Member Award for Professional Achievement, 2002  
American Concrete Institute Fellow, 2003  
Portland Cement Association Research Fellowship (with J. Ideker), 2003  
Faculty Appreciation Week Award for Teaching Excellence, The University of Texas at Austin, 2003  
Ervin S. Perry Student Appreciation Award, The University of Texas at Austin, 2003  
College of Engineering Award for Outstanding Teaching by an Assistant Professor, The University of Texas at Austin, 2004  
Austin Industries Endowed Teaching Fellow, 2005-present  
Portland Cement Association Research Fellowship (with T. Ley), 2005.  
Texas Blazers Outstanding Faculty Award, The University of Texas at Austin, 2006  
Top Research Innovations and Findings for 2005, awarded by the Texas Department of Transportation (TxDOT) for research conducted under TxDOT Project 4563, "Prediction Model for Concrete Behavior," 2006  
Ervin S. Perry Student Appreciation Award, The University of Texas at Austin, 2009

Fulbright Fellow – Alternate (University of Trento, Italy), 2009-2010  
 Wason Medal for Materials Research, American Concrete Institute, 2010  
 Portland Cement Association Research Fellowship (with F. Aguayo), 2013  
 Regents' Outstanding Teaching Award, The University of Texas System, 2013  
 Portland Cement Association Research Fellowship (with S. Stacey), 2014  
 Wason Medal for Materials Research, American Concrete Institute, 2014

**MEMBERSHIPS IN PROFESSIONAL AND HONORARY SOCIETIES:**

Member, American Concrete Institute, 1995 – present  
 Member, American Society for Engineering Education, 1999-2001  
 Member, Sigma Xi, The Scientific Research Society, 1999 – 2011  
 Member, Transportation Research Board, 2001 – 2005  
 Member, American Society for Testing and Materials, 2002 – 2005  
 Member, RILEM, 2005 – present

**UNIVERSITY COMMITTEE ASSIGNMENTS AND ACTIVITIES:**

<i>Departmental</i>	Member, Graduate Curricula and Policies Committee	2000 – 2001
	Faculty Advisor, American Concrete Institute Student Chapter	2001 – present
	Faculty Advisor, Chi Epsilon	2002 – 2003
	Faculty Advisor, American Society of Civil Engineers	2003 – 2004
	Member, Awards Committee	2006 – 2007
	Member, Long-Range Planning Committee	2006 – 2008
	Member, Curriculum Committee	2007 – 2009
	Area Coordinator, Structures, Mechanics, and Materials	2010 – 2012
	Director, Construction Materials Research Group	2010 – 2012
	Group Coordinator, Materials	2012 – 2014
	Member, Research Faculty Review Committee	2012 – 2014
	Member, Graduate Fellowships and Recruiting Committee	2012 – 2014
	Member, Faculty Evaluation Committee	2014 – present
	Member, Graduate Curricula and Policies	2014 – present
	Member, TxDOT Research Committee (CTR)	2014 – present
Graduate Admissions, Infrastructure Materials Engineering	2014 – present	
 <i>School</i>	Member, Technical Communications Committee	2008 – 2009

**PROFESSIONAL SOCIETY AND MAJOR GOVERNMENTAL COMMITTEES:**

Member, American Concrete Institute Committee 544, Fiber Reinforced Concrete, 1997 – 2005  
 Member, American Concrete Institute Committee 236, Materials Science of Concrete, 1999 – 2007  
 Member, American Concrete Institute Committee 201, Durability, 1999 to present  
 Co-Chair, Programs, American Concrete Institute Central Texas Chapter, 2001 – 2003  
 Member, Transportation Research Board Committee A2E01, Durability of Concrete, 2001 – 2005  
 Secretary, American Concrete Institute Committee 201, Durability, 2001 – 2008  
 Member, Board of Directors of American Concrete Institute Central Texas Chapter, 2001 – present  
 Co-Chair, Scholarships Program, American Concrete Institute Central Texas Chapter, 2002 – 2003  
 Member, American Society for Testing and Materials Committee C09, Concrete and Concrete  
 Aggregates, 2002 – 2004  
 Member, American Society for Testing and Materials Subcommittee C09.26, Chemical Reactions, 2002 –  
 2004  
 Chair, American Society for Testing and Materials Task Group (under jurisdiction of C09.26) on  
 Accelerated Concrete Prism Test, 2002 – 2004  
 Member, Technical Advisory Panel for Research Monitoring Committee 5 (RMC-5), 2002 – 2012  
 Member, American Concrete Institute Committee on Publications, 2003 – 2009  
 Member, RILEM TC 191-ARP, Alkali-Aggregate Reactivity, 2005 – present  
 Chair, American Concrete Institute Committee 201, Durability, 2008 – 2012  
 Chair, International Alkali-Aggregate Reactions Committee, 2008 – 2012

Member, American Concrete Institute Subcommittee 318-A, General, Concrete, and Construction, 2008 – 2010

Member, American Concrete Institute Committee on Nominations (by vote of ACI Members), 2009

## COMMUNITY ACTIVITIES:

Volunteer, Minority Introduction to Engineering (MITE) program, 2002

Faculty Mentor, Louis Stokes Alliances for Minority Participation (LSAMP), 2003

Volunteer, Explore UT, 2003 – 2009.

Volunteer, Concrete 101, Clayton Elementary, 2007 – 2012

Faculty Mentor, Texas Research Experience (TREX) Program, 2009-2010

Faculty Mentor, Texas Research Experience (TREX) Program, 2010-2011

Volunteer and Foster, Town Lake Animal Shelter, 2010 – 2013

Volunteer and Foster, Austin Pets Alive, 2013-present.

## PUBLICATIONS:

### A. *Refereed Archival Journal Publications*

1. Folliard, K.J., Ohta, M., Rathje, E., and Collins, P., "Influence of Mineral Admixtures on Expansive Cement Mortars," *Cement and Concrete Research*, Vol. 24, No. 3, 424-432, 1994.
2. Folliard, K.J. and Sandberg, P., "Mechanisms of Concrete Deterioration by Sodium Sulfate Crystallization," *American Concrete Institute Special Publication (SP-145)*, 933-946, 1994.
3. Mehta, P.K. and Folliard, K.J., "Rice-Husk Ash -- A Unique Supplementary Cementing Material: Durability Aspects," *American Concrete Institute Special Publication (SP-154)*, 531-541, 1995.
4. Berke, N.S., Dallaire, M.P., Durning, T.A., Folliard, K.J., and Kerkar, A.V., "Effects of Shrinkage-Reducing Additives on Concrete Properties," *ASCE Journal of Civil Engineering Materials*, Innovations Forum, Volume 9, Issue 1, pp. 1-6, 1997.
5. Berke, N.S., Hicks, M.C., and Folliard, K.J., "Systems Approach to Concrete Durability," *American Concrete Institute Special Publication SP-170*, 1293-1316, 1997.
6. Folliard, K.J. and Berke, N.S., "Properties of High-Performance Concrete Containing Shrinkage-Reducing Additives," *Cement and Concrete Research*, Vol. 27, No. 9, pp. 1357-1364, 1997.
7. Touma, W., Fowler, D., Carrasquillo, R., Folliard, K.J., and Nelson, N.R., "Characterizing the Alkali-Silica Reactivity of Aggregates Using ASTM C 1293, ASTM C 1260, and Their Modifications," *Journal of the Transportation Research Board (TRB)*, No. 1757, pp. 157-165, 2001.
8. Liu, W., Hunsperger, R., Chajes, M., Folliard, K.J., and Kunz, E., "Corrosion Detection of Steel Cables Using Time Domain Reflectometry," *Journal of Materials in Civil Engineering*, Volume 14, Issue 3, pp. 217-223, 2002.
9. Du, L., Folliard, K.J., and Trejo, D., "Effects of Constituent Materials and Quantities on Water Demand and Compressive Strength of Controlled Low Strength Material," *ASCE Journal of Materials in Civil Engineering*, Volume 14, Issue 6, pp. 485-495, 2002.
10. Jeknavorian, A.A., Jardine, L., Ou, C.C., Koyata, H., and Folliard, K.J., "Interaction of Superplasticizers with Clay-Bearing Aggregates," *American Concrete Institute Special Publication (SP-217)*, 143-160, 2003.
11. Trejo, D., Folliard, K.J., and Du, L., "Alternative Capping Materials for Evaluating the Compressive Strength of Controlled Low-Strength Materials," *ASCE Journal of Materials in Civil Engineering*, Vol. 15, No. 5., pp. 484-490, September/October 2003.
12. Folliard, K.J., Du, L., and Trejo, D., "Effects of Curing Conditions on Strength Development of Controlled Low-Strength Material," *ACI Materials Journal*, Volume 100, Issue 1, pp. 79-86, January/February 2003.
13. Du, L., Folliard, K.J., and Trejo, D., "A New Unbonded Capping Practice for Evaluating the Compressive Strength of Controlled Low-Strength Material Cylinders," *Journal of Cement, Concrete, and Aggregates (ASTM)*, Volume 26, Issue 1, pp. 1-8, June 2004.
14. Schindler, A.K. and Folliard, K.J., "Hydration Models for Cementitious Materials," *American Concrete Institute (ACI) Materials Journal*, Volume 102, Issue 1, pp. 24-33, January 2005.
15. Chan, C., Hover, K.C. and Folliard, K. J., "Spatial Variations in Material Properties of Segmental Retaining Wall (SRW) Units, Part II: Sampling Considerations for Absorption Tests", *Journal of*

- American Society for Testing and Materials (ASTM) International*, Volume 2, Issue 2, On-Line Paper ID JAI12939, February 2005.
16. Chan, C., Hover, K.C. and Folliard, K. J., "Spatial Variations in Material Properties of Segmental Retaining Wall (SRW) Units, Part I: Observed Variations," On-Line Paper ID JAI12292, *Journal of American Society for Testing and Materials (ASTM) International*, Volume 2, Issue 2, February 2005.
  17. Trejo, D., Halmen, C, Folliard, K.J., and Du, L., "Corrosion of Metallic Pipe in Controlled Low-Strength Materials—Parts 1 and 2," *American Concrete Institute (ACI) Materials Journal*, Volume 102, Issue 3, pp. 192-201, May 2005.
  18. Fournier, B., Bérubé, M.A., Thomas, M.D.A., and Folliard, K.J., "Mitigation of the Effect of Alkali-Silica Reaction in Concrete Structures: A Review," *IBRACON Materials Journal*, Vol. 1, No. 1, ISSN 1809-5046, pp. 35-42, 2005.
  19. Du, L. and Folliard, K.J., "Mechanisms of Air Entrainment in Concrete," *Cement and Concrete Research*, Volume 35, Issue 8, pp. 1463-1471, August 2005.
  20. Feng, X., Thomas, M.D.A., Bremner, T.W., Balcom, B.J., and Folliard, K.J., "Studies on Lithium Salts to Mitigate ASR-induced Expansion in New Concrete: A Critical Review," *Cement and Concrete Research*, Volume 35, Issue 9, pp. 1789-1796, September 2005.
  21. Halmen, C, Trejo, D., Folliard, K.J., and Du, L., "Corrosion of Metallic Materials in Controlled Low-Strength Materials- Part 3," *American Concrete Institute (ACI) Materials Journal*, Volume 102, Issue 6, pp. 429-437, November 2005.
  22. Halmen, C, Trejo, D., Folliard, K.J., and Du, L., "Corrosion of Metallic Materials in Controlled Low-Strength Materials- Part 4," *American Concrete Institute (ACI) Materials Journal*, Volume 103, Issue 1, pp. 53-59, January 2006.
  23. Harris, N.J., Hover, K.C., Folliard, K.J., and Ley, T., "Variables Affecting the ASTM Standard C 311 Loss on Ignition Test for Fly Ash," *Journal of American Society for Testing and Materials (ASTM) International*, Volume 3, Issue 8, On-Line Paper ID JAI100286, September 2006.
  24. Du, L., Arellano, M., Folliard, K.J., Nazarian, S., and Trejo, D., "Rapid-Setting CLSM for Bridge Approach Repair: A Case Study," *American Concrete Institute (ACI) Materials Journal*, Volume 103, Issue 5, pp. 312-318, September 2006.
  25. Riding K.A., Poole J.L., Schindler A.K., Juenger M.G., and Folliard K.J., "Evaluation of Temperature Prediction Methods for Mass Concrete Members," *American Concrete Institute (ACI) Materials Journal*, Volume 103, Issue 5, pp. 357-365, September 2006.
  26. Thomas, M.D.A., Fournier, B., Folliard, K.J., Shehata, M., and Ideker, J.H., "Test Methods for Evaluating Preventive Measures for Controlling Expansion due to Alkali-Silica Reaction in Concrete," *Cement and Concrete Research*, Volume 36, Issue 10, pp. 1842-1856, October 2006.
  27. Poole, J.L., Riding, K.A., Folliard, K.J., Juenger, M.C.G, and Schindler, A.K., "Methods for Calculating Activation Energy for Portland Cement," *American Concrete Institute (ACI) Materials Journal*, Volume 104, Issue 1, pp. 303-311, January 2007.
  28. Chan, C., Hover, K.C., Folliard, K.J., and Trejo, D., "Frost Durability Indexes of Segmental Retaining Wall Units," *American Concrete Institute (ACI) Materials Journal*, Volume 104, Issue 1, pp. 23-32, January 2007.
  29. Tremblay, C., Bérubé, M.-A., Fournier, B., Thomas, M.D.A., and Folliard, K.J., "Effectiveness of Lithium-Based Products in Concrete Made with Canadian Natural Aggregates Susceptible to Alkali-Silica Reactivity," *American Concrete Institute (ACI) Materials Journal*, Volume 104, Issue 2, pp. 195-205, March 2007.
  30. Thomas, M.D.A, Fournier, B., Folliard, K.J., Shehata, M.H., Ideker, J.H., and Rogers, C., "Performance Limits for Evaluating Supplementary Cementing Materials Using Accelerated Mortar Bar Test," *American Concrete Institute (ACI) Materials Journal*, Volume 104, Issue 2, pp. 115-122, March 2007.
  31. Riding, K.A., Poole, J.L., Juenger, M.C.G., Schindler, A.K., and Folliard, K.J., "Calorimetry Performed On-Site: Methods and Uses," *American Concrete Institute Special Publication (SP-241)*, pp. 25-38, 2007.
  32. Poole, J.L., Riding, K.A., Folliard, K.J., Juenger, M.C.G., and Schindler, A.K., "Hydration Study of Cementitious Materials using Semi-Adiabatic Calorimetry," *American Concrete Institute Special Publication (SP-241)*, pp. 59-76, 2007.
  33. Riding, K.A., Poole, J.L., Schindler, A.K., Juenger, M.C.G., and Folliard, K.J., "Temperature Boundary Condition Models for Concrete Bridge Members," *American Concrete Institute (ACI) Materials Journal*, Volume 104, No. 4, pp. 379-387, July-August 2007.

34. Chan, C., Hover, K.C., and Folliard, K.J., "Comparison of Distribution of Properties in Segmental Retaining Wall (SRW) Units Between Manufacturers," *The Masonry Society Journal*, Volume 25, Number 1, pp 21-30, September 2007.
35. Brown, M.D., Smith, C.A., Sellers, G., Folliard, K.J., and Breen, J.E., "Use of Alternative Materials to Reduce Shrinkage Cracking in Bridge Decks," *American Concrete Institute (ACI) Materials Journal*, Volume 104, Issue 6, pp. 629-637, November 2007.
36. Chan, C., Hover, K.C., and Folliard, K.J., "Segmental Retaining Wall (SRW) Split Face Delaminations and Practical Implications," *Journal of Construction and Building Materials*, Available On-Line, DOI:10.1016/j.conbuildmat.2007.05.009, 2007.
37. Riding, K.A., Poole, J.L., Schindler, A.K., Juenger, M.C.G, and Folliard, K.J., "Quantification of Effects of Fly Ash Type on Concrete Early-Age Cracking," *American Concrete Institute (ACI) Materials Journal*, Volume 105, No. 2, pp. 149-155, March-April 2008.
38. Halmen, C, Trejo, D., and Folliard, K.J., "Service Life of Corroding Galvanized Culverts Embedded in Controlled Low-Strength Materials," *ASCE Journal of Materials in Civil Engineering*, Volume 20, Issue 5, pp. 366-374, May 2008.
39. Thomas, M.D.A., Folliard, K.J., Drimalas, T., and Ramlochan, T., "Diagnosing Delayed Ettringite Formation in Concrete Structures," *Cement and Concrete Research*, Volume 38, Issue 6, pp. 841-847, June 2008.
40. Harris, N.J., Hover, K.C., Folliard, K.J., Ley, T. , "The Use of the Foam Index Test to Predict Air-Entraining Admixture Dosage in Concrete Containing Fly Ash: Part III - Development of a Standard Test Method: Proportions of Materials," *ASTM Journal of Testing and Evaluation*, Online ISSN: 1546-962X, Published Online: 17 July 2008, Page Count: 11, 2008.
41. Harris, N.J., Hover, K.C., Folliard, K.J., Ley, T., "The Use of the Foam Index Test to Predict Air-Entraining Admixture Dosage in Concrete Containing Fly Ash: Part II - Development of a Standard Test Method: Apparatus and Procedure," *ASTM Journal of Testing and Evaluation*, Online ISSN: 1546-962X, Published Online: 17 July 2008, Page Count: 15, 2008.
42. Harris, N.J., Hover, K.C., Folliard, K.J., and Ley, T., "The use of the foam index test to predict AEA dosage in concrete containing fly ash: Part I - Evaluation of the State of Practice," *ASTM Journal of Testing and Evaluation*, Online ISSN: 1546-962X, Published Online: 17 July 2008, Page Count: 15, 2008.
43. Riding, K.A., Poole, J.L., Schindler, A.K., Juenger, M.C.G, and Folliard, K.J., "Simplified Concrete Resistivity and Rapid Chloride Permeability Test Method," *American Concrete Institute (ACI) Materials Journal*, Volume 105, No. 4, pp. 390-394, July-August 2008.
44. Ley, M.T., Harris, N.J., Folliard, K.J., and Hover, K.C., "Investigation of Air-Entraining Admixture Dosage in Fly Ash Concrete," *American Concrete Institute (ACI) Materials Journal*, Volume 105, No. 5, pp. 494-498, September-October 2008.
45. Tremblay C., Bérubé M.A., Fournier B., Thomas M.D.A., Folliard KJ, and Nkinamubanzi P.C., "Use of the Accelerated Mortar Bar Test to Evaluate the Effectiveness of LiNO<sub>3</sub> Against Alkali-Silica Reaction -- Part 2: Comparison with Results from the Concrete Prism Test," *Journal of ASTM International (JAI)*, Online ISSN: 1546-962X, Published Online: 17 September 2008, Page Count: 21, 2008.
46. Tremblay C., Bérubé M.A., Fournier B., Thomas M.D.A., Folliard KJ, and Nkinamubanzi P.C., "Use of the Accelerated Mortar Bar Test to Evaluate the Effectiveness of LiNO<sub>3</sub> Against Alkali-Silica Reaction -- Part 1: Pore Solution Chemistry and Influence of Various Parameters," *Journal of ASTM International (JAI)*, Online ISSN: 1546-962X, Published Online: 17 September 2008, Page Count: 17, 2008.
47. Ley, M.T., Folliard, K.J., Hover, K.C., "Observations of Air Bubbles Escaped from Fresh Cement Paste," *Cement and Concrete Research*, Volume 39, Issue 5, pp. 409-416, May 2009.
48. Ley, M.T., Chancey, R., Juenger, M.C.G., and Folliard, K.J., "The Physical and Chemical Characteristics of the Shell of Air-Entrained Bubbles in Cement Paste," *Cement and Concrete Research*, Volume 39, Issue 5, pp. 417-425, May 2009.
49. Fournier, B., Ideker, J.H., Folliard, K.J., Thomas, M.D.A., Nkinamubanzi, P.C., and Chevrier, R., "Effect of Environmental Conditions on Expansion in Concrete due to Alkali-Silica Reaction (ASR)," *Materials Characterization*, Volume 60, Issue 7, pp. 669-679, July 2009.
50. Riding, K.A., Poole, J.L., Schindler, A.K., Juenger, M.C.G, and Folliard, K.J., "Effects of Construction Time and Coarse Aggregate on Bridge Deck Cracking," *American Concrete Institute (ACI) Materials Journal*, Volume 106, No. 5, pp. 448-454, September-October 2009.
51. Feng, X., Thomas, M.D.A., Bremner, T.W., Folliard, K.J., and Fournier, B.F., "New observations on the mechanism of lithium nitrate against alkali silica reaction (ASR)," *Cement and Concrete Research*, Volume 40, Issue 1, pp. 94-101 January 2010.

52. Feng, X., Thomas, M.D.A., Bremner, T.W., Folliard, K.J., and Fournier, B.F., "New observations on the mechanism of lithium nitrate against alkali silica reaction (ASR)," *Cement and Concrete Research*, Volume 40, Issue 4, pp. 636-642, April 2010.
53. Tremblay, C., Bérubé, M.A., Fournier, B., Thomas, M.D.A., and Folliard, K.J., "Experimental investigation of the mechanisms by which  $\text{LiNO}_3$  is effective against ASR," *Cement and Concrete Research*, Volume 40, Issue 4, pp. 583-597, April 2010.
54. Ideker, J.H., East, B.L., Folliard, K.J., Thomas, M.D.A., and Fournier, B. "The current state of the accelerated concrete prism test," *Cement and Concrete Research*, Volume 40, Issue 4, pp. 550-555, April 2010.
55. Poole, J.L., Riding, K.A., Juenger, M.C.G, Schindler, A.K. and Folliard, K.J., "Effects of Supplementary Cementitious Materials on Apparent Activation Energy," *Journal of ASTM International (JAI)*, Online ISSN: 1546-962X, Published Online: 2 September 2010, Page Count: 16, 2010.
56. Slatnick, S., Riding, K.A., Folliard, K.J., Juenger, M.C.G, and Schindler, A.K. "Evaluation of Autogenous Deformation of Concrete at Early Ages," *American Concrete Institute (ACI) Materials Journal*, Volume 108, No. 3, pp. 21-28, January-February, 2011.
57. Riding, K.A., Poole, J.L., Folliard, K.J., Juenger, M.C.G, and Schindler, A.K. "New Model for Estimating Apparent Activation Energy of Cementitious Systems," *American Concrete Institute (ACI) Materials Journal*, Volume 108, No. 5, pp. 550-557, September-October, 2011.
58. Dhole, R., Thomas, M.D.A., Folliard, K.J., and Drimalas, T., "Sulfate Resistance of Mortar Mixtures of High-Calcium Fly Ashes and Other Pozzolans," *American Concrete Institute (ACI) Materials Journal*, Volume 108, No. 6, pp. 645-654, November-December, 2011.
59. Poole, J.L., Riding, K.A., Juenger, M.C.G, Schindler, A.K. and Folliard, K.J., "Effect of Chemical Admixtures on Apparent Activation Energy of Cementitious Systems," *ASCE Journal of Materials in Civil Engineering*, Volume 23, Issue 12, pp. 1654-1661, December 2011.
60. Du, L., Folliard, K.J., and Drimalas, T., "Effects of Additives on Properties of Rapid-Setting Controlled Low-Strength Material Mixtures," *American Concrete Institute (ACI) Materials Journal*, Volume 109, No. 1, pp. 21-30, January-February, 2012.
61. Riding, K.A., Poole, J.L., Folliard, K.J., Juenger, M.C.G, and Schindler, A.K. "Modeling Hydration of Cementitious Systems," *American Concrete Institute (ACI) Materials Journal*, Volume 102, No. 2, pp. 225-234, March-April, 2012.
62. Ideker, J.H., Bentivegna, A.F., Folliard, K.J., and Juenger, M.C.G, "Do Current Laboratory Test Methods Accurately Predict Alkali-Silica Reactivity?," *American Concrete Institute (ACI) Materials Journal*, Volume 109, No. 4, pp. 395-402, July-August, 2012.
63. Drimalas, T., Ideker, J.H., Bentivegna, A.F., Folliard, K.J., Fournier, B, and Thomas, M.D.A. , "The Long-Term Monitoring of Large-Scale Concrete Specimens Containing Lithium Salts to Mitigate Alkali-Silica Reaction," *American Concrete Institute (ACI), Special Publication 289, Paper 289.18*, September 2012.
64. Dhole, R., Thomas, M.D.A., Folliard, K.J., and Drimalas, T., "Characterization of Fly Ashes for Sulfate Resistance," *American Concrete Institute (ACI) Materials Journal*, Volume 110, No. 2, pp. 159-168, March-April, 2013.
65. Riding, K., Thomas, M.D.A., and Folliard, K.J., "Apparent Diffusivity Model for Concrete Containing Supplementary Cementitious Materials", *American Concrete Institute (ACI) Materials Journal*, Volume 110, No. 6, pp. 705-714, November-December, 2013.
66. Giannini, E., Bentivegna, A., and Folliard, K.J., "Strain Gradients in Concrete Affected by Alkali-Silica Reaction: A Laboratory Simulation," *Advances in Civil Engineering Materials*, American Society for Testing and Materials (ASTM), Volume 3, No. 1, Page count:17, published on-line, June 2014.
67. Riding, K.A., Poole, J.L., Schindler, A.K., Juenger, M.C.G., and K.J. Folliard, "Statistical determination of cracking probability for mass concrete," *ASCE Journal of Materials in Civil Engineering*, 26[9], September 2014.

#### B. Refereed Conference Proceedings

1. Nilsen, U., Sandberg, P., and Folliard, K.J., "Influence of Mineral Admixtures on the Transition Zone in Concrete," *Proceedings, Interfaces in Cementitious Composites*, RILEM, Toulouse, France, 65-70, 1992.
2. Liu, W., Hunsperger, R., Folliard, K.J., Chajes, M., Barot, J., Jhaveri, D., and Kunz, E., "Detection and Characterization of Corrosion of Bridge Cables by Time Domain Reflectometry," *Smart Structures and Materials*, SPIE, Newport Beach, California, Vol. 3587, 28-39, 1999.

3. Li, D., Chajes, M.J., and Shenton H.W., Richardson, D., Wenczel, G., Soneji, J., and Folliard, K., "Delaware's High Performance Concrete Bridge Showcase: A Case Study," *PCI/FHWA/FIB International Symposium on High Performance Concrete*, PCI, Orlando, FL, 677-686, 2000.
4. Ideker, J., Folliard, K.J., Juenger, M.J., and Thomas, M.D.A., "Laboratory and Field Experience with ASR in Texas, USA," *Proceedings of the 12<sup>th</sup> International Conference on Alkali-Aggregate Reactivity (ICAAR)*, Beijing, China, pp. 1062-1070, 2004.
5. Fournier, B., Chevrier, R., de Grosbois, M., Lisella, R., Folliard, K., Ideker, J., Shehata, M., Thomas, M., and Baxter, S., "The Accelerated Concrete Prism Test: Variability of the Test Method and Proposed Expansion Limits," *Proceedings of the 12<sup>th</sup> International Conference on Alkali-Aggregate Reactivity (ICAAR)*, Beijing, China, pp. 314-323, 2004.
6. Barborak, R., Folliard, K.J., and Thomas, M.D.A., "Using Lithium Compounds to Treat Hardened Concrete Suffering from ASR: Preliminary Laboratory Results," *Proceedings of the 12<sup>th</sup> International Conference on Alkali-Aggregate Reactivity (ICAAR)*, Beijing, China, pp. 483-489, 2004.
7. Fournier, B., Ideker, J.H., Folliard, K.J., and Thomas, M.D.A., "Effect of Environmental Conditions on Expansion in Concrete Due to Alkali-Silica Reaction (ASR)," In: Broekmans, M.A.T.M. and Wigum, B.J. (eds): *Proceedings of the 13<sup>th</sup> International Conference on Alkali-Aggregate Reaction*, Trondheim, Norway, pp. 658-667, June 2008.
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2. "Effectiveness of Fibers in Plastic Shrinkage Crack Control," American Concrete Institute Fall 2000 Convention, Toronto, Canada, October 16, 2000.
3. "Alkali-Silica Reaction in Texas: An Overview of The University of Texas at Austin Research Program," ACI/CANMET Workshop on Mineral Admixtures in Concrete, Houston, TX, March 7, 2001.
4. "Concrete Durability: Why is Our Infrastructure Crumbling?" Structural Engineering Association of Texas (SEAOT), April 26, 2001.
5. "Accelerated Tests for Alkali-Silica Reaction," American Society for Testing and Materials (ASTM) Meeting, Norfolk, VA, June 30, 2001.
6. "Design and Construction of Showcase Bridge to Assess Mitigation Options for Alkali-Silica Reaction," American Concrete Institute Fall 2001 Convention, Dallas, TX, October 28, 2001.
7. "Instrumentation Strategies for Assessing Alkali-Silica Reaction in New Bridge Structures," Texas Department of Transportation RMC 5 Meeting, San Antonio, TX, November 7, 2001.
8. "Air-Entraining Admixtures," Federal Highway Administration Concrete Admixture Workshop, Ames, Iowa, Dec. 19, 2001.
9. "Basics of Concrete and Admixtures," Federal Highway Administration Concrete Admixture Workshop, Ames, Iowa, Dec. 19, 2001.
10. "Fundamentals of Concrete Durability," American Society of Civil Engineers Austin Branch, Austin, TX, February 19, 2002.
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23. "Concrete Durability," Texas Department of Transportation Short Course, College Station, TX, October 15, 2003.
24. "Basics of Air Entrainment," Fly Ash Interactions Workshop, Austin, TX, October 29, 2003.
25. "Aggregates and Chemical Admixtures," Lafarge North America Training Course for the Concrete Industry, Philadelphia, PA, January 7, 2004.
26. "Aggregates and Chemical Admixtures," Lafarge North America Training Course for the Concrete Industry, Newark, NJ, January 8, 2004.
27. "Effects of Fly Ash on Concrete Durability," Fly Ash Interactive Workshop, Houston, TX, January 19, 2004.
28. "Freeze-Thaw Durability of Segmental Retaining Wall (SRW) Blocks," National Concrete Masonry Association (NCMA) Annual Convention, Atlanta, GA, February 4, 2004.
29. "Effects of CaO Content of Fly Ash on Alkali-Silica Reaction," American Concrete Institute Spring Convention, Washington, D.C., March 16, 2004.
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32. "Sustainable Development Using Controlled Low-Strength Materials," International Workshop on Sustainable Development and Concrete Technology, Beijing, China, May 21, 2004.
33. "Assessing Aggregate Reactivity Using the Accelerated Concrete Prism Test," ACI/CANMET Conference on Advances in Concrete Technology, Las Vegas, NV, June 2, 2004.
34. "Cement Hydration," PCA/ACBM Workshop on Teaching the Materials Science, Engineering, and Field Aspects of Concrete, Skokie, IL, July 12, 2004.
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44. "Concrete and Sustainability," American Coal Ash Association Workshop, Coal Combustion Partnership Program (C2P2), San Juan, Puerto Rico, February 24, 2005.
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46. "Management of Field Structures Affected by ASR and/or DEF," Texas Department of Transportation, Houston, TX, June 17, 2005.
47. "Durability Problems in Texas Bridges," Texas Department of Transportation, Bridge Presentation Meeting, Austin, TX June 24, 2005.
48. "Supplementary Cementing Materials," PCA/ACBM Workshop on Teaching the Materials Science, Engineering, and Field Aspects of Concrete, Skokie, IL, June 27, 2005.
49. "Concrete Aggregates," PCA/ACBM Workshop on Teaching the Materials Science, Engineering, and Field Aspects of Concrete, Skokie, IL, June 28, 2005.
50. "Freezing and Thawing," PCA/ACBM Workshop on Teaching the Materials Science, Engineering, and Field Aspects of Concrete, Skokie, IL, June 29, 2005.
51. "Concrete Durability," Structural Engineering Association of Texas, Austin Chapter, Structural Seminar Series, Austin, TX, August 27, 2005.
52. "Achieving Durability Through the Use of Supplementary Cementing Materials," ACI Northeast Texas Chapter, Concrete Technology Seminar, Dallas, TX, September 15, 2005.
53. "Field Evaluations Using Lithium Nitrate to Treat ASR-Affected Structures," EPFL Construction Materials Seminar, Lausanne, Switzerland, July 24, 2006.
54. "Laboratory Test Methods for Determining the Dosage of Lithium Nitrate Required to Control ASR-induced Expansion." Marc-Andre Berube Symposium on Alkali-Aggregate Reactivity in Concrete, Montreal, Canada, June 1, 2006.
55. "Sulfate Attack in Concrete – A North America Perspective," Holcim Annual Technical Meeting, Baden, Switzerland, May 8, 2006.
56. "Test Methods for Evaluating Sulfate Resistance of Concrete," NANOCEM Technical Symposium, Geneva, Switzerland, March 15, 2006.
57. Chemical Admixtures Workshop, presented to Lafarge Corporation, Kansas City, KS, September 20-22, 2006.
58. National Highway Institute (NHI) Highway Materials Course, presented to Texas Department of Transportation (TxDOT), Austin, TX, October 23-27, 2006.
59. "Sulfate Resistance of Concrete Exposed to External Sulfates," presented to Texas Department of Transportation Annual Paving Conference, Austin, TX, November 1, 2006.
60. "Preventive Measures for Alkali-Silica Reaction," presented to Texas Department of Transportation Annual Paving Conference, Austin, TX, November 1, 2006.
61. "ASR and DEF in Bridge Structures in Texas," presented to Harris County Toll Road Authority (HCTRA), Houston, TX, November 13, 2006.
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67. Supplementary Cementing Materials Workshop, presented to Grace Construction Products, May 16, 2007.
68. Concrete Durability Short Course, presented at the Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, June 11-15, 2007.
69. "Use of Lithium-Based Admixtures to Mitigate ASR in Existing Concrete Structures," Federal Highway Administration – Lithium Technical Expert Panel Meeting, Minneapolis, MN, July 19, 2007.
70. "Performance Tests for Alkali-Silica Reaction," RILEM TC 191-ARP Meeting, Alkali-Aggregate Reactivity, Ghent, Belgium, September 4, 2007.
71. Workshop on Alkali-Silica Reaction, presented to Massachusetts Highway Department, September 26, 2007.
72. "Extending the Service Life of Large or Unusual Structures Suffering from Premature Concrete Deterioration Texas Department of Transportation RMC 5 Meeting, San Antonio, TX, November 7, 2007.
73. "Sulfate Resistance of Concrete Exposed to External Sulfate Attack," Texas Department of Transportation RMC 5 Meeting, San Antonio, TX, November 7, 2007.
74. "Alkali-Aggregate Reaction," presented to Nebraska Department of Roads, November 28, 2007.
75. "Impact of Aggregate Properties on Concrete Performance," presented to Nebraska Department of Roads, November 28, 2007.
76. "The Do's and Don'ts of Concrete Durability," World of Concrete, Las Vegas, NV, January 23, 2008.
77. "Review of *Expression and Analysis of Pore Fluid From Hardened Cement Pastes and Mortars* by R.S. Barneyback Jr. and S. Diamond," American Concrete Institute Spring Convention, Los Angeles, CA, March 31, 2008
78. "Laboratory and Field Investigations of External Sulfate Attack," American Concrete Institute Spring Convention, Los Angeles, CA, April 2, 2008.
79. "Case Studies of ASR-Affected Structures with Lithium Nitrate," 13<sup>th</sup> International Conference on Alkali-Aggregate Reactivity (ICAAR), Trondheim, Norway, June 17, 2008.
80. "Recent Developments in Alkali-Silica Reaction in the United States," Keynote Presentation, 13<sup>th</sup> International Conference on Alkali-Aggregate Reactivity (ICAAR), Trondheim, Norway, June 16, 2008.
81. "Holistic Approach to Concrete Durability," workshop presented to Cement and Concrete Products Institute (CCPI), Honolulu, HI, June 3-4, 2008.
82. "Concrete Durability," workshop presented to the National Ready-Mix Concrete Association, Silver Springs, MD, September 24-25, 2008.
83. "The Do's and Don'ts of Concrete Durability," workshop presented to Capitol Cement, San Antonio, TX, October 7, 2008.
84. "Using Supplementary Cementing Materials for Sustainable and Durable Concrete," World of Concrete, Las Vegas, NV, February 4, 2009.
85. "Concrete Durability," Center for Transportation Research Symposium, The University of Texas, Austin, TX, April 8, 2009.
86. "Alkali-Silica Reaction – Recent Developments," International Center for Aggregates Research Annual Meeting, Austin, TX, May 5, 2009.
87. "Durability of Concrete in Hawaii's Marine Environment," workshop presented to Cement and Concrete Products Institute (CCPI), Honolulu, HI, June 9, 2009.
88. "Field Performance of Calcium Aluminate Cement Concrete," Calcium Aluminate Scientific Network Meeting, Quebec City, Canada, July 31, 2009.
89. "Using Supplementary Cementing Materials for Sustainable and Durable Concrete," Concrete Latin America, August 19, 2009.
90. "Chemical Admixtures, workshop presented to Capitol Cement, San Antonio, TX, October 5, 2009.
91. "Using ConcreteWorks to Improve the Performance of Concrete, webinar presented to the National Ready-Mix Concrete Associate, Austin, TX, October 18, 2010.
92. "Using ConcreteWorks to Improve the Performance of Concrete, webinar presented to the National Ready-Mix Concrete Associate, Austin, TX, November 18, 2010.

93. "The Do's and Don'ts of Concrete Durability," World of Concrete, Las Vegas, NV, February 1, 2010.
94. "Alkali-Silica Reaction – Mechanisms and Preventive Measures, Airport Pavements Short Course, Center for Lifelong Engineering Education (CLEE), The University of Texas, Austin, TX, March 3, 2010.
95. "Got ASR?," Structural Engineering Association of Texas, Austin Chapter, Structural Seminar Series, Austin, TX, March 25, 2010
96. "ASR – Recent Issues," Texas Aggregates and Concrete Association, Concrete Durability Workshop, Austin, TX, April 19, 2010.
97. "Concrete Durability," workshop presented to the National Ready-Mix Concrete Association, Silver Springs, MD, May 19-20, 2010.
98. "Implementation of ConcreteWorks in Highway Applications," course presented to Texas Department of Transportation, Austin, TX, May 10, 2010.
99. "Fundamentals of Concrete (CON 205), course presented to Texas Department of Transportation Waco, TX, June 8, 2010.
100. "Impact of Material Design and Performance on Sustainable Concrete Construction," World of Concrete Latin America, Mexico City, Mexico, June 10, 2010.
101. "Implementation of ConcreteWorks in Highway Applications," course presented to Texas Department of Transportation Austin, TX, June 11, 2010.
102. "Supplementary Cementitious Materials," course presented at the Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, June 16-18, 2010.
103. "Diagnosis, Prognosis, and Rehabilitation of ASR-Affected Structures," American Concrete Institute, Fall Convention, Pittsburgh, PA, October 25, 2010.
104. "Fundamentals of Concrete (CON 205), Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation San Antonio, June 22, 2011.
105. "Fundamentals of Concrete (CON 205), Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation Austin, TX, June 24, 2011.
106. "Implementation of ConcreteWorks in Highway Applications," course presented to Texas Department of Transportation Fort Worth, TX, August 15, 2011.
107. "Concrete Durability," workshop presented to the National Ready-Mix Concrete Association, Silver Springs, MD, September 6-8, 2011.
108. "Alkali-Silica Reaction," course presented at the Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, September 13, 2011.
109. "The Interplay Between Alkali-Silica Reaction (ASR) and Delayed Ettringite Formation (DEF) in Laboratory and Field Concrete, American Concrete Institute, Fall Convention, Cincinnati, OH, October 9, 2011.
110. "New Perspective on Concrete Durability in Hawaii," workshop presented to Cement and Concrete Products Industry of Hawaii (CCPI), Honolulu, HI, March 6, 2012.
111. "Evaluation of Mitigation Measures Applied to ASR-Affected Concrete Elements: Preliminary Findings from Austin, TX Exposure Site," 14<sup>th</sup> International Conference on Alkali-Aggregate Reactivity (ICAAR), Austin, TX, May 22, 2012.
112. "Concrete Durability," workshop presented to the National Ready-Mix Concrete Association, Denver, CO, June 6-7, 2012.
113. "Fundamentals of Concrete (CON 205)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Austin, TX, August 21, 2012.
114. "Concrete Durability," workshop presented to the National Ready-Mix Concrete Association, Silver Springs, MD, September 5-6, 2012.
115. "Fundamentals of Concrete (CON 205)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Dallas, TX, March 4-5, 2013.
116. "Concrete Durability and Troubleshooting (CON 120)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Dallas, TX, March 25, 2013.
117. "Alkali-Silica Reaction," FHWA workshop presented to Pennsylvania DOT, Harrisburg, PA, May 17, 2013.
118. "Concrete Durability," workshop presented to the National Ready-Mix Concrete Association, Skokie, IL, June 4-5, 2013.
119. "Alkali-Silica Reaction," FHWA workshop presented to Maine DOT, Bangor, ME, June 18, 2013.
120. "Alkali-Silica Reaction," FHWA workshop presented to Rhode Island DOT, Providence, RI, June 27, 2013.

121. "Concrete Durability," workshop presented to the National Ready-Mix Concrete Association, San Jose, CA, August 27-28, 2013.
122. "Fundamentals of Concrete (CON 205)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Dallas, TX, September 23, 2013.
123. "Concrete Durability and Troubleshooting (CON 120)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Dallas, TX, September 24, 2013.
124. "Fundamentals of Concrete (CON 205)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Lubbock, TX, May 4, 2014.
125. "Concrete Durability and Troubleshooting (CON 120)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Lubbock, TX, May 5, 2014.
126. "Fundamentals of Concrete (CON 205)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Houston, TX, May 27, 2014.
127. "Concrete Durability and Troubleshooting (CON 120)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Houston, TX, May 28, 2014.
128. "Concrete Durability," training course presented to the National Ready-Mix Concrete Association, Silver Spring, MD, June 3-4, 2014.
129. "Fundamentals of Concrete (CON 205)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Atlanta, TX, July 22, 2014.
130. "Concrete Durability and Troubleshooting (CON 120)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, Atlanta, TX, July 23, 2014.
131. "Fundamentals of Concrete (CON 205)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, San Antonio, TX, July 29, 2014.
132. "Concrete Durability and Troubleshooting (CON 120)," Center for Lifelong Education Engineering (CLEE) course presented to Texas Department of Transportation, San Antonio, TX, July 30, 2014.
133. "Concrete Durability," training course presented to the National Ready-Mix Concrete Association, Orlando, FL, September 8-9, 2014.
134. "Keys to Concrete Durability," invited presentation at the 8<sup>th</sup> Annual TxDOT/CCT Concrete Conference, Austin, TX, September 30, 2014.
135. "Recent Issues Related to Fly Ash Use in Concrete," American Coal Ash Association (ACAA) Fall Meeting, San Antonio, TX, October 1, 2014.

#### **PATENTS:**

1. Berke, N.S., Folliard, K.J., Kerkar, A.V., and Gilbert, B.S., "Fibers having enhanced concrete bonding strength," United States Patent 5,753,368, May 1998.
2. Jardine, L.A., Koyata, H., Folliard, K.J., Ou, C-C, Jachimowicz, F., Chun, B-W, Jeknavorian, A.A., and Hill, C.L., "Admixture and method for optimizing addition of EO/PO superplasticizer to concrete containing smectite clay-containing aggregates," United States Patent 6,352,952, March 2002.
3. Jardine, L.A., Koyata, H., Folliard, K.J., Ou, C-C, Jachimowicz, F., Chun, B-W, Jeknavorian, A.A., and Hill, C.L., "Admixture for optimizing addition of EO/PO superplasticizers," United States Patent 6,670,415, December 2003

#### **GRANTS AND CONTRACTS:**

<b>Principal Investigator</b>	<b>Other Investigators</b>	<b>Project Title</b>	<b>Funding Agency</b>	<b>Grant Total</b>	<b>Grant Period</b>
K.J. Folliard		NCHRP 4-20B, Aggregate Tests Related to Portland Cement Concrete Pavement Performance	National Cooperative Highway Research Program	\$19,995	May 1999 – September 1999

K.J. Folliard		Strategic Review of Portland Cement Concrete Pavements in Delaware	Delaware Department of Transportation	\$20,000	June 1999 – June 2000
K.J. Folliard	M. Chajes (Univ. of Delaware)	High-Performance Concrete for Bridge 8F in Frederica, Delaware	Federal Highway Administration	\$99,969	July 1999 – June 2001
K.J. Folliard	J. Breen	TxDOT 4098, Use of Innovative Materials to Control Shrinkage Cracking of Concrete Bridge Decks	Texas Department of Transportation	\$398,500	September 2000 – August 2003
K.J. Folliard		Aggregate Tests for Portland Cement Concrete	National Cooperative Highway Research Program	\$36,000	April 2001 – October 2001
K.J. Folliard	M.D.A. Thomas (Univ. of New Brunswick); B. Fournier (CANMET)	Verification and Implementation of Improved ASR Test and Mitigation Methods	International Center for Aggregate Research	\$350,000	September 2001- August 2004
K.J. Folliard; M.D.A. Thomas (University of New Brunswick); B. Fournier (CANMET)		Guidelines for the Use of Lithium to Mitigate or Prevent ASR	Federal Highway Administration (subcontract from The Transtec Group)	\$558,400	April 2004 – May 2009
K.J. Folliard		TxDOT 4392, Use of Fibers in Concrete Pavements	Texas Department of Transportation	\$268,500	September 2000 – August 2002
K.J. Folliard	M. Juenger; M.D.A. Thomas (Univ. of New Brunswick)	TxDOT 4085, Preventing Premature Concrete Deterioration due to ASR/DEF in New Concrete	Texas Department of Transportation	\$1,033,000	March 2000 – August 2004
K.J. Folliard		Research on Calcium Aluminate Cements	Kerneos, Inc.	\$350,000	June 2004 – August 2012
K.J. Folliard	K. Hover (Cornell Univ); D. Trejo (Texas A&M Univ.)	Durability of Segmental Retaining Wall Blocks	Federal Highway Administration	\$313,445	January 2003 – November 2005
K.J. Folliard; D. Trejo, (Texas A&M Univ.);	D. Leshchinsky (Univ. of Delaware)	NCHRP 24-12(1), Controlled Low-Strength Material for Backfill, Utility Bedding, Void Fill, and Bridge Approaches	National Cooperative Highway Research Program	\$454,733*	September 1998- August 2004

K. Folliard	M. Juenger; A. Schindler (Auburn Univ.); M.D.A. Thomas (Univ. of New Brunswick)	TxDOT 4563, Heat Generation in Mass Concrete	Texas Department of Transportation	\$1,142,640	September 2002-August 2006
K. Folliard	K. Hover (Cornell Univ.)	TxDOT 5207, Effects of Texas Fly Ash on Air Entrainment in Concrete	Texas Department of Transportation	\$547,000	September 2004-August 2007
K. Folliard	J. Breen; M. Juenger; M.D.A. Thomas (Univ. of New Brunswick)	TxDOT 5218, Extending the Service Life of Large or Unusual Structures Suffering from Premature Concrete Deterioration	Texas Department of Transportation	\$716,000	December 2004-August 2008
K. Folliard		TxDOT IAC, Evaluation of Long-Term Durability of Concrete	Texas Department of Transportation	\$942,000	September 2007 – August 2015
K. Folliard	M. Juenger; M.D.A. Thomas (Univ. of New Brunswick)	TxDOT IAC, Coatings Systems for Sealing Bridge Structures Affected by ASR/DEF	Texas Department of Transportation	\$500,000	September 2006-August 2010
K. Folliard	M.D.A. Thomas (Univ. of New Brunswick)	TxDOT 4889, Resistance of Concrete Exposed to External Sulfate Attack	Texas Department of Transportation	\$701,500	September 2004-August 2009
K. Folliard	L. Kallivokas, A. Schindler (Auburn Univ.); K. Riding (Kansas St. Univ)	TxDOT 6332, Development of Predictive Model for Bridge Deck Cracking and Strength Development	Texas Department of Transportation	\$498,500	September 2008-August 2011
K. Folliard	L. Kallivokas	Alkali-Silica Reaction Research Study	Federal Highway Administration	\$268,000	September 2008-August 2012
K. Folliard	M.D.A. Thomas (Univ. of New Brunswick), B. Fournier (Laval Univ.)	Alkali-Silica Development and Deployment Program	Federal Highway Administration	\$320,000	September 2008-March 2013
K. Folliard	J. Zhu, O. Bayrak, L. Kallivokas, P. Gardoni and J. Bracci (Texas A&M), D. Trejo (Oregon St. Univ.)	TxDOT 6491, Non-Destructive Evaluation of In-Service Concrete Structures Affected by ASR and/or DEF	Texas Department of Transportation	\$997,998	September 2009-August 2012

K. Folliard	K. Riding (Kansas St. Univ.)	TxDOT 4563-1, Development of Training Module for ConcreteWorks	Texas Department of Transportation	\$150,000	September 2009- August 2011
K. Folliard	R. Ferron, M. Juenger	TxDOT 6648, Characterizing Fly Ash	Texas Department of Transportation	\$320,000	September 2010- August 2012
K. Folliard	M.D.A. Thomas (Univ. of New Brunswick)	TxDOT 6723, Development of Rapid, Cement- based Repair Materials for Transportation Structures	Texas Department of Transportation	\$494,000	September 2011- August 2014
K. Folliard		Specifications for Concrete Durability	Lafarge, Inc.	\$174,000	September 2011 – August 2015

\* \$279,352 expended at University of Texas; \$175,381 expended at University of Delaware

#### PH.D. SUPERVISIONS COMPLETED:

Name	Year Received	Department	University	Dissertation Title
Du, L.	2001	Civil Engineering	Univ. of Texas at Austin	Laboratory Investigations of Controlled Low-Strength Material
Riding, K.*	2007	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Early-Age Concrete Thermal Stress Measurement and Modeling
Poole, J.*	2007	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Modeling Temperature Sensitivity and Heat Evolution of Concrete
Ley, T.	2007	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	The Effects of Fly Ash on the Ability to Entrain and Stabilize Air in Concrete
Drimalas, T.	2007	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Laboratory and Field Evaluations of External Sulfate Attack
Ideker, J.	2008	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Early-Age Behavior of Calcium Aluminate Cement Systems
Bentivegna, A.	2012	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Multi-Scale Characterization, Implementation, and Monitoring of Calcium Aluminate Cement Based-Systems
Giannini, E.**	2012	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Evaluation of Concrete Structures Affected by Alkali- Silica Reaction and Delayed Ettringite Formation

\* *co-supervised by M. Juenger*

\*\* *co-supervised by J. Zhu*

**M.S. SUPERVISIONS COMPLETED:**

<b>Name</b>	<b>Year Received</b>	<b>Department</b>	<b>University</b>	<b>Thesis/Report Title</b>
Reath, J.	2000	Civil Engineering	Univ. of Texas at Austin	The Effects of Capping Parameters on the Unconfined Compressive Strength of Controlled Low-Strength Material
Ogalla, M.	2000	Civil Engineering	Univ. of Texas at Austin	Durability of Recycled Crushed Concrete and Recycled Asphalt Pavements in Mechanically Stabilized Earth Retaining Walls
Miralles, J.	2001	Civil Engineering	Univ. of Texas at Austin	Temperature Effects on Alkali-Silica Reaction and Delayed Ettringite Formation
Figurski, D.	2001	Civil Engineering	Univ. of Texas at Austin	and Field Investigations of Alkali-Silica Reaction in Portland Cement Concrete
Dowd, A.	2001	Civil Engineering	Univ. of Texas at Austin	Laboratory Manual for Properties and Behavior of Engineering Materials
Sutfin, D.	2002	Civil Engineering	Univ. of Texas at Austin	Laboratory and Field Evaluations of Steel and Synthetic Fibers in Continuously Reinforced Concrete Pavements
Bauer, S.	2002	Civil Engineering	Univ. of Texas at Austin	Laboratory Investigations of Alkali-Silica Reaction Using the Concrete Prism Test and Its Modifications
Turner, R.	2002	Civil Engineering	Univ. of Texas at Austin	Field Investigations of Steel and Synthetic Fibers in Continuously Reinforced Concrete Pavements
Cornell, B.	2002	Civil Engineering	Univ. of Texas at Austin	Laboratory Investigations of Alkali-Silica Reaction Using the Concrete Prism Test and Its Modifications
Hall, J.	2002	Civil Engineering	Univ. of Texas at Austin	Long-Term Laboratory and Field Evaluation of Concrete Subjected to Alkali-Silica Reaction and Delayed Ettringite Formations
Ley, T.	2002	Civil Engineering	Univ. of Texas at Austin	The Instrumentation of a Prestressed Bridge to Monitor Alkali-Silica Reaction
Sellers, G.	2002	Civil Engineering	Univ. of Texas at Austin	The Use of Innovative Materials to Control Restrained Shrinkage Cracking in Concrete Bridge Decks
Brown, M.	2002	Civil Engineering	Univ. of Texas at Austin	Evaluation of Innovative Materials to Control Restrained Shrinkage of Concrete Bridge Decks
Pugh, J.	2003	Civil Engineering	Univ. of Texas at Austin	On the Ability of Accelerated Test Methods to Assess Potential for Alkali-Silica Reaction
Smith, C.	2004	Civil Engineering	Univ. of Texas at Austin	Large-Scale Field Tests of Alternative Materials to Control Drying Shrinkage of Concrete Bridge Decks
Ideker, J.*	2004	Civil Engineering	Univ. of Texas at Austin	Accurate Test Methods to Assess Alkali-Silica Reaction in Concrete

Poole, J.*	2004	Civil Engineering	Univ. of Texas at Austin	Methods of Activation Energy Calculation for Portland Cement
Riding, K.*	2004	Civil Engineering	Univ. of Texas at Austin	Evaluation of Temperature Prediction Models for Mass Concrete Elements
Haisler, J.	2004	Civil Engineering	Univ. of Texas at Austin	Freeze-Thaw Durability of Segmental Retaining Wall Blocks
Drimalas, T.	2004	Civil Engineering	Univ. of Texas at Austin	Laboratory Testing and Investigations of Delayed Ettringite Formation
Warfield, P.*	2005	Civil Engineering	Univ. of Texas at Austin	Degree of Hydration of Plain and Blended Cement Pastes: A Comparison of Test Methods
Williams, S.*	2005	Civil Engineering	Univ. of Texas at Austin	Structures Affected by Premature Concrete Deterioration: Diagnosis and Assessment of Deterioration Mechanisms
Barborak, R.	2005	Civil Engineering	Univ. of Texas at Austin	Using Lithium Compounds as an Admixture in New Concrete and as a Post-Treatment for Existing Concrete Affected by Alkali-Silica Reaction
Garber, S.*	2006	Civil Engineering	Univ. of Texas at Austin	Alkali-Silica Reaction in Concrete: Selected Laboratory and Field Evaluations
Naranjo, A.	2007	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Clustering of Air Voids Around Aggregates in Air-Entrained Concrete
East, B.	2007	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Laboratory and Field Investigations on the use of Lithium Nitrate to Prevent or Mitigate Alkali-Silica Reaction
Burgher, B.	2007	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Evaluation of Stresses Induced by Delayed Ettringite Formation in Concrete
Villanueva, A.*	2007	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Evaluation of Alkali Silica Reaction and/or Delayed Ettringite Formation in Field Concrete
Slatnick, S.*	2008	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Effects of Autogenous Deformation in Unrestrained and Restrained Concrete
Lute, R.*	2008	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Evaluation of Coatings and Sealers for Mitigation of Alkali-Silica Reaction and/or Delayed Ettringite Formation
Bentivegna, A.	2009	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Development and Monitoring of an Outdoor Exposure Site to Mitigate Alkali-Silica Reaction in Hardened Concrete
Thibonnier, A.	2009	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Stresses Developed by ASR and/or DEF

Giannini, E.	2009	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Field Studies of Mitigation Strategies for Alkali-Silica Reaction in Hardened Concrete
Rust, C.*	2009	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Role of Relative Humidity in Concrete Expansion due to Alkali-Silica Reaction and Delayed Ettringite Formation: Relative Humidity Thresholds, Measurement Methods, and Coatings to Mitigate Expansion
Clement, C.	2009	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Laboratory and Field Evaluations of External Sulfate Attack, Phase II
Wehrle, E.	2010	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	The Effects of Coatings and Sealers Used to Mitigate Alkali-Silica Reaction and/or Delayed Ettringite Formation in Hardened Concrete
Adams, B.	2011	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Evaluation of the Effects of Integral Water Repellants on the Durability of Concrete
Lowe, T.	2011	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	An Investigative Study on Physical Sulfate Attack and Alkali-Silica Reaction Test Methods
Garde, A.	2011	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Evaluation of Early-Age Tensile Strength of Concrete
Meeks, C.	2011	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Implementation of ConcreteWorks Software in Texas Highway Construction
Pesek, P.	2011	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Temperature, Stress, and Strength Development of Early-Age Bridge Deck Concrete
Resendez, B.	2011	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Monitoring of an Outdoor Exposure Site: Evaluating Different Treatment Methods for Mitigation of Alkali-Silica Reactivity in Hardened Concrete
Arrieta, G.	2012	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Experimental Studies of the Behavior of 'Pessimum' Aggregates in Different Test Procedures Used to Evaluate the Alkali Reactivity of Aggregates in Concrete
Kruse, K.**	2012	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Characterization of High-Calcium Fly Ash for Evaluating the Sulfate Resistance of Concrete
Jasso, A.**	2012	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Characterization of Fly Ash for Evaluating the Alkali-Silica Reaction Resistance of Concrete
Zuniga, J.	2013	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Development of Rapid, Cement-based Repair Materials for Transportation Structures

Markus, R.	2013	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	An Investigation of Means of Mitigating Alkali-Silica Reaction in Hardened Concrete
Dornak, M.	2014	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Mechanical Properties, Early-Age Volume Change, and Heat Generation of Rapid, Cement-based Repair Materials
Garcia, A.	2014	Civil, Architectural, and Environmental Engineering	Univ. of Texas at Austin	Durability Testing of Rapid, Cement-based Repair Materials for Transportation Structures

\* *co-supervised by M. Juenger*

\*\* *co-supervised by R. Ferron*

**PH.D. IN PROGRESS:**

A. Students admitted to candidacy

Aguayo, F.

B. Post M.S. students preparing to take Ph.D. qualifying exam

Lute, R.

**M.S. IN PROGRESS:**

Tiburzi, N.

**TEACHING EVALUATIONS:**

SEMESTER	COURSE NUMBER*	OVERALL INSTRUCTOR RATING (MAX. 5)	SCHOOL OF ENGINEERING AVERAGE	OVERALL COURSE RATING (MAX. 5)	SCHOOL OF ENGINEERING AVERAGE
Spring 2014	CE 393	4.8	4.1	4.8	3.9
Spring 2014	CE 314K	4.5	4.1	4.3	3.9
Spring 2013	CE 397	5.0	4.2	4.9	4.2
Spring 2013	CE 351	4.8	4.2	4.5	4.0
Fall 2012	CE 393	4.9	4.1	4.6	3.9
Spring 2012	CE 314K	4.8	4.1	4.4	3.9
Fall 2011	CE 393	4.5	4.1	4.5	3.9
Spring 2011	CE 351	4.8	4.1	4.4	3.9
Spring 2011	CE 314K	4.6	4.1	4.3	3.9
Fall 2010	CE 393	4.8	4.0	4.6	3.8
Spring 2010	CE 397	4.6	4.1	4.5	3.9
Fall 2009	CE 393	4.2	4.0	4.0	3.8
Spring 2009	CE 351	4.8	4.1	4.5	3.9
Spring 2009	CE 314K	4.7	4.1	4.3	3.9
Fall 2008	CE 393	4.8	4.1	4.6	3.9
Spring 2008	CE 397	4.8	4.0	4.6	3.8
Spring 2008	CE 314K	4.6	4.0	4.2	3.8
Fall 2007	CE 393	4.8	4.0	4.6	3.8
Spring 2007	CE 351	4.9	4.2	4.6	3.9
Spring 2007	CE 314K	4.7	4.2	4.3	3.9
Fall 2006	CE 393	4.9	4.0	4.7	3.8
Fall 2005	CE 314K	4.6	4.0	4.3	3.8
Spring 2005	CE 397	4.9	N/A	4.7	N/A
Spring 2005	CE 314K	4.2	N/A	3.8	N/A
Fall 2004	CE 393	4.9	N/A	4.6	N/A
Spring 2004	CE 351	4.7	N/A	4.5	N/A
Spring 2004	CE 314K	4.4	N/A	3.7	N/A
Fall 2003	CE 393	4.8	N/A	4.8	N/A
Spring 2003	CE 351	4.7	4.0	4.4	3.8
Fall 2002	CE 393	4.6	3.9	4.5	3.7
Fall 2002	CE 314K	4.8	3.9	4.3	3.7
Spring 2002	CE 351	4.9	4.0	4.6	3.7
Fall 2001	CE 314K	4.7	3.9	4.4	3.7
Spring 2001	CE 393	4.8	3.9	4.7	3.6
Fall 2000	CE 314K	4.4	3.7	4.0	3.6
Spring 2000	CE 314K	4.5	N/A	4.4	N/A
Fall 1999	CE 351	4.4	N/A	4.2	N/A

Course Numbers and Names\*

CE 393: Advanced Concrete Materials (Graduate Class)

CE 397: Concrete Durability (Graduate Class)

CE 314K: Properties and Behavior of Engineering Materials (Undergraduate Class)

CE 351: Concrete Materials (Undergraduate Class)

**VITA:**

Dr. Kevin J. Folliard is a Professor and Austin Industries Endowed Teaching Fellow in the Department of Civil, Architectural, and Environmental Engineer at the University of Texas at Austin, where he has been on the faculty since 1999. Prior to this, Dr. Folliard was an Assistant Professor at the University of Delaware from 1997-1999 and a Senior Research Engineer at W.R. Grace & Co. from 1995-1997. Dr. Folliard received his Ph.D. in Civil Engineering from the University of California at Berkeley in 1995. His main research interest is in the area of the durability of portland cement concrete and he teaches course related to civil engineering materials, concrete technology, and concrete durability. Dr. Folliard is a Fellow of the American Concrete Institute (ACI), and he received the ACI Young Member Award for Professional Achievement in 2003 and the ACI Wason Medal for Materials Research in 2010 and 2014. Dr. Folliard received the Ervin S. Perry Student Appreciation Award four times (2001, 2002, 2003, 2009) while at the University of Texas at Austin, and he also received the College of Engineering Award for Outstanding Teaching by an Assistant Professor in 2004. In 2013, Dr. Folliard was honored with the highest teaching award given by the University of Texas System, the Regents' Outstanding Teaching Award. Dr. Folliard has been the Principal Investigator on over \$15 million in research projects while on the faculty at the University of Texas at Austin, primarily in the area of concrete durability (especially alkali-silica reaction) and in more recent years on the use of alternative binders for rapid repair applications. Dr. Folliard has authored or co-authored over 150 technical publications in his career, including more than 65 refereed journal papers.