

Jason H. Ideker, Ph.D.

Associate Professor

Co-Director Green Building Materials Laboratory - An Oregon BEST Signature Facility

<http://web.engr.oregonstate.edu/~idekerj/>

<http://gbml.oregonstate.edu>

Oregon State University
School of Civil and Construction Engineering
101 Kearney Hall
Corvallis, Oregon 97331-3212

Phone: (541) 737-9571, Fax (541) 737-3052

jason.ideker@oregonstate.edu

Professional Experience

- 2014-Present Associate Professor, School of Civil and Construction Engineering, Oregon State University
- 2010-2014 Assistant Professor and Kearney Faculty Scholar, School of Civil and Construction Engineering
Oregon State University
- 2008-2010 Assistant Professor, School of Civil and Construction Engineering
Oregon State University
- 2008
May-Aug. The University of Texas at Austin
Post-Doctoral Fellow
- 2004-2008 Ph.D., The University of Texas at Austin
Early-Age Behavior of Calcium Aluminate Cement Systems
- 2002-2004 M.S.E., The University of Texas at Austin
Departmental Report: *Toward Accurate Test Methods to Assess Alkali-Silica Reaction in Concrete*
- 1998-2000 Engineering Aide, Cooperative Employment through the Georgia Institute of Technology
Willmer Engineering, Inc. Atlanta, Georgia

Education

- 2008
May-Aug. The University of Texas at Austin
Post-Doctoral Fellow, Advisor: Kevin J. Folliard
- 2004-2008 The University of Texas at Austin
Ph.D. Civil Engineering
Advisors: Kevin J. Folliard & Michael D.A. Thomas (University of New Brunswick)
- 2006
Apr-Aug. École Polytechnic Fédérale de Lausanne (EPFL), Lausanne, Switzerland
Visiting Ph.D. Candidate
Advisors: Kevin J. Folliard and Karen L. Scrivener (EPFL)
- 2002-2004 The University of Texas at Austin
M.S.E., Advisors: Kevin J. Folliard & Maria C.G. Juenger
- 1997-2002 Georgia Institute of Technology
B.S.C.E., High Honors, Advisor: Kimberly E. Kurtis

Honors and Awards

- 2014 ACI Young Member Award for Professional Achievement “for advancement of alkali-silica reaction test methods, for the commitment to sustainability education and technology, and for the mentoring of students,”
- 2013 Englebrecht Young Faculty Award for Exceptional Scholarly and Teaching Accomplishments, Oregon State University College of Engineering
- 2011 Portland Cement Association Education Foundation Fellowship (\$20K for 1 year), *Development of Shrinkage Limits and Testing Protocols for High Performance Concrete*, Tengfei Fu and Jason H. Ideker
- 2010-2013 Kearney Faculty Scholar, Oregon State University
- 2007 Finalist for ACI Wason Medal for Materials Research Award for paper: Thomas, M.D.A., Fournier, B., Folliard, K.J., Shehata, M., Ideker, J.H., and Rogers, C., “Performance Limits for Evaluating Supplementary Cementing Materials Using the Accelerated Mortar Bar Test,” *ACI Materials Journal*, 104 [2] March 2007, pp. 115-122.
- 2007 William S. Livingston Continuing Education Fellowship (\$20K for 9 months)
- 2004 PCI Engineering Design Competition - Big Beam Contest, Zone 2 First Place, Overall 2nd Place
The University of Texas at Austin, *Team*: Justin Norvell, Vanna Oberholz, Andrew Maas, Nathan Dickerson, Brandon McBee, Peter Ruth, Jeff Carlson and Jason Ideker, *Advisor*: Dr.Oguzhan Bayrak, *PCI Producer*: Coreslab Structures (Texas), Inc., Cedar Park, Texas (Byron Freeby and Bill Dougherty)
- 2003 Portland Cement Association Education Foundation Fellowship (\$20K for 1 year), *Examination of the Effects of Temperature on Progression of Alkali Silica Reaction Using an Accelerated Temperature ASTM C 1293 Test*, Jason H. Ideker and Kevin J. Folliard
- 2002 John A. Focht Endowed Presidential Graduate Scholarship in Civil Engineering (\$3K)

Leadership

- 2015 – Present Member-At-Large, ASTM C09 Committee Officer
- 2011 – Present Chair, Subcommittee C 9.50 - Risk Management for Alkali Aggregate Reactions, 2011-present
New Standard Developed Under Chaired Leadership: *ASTM C 1778-14 “Standard Guide For Reducing the Risk of Deleterious Alkali-Aggregate Reaction in Concrete”*

Editorial Board for Technical Journals

- 2015-present Cement and Concrete Research – Member, Board of Editors
- 2012-present Advances in Civil Engineering Materials - Member, Editorial Board

Teaching Experience

Oregon State University

- 2015-Present Associate Professor, CCE 507: CE Graduate Seminar, Winter Term, Professional Presentations, Abstracts and Writing Introduction
- 2015-Present Associate Professor, CCE 422/522: Green Building Materials, Oregon State University
- 2014-Present Associate Professor, CCE 523: Concrete Durability, Oregon State University
- 2014-Present Associate Professor, CCE 321: Civil and Construction Engineering Materials, Oregon State University
- 2014-Present Assistant Professor, CCE 523: Concrete Durability
- 2014-Present Assistant Professor, CCE 421: Advanced Concrete Properties and Performance
- 2013- Assistant Professor, CCE 523: Concrete Durability
- 2012 Assistant Professor, CE 505: Experimental Methods in Cement Chemistry
- 2009-2011 Assistant Professor, CE 526: Advanced Concrete Materials, Oregon State University
- 2010-2014 Assistant Professor, CCE 422/522: Green Building Materials, Oregon State University
- 2009-2013 Assistant Professor, CCE 321: Civil and Construction Engineering Materials, Oregon State University
- 2008 Assistant Professor, CE 321: Civil Engineering Materials, Oregon State University

The University of Texas at Austin

- 2007 Teaching Assistant, Concrete Materials (Undergraduate Course), The University of Texas at Austin
- 2007 Undergraduate Mentor, ASCE Concrete Canoe Team, The University of Texas at Austin
- 2006 Teaching Assistant (Grader), Advanced Concrete Materials (Graduate Course), The University of Texas at Austin
- 2003-2005 Teaching Assistant, Concrete Materials (Undergraduate Course), The University of Texas at Austin
- 2003-2005 ACBM/PCA Faculty Workshop, Portland Cement Association (PCA), Skokie, IL
“How to Teach Basic Concrete Concepts to Undergraduates”

Students Advised

Post Doctoral Scholars

- 2013-2015 Tengfei Fu, Oregon BEST Post Doctoral Scholar, Green Building Materials Laboratory, Oregon State University, Co-Advisors, Fred Kamke (Wood Science and Engineering) and Jason Ideker (Civil and Construction Engineering)

Doctoral Students

Current

- 2015-present Maximo Argo, Cascadia Lifelines Multi-Hazard Concrete Deterioration, Co-Advisors: Dr. O. Burkan Isgor and Dr. Jason H. Ideker, Oregon State University
- 2014-present Feras Khlef, Use of Mixed Mode Fibers in Ultra High Performance Concrete for Seismic Retrofit, Co-Advisors, Dr. Andre Barbosa and Dr. Jason H. Ideker, Oregon State University
- 2013-present Tyler Deboodt, Cascadia Lifelines Multi-Hazard Concrete Deterioration, Co-Advisors: Dr. O. Burkan Isgor and Dr. Jason H. Ideker, Oregon State University
- 2012-present Chang Li, *Use of Fine Lightweight Aggregate (FLWA) to Mitigate Alkali-Silica Reaction and Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO₂*, Oregon State University

Graduated

- 2012-2015 Matthew P. Adams, *Calcium Aluminate Cements and Alternative Cementitious Binders: Volume Stability and Durability*, Oregon State University, Now an Assistant Professor at the New Jersey Institute of Technology
- 2011-2013 Tengfei Fu, *Shrinkage Study of High Performance Concrete for Bridge Decks*, Oregon State University, Employed as Post-Doctoral Scholar, Oregon State University, Advisor W. Jason Weiss
- 2010-2013 Circe Verba, *Potential Impacts of Formation Waters on the Integrity of Class H Cement and Reservoir Rock Under Carbon [Co-] Sequestration Settings*, Dr. Mark Reed (University of Oregon) and Dr. Jason H. Ideker (Oregon State University), Co-Advisors, Employed at NETL, Albany, Oregon
- 2009-2012 Anthony F. Bentivegna, *Multi-Scale Characterization, Implementation, and Monitoring of Calcium Aluminate Cement Based-Systems*, Kevin J. Folliard, (The University of Texas at Austin) and Jason H. Ideker, Co-Advisors, Employed at CTL Group, Chicago, Illinois

Master's of Science Students

Current

- 2015-present Silas Shields, *Strategies to Increase the Service Life of Concrete Bridge Decks and Investigations into the Durability of Ductile Iron Pipe*, Oregon State University, Co-Advisors: Jason H. Ideker and O. Burkan Isgor
- 2013-present David Rodriguez, *Strategies to Increase the Service Life of Concrete Bridge Decks*, Oregon State University, Co-Advisors: O. Burkan Isgor and Jason H. Ideker

Graduated

- 2013-2015 Ben Sohn, *The Role of NaCl on Alkali-Silica Reaction*, Co-Advisors: O. Burkan Isgor and Jason H. Ideker
- 2012-2014 Jose Banuelos, *Blended Fibers for High Performance Concrete*, Oregon State University
- 2010-2012 Skyler Warner, *The Role of Alumina in the Mitigation of Alkali-Silica Reaction*, Oregon State University, *Employed at SCC Engineers*
- 2010-2012 Matthew P. Adams, *Alkali-Silica Reaction in Concrete Containing Recycled Concrete Aggregates*, Oregon State University
- 2009-2011 Tyler Deboodt, *Internal Curing of High Performance Concrete Bridge Decks*, Oregon State University, *Employed as a Faculty Research Assistant, Oregon State University*
- 2010-2011 Thanh Phan, *Climate Change Impact Assessment for Surface Transportation in the Pacific Northwest and Alaska and Proposed Standardized Testing of Calcium Aluminate Cement based Concrete: Phase I – Investigation of Materials Interaction and Strength Variability Issues*, Graduated June 2011, MS Project, *Employed at Kiewit, Omaha, Nebraska*
- 2009-2011 Tengfei Fu, *Master's Thesis, Autogenous Deformation and Chemical Shrinkage of High Performance Cementitious Systems*, Oregon State University
- 2008-2010 Kelsea Schwing (m. Schumacher), *Use of Fly Ash in the Mitigation of Alkali-Silica Reaction in Concrete*, Oregon State University, Graduated December 2010, PhD Student, University of Delaware, Newark, Delaware

Master's of Engineering Students

Graduated

- 2010-2011 John Meissner, *Structural Engineering*, Oregon State University, Graduated June 2011, *Employed at Charles Engineering, San Diego, CA*

Master's of Science Students (partial support or advising)

Graduated

- 2011-2013 Watcharagon Wongkamjan, *Alkali-Silica Reactivity of Thailand Aggregates*, D.Eng. Candidate in Structural Engineering, Department of Civil Engineering, Kasetsart University, Thailand, Main Advisor: Suvimol Sujjavanich, Co-Chair Advisor: Jason H. Ideker
- 2012 Michael Carrigg, "Use of Sustainable Cementitious Products in Building Components for the Oregon Sustainability Center," Oregon State University
- 2011 J.P. Kivlin, *Cellulose Fiber Technologies*, M.B.E., Oregon State University,
- 2009 Scott Ureel, *Internal Curing of High Performance Concrete Bridge Decks*, Oregon State University
- 2009 Arnaud Thibonnier, *Early-Age Volume Change in Calcium Aluminate Cement Concrete*, Co-advisor Kevin J. Folliard, The University of Texas at Austin

Committees Served

Doctoral Students

- 2013-Present Blake Boren, "Active Control of a Vertical Axis Pendulum Wave Energy Converter"
- 2011-2012 Mary Ann Triska, "Structural Design and Performance of Green Roofs"

Master's of Science

- 2014 Tasha Larson, M.S.I.E., TBD, Industrial Engineering, GCR
- 2013 Blake Boren, M.S.M.E., Title TBD, GCR
- 2012 Landon Harman, M.S.C.E., Structural Engineering and Construction Engineering Management
- 2011 Jake Goebel, M.S.C.E., Structural Engineering, "Design and Environmental Performance of Near-Surface Mounted Carbon Fiber Reinforced Polymer Strips for Shear Strengthening Reinforced Concrete Bridge Girders"
- 2011 Brandon Johnson, M.S.C.E., Structural Engineering, "Design and Fatigue Behavior of Near-Surface Mounted CFRP Bars for Shear Strengthening of RC Bridge Girders"
- 2011 Josh Christiansen, M.S.C.E., Structural Engineering, "The Influence of Seismic Attack and Chloride-induced Corrosion on a Life Cycle Inventory Assessment of Different Concrete Mixtures"
- 2011 Jie Ding, M.S., Wood Science and Engineering, "A Methodology for Evaluating Multiple Mechanical Properties of Prototype Microfibrillated Cellulose/Poly(lactic acid) Film Composites"

Master's of Engineering

2014	Alexandra Stroud, Structural Engineering
2013	Garlan Rahman, Structural Engineering
2014	Dan Serra, Structural Engineering
2012	Andrew Kelley, Structural/Materials Engineering
2012	Eric Goodall, Structural Engineering
2011	Kyle Mayfield, Structural Engineering
2009	Faisal Samoo, Geotechnical Engineering
2009	Scott Ureel, Geotechnical Engineering

Undergraduate Honor's Thesis

2013	Stephanie Stache, "Finite Element Analysis of a Concrete Canoe," Committee Member
2013	Jordan Henderson, "The Case for Wood in Non-Residential, Multi-Story Construction: LEED vs. Green Globes Certification," Committee Member
2011-2012	Hanna D'Acci, <i>Sustainability and Structural Building Codes in USA and Chile</i> , Advisor
2010	Phil Davis, <i>A Novel Testing Method Applied to Wood Members</i> , Committee Member
2009-2010	Jill Folkestad, <i>Carbonation of Mid-Twentieth Century Reinforced Concrete Bridges in Oregon</i> , Committee Member
2009-2010	Lina Chan, <i>Selection of Hotels: Is the Sustainability of a Building more Important than its Aesthetic Appearance?</i> , Committee Member
2009	Quinn Pullen, <i>Strength and Composition of Willamette Valley Cob: An Earthen Building Material</i> , Committee Member

Undergraduate Research Students

Oregon State University

Current (3)

2015-present	Devan Darsow, <i>Use of Fine Lightweight Aggregate (FLWA) to Mitigate Alkali-Silica Reaction</i>
2014-present	Christine Baker, <i>Strategies to Increase the Service Life of Concrete Bridge Decks</i> , co-advised with O. Burkan Isgor
2014-present	Quentin Harris, <i>Shrinkage Assessment of Blended Polypropylene Fibers and Use of Fine Lightweight Aggregate (FLWA) to Mitigate Alkali-Silica Reaction</i>

Graduated or Prior (24)

2014-2015	Andrew Thomas, <i>The Role of NaCl on Alkali-Silica Reaction</i>
2014-2012	Aaron Strand, <i>Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO₂</i>
2013	Adalberto Guerra Cabrera, <i>Cracking Susceptibility of Concrete Made with Recycled Concrete Aggregates</i> , Currently graduate student at Monterrey Institute of Technology, Puebla, Mexico
2013-2014	Nicholas Breisach, <i>Conversion of Calcium Aluminate Cement Concrete</i>
2013-2014	Silas Shields, <i>Shrinkage and Cracking Susceptibility of Recycled Concrete Aggregates</i>
2012-2014	Kristina Milaj, <i>Cellulose Fiber Technologies for High Performance Concrete</i>
2012-2014	Andrew Wilson, <i>Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase V</i>
2010-2013	Monica Morales, <i>Cellulose Fiber Technologies for High Performance Concrete</i> , Graduate Student, Oregon State University
2012-2013	Sean Gertz, <i>Testing for Combined Forms of Premature Concrete Deterioration: ASR and Corrosion</i> , Independent Study
2011-2013	Travis Moore, <i>Use of Sustainable Cementitious Products in Building Components for the Oregon Sustainability Center</i>
2011-2012	Jose Banuelos, <i>Drying Shrinkage Limits of High Performance Concrete</i> , Current Graduate Student
2011-2013	David Rodriguez, <i>Internal Curing of Concrete Bridge Decks</i> , Current Graduate Student

2011-2013	Chad Anderson, <i>Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase III, IV, V</i>
2011-2012	Benjamin Sohn, <i>Durability Assessment of Recycled Concrete Aggregates for use in New Concrete</i> , Current Graduate Student
2009-2012	Brian Gray, <i>Durability Assessment of Recycled Concrete Aggregates for use in New Concrete</i> , Employed Lease Crutcher Lewis, Seattle, Washington
2011	Marlon Meija, General Research Support
2010-2011	Jorge Mirando, General Research Support
2010-2011	Deanna, Amneus, <i>Durability Assessment of Recycled Concrete Aggregates for use in New Concrete</i> , Graduate Student Oregon State University
2010-2011	Maxwell Cummings, <i>Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase II</i> , Graduated June 2011, Employed Lease Crutcher Lewis, Seattle, WA
2010	Daniel Alexandre Bleau, visiting Undergraduate Research Assistant, University of Sherbrooke, Canada, <i>Durability Assessment of Recycled Concrete Aggregates for use in New Concrete</i>
2009-2010	Bryce Wininger, visiting Undergraduate Research Assistant, Griffith University, Australia, <i>Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase II</i>
2009-2010	Sarah Routley, <i>Durability Assessment of Recycled Concrete Aggregates for use in New Concrete</i>
2009-2010	Chuck Williams, <i>Internal Curing of High Performance Concrete Bridge Decks</i>
2009-2011	Marc Putman, <i>Durability Assessment of Recycled Concrete Aggregates for use in New Concrete</i> , Graduated June 2011, Employed Kiewit, Portland, Oregon

The University of Texas at Austin

2007-2008	Evan R. Wehrle, The University of Texas at Austin, <i>Drying Shrinkage and Autogenous Deformation of Calcium Aluminate Cement Systems</i>
2006	Racheal D. Lute, The University of Texas at Austin, <i>Chemical and Autogenous Shrinkage of Calcium Aluminate Cement Concrete</i> , Current Graduate Student (PhD) at The University of Texas at Austin, Formerly SK&A Consultants (5 years), Washington, D.C.
2004	Alda P. Villanueva, The University of Texas at Austin, <i>Methods to Assess the Impact Resistance of ASR Affected Concrete</i>

Research Projects

Oregon State University (2.4 Million)

2015-present	Pacific General Electric (PGE), Investigations into the Durability of Ductile Iron Pipe, \$20,000, Co-PIs, Dr. O. Burkan Isgor and Dr. Jason H. Ideker
2015-present	Oregon DOT, Construction of Efficient, Cost-Effective and Sustainable Maintenance Facilities, SPR 792, PI – Jason H. Ideker, Co-PI – Karl Haapala, \$145,000
2014-present	Oregon DOT, <i>Strategies to Increase the Service Life of Concrete Bridge Decks - SPR 780</i> , PI – Dr. O. Burkan Isgor, Co-PIs, Dr. Jason H. Ideker and Dr. David Trejo, \$239,000
2013-present	Cascadia Lifelines Program (CLiP), “Seismic Performance of Deteriorated Reinforced Concrete Structures,” O. Burkan Isgor (PI), Jason H. Ideker (Co-PI), Christopher Higgins (Co-PI) and David Trejo (Co-PI), \$260,130
2013-2015	Oregon BEST Post Doctoral Scholar, Dr. Tengfei Fu, Fred Kamke, (PI), Jason Ideker (Co-PI), \$75,000
2011-2015	Kerneos Aluminate Technologies, “Investigations into Calcium Aluminate Cement Binders,” Jason H. Ideker (PI), \$198,500
2013-2014	National Energy Technology Laboratory (NETL-Albany), “Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO ₂ ,” Jason H. Ideker (PI), O. Burkan Isgor (Co-PI), \$168,000
2011-2014	Weyerhaeuser, Cellulose Fiber Technologies, \$115,000 to date
2012-2014	ESCSI-Expanded Shale, Clay and Slate Institute, “Investigations into ASR Mitigation by Fine Lightweight Aggregate,” Jason H. Ideker (PI, Oregon State University, Michael D.A. Thomas, (Co-PI, The University of New Brunswick), \$36,150

- 2008-2013 NAVFAC EXWC, "Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phases I-V," Jason H. Ideker (PI, Oregon State University), \$475,985
- 2012-2013 PacTrans Northwest and Oregon Department of Transportation (ODOT), "Use of Blended Synthetic Fibers to Reduce Cracking Risk in High Performance Concrete", \$69,947
- 2010-2013 Oregon Department of Transportation (ODOT), "Development of Shrinkage Limits and Testing Protocols for ODOT High Performance Concrete," Jason H. Ideker (PI, Oregon State University), \$229,089
- 2011 Oregon BEST Research Consortium, "Use of Sustainable Cementitious Products in Building Components for the Oregon Sustainability Center," Jason H. Ideker (PI), David Trejo (Co-PI), \$22,000
- 2010-2012 OTREC, "Part II: Durability Assessment of Recycled Concrete Aggregates for Use in New Concrete," Jason H. Ideker (PI, Oregon State University), Jennifer E. Tanner (Co-PI, The University of Wyoming), \$209,465
- 2009-2012 Oregon Department of Transportation (ODOT), "Internal Curing of Concrete Bridge Decks," Jason H. Ideker (PI, Oregon State University), \$214,825
- 2009-2012 Northwest Transportation Consortium (NWTC), "Climate Change Impact Assessment for Surface Transportation in the Pacific Northwest and Alaska," John MacArthur (PI, Portland State University), Research Team: Philip Mote (Oregon Climate Change Research Institute, Oregon University System), Ming Lee (University of Alaska Fairbanks), Miguel Figliozzi, (Portland State University), Jason H. Ideker (Oregon State University), \$200,000, (\$45,000 Ideker portion)
- 2009-2010 OTREC, "Durability Assessment of Recycled Concrete Aggregates for use in New Concrete," Jason H. Ideker (PI, Oregon State University), Jennifer E. Tanner (Co-PI, The University of Wyoming), \$157,279
- 2009-2011 Kerneos Aluminate Technologies, "Early-Age Volume Change in Calcium Aluminate Cement Concrete," Kevin J. Folliard (PI, The University of Texas at Austin), Jason H. Ideker Consultant, unfunded research

Contract Testing

- 2012-present Services and Contract Testing, Various Sources, \$75,000

Funded Equipment Grants (\$1.1 Million)

- 2014 DOE Autoclave Installation on Long-Term Loan from NETL Albany, \$23,000
- 2012-2014 M.J. Murdock Major Equipment Grant, "Multi-Chamber Modular Environmental Conditioning System," \$858,000, Jason H. Ideker, PI, Fred Kamke and David Trejo, Co-PIs, Oregon State University
- 2010 Oregon State University Research Equipment Reserve Fund (RERF), "Cyclic Environmental Performance Testing Equipment for Concrete," \$78,880 (plus \$20,000 match from start-up funding), Jason H. Ideker and David Trejo, Co-PIs, Oregon State University
- 2009-2010 Oregon BEST, Green Building Materials Laboratory, Scott A. Ashford, (PI, Oregon State University), Jason H. Ideker and Fred Kamke, (Co-PIs, Oregon State University), \$400,000 total project, \$150,000 (Ideker portion)

The University of Texas at Austin (Graduate Studies)

- 2006-2008 FHWA, "Alkali-Silica Reactivity (ASR) Development and Deployment Program," Kevin J. Folliard (Co-PI, The University of Texas at Austin) Michael D.A. Thomas (Co-PI, University of New Brunswick), Benoit Fournier (Co-PI, CANMET)
- 2004-2008 FHWA, "Lithium Implementation Project for ASR Affected Concrete," Michael D.A. Thomas (PI, University of New Brunswick)
- 2004-2008 Kerneos Aluminate Technologies (formerly Lafarge Calcium Aluminates), "Early Age Properties of Calcium Aluminate Cement Concrete," Kevin J. Folliard (PI, The University of Texas at Austin)
- 2003-2008 PCA Education Fellowship, "Examination of the Effects of Temperature on Progression of Alkali Silica Reaction Using an Accelerated Temperature ASTM C 1293 Test," Kevin J. Folliard (Advisor, The University of Texas at Austin)
- 2006-2007 "DMJM Aviation Denver Airport ASR Phase II," Kevin J. Folliard (Co-PI, The University of Texas at Austin) Michael D.A. Thomas (Co-PI, University of New Brunswick)

- 2005-2006 “DMJM Aviation Denver Airport ASR Best Practices,” Kevin J. Folliard (Co-PI, The University of Texas at Austin) Michael D.A. Thomas (Co-PI, University of New Brunswick)
- 2003-2004 Unfunded Research, “The Role of Silica Fume Agglomerates in ASR,” Maria C.G. Juenger (Advisor, The University of Texas at Austin)
- 2002-2005 International Center for Aggregate Research (ICAR), “Verification and Implementation of Improved ASR Test and Mitigation Methods,” ICAR 302, Kevin J. Folliard (PI, The University of Texas at Austin)
- 2002-2005 Texas Department of Transportation, “Preventing Premature Concrete Deterioration due to ASR/DEF in New Concrete,” TxDOT 0-4085, Kevin J. Folliard (PI, The University of Texas at Austin)

Georgia Institute of Technology (Undergraduate Studies)

- 2001-2002 NSF POWRE Award CMS-0074874, “Examination of the Mechanisms of Alkali-Silica Reaction Gel Expansion Control by Lithium Additives in Concrete,” Kimberly E. Kurtis (PI, Georgia Institute of Technology)

Other Funded Research

- 2005-2006 Investigation into Lithium Nitrate Dosage in Fresh Concrete used at the Atlanta Hartsfield-Jackson International Airport, Kevin J. Folliard (PI, The University of Texas at Austin)

Publications

Peer-Reviewed Journal Articles (19)

Adams, M., Fu, T., Cabrera, A.G., Morales, M., Ideker J.H. and Isgor, O.B., “Cracking Susceptibility of Concrete Made with Recycled Concrete Aggregates,” *accepted for publication in Construction and Building Materials*, November 2015.

Rajabipour, F., Giannini, E., Dunant, C., Ideker, J.H. and Thomas, M.D.A., “Alkali-Silica Reaction: Understanding the Reaction Mechanisms and the Use of Predictive Modeling” *Cement and Concrete Research*, March 2015.

Deboodt, T., Fu, T., and Ideker, J.H., “Durability Assessment of High-Performance Concrete with SRAs and FLWAs”, *Cement and Concrete Composites*, March 2015, V 57, pp. 94-101.

Verba, C.A., O’Connor, W., Rush, G., Palandri, J., Reed, M.H. and Ideker, J.H., Geochemical Alteration of Simulated Wellbores of CO₂ Injection Sites Within the Illinois and Pasco Basins, *International Journal of Greenhouse Gas Control*, V 23, April 2014, pp. 119-134.

Schumacher, K., and Ideker, J.H., “Predicting Mitigation of Alkali-Silica Reaction Based on Fly Ash Chemistry: New Considerations,” *Accepted to ASCE Journal of Materials in Civil Engineering*, Online Publication January 2014.

Adams, M.P., Jones, A., Beauchemin, S., Johnson R., Fournier, B., Shehata, M., Tanner, J.E. and Ideker J.H., “Applicability of the Accelerated Mortar Bar Test for Alkali-Silica Reactivity of Recycled Concrete Aggregates,” *Advances in Civil Engineering Materials*, March 20, 2013, 19 pp.

Ideker, J.H., Gosselin, C.G. and Barborak, R., “An Alternative Repair Material: Basics and Practical Testing of Calcium Aluminate Cements”, *Concrete International*, V 35 [4], April 2013, pp. 33-37*

**featured cover article in issue on Concrete Repair*

Fu, T. Deboodt, T., and Ideker J., “Prediction of Drying Shrinkage for Internally Cured HPC,” *ACI-SP*, V 290-09, Ontario, Canada, Fall 2012, 16 pp.

Fu, T., Deboodt, T., and Ideker, J., “A Simple Procedure on Determining Long-Term Chemical Shrinkage for Cementitious Systems Using Improved Standard Chemical Shrinkage Test”, *ASCE Journal of Materials in Civil Engineering*, V 24 [8], August, 2012, pp. 989-995.

Ideker, J.H., Folliard, K.J., Juenger, M.C.G. and Bentivegna, A.F., "Do Current Laboratory Test Methods Accurately Predict Alkali-Silica Reactivity?," *ACI Materials Journal*, V 109 [4], pp. 395-402, July 2012.

Juenger, M.C.G., Winnefeld, F., Provis, J.L. and Ideker, J.H., "Advances in Alternative Cementitious Binders," *Cement and Concrete Research*, V 41 [12], December 2011, pp. 1232-1243.

Ideker, J.H., East, B.L., Folliard, K.J., Fournier, B. and Thomas, M.D.A., "The Current State of the Accelerated Concrete Prism Test", *Cement and Concrete Research*, V 40 [4], April 2010, pp. 550-555.

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*, 60 [7], July, 2009, pp. 669-679.

Thomas, M.D.A., Fournier, B., Folliard, K.J., Shehata, M., Ideker, J.H., and Rogers, C., "Performance Limits for Evaluating Supplementary Cementing Materials Using the Accelerated Mortar Bar Test," *ACI Materials Journal*, 104 [2] March 2007, pp. 115-122.

Maas, A.J., Ideker, J.H., Juenger, M.C.G., "Alkali Silica Reactivity of Agglomerated Silica Fume," *Cement and Concrete Research*, 37 [2], February 2007, pp. 166-174.

Thomas, M.D.A., Fournier, B., Folliard, K.J., Ideker, J.H., Shehata, M., "Test Methods for Evaluating Preventive Measures for Controlling Expansion due to Alkali-Silica Reaction in Concrete," *Cement and Concrete Research*, 36 [10] October 2006, pp. 1842-1856.

Yildirim, Y., Ideker, J., Hazlett, D., "Evaluation of Viscosity Values for Mixing and Compaction Temperature," *Journal of Materials in Civil Engineering*, 18 [4] August 2006, pp. 545-553.

Collins, C.L., Ideker, J.H., Kurtis, K.E., "Laser Scanning Confocal Microscopy for In-Situ Monitoring of Alkali-Silica Reaction," *Journal of Microscopy*, 213 [2] February 2004, pp. 149-157.

Collins, C.L., Ideker, J.H., Kurtis, K.E., "Examination of the Effects of LiOH, LiCl, and LiNO₃ on Alkali-Silica Reaction," *Cement and Concrete Research*, 34 [8] August 2004, pp. 1403-1415.

Articles Submitted for Review

Azad, V.J., Li, C., Verba, C., Ideker, J.H. and Isgor, O.B., "A COMSOL-GEMS PSI Interface for Modeling Coupled Reactive-transport Geochemical Processes," *Submitted to XXXX*, July 2015.

Deboodt, T., Fu, T. and Ideker, J.H., "Evaluation of FLWA and SRAs on Autogenous Deformation and Long-Term Drying Shrinkage of High Performance Concrete," *Submitted to ASCE Journal of Materials in Civil Engineering*, June 16, 2015.

Works in Progress

Scrivener, K.L., Ideker, J.H., Touzo, B. and Fryda, H., "Calcium Aluminate Cements, in Lea's Cement Chemistry", Book Chapter under progress for publication in Lea's Cement Chemistry, Peter C. Hewlett, Ed, anticipated publication 2015.

Ideker, J.H., Riding, K.A., Folliard, K.J. and Thomas, M.D.A., "Early-Age Properties of Calcium Aluminate Cement Systems in Rigid Cracking and Free Deformation Frames: Isothermal Testing," *planned submission to Cement and Concrete Research*

Verba, CA., Reed, MH., Ideker, JH., Kutchko, B. Geomechanical Strength Tests for Portland Cement for Sequestration Purposes. NETL-TRS-X-2013; NRAP Technical Report Series; U.S. Department of Energy, National Energy Technology Laboratory: Morgantown, WV, 2013; p XX.

Ideker, J.H., Lynch, M.M. and Bentivegna, A.F., "My Structure Has ASR: Now What?," *planned submission to Concrete International*.

Verba, C.A., O'Connor, W., Reed, M.H., Ideker, J.H. and Kutchko, B., "The Influence of Brine on Class H Portland Cement Paste with CO₂ Injection,"

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Ideker, J.H., Isgor, O.B., Li, C., Azad, V., Rodriguez, D., Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO₂, NETL Final Project Report Submitted November 14, 2014.

Ideker, J.H. and Banuelos, J., "The Use of Synthetic Blended Fibers to Reduce Cracking Risk In High Performance Concrete," Oregon Department of Transportation, SRS 500-620, FHWA-OR-RD-15-05, September 2014, 68 pp.

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Ideker, J.H., Tanner, J.E., Adams, M.P., and Jones, A., "Durability Assessment of Recycled Concrete Aggregates for Use in New Concrete Part II," *Currently under Review*

Ideker, J.H., Schwing, K.A. and Warner, S., "Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction: Phase I-III Report," CR-10-046-SHR, NAVFAC - EXWC

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Drimalas, T., Ideker J.H. and Fournier, B., Proceedings of the 12th International Conference on Alkali-Aggregate Reactivity in Concrete, Austin, Texas, USA, May 20-25, 2012, 1320 pp.

Ideker, J.H. and Radlinska, A., Editors, "Advances in the Material Science of Concrete," ACI Symposium Publication 270(SP-270), American Concrete Institute Spring Convention, March 19-25, 2010, Chicago, Illinois, 124 pp.

Juenger, M.C.G., Maas, A.J., and J.H. Ideker, "Alkali Silica Reactivity of Silica Fume Agglomerates," Transport Properties and Concrete Quality, *Materials Science of Concrete, Special Volume*, Mobasher, B. and Skalny, J.P., Eds., The American Ceramic Society, Westerville, OH, pp. 19-23, 2007.

Works in Progress

Scrivener, K.L. and Ideker, J.H., "Lea's Cement Chemistry," Calcium Aluminate Cements Chapter Revision, Peter C. Hewlett Editor, *in draft preparation*.

Thomas, M.D.A., Folliard, K.J. and Ideker, J.H., "Alkali-Silica in North America (USA and Canada)," Chapter 12, Concrete Durability, Sims, I. and Poole, A., Editors, *draft submitted April 2014*.

Ideker, J.H. and Thomas, M.D.A., "Concrete Durability", Textbook for Concrete Durability for Graduate Students, Thomas Telford Publishers, *in draft preparation*.

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Fu, Tengfei, Adams M.P. and Ideker J.H., "A Preliminary Study on A Calcium Aluminate Cement Concrete Maturity Theory in Predicting Conversion," accepted for Oral Presentation at the 14th International Congress on the Chemistry of Cement, Beijing, China, October 13-16, 2015.

Ideker, J, ICC Paper, NETL Project "A Preliminary Study on A Calcium Aluminate Cement Concrete Maturity Theory in Predicting Conversion," accepted for the 14th International Congress on the Chemistry of Cement, Beijing, China, October 13-16, 2015.

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Bentivegna, A.F., Ideker, J.H., Hayman, S. and Drimalas, T., "Mitigation of ASR Affected Concrete in Boston, MA, USA: A Case Study," 3rd International Conference on Concrete Repair, Rehabilitation, and Retrofitting (ICRRR), Cape Town, South Africa, September 2012.

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Folliard, K.J., Ideker, J.H., Barborak, R.C., Fournier, B., and Thomas, M.D.A., "Laboratory Test Methods for Determining Dosage of Lithium Nitrate Required to Control Alkali-Silica Reaction Induced Expansion," *Proceedings of the 86th Annual Transportation Research Board Meeting*, Washington D.C., USA, January 2007.

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Li, C., Ideker, J.H., Drimalas, T., "Calcined Clays for ASR Mitigation: Mechanisms and Long-term Performance," Proceedings of the 14th International Congress on the Chemistry of Cement, Oct 2015, Received 1 of 3 Best Poster Awards out of 200 posters at the Congress.

Li, C., Jafari Azad, V., Rodriguez, D.E., Isgor, O.B., Verba, C., Ideker, J.H., Elucidating Damage Mechanisms in Class H Cement from CO₂ Sequestration, Proceedings of the 14th International Congress on the Chemistry of Cement, Oct 2015.

Jafari Azad, V., Li, C., Rodriguez, D.E., Ideker, J.H., Verba, C., Isgor, O.B., Numerical modeling of class H cement under CO₂ sequestration in down-hole conditions, Proceedings of the 14th International Congress on the Chemistry of Cement, Oct 2015.

Non-Refereed Conference Proceedings

Fu, T. Deboodt, T., and Ideker J., "A Review of Drying Shrinkage and Cracking in Concrete Bridge Decks," MS#: AD-32, *accepted to ACI-CANMET Conference, Supplementary Proceedings, Prague, Czechoslovakia, October, 2012.*

Ideker, J.H., Folliard, K.J., Fournier, B. and Thomas, M.D.A., "The Role of "Non-reactive" Aggregates in the Accelerated (60 C) Concrete Prism Test," *Proceedings of the Marc-Andre Berube Symposium on Alkali-Aggregate Reactivity in Concrete at the Eight CANMET/ACI International Conference on Recent Advances in Concrete Technology*, Montreal, Canada, June 2006, pp. 45-70.

Fournier, B., Nkinamubanzi, P.C., Lu, D, Thomas, M.D.A., Folliard, K.J. and Ideker, J.H., "Evaluating Potential Alkali-reactivity of Concrete Aggregates, How Reliable are the Current and New Test Methods?," *Proceedings of the Marc-Andre Berube Symposium on Alkali-Aggregate Reactivity in Concrete at the Eighth CANMET/ACI International Conference on Recent Advances in Concrete Technology*, Montreal, Canada, June 2006, pp. 21-43.

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Other Publications

Ideker, J., "New Fly Ash Regulations Threaten Sustainable Concrete," August, 2, 2010, Sustainable Business Oregon, http://www.sustainablebusinessoregon.com/columns/2010/08/new_fly_ash_regulations_threaten_sustainable_concrete.html

Presentations

Invited Conference Presentations with No Paper (*indicates presenter if multiple authors)

"Teaching Durability Concepts to Undergraduates," PCA Professors Workshop, July 23, 2015

"Class H Cement Degradation under CO₂ and CO₂-O₂ Sequestration Conditions," Li, C., Jafari Azad, V., Rodriguez, D.E., Ideker, J.H., Isgor, O.B., Verba, C., 2014 AGU Fall Meeting, San Francisco CA, Dec, 2014.

"Experimental and thermodynamic Modeling Approach to Elucidating Damage Mechanisms in Cement-Well

Casing-Host Rock Settings for underground Storage of CO₂,” Li, C.*, Jafari Azad, V., Rodriguez, D.E., Ideker, J.H., Isgor, O.B., Verba, C., 5th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing, July, 2014.

“Modeling carbonation of class H cement in high temperature and high pressure down-well conditions,” Jafari Azad, V.*, Li, C., Rodriguez, D.E., Ideker, J.H., Isgor, O.B., Verba, C., 5th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing, July 2014.

“Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO₂,” Li, C.*, Jafari Azad, V., Rodriguez, D.E., Ideker, J.H., Isgor, O.B., Verba, C., ACI 2014 Fall Convention, Research in Progress, Oct, 2014.

“Closing Remarks and Perspectives on the Future of Calcium Aluminate Cements,” Calcium Aluminates Cement Conference, *invited May 13, 2014*, May 18-21, 2014, Avignon, France.

“Mechanism(s) investigation on Using Fine Lightweight Aggregates to Mitigate Alkali-Silica Reaction in Concrete”, Li, Chang*, Ideker, J.H., Thomas, M.D.A., Presentation to ACI Committee 213, Lightweight Aggregates, ACI Fall Session, Phoenix, Arizona, Fall 2013

“Using Fine Lightweight Aggregates to Mitigate Alkali-Silica Reaction in Concrete”, Li, Chang*, Ideker, J.H., Thomas, M.D.A., Research in Progress, ACI Fall Session, Phoenix, Arizona, Fall 2013

“Cracking Risk with RCA”, Adams, M.P., Fu, T., Isgor, O.B. and Ideker, J.H., ACI Fall Session, Phoenix, Arizona, Fall 2013

“How Reliable are Current Testing Methods for Assessing Alkali-Silica Reactivity?”, American Concrete Institute (ACI) Fall Convention 2012, in 123 Forum: Do We Know Enough to Manage and mitigate ASR Deteriorations in New and Existing Concrete Structures?, October 21-25, 2012, Toronto, Ontario, Canada.

“Building a Student’s Critical Reasoning Skills to Evaluate Green Building Materials,” American Concrete Institute (ACI) Fall Convention 2012, in Teaching Sustainability to Current and Future Engineers, October 21-25, 2012, Toronto, Ontario, Canada.

“Prediction of Drying Shrinkage for Internally Cured HPC”, Fu, T*, Ideker J.H. and Deboodt, T., American Concrete Institute (ACI) Fall Convention 2012, in The Economics, Performance, and Sustainability of Internally Cured Concrete, Part 1 of 3, October 21-25, 2012, Toronto, Ontario, Canada.

“Alkali-Silica Reaction in Concrete Made with Recycled Concrete Aggregates,” Adams, M.P.* and Ideker, J.H., NRMCA International Concrete Sustainability Conference, May 7-10, 2012, Seattle, Washington

“Shrinkage Reduction Techniques for High-Performance Concrete for Bridge Decks,” EPFL LMC Seminar, Leysin, Switzerland, January 17-20, 2012.

“Potential Geologic Co-Sequestration of CO₂-O₂: Alteration in Class H Portland Cement,” Verba, C.A.*, O’Connor, W., Rush, G.E. and Ideker, J.H., ACERS – Cements Division, Advances in Cement-Based Materials: Characterization, Processing, Modeling & Sensing, July 23-26, 2011, Vanderbilt University.

“Expansion in Alternative Cements,” Expansive Reactions in Cement-Based Materials Workshop, Corvallis, OR, July 27-29, 2011.

“Alkali-Silica Reactivity of Recycled Concrete Aggregates – Research in Progress,” Adams, M.P.* and Ideker, J.H., American Concrete Institute (ACI) Spring Convention 2011, Committee Meeting: Committee 555: Recycled Materials in Concrete, April 3-7, 2011, Tampa, Florida

“Alkali-Silica Reaction, Fly Ash and the Role of Alumina,” EPFL Seminar, Leysin, Switzerland, January 25-28, 2011

Schwing, K.A.*, Ideker, J.H. and Folliard, K.J., "Influence of alkalis from fly ash to concrete pore solution: ASR considerations" Ideker, J.H.*, Schumacher, K.A., Spring ACI Convention, Chicago, Illinois, 2011.

“Using Chemical Shrinkage to Predict Conversion in CAC Systems,” ACERS – Cements Division, Advances in Cement-Based Materials: Characterization, Processing, Modeling & Sensing, July 11-13, 2010, Purdue University, West Lafayette, IN.

“Evaluation of Concrete Structures Suffering from Alkali-Silica Reaction (ASR),” Ideker, J.H.*, Lynch, M.M. and Bentivegna, A.F., EPFL Seminar, Leysin, Switzerland, January 2010

“Alkali-Silica Reactivity and the Effect of Alkalies Contributed from Fly Ash,” Schwing [Schumacher], K.A.*, Ideker, J.H. Ecole Polytechnique Federale de Lausanne (EPFL) Seminar, Leysin, Switzerland, January 25-28, 2010.

“Temperature Dependence on Conversion Reactions and Subsequent Volume Change in Calcium Aluminate Cement Systems,” *American Concrete Institute (ACI) Fall Convention 2009*, Session: Temperature Effect on Concrete Performance, November 8-12, 2009.

“Evaluation of Historic Structures Suffering from Alkali-Silica Reaction (ASR),” Jason H. Ideker*, Marjorie M. Lynch* – SGH and Anthony F. Bentivegna – UT Austin: Co Presenters, *Association of Preservation Technology International (APT)*, 2009 Annual Conference – Preservation in the City Without Limits, November 2-6, 2009

“Measuring Autogenous Deformation of Innovative Cementitious Materials,” *American Concrete Institute (ACI) Spring Convention 2008*, Session: Early-Age Test Methods for Performance Specifications, San Antonio, Texas, April 2009

“Early-Age Characterization of Calcium Aluminate Cement Systems,” EPFL LMC Seminar, Leysin, Switzerland, January 13-16, 2009.

“Calcium Aluminate Cement Systems: Durability Aspects,” EPFL LMC Seminar, Leysin, Switzerland, January 13-16, 2009.

“Evaluating Early-Age Properties of Calcium Aluminate Cement Concrete with Rigid Cracking and Free Shrinkage Frames: Isothermal Testing,” *Calcium Aluminate Cements 2008: The Centenary Conference*, Avignon, France, June 30 – July 2, 2008.

“The Current State of the Accelerated Concrete Prism Test,” 13th *International Conference on Alkali-Aggregate Reaction*, Trondheim, Norway, June 16-19, 2008.

“Linking Microstructural Development to Early-Age Volume Change in Calcium Aluminate Cement Concrete,” *American Concrete Institute (ACI) Spring Convention 2008*, Session: Multi-Scale Descriptions of Concrete Performance, March 29-April 3, 2008.

“Early-Age Deformation in Calcium Aluminate Cement Concrete,” EPFL LMC Seminar, Crans-Montana, Switzerland, January 8, 2008

“CAC Basics and Early-Age Volume Change,” *American Concrete Institute (ACI) Fall Convention 2007*, Session: Open Paper, Puerto Rico, October 14-18, 2007.

“Classroom and Laboratory Demonstrations for Undergraduate Civil Engineering Courses,” *American Concrete Institute (ACI) Spring Convention 2007*, Session: Toys for Teaching, Atlanta, Georgia, March 21-25, 2007.

“Test Methods to Assess the Ability of Supplementary Cementing Materials to Mitigate ASR Induced Expansion,” *Advances in Cement and Concrete X: Sustainability*, Davos, Switzerland, July 2-7, 2006.

“The Role of “Non-reactive” Aggregates in the Accelerated (60 C) Concrete Prism Test,” *Marc-Andre Berube Symposium on Alkali-Aggregate Reactivity in Concrete at the Eight CANMET/ACI International Conference on Recent Advances in Concrete Technology*, Montreal, Canada, 2006.

“ICAR Project 302 Update,” *International Center for Aggregate Research (ICAR) Symposium*, Austin, Texas, April 2005.

“ASR in Texas, USA Laboratory and Field Experience,” *12th International Conference on Alkali-Aggregate Reaction in Concrete*, Beijing, China, October 2004.

Invited Presentations

“Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO₂,” Ideker, J.H.*, Isgor, O.B., Li, C.*, Jafari Azad, V., and Rodriguez, D.E., Final Project Presentation, NETL-Albany, November 2014.

Alkali-Silica Reactivity of Recycled Concrete Aggregates, Ideker, J.H.*, Tanner-Eisenhauer, J.E., Adams, M.P. and Joes A., National Concrete Consortium Fall Meeting, September 18, 2012, Seattle, Washington

“Correlation of Accelerated Laboratory Test Methods to Field Performance: Aggregate Reactivity and Mitigation Measures,” *Alkali-Aggregate Reaction: Testing, Prognosis, Modelling, Avoidance*, EPFL AAR Lecture Series, 14 September 2011.

“Overview of Research Areas, Results and Potential Collaboration,” Presentation to Saint Gobain Central Research, September 2011, Paris, France

Sustainability of Concrete for Infrastructure,” Portland State University Transportation Seminar, Friday, November 19, 2010.

“Concrete Durability: From Microstructure to Full-Scale Performance,” *Structure+Architecture Symposium*, AIA Portland, Friday Seminar Series, Friday, October 1, 2010.

“Concrete Durability: From Microstructure to Full-Scale Performance,” National Energy and Technology Laboratory, Invited Speaker Series, Albany, Oregon, September 23, 2010.

Oregon Sustainability Center Materials Event, July 27, 2010, Portland Oregon, Portland Development Commission, Member - Cementitious Materials Panel.

“Oregon Sustainability Center – Research Agenda Panel Presentation,” Oregon BEST FEST 2010, Oregon Convention Center, Portland, Oregon, September 13, 2010.

“Oregon State University-Green Building Materials Lab,” BEST FEST 2009, Portland State University, Portland, Oregon, September 14, 2009

“Workshop: The Nuts and Bolts of Green Infrastructure,” OTREC Summit, Portland State University, Portland, Oregon, September 11, 2009

“Test Methods to Detect Alkali-Silica Reaction and Determine Efficacy of Mitigation Methods,” ACI Alkali-Aggregate Reaction Seminar, ACI Colombia Chapter, Bogota, Colombia, April 2009.

“Examination of the Effects of Temperature on Progression of Alkali Silica Reaction Using an Accelerated Temperature ASTM C 1293 Test,” *PCA Fall Meeting – Education Foundation Fellowship Presentation*, Chicago, Illinois, 2005.

“Laboratory and Field Experience with ASR in Texas, USA,” *Structures Seminar – The University of Texas at Austin*, Austin, Texas, November 2004.

“Alkali Silica Reaction Research at UT Austin”, *ACI Central Texas Chapter Monthly Meeting*, Austin , Texas, August, 2004.

Course Guest Lectures

“Durability of Concrete Materials”, ENGR 407H, Fall 2013-2015, Oregon State University, Dr. Belinda Batten Instructor of Record

“Introduction to Cement and Concrete”, CCE 101, Fall 2010-2013, 2015 Oregon State University, Various Instructors of Record (Dr. Scott Ashford, Dr. David Trejo, Ms. Tracy Arras)

“Experimental Methods for Cement Concrete Investigations”, ENGR 418H, Fall 2011 and Fall 2012, Oregon State University, Dr. Belinda Batten Instructor of Record

“Durability of Innovative Cementitious Systems”, *The Ecology of Building Materials – Arch 4/507*, Erin Moore (Professor of Record), The University of Oregon

Poster Presentations

Banuelos, J. and Ideker, J.H., “Use of Blended Fibers to Control Shrinkage Related Cracking in HPC,” *PacTrans Regional Conference*, Fall 2013, Seattle, Washington

Deboodt, T., Fu, T. and Ideker J.H., “Elevated Temperature and Decreased Relative Humidity Effects on Drying Shrinkage of Concrete Prisms”, *The 12th International Conference on Recent Advanced in Concrete Technology and Sustainability Issues*, Prague, Czech Republic, October 31st - November 2nd, 2012

Warner, S., Ideker, J.H., Schumacher K.A., “The Influence of Alumina on Alkali-Silica Reaction, *The 12th International Conference on Recent Advanced in Concrete Technology and Sustainability Issues*, Prague, Czech Republic, October 31st - November 2nd, 2012

Adams, M.P., Gray, B., Ideker, J.H., Fournier, B., Tanner, J.E., Shehata, M., “Applicability of Standard Alkali-Silica Reactivity Testing Methods for Recycled Concrete Aggregate,” *The 12th International Conference on Recent Advanced in Concrete Technology and Sustainability Issues*, Prague, Czech Republic, October 30th – November 1st, 2012.

Gray, Brian J., Adams, M. P., Ideker, J.H., Fournier, B., “Variation in Alkali-Silica Reaction Within Recycled Concrete Aggregate Based on Initial and Secondary Crushing,” *The 12th International Conference on Recent Advanced in Concrete Technology and Sustainability Issues*, Prague, Czech Republic, October 30th – November 1st, 2012.

Fu, T., Deboodt, T. and Ideker, J.H., “Drying Shrinkage of High Performance Concrete,” *Oregon Built Environment & Sustainable Technologies Center (BEST) FEST*, Portland, Oregon, September 12, 2012.

Kamke, F.A, Ideker, J.H. and Rochefort, W.E., “Green Building Materials Laboratory-A Signature Research Facility of Oregon BEST,” *Oregon Built Environment & Sustainable Technologies Center (BEST) FEST*, Portland, Oregon, September 12, 2012.

Adams, M.A., Moore, T. and Ideker, J.H., “ Performance of Lower CO₂ Binders for Concrete Construction,” *Oregon Built Environment & Sustainable Technologies Center (BEST) FEST*, Portland, Oregon, September 12, 2012. Winner: People’s Choice Best Poster

Adams, M.P., Ideker, J.H., "Variations in Expansion of Concrete Containing Recycled Concrete Aggregate due to Alkali-Silica Reaction," Expansive Reactions in Cement-Based Materials Workshop, Corvallis, OR, July 27-29, 2011.

Adams, M.P., Ideker, J.H., Gray, B., "Durability of Concrete Containing Recycled Concrete Aggregate," Oregon University System Sustainability Conference, Corvallis, Oregon, February 28, 2011.

Kamke, F.A, Ideker, J.H. and Rochefort, W.E., "Green Building Materials Laboratory-A Signature Research Facility of Oregon BEST," Oregon Built Environment & Sustainable Technologies Center (BEST) FEST, Portland, Oregon, September 13, 2010.

Schwing [Schumacher], K.A. and Ideker, J.H., "Use of Fly Ash in the Mitigation of Alkali-Silica Reaction in Concrete," Oregon Built Environment & Sustainable Technologies Center (BEST) FEST, Portland, Oregon, September 13, 2010.

Verba, Circe, O'Connor, William, Ideker, J.H., "Cement Seal Integrity: Microstructural Characterization of CO₂ Alteration Zones in Class H Portland Cement," ACERS – Cements Division, Advances in Cement-Based Materials: Characterization, Processing, Modeling & Sensing, July 11-13, 2010, Purdue University, West Lafayette, IN, *Recipient of Best Poster Award (6 of 27 given)*.

Bentivegna, A.F., Folliard, K.J. and Ideker, J.H., "Evaluation of Calcium Aluminate Cement Based Systems Hydration using Isothermal Calorimetry," ACERS – Cements Division, Advances in Cement-Based Materials: Characterization, Processing, Modeling & Sensing, July 11-13, 2010, Purdue University, West Lafayette, IN.

Schwing [Schumacher], K., Ideker, J.H., "Oregon State University Green Building Materials Laboratory," Oregon Built Environment & Sustainable Technologies Center (BEST), Portland, Oregon, September 2009.

Folliard K.J., Barborak, R.C., Ideker, J.H., Fournier, B., Thomas, M.D.A., and Tremblay, C., "Laboratory Test Methods for Determining the Dosage of Lithium Nitrate Required to Control Alkali-Silica Reaction Induced Expansion," *Proceedings of the 86th Annual Transportation Research Board Meeting*, Washington D.C., USA, January 2007.

Ideker, J.H., Juenger, M.C.G. and Ostertag, C.P., "The Participation of Silica Fume Agglomerates in ASR Expansion," *Advances in Cement and Concrete IX: Volume Changes, Cracking, and Durability*, Copper Mountain, Colorado, August 2003.

Websites Designed

Green Building Materials Laboratory, <http://gbml.oregonstate.edu>, Oregon State University, Template Courtesy Oregon State University Marketing.

Infrastructure Materials Laboratory and Research Website, <http://web.engr.oregonstate.edu/~idekerj/index.php>, Oregon State University, Template Courtesy Oregon State University Marketing.

Service

Professional Organizations

2014-present	Member, RILEM TC-AAA Task Group on Alkali Aggregate Reactivity Performance-Based Approach 2014-Present
2009 – present	Member, ASTM International Chair, Subcommittee C 9.50 - Risk Management for Alkali Aggregate Reactions, 2011-present New Standard Developed Under Chaired Leadership: <i>ASTM C 1778-14 "Standard Guide For Reducing the Risk of Deleterious Alkali-Aggregate Reaction in Concrete"</i> Voting Member, Committee C09 – Concrete and Concrete Aggregates, 2009-present Voting Member, Committee C01 – Cement, 2009-present Voting Member, Subcommittee: C01.1300 – Special Cements, since 2010
2003-present	Member, American Concrete Institute

TAC Awards Group Subcommittee (ACI CAP SC2) – ACI Wason Medal Award, 2015
 Voting Member Committee on Early-Age Properties of Concrete (ACI 236), 2013-present
 Voting Member Committee on Durability of Concrete (ACI 201), 2013-present
 Voting Member Committee on Material Science of Concrete (ACI 236), 2008-present
 Associate Member Committee on Durability of Concrete (ACI 201), 2003-2013
 TAC Awards Group Subcommittee I (SC1) - ACI Construction Award, 2009-2010
 2000-2013 Member, American Society of Civil Engineers
 2010-present Member, American Concrete Institute, Oregon Chapter

Proposal Reviews

NSF Open Call Review (13 proposals)
 CRC – Concrete Research Council
 University of Missouri-Kansas City, Internal Research Funding Reviewer
 University Transportation Center, Northeast Region

Journal Reviewer

ICAAR 2012 (International Conference on Alkali-Aggregate Reactivity), Austin, Texas, USA
 Member of the International Board of Reviewers (2011-2012)
 Journal of ASTM International (2010-2011)
 NIST (WERB) – Invited Reviewer
 Journal of Bridge Engineering (2008-Present)
 Journal of Material Science (2008-Present)
 ICAAR 2008 (International Conference on Alkali-Aggregate Reactivity), Trondheim, Norway
 Member of the International Board of Reviewers (2007-2008)
 Cement and Concrete Research (2006-Present)
 ASCE Journal of Materials in Civil Engineering (2006-Present)
 Materials and Structures (2007-Present)
 ACI Materials Journal (2005-Present)

Conference Scientific Panels

2014 Calcium Aluminate Cements, Avignon, France, June 2014.
 2014 Concrete Durability Conference, Purdue University, June 2014

Textbook Reviewer

PCA Design and Control 14th Edition

Conference/Meeting Organization

2014- American Concrete Institute Fall Convention Denver 2015
 2015 Co-Session Moderator “Methods for Measurement and Mitigation of Early-Age Deformations”

 2013- Member of the Organizing Committee for the “ 4th International Conference on Durability of Concrete
 2014 Structures at Purdue University, West Lafayette, Indiana, July 24-26, 2014

 2012- The Corvallis Workshops, “2nd - Characterization Tools to Assess Performance of Cement-Based Materials,
 2014 June 22-25, 2014, Conference Organizers: Jason H. Ideker, Karen L. Scrivener and Anthony F. Bentivegna
 Oregon State University, Corvallis, USA

 2011- American Concrete Institute Spring Convention 2012, Dallas, Texas, USA
 2012 Co-Session Moderator “Recent Advances in understanding the Mechanisms of ASR, Mitigation Methods
 and Testing Procedures”

 2008- International Conference on Alkali-Aggregate Reactivity (ICAAR 2012), Austin, Texas, USA
 2012 Member of the Organizing Committee

- 2010-2011 Expansive Reactions in Cement Based Materials, July 2011
 Conference Organizers: Jason H. Ideker and Karen L. Scrivener
 Oregon State University, Corvallis, USA
- 2009-2010 American Concrete Institute Spring Convention 2010, Chicago, Illinois
 Full Day Session on: “Advances in the Material Science of Concrete”
 Organizing Co-Chair and Co-Editor of Special Proceedings (SP 270)
 Co-Chair and Co-Editor: Aleksandra Radlinska, Assistant Professor, Villanova University
- 2009 American Concrete Institute (ACI) Fall Convention 2009, New Orleans, Louisiana
 Session Moderator: Materials Science Modeling as a Solution to Concrete Problems Part 2

OSU Service

- 2015-present CCE Architectural Engineering Degree Task Group, Member
 2014-2015 CCE Head Search, Committee Member
 2014-Present Chair, CCE Scholarship Committee
 2014 P&T Ad-Hoc Committee Member, Michael Olsen, School of CCE
 2014-2015 Mid-Tenure Ad-Hoc Committee Member, Ari Sinha, Dept. of WSE
 2013-2014 CCE – Excellence Ad-Hoc Committee, Chair
 2012-2013 CCE – Internal Awards Committee, Member
 2012-2013 CCE - Open Access Laboratories Committee, Member
 2011-2012 CCE – Infrastructure Materials – Focus Area Coordinator
 2011 CCE - Construction Engineering Management – Focus Area Coordinator
 2011 College of Engineering New Website Development Committee
 2011 Member, CCE Graduate Committee Oregon State University
 2010 Successful Joint Proposal “Faculty Positions Advancing Signature Areas,” Sustainability, Resilience and Rehabilitation of the Built Environment, 1.0 FTE in School of CCE
 2010 Member, Ad-Hoc Committee on Academic Integrity, Oregon State University
 2010-2012 Lead, Oregon State University for Development of the Oregon Sustainability Center
 2010-2012 Materials Group Lead, Oregon Sustainability Center
 2010-Present Crescent Valley High School, Corvallis, Oregon “Classroom and Laboratory: Basic Concrete Concepts to High School Juniors”, Ryan Kanter – Instructor of Record
 2009-2011 Chair, CCE Graduate Committee, Oregon State University
 UGLBG Program – Obtained over \$180,000 in funding for growing the Diversity and Academic Strength of the CCE Graduate Program
 2008-2009 CCE Marketing Committee, Oregon State University
 2008-present Advisor, ASCE Concrete Canoe Team, Oregon State University