Jason H. Ideker, Ph.D.

Eric H.I. and Janice Hoffman Professor in Civil and Construction Engineering
Editor-in-Chief CEMENT
Co-Editor-in-Chief ASTM Advances in Civil Engineering Materials
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Professional Experience

2021-Present	Eric H.I. and Janice Hoffman Professor in Civil and Construction Engineering, School of Civil and Construction Engineering, Oregon State University
2019-Present	Professor, School of Civil and Construction Engineering, Oregon State University
2016	Visiting Researcher, Kerneos Aluminate Technologies, Lyon, France. Sabbatical Focus on Durability of Ettringite Accelerated Cementitious Systems Host: Hervé Fryda and Stéphane Berger
2016	Visiting Professor, École Polytechnic Fédérale de Lausanne (EPFL), Lausanne, Switzerland. Sabbatical Focus on Scanning Electron Microscopy of ASR-affected Concrete and Mercury Intrusion Porosimetry of Calcium Aluminate Systems Host: Professor Karen L. Scrivener, Director of the Laboratory of Construction Materials
2014-2019	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

2020-2021 — NSF CMMI Panel Fellow, CMMI Game Changer Academy

2020-2023 — Hoffman Professor, Oregon State University College of Engineering

2018 — ASTM Award for Subcommittee Chair, Award of Appreciation for Chair of C09.50 (6-year tenure)

2018 — American Society for Nondestructive Testing, Inc., 2018 ASNT Fellowship Award ($20K), "Early-Detection of ASR deterioration in laboratory concrete specimens using full-waveform ultrasonic monitoring," Thomas Schumacher and Ali Hafiz (Portland State University), Jason H. Ideker (Oregon State University)

2016 — Portland Cement Association Education Foundation Fellowship, ($35K for 1 year), *A Performance Specification for Concrete: A Rapid Test That Uses Formation Factor As Determined From Electrical Resistivity*, Tyler Deboodt (GRA) and Samantha Whatley (GRA), Advisors: Jason H. Ideker. O. Burkan Isgor, W. Jason Weiss

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 Doughty)

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

2020-Present — Chair, RILEM Technical Committee, *Risk Assessment of Concrete Mixture Designs with Alkali-silica Reactive (ASR)Aaggregates*

2019-2021 — Chair, ENGINEERING+, College of Engineering
2021 ABET team specifically cited Engineering+ effort as an institutional strength.

2016 – Present	Member-At-Large, ASTM C09 Executive Committee
2017-Present	Secretary, Subcommittee C09.50 – Aggregate Reactions on Concrete
2011 – 2016	Chair, Subcommittee C9.50 - Risk Management for Alkali Aggregate Reactions, New Standard Developed Under Chaired Leadership: *ASTM C 1778-14 "Standard Guide For Reducing the Risk of Deleterious Alkali-Aggregate Reaction in Concrete"*
2011-Present	Lead Organizer, The Corvallis Workshops, https://thecorvallisworkshops.org/

Editorial Board for Technical Journals

2020-present	Editor-in-Chief, CEMENT
2018-present	Co-Editor-in-Chief, Advances in Civil Engineering Materials
2015-present	Member Board of Editors, Cement and Concrete Research
2012-2018	Member Editorial Board, Advances in Civil Engineering Materials

Teaching Experience

Oregon State University

2020-Present	Professor, ENGR 100: The Oregon State University Student, Oregon State University
2020-Present	Professor, CCE 423/523: Concrete Fundamentals, Oregon State University
2020-Present	Professor, CCE 507: CE Graduate Seminar, Winter Term, Professional Presentations, Abstracts and Writing Introduction
2020-Present	Professor, CCE 422/522: ECampus Green Building Materials
2019-Present	Professor, CCE 321: Civil and Construction Engineering Materials, Oregon State University
2019-Present	Professor, CCE 621, Durability and Condition Assessment of Reinforced Concrete, Co-Professors O. Burkan Isgor and Jason H. Ideker
2018-2019	Associate Professor, CCE 520, Durability and Condition Assessment of Reinforced Concrete, Co-Professors O. Burkan Isgor and Jason H. Ideker
2017-2019	Associate Professor, CCE 520/(CE 499-F 2019): Concrete Fundamentals, Oregon State University
2017-2019	Associate Professor, CCE 422/522: ECampus Green Building Materials
2015-2019	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
2014-2017	Associate Professor, CCE 523: Concrete Durability, Oregon State University
2014-2018	Associate Professor, CCE 321: Civil and Construction Engineering Materials, Oregon State University
2014	Assistant Professor, CCE 523: Concrete Durability
2014	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

Doctoral Shortcourses, Workshops, Trainings

"Teaching Hardened Concrete Properties and Durability to Undergraduates," ACI Professor's Workshop, July, 2021

"Teaching Concrete Concepts in a Virtual Environment to Undergraduates," ACI Professor's Workshop, July, 2020

"Teaching Concrete to Undergraduates: Aggregates, Hardened Properties and Durability," PCA Professors Workshop, July PCA Professors Workshop, July 2019

"Teaching Concrete to Undergraduates: Aggregates, Curing and Durability," PCA Professors Workshop, July PCA Professors Workshop, July 2018

"Teaching Concrete to Undergraduates: Aggregates, Curing and Durability," PCA Professors Workshop, July PCA Professors Workshop, July 2017

"Teaching Concrete to Undergraduates: Aggregates, Curing and Durability," PCA Professors Workshop, July PCA Professors Workshop, July 2016

"High Performance Concrete," SBT-SEU-RILEM, Doctoral Short Course, Invited Lecturer,
Presented three Lectures Concrete Durability, Concrete Maturity, Health Monitoring of Concrete, September 2015.

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

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

Postdoctoral Scholars (3)

Current (1)

2020-Present	Anuj Parashar, *Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation*, Advisor Jason H. Ideker

Complete (1)

2020-2021	Atolo Tuinukuafe, *High Early Strength Structural Overlays for Concrete Bridge Decks*, Advisor Jason H. Ideker
2013-2015	Tengfei Fu, Oregon BEST Postdoctoral Scholar, Green Building Materials Laboratory, Oregon State University, Co-Advisors, Fred Kamke (Wood Science and Engineering) and Jason H. Ideker (Civil and Construction Engineering)

Doctoral Students

Current (1)

2019-present	Lamiya Noor*, *Durability of Ettringite Accelerated Binders*, Dr. Jason H. Ideker, Oregon State University

Graduated (8)

2016-2021	Krishna (Siva) Teja Chopperla, *Evaluation of The Efficiency of Supplementary Cementitious Materials to Prevent Alkali-silica Reaction in Concrete with Highly and Very Highly Reactive Aggregates*, Dr. Jason H. Ideker, Oregon State University
2014-2020	Feras Khlef, *Structural Response of High-Performance Fiber-Reinforced Cementitious Composites: Evaluation, Simulation, and Sensitivity Analysis*," Co-Advisors Dr. Andre Barbosa and Dr. Jason H. Ideker, Oregon State University
2013-2018	Tyler Deboodt, *Use of X-ray Microtomography for Phase Quantification of Portland Cement Hydrates*, Co-Advisors: Dr. O. Burkan Isgor and Dr. Jason H. Ideker, Oregon State University
2011-2016	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 CO_2, Oregon State University, Research Scientist Vanke Materials Ltd., Beijing New Area, China

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, Assistant Professor at Fujian Agriculture and Forestry University, Fuzhou City, Fujian, China

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, Research Scientist 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, Senior Civil Engineer, Jensen Hughes, Chicago, Illinois

Master's of Science Students

Current (1)

2021-present Jeremy Smith, *High Early Strength Structural Overlays for Concrete Bridge Decks*

Graduated (13) 4 MS Students have since earned a Ph.D., 3 at OSU and 1 at Univ. Delaware, 1 In Progress at Univ. of Tennessee

2017-2019 Anika Tabassum-Sarkar, *Stability of Ettringite Accelerated Systems Based on Calcium Aluminate Cements*, PhD Student at The University of Tennessee

2017-2018 Cameron Wilson, *Improving the Performance of High Early Strength Concrete by Controlling Self-Desiccation and Mitigating Shrinkage*, Co-major Professor with Prof. W. Jason Weiss,

2016-2018 Samantha Whatley, *Developing a Specification for the use of Formation Factor to Predict Concrete Performance*, Carlson Testing, Salem, Oregon

2015-2017 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, City of Beaverton, Oregon, Site Development

2013-2015 David Rodriquez, *Strategies to Increase the Service Life of Concrete Bridge Decks*, Oregon State University, Co-Advisors: O. Burkan Isgor and Jason H. Ideker

2013-2015 Ben Sohn, *The Role of NaCl on Alkali-Silica Reaction*, Oregon State University, 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, Project Engineer, Turner Construction Company

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, 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, Assistant Professor at Fujian Agriculture and Forestry University, Fuzhou City, Fujian, China

2008-2010 Kelsea Schwing (m. Schumacher), *Use of Fly Ash in the Mitigation of Alkali-Silica Reaction in Concrete*, Oregon State University, Completed PhD at the University of Delaware, Newark, Delaware

Master's of Engineering Students

***Graduated* (1)**

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 (4)

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

2022-Present Alma-Dina Bašić, "Influence of Supplementary Cementitious Materials on Durability of Calcium Aluminate Cement under Different Curing Regimes," External Committee Member, Major Advisor: Marjana Serdec, University of Zagreb, Zagreb, Croatia

2021 Diego Jesus De Souza, "Avoiding & Mitigating Alkali-Aggregate Reaction (AAR) in Concrete Structures," The University of Ottawa, External Committee Member, Major Advisor Dr. Leandro Sanchez

2018-2021 Shafayet Ahmed, "Evaluating the Feasibility of Mass Timber as a Mainstream Building Material in the US Construction Market: Industry Perception, Cost Competitiveness, and Environmental Performance Analysis," Dr. Ingrid Arocho, Oregon State University

2017-2020 Deborah Glosser, "Equilibrium and non-equilibrium thermodynamic modeling of cement pastes containing supplementary cementitious material," Co-Advisors, Dr. O. Burkan Isgor and Dr. W. Jason Weiss

2017-2019 Shashwath Sreedhar, "Developing Performance-Based Specifications to Improve the Fatigue Life of Asphalt Pavements in Oregon," Advisor Dr. Erdem Coleri

2017-2019 Hossein DorMohammadi, "Investigation of Iron Passivity and Chloride-induced Depassivation in Alkaline Electrolytes using Reactive Force Field Molecular Dynamics," Co-Advisors Dr. O. Burkan Isgor and Dr. Liney Arnadottir

2017-2020 Pavan Naga Vaddey, Corrosion of Reinforced Concrete Structures, Advisor – Dr. David Trejo

2017-2018 Ahmed Abdullaqh Ahmed, Title TBD, Advisor – Dr. David Trejo

2013-2015 Frederick (Paul) Laleicke, "Accelerated Aging of Wood-Based Materials", Dr. Fred Kamke (Advisor)

2013-2015 Blake Boren, "Active Control of a Vertical Axis Pendulum Wave Energy Converter", Dr. Belinda Batten, Advisor

2011-2017 Changqing Pan, "Solution-based Chalcogenide Thin Film Deposition", Dr. Chih-Hung (Alex) Chang, Advisor

2011-2012 Mary Ann Triska, "Structural Design and Performance of Green Roofs," Dr. Chris Higgins (Advisor), left to pursue design career.

Master's of Science

2021-Present Daniel McDermott, "Assigning Value to Sustainability Initiatives Using Greenhouse Gas Emissions at Memorial Sloan Kettering," Professional Science Master's Program, Major Advisor: Carolyn Fonyo Boggess

2020-2021 Dylan Thomas, Wood Science and Engineering, Frederick Kamke

2021 Austin Berrier, "Design Optimization of a Structurally Flexible Wave Energy Converter with a Direct Search Algorithm," Dr. Bryony DuPont – Advisor, Jason H. Ideker, GCR

2021 Hannah Mankle, "Advanced Computational Modeling and Design of Wave Energy and Floating Offshore Wind Energy Technologies," GCR

2021 Andrei Niga, Topic: Carbon Fiber Composites for Global Formula Racing Applications, Title TBD, GCR

2021	Amy Nye, “Composite design of a Formula Student Monocoque,” GCR
2020-2021	Nathalene Then, “Chloride Binding of Portland Limestone Cement Containing Supplementary Cementitious Materials,” Advisors: Dr. O. Burkan Isgor and Dr. W. Jason Weiss
2019-2020	Richard Villarreal, “Improving Long-Term Interlayer Bond Performance by Developing Quality Control Technologies and Certification Procedures for Tack Coats,” Advisor Dr. Erdem Coleri
2018-2019	Zachary Banchowski, “Uniaxial Testing of Short Buckling Restrained Braces Subjected to Large Core Strains,” Advisor Dr. Christopher Higgins
2018-2019	Morvarid Dhalmaghani, “Managing Data for Large Timber Construction,” Mariapaolo Riggio – Advisor, GCR up to Program of Study
2018	Tim Fritz, “Performance Evaluation of Air Shocks Implemented in a Formula Student Vehicle,” GCR, Advisor: Robert Paasch
2018	Megan Richardson, “Improving water, sanitation and biogas access in resource-stressed environments: Methodologies and case study analyses of the primary resources at Matema Beach High School,” GCR, Advisor: Dr. Kendra Sharp
2017-present	Ryan Schwendeman, “Analytical Model to Represent the Hardpoint System and to Validate the Model with Physical Testing,” GCR
2016-2017	Alex Coyle, “The Effects of Temperature on Electrical Resistivity Measurements of Concrete,” Advisor: W. Jason Weiss
2015-2016	Maximo Argo, “Seismic Performance of Aging Prestressed Transmission Pole with Simulated Soil Foundation,” Co-Advisors: Dr. Christopher Higgins and Dr. O. Burkan Isgor
2015	Jon Williamson, “Electronic Properties of Passive Films on Carbon Steel Rebar in Simulated Concrete Pore Solutions”
2015	Greg Hendrix, “Development of a New Mixture Proportioning Method and Assessing the Influence of Material Characteristics on Flowing Concrete Mixtures”
2014	Deanna Amneus, “Methods for Strengthening Flexural Steel Details in Reinforced Concrete Bridge Girders Using a Near-surface Mounted Retrofitting Technique,” Committee Member Advisor: Dr. Christopher Higgins
2014	Laura Barker, “Flexural Anchorage Performance and Strengthening on Negative Moment Regions using Near-surface Mounted Retrofitting in Reinforced Concrete Bridge Girders,” Committee Member Dr. Christopher Higgins
2014	Tasha Larson, M.S.I.E., “Defining and Comparing Risks and Success Measures of the Reference Design Process and Traditional New Product Development Processes,” Industrial Engineering, GCR, Advisor: Dr. Chinweike Eseonu
2013	Blake Boren, M.S.M.E., Vertical Axis Pendulum Wave Energy Converters: Investigating Control Strategies and The Deployment of a Scaled Generic Prototype,” Committee Member, Co-Advisors: Dr. Belinda Batten and Dr. Robert Paasch
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,” Committee Member, Advisor: Dr. Christopher Higgins
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,” Committee Member, Advisor: Dr. Christopher Higgins
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

2021-Present	Su Thein, Construction Engineering Management
2015	Tyler McGill, Structural Engineering
2014	Dan Serra, Structural Engineering
2014	Alexandra Stroud, Structural Engineering
2014	Dan Serra, Structural Engineering

2013 Garlan Rahmadan, Structural Engineering
2012 Andrew Kelley, Structural/Materials Engineering
2012 Eric Goodall, Structural Engineering
2011 Kyle Mayfield, Structural Engineering
2009 Faisal Samoo, Geotechnical Engineering

Undergraduate Honor's Thesis

2021 Hilary Chaimov, "Sustainble Concrete Mixtures in Seattle, Washington", Committee Member
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, *Sustainability and Structural Building Codes in USA and Chile*, Advisor
2010 Phil Davis, *A Novel Testing Method Applied to Wood Members*, Committee Member
2009-2010 Jill Folkestad, *Carbonation of Mid-Twentieth Century Reinforced Concrete Bridges in Oregon*, Committee Member
2009-2010 Lina Chan, *Selection of Hotels: Is the Sustainability of a Building more Important than its Aesthetic Appearance?*, Committee Member
2009 Quinn Pullen, *Strength and Composition of Willamette Valley Cob: An Earthen Building Material*, Committee Member

Undergraduate Research Students
Oregon State University

Current (4)

2022-present Kristian Walker, *Low-Carbon Ultra-High-Performance Concrete for Use in Highway Infrastructure*
2022-present Wyatt Bermann, *Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation* and *Alternative High Early Strength Concrete (HESC) Structural Overlays*
2021-present Ian Gilchrist, *Alternative High Early Strength Concrete (HESC) Structural Overlays*, *Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation*, and *Mitigating Potential Alkali-Silica Reaction Expansion in Airfield Concrete Pavements*
2020-present Kevin Ero, *Low-Carbon Ultra-High-Performance Concrete for Use in Highway Infrastructure*, *Alternative High Early Strength Concrete Materials, Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation,* and *Durability of Ettringite Accelerated Binders*, Rating Concrete Water Permeability Based on Resistivity Measurements

Graduated or Prior (38)

2018-2022 Gabriel Olson, *Alkali-Silica Reactivity and Mitigation in Portland Limestone Cements,* and *ICAAR Website Database Updates*
2020-2022 Oliver Opdhal, *Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation* and *ICAAR Website Database Updates,* Rating Concrete Water Permeability Based on Resistivity Measurements
2021 Ryan Tanzer, *Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation,* Rating Concrete Water Permeability Based on Resistivity Measurements
2019-2021 Jeremy Smith, *Off-Spec Fly Ash a Performance-Based Mixture Proportioning Approach*, *Alkali-Silica Reactivity and Mitigation in Portland Limestone Cements* and *Durability of Ettringite Accelerated Systems* and *Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation*
2020 Rawan Al Naabi, *Alkali-Silica Reactivity and Mitigation in Portland Limestone Cements* and *Durability of Ettringite Accelerated Systems*
2018-2019 Matthew Miller, *Off-Spec Fly Ash a Performance-Based Mixture Proportioning Approach* and *Alkali-Silica Reactivity and Mitigation in Portland Limestone Cements*
2019 Joe Greenwood, *Alkali-Silica Reactivity and Mitigation in Portland Limestone Cements*
2018 Saul Lot Santana, *Durability of Concrete*
2018 Jarvis Chow, *Dissolution of Fly Ash from Off-Spec Sources*

2018 Johnny Ye, *A Performance Specification for Concrete: A Rapid Test That Uses Formation Factor As Determined From Electrical Resistivity*

2017 Andres Matos Ortiz, *Internal Curing and the Role of Relative Humidity Measurements for Quality Control*, SURF Program, Oregon State University, Jason H. Ideker and W. Jason Weiss, Co-advisors

2015-2016 Devan Darsow, *Use of Fine Lightweight Aggregate (FLWA) to Mitigate Alkali-Silica Reaction*

2014-2015 Christine Baker, *Strategies to Increase the Service Life of Concrete Bridge Decks*, co-advised with O. Burkan Isgor

2014-2015 Quentin Harris, *Shrinkage Assessment of Blended Polyproplene Fibers* and *Use of Fine Lightweight Aggregate (FLWA) to Mitigate Alkali-Silica Reaction*

2014-2015 Andrew Thomas, *The Role of NaCl on Alkali-Silica Reaction*

2014-2015 Aaron Strand, *Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO_2*

2013 Adalberto Guerra Cabrera, Cracking Susceptibility of Concrete Made with Recycled Concrete Aggregates, Currently graduate student at Monterrey Institute of Technology, Puebla, Mexico

2013-2014 Nicholas Breisach, *Conversion of Calcium Aluminate Cement Concrete*

2013-2014 Silas Shields, *Shrinkage and Cracking Susceptibility of Recycled Concrete Aggregates*

2012-2014 Kristina Milaj, *Cellulose Fiber Technologies for High Performance Concrete*

2012-2014 Andrew Wilson, *Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase V*

2010-2013 Monica Morales, *Cellulose Fiber Technologies for High Performance Concrete*, Graduate Student, Oregon State University

2012-2013 Sean Gertz, *Testing for Combined Forms of Premature Concrete Deterioration: ASR and Corrosion*, Independent Study

2011-2013 Travis Moore, *Use of Sustainable Cementitious Products in Building Components for the Oregon Sustainability Center*

2011-2012 Jose Banuelos, *Drying Shrinkage Limits of High Performance Concrete,* Current Graduate Student

2011-2013 David Rodriquez, *Internal Curing of Concrete Bridge Decks,* Current Graduate Student

2011-2013 Chad Anderson, *Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase III, IV, V*

2011-2012 Benjamin Sohn, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*, Current Graduate Student

2009-2012 Brian Gray, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*, Employed Lease Crutcher Lewis, Seattle, Washington

2011 Marlon Meija, General Research Support

2010-2011 Jorge Mirando, General Research Support

2010-2011 Deanna, Amneus, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*, Graduate Student Oregon State University

2010-2011 Maxwell Cummings, *Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase II*, Graduated June 2011, Employed Lease Crutcher Lewis, Seattle, WA

2010 Daniel Alexandre Bleau, visiting Undergraduate Research Assistant, University of Sherbrooke, Canada, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*

2009-2010 Bryce Wininger, visiting Undergraduate Research Assistant, Griffith University, Australia, *Technologies and Methodologies to Prevent Concrete Deterioration from Alkali-Silica Reaction – Phase II*

2009-2010 Sarah Routley, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*

2009-2010 Chuck Williams, *Internal Curing of High Performance Concrete Bridge Decks*

2009-2011 Marc Putman, *Durability Assessment of Recycled Concrete Aggregates for use in New Concrete*, Graduated June 2011, Employed Kiewit, Portland, Oregon

The University of Texas at Austin

2007-2008 Evan R. Wehrle, The University of Texas at Austin, *Drying Shrinkage and Autogenous Deformation of Calcium Aluminate Cement Systems*

2006 Racheal D. Lute, The University of Texas at Austin, *Chemical and Autogenous Shrinkage of Calcium Aluminate Cement Concrete*, 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, *Methods to Assess the Impact Resistance of ASR Affected Concrete*

Research Projects

Oregon State University (~$4.0 million-Ideker, $9.8 million total)

2023-Present NSF, "BRITE Pivot: Identifying Premature Deterioration in Cementitious Materials Using Volatilomics," Jason H. Ideker (PI), Heather D. Bean (Senior Personnel), $599,000

2022-Present ODOT, "Low-Carbon Ultra-High-Performance Concrete for Use in Highway Infrastructure," Andre Barbosa (PI), Jason H. Ideker (Co-PI), $385,000

2022-Present CalTrans, "Implementation of Advanced Technology and Materials Recycling Techniques for use of Alternative Materials in Concrete as Plain or Reinforced Material," W. Jason Weiss (PI), O. Burkan Isgor and Jason H. Ideker, $350,000

2022-Present Federal Aviation Administration (FAA) Airport Concrete Pavement Technology Program (ACPTP), Mitigating Potential Alkali-Silica Reaction Expansion in Airfield Concrete Pavements, Jason H. Ideker (PI) Oregon State University, Thano Drimalas (Co-PI) and Kevin Folliard (Co-PI) The University of Texas at Austin; Michael D.A. Thomas (Co-PI) University of New Brunswick and April Snyder (Consultant) RJ Lee Group, $750,000 ($350,000 Ideker share)

2021-2022 NSF IUCRC Planning Grant: Concrete Advancement Network, W. Jason Weiss (Co-PI), Jason H. Ideker and O. Burkan Isgor, $20,000 Oregon State University, Part of NSF IUCRC Planning Grant Lead by Konstantin Sobolev, University of Wisconsin Milwaukee.

2020-Present Oregon Department of Transportation, Alternative High Early Strength Concrete (HESC) Structural Overlays, Jason H. Ideker (PI), W. Jason Weiss, O. Burkan Isgor and David Trejo, $319,000

2019-2022 ARPA-E, Development of Thermodynamic and Kinetic Simulation Tools and Testing Procedures For Enhanced Durability Of Concrete Containing Industrial By-Products, W. Jason Weiss (PI), O. Burkan Isgor, Jason H. Ideker, Farshad Rajabipour, Maria C.G. Juenger, $1,300,000. (OSU Portion TBD, Ideker portion $6,000)

2019-Present National Cooperative Highway Research Program, Rating Concrete Water Permeability Based on Resistivity Measurements, Christopher Ferraro (PI) and Kyle Riding (University of Florida); Jason H. Ideker (OSU PI), O. Burkan Isgor and W. Jason Weiss (Oregon State University), $600,000 ($294,000 OSU Portion)

2019-Present National Cooperative Highway Research Program, Improving Guidance of AASHTO R 80/ASTM C 1778 for Alkali-Silica Reactivity (ASR) Potential and Mitigation, Thano Drimalas (PI) and Kevin Folliard (University of Texas at Austin); Michael D.A. Thomas (University of New Brunswick PI) and Jason H. Ideker (Oregon State University PI), $650,000 ($215,000 OSU Portion)

2019-2022 Imerys, Durability of Ettringite Accelerated Systems, Jason H. Ideker (PI), $130,000

2015-2022 Pacific General Electric (PGE), Investigations into the Durability of Ductile Iron Pipe, Dr. O. Burkan Isgor and Dr. Jason H. Ideker (Co-PIs), $80,000 ($40,000 Ideker portion)

2018-2021 CalTrans, "Impact of Use of Portland-limestone Cement on Concrete Performance as Plain or Reinforced Material," W. Jason Weiss, O. Burkan Isgor, Jason H. Ideker, David Trejo, $281,000 (~65,000 Ideker portion)

2018-2020 Electrical Power Research Institute (EPRI), "Development of a Performance-based Mixture Proportioning Procedure for Concrete Incorporating Off-spec Fly Ash," O. Burkan Isgor (PI), Jason H. Ideker, David Trejo, W. Jason Weiss, $314,141

2017-2019 Accelerated ASR Test Method Verification, Turner Fairbanks Highway Research Center – Jussara Tanesi and Ahmed Ardani, The University of Texas at Austin – Thano Drimalas, Oregon State University - Jason H. Ideker, unfunded research

2017-2018 Siam Cement Group, "The Influence of Expansive Additives on Early Age Shrinkage and Stress Development," W. Jason Weiss and Jason H. Ideker, $125,000

2017-2018 NSF Graduate Student Workshop on Service Life Prediction of Concrete, CMMI 1740540, Jason H. Ideker (PI), O. Burkan Isgor, Co-PI, $17,126

2016-2018 ACI Concrete Research Council, "Unified Guidance on Producing Durable Concrete", Jason H Ideker (PI), Kimberley E. Kurtis (Co-PI), Michael D.A. Thomas (Co-PI) , Thano Drimalas (Co-PI) and Anthony F. Bentivegna, $50,000, ($21,000 Ideker portion)

2016-2018 Portland Cement Association Education Foundation Fellowship, "A Performance Specification for Concrete: A Rapid Test That Uses Formation Factor As Determined From Electrical Resistivity," Tyler Deboodt (GRA) and Samantha Whatley (GRA), Advisors: Jason H. Ideker. O. Burkan Isgor, W. Jason Weiss, $35,000

2015-2018 Oregon DOT, Construction of Efficient, Cost-Effective and Sustainable Maintenance Facilities, SPR 792, PI – Jason H. Ideker (PI), Karl Haapala (Co-PI), $145,000

2014-2017 Oregon DOT, "Strategies to Increase the Service Life of Concrete Bridge Decks - SPR 780", PI – Dr. O. Burkan Isgor, Co-PIs, Dr. Jason H. Ideker and Dr. David Trejo, $239,000

2013-2017 Cascadia Lifelines Program (CLiP), "Seismic Performance of Deteriorated Reinforced Concrete Structures," O. Burkan Isgor (PI), Jason H. Ideker (Co-PI), Christopher Higgins (Co-PI), $310,130

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

2011-2013 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

2011-2014 Weyerhaeuser, Cellulose Fiber Technologies, $125,000

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 ($135,000)

2014-present Services and Contract Testing, Various Sources

Funded Equipment Grants ($1.11 Million)

2022 Oregon State University Research Equipment Reserve Fund (RERF), $100,000

2014 DOE Autoclave Installation on Long-Term Loan from NETL Albany, Jason H. Ideker and O. Burkan Isgor, $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 (47)

Noor, L., Tuinukuafe, A., and Ideker, J.H., "A Critical Review of the Role of Ettringite in Binders Composed of CAC–PC–C$ and CSA–PC–C$," *Submitted to the Journal of the American Ceramic Society*, Accepted Feb 2023.

Tuinukuafe, A., Chopperla, K.S.T., Weiss, W.J., Isgor, O.B. and Ideker, J.H., "Estimating Alkali Concentrations of the Pore Solution Based on Ex-situ Leaching Tests and Thermodynamic Modeling," RILEM Technical Letters, V7, 2022, pp. 88-97, https://doi.org/10.21809/rilemtechlett.2022.164

Wang, Y., Ramanathan, S., Chopperla, K.S.T., Ideker, J.H., Suraneni, P., "Estimation of Non-traditional Supplementary Cementitious Materials Potential to Prevent Alkali-silica Reaction Using Pozzolanic Reactivity and Bulk Resistivity," *Cement and Concrete Composites,* V 133, October 2022, https://doi.org/10.1016/j.cemconcomp.2022.104723

Custodio, J., Lingard, J., Fournier, B., Santos Silva, A., Thomas, M.D.A., Drimalas, T., Ideker, J.H., Martin, R.P., Borchers, I., Wigum, B., Ronning, T., "Correlating field and laboratory investigations for preventing ASR in concrete – the LNEC cube study," *Construction and Building Materials*, V 343 [8], August, 2022, https://doi.org/10.1016/j.conbuildmat.2022.128131.

Chopperla, K.S.T., Smith, J.A. and Ideker, J.H., "The Efficacy of Portland-limestone Cements with Supplementary Cementitious Materials to Prevent Alkali-silica Reaction," *CEMENT*, V8, April 2022. https://doi.org/10.1016/j.cement.2022.100031.

Mehdinia, S., Chopperla, K.S.T., Hafiz, A., Schumacher, T. and Ideker, J.H., "Ultrasonic Coda Wave Monitoring of Alkali-Silica Reactivity in Concrete Laboratory Prisms," ASNT Fellowship Paper, Materials Evaluation, *Materials Evaluation*, V80 [10], October 1, 2022, DOI: https://doi.org/10.32548/2022.me-04248.

Chopperla, K.S.T., Smith, S., Drimalas, T., Vaddey, P.N., Bentivegna, A., Kurtis, K.E., Thomas, M.D.A. and Ideker, J.H., Unified Durability Guidance in ACI Committee Documents, *ACI Materials Journal,* V119 [2], March 2022, doi: 10.14359/51734352.

Khlef, F., Ideker, J.H. and Barbosa, A.R. "Validated Uniaxial Stress-Strain Model for Cyclic Analysis of High-Performance Fiber-Reinforced Cementitious Composites," *ASCE Journal of Structural Engineering,* V 148, [9], September 2022, doi:10.1061/(ASCE)ST.1943-541X.0003402, pp. 04022127-1-18.

Chopperla, K.S.T., Drimalas, T. Beyene, M., Tanesi, J., Folliard, J.H., Ardani, A. and Ideker, J.H., "Combining Reliable Performance Testing and Binder Properties to Determine Preventive Measures for Alkali-Silica Reaction," *Cement and Concrete Research*, V 151, January 2022, https://doi.org/10.1016/j.cemconres.2021.106641

Bharadwaj, K., Isgor, O.B.*, Weiss, W.J., Chopperla, K.S.T., Choudhary, A., Vasudevan, G., Glosser, D., Ideker, J.H. and Trejo, D.T., "A New Mixture Proportioning Method for Performance-Based Concrete," *ACI Materials Journal*, V 119, January 2022, DOI: 10.14359/51734301

Chopperla, K.S.T. and Ideker, J.H., "Electrical Resistivity Measurement to Assess the Efficiency of Supplementary Cementitious Materials to Prevent Alkali-silica Reaction in Accelerated Laboratory Conditions," *Cement and Concrete Composites*, V 125, January 2022, https://doi.org/10.1016/j.cemconcomp.2021.104282

Li, C., Thomas, M.D.A. and Ideker, J.H., "Evaluation of Current ASTM Standards for ASR Prevention When Fine Lightweight Aggregates are Used," *Advances in Civil Engineering Materials*, October 2021, V 10 [1], 16 pp. https://doi.org/10.1520/ACEM20200076

Yamada, K., Kawabata, Y., De Rooij, M.R., Pedersen, B.M., Brueckner, R. and Ideker, J.H., "Recommendation of RILEM TC 258-AAA: RILEM AAR-13: Application of Alkali-Wrapping for Concrete Prism Testing to Assess the Expansion Potential of Alkali-Silica Reaction," *Materials and Structures*, V54 [201], October 2021, https://doi.org/10.1617/s11527-021-01684-z

Deboodt, T., Wildenschild, D., Ideker, J.H and Isgor, O.B., "Comparison of Segmentation Algorithms for Quantifying Portland Cement Hydrates Using Synchrotron Microtomography," *Construction and Building Materials,* V 266, Part B, 10 January 2021, https://doi.org/10.1016/j.conbuildmat.2020.121109

Clark, J.V., Deboodt, T., Lange, D., Ideker, J.H. and Isgor, O.B., "Advances in X-ray Computed Tomography for the Characterization of Cementitious Materials," Concrete International, V42 [9], pp. 30-36, September 2020

Adams, M.P. and Ideker, J.H., "Using Supplementary Cementitious Materials to Mitigate Alkali-Silica Reaction in Concrete with Recycled Concrete Aggregate," ASCE Journal of Materials in Civil Engineering, V32 [8], May 26, 2020, https://10.1061/(ASCE)MT.1943-5533.0003277.

**Featured as Issue 8 Editor's Choice section of the Journal of Materials in Civil Engineering*

Tanesi, J., Drimalas, T., Chopperla, K.S.T., Beyene, M., Ideker, J.H., Kim, H., Montanari, L. and Ardani, A., "Divergence between Performance in the Field and Laboratory Test Results for Alkali-Silica Reaction," Transportation Research Record, April 16, 2020, https://doi.org/10.1177/0361198120913288.

Khlef, F.L., Barbosa, A.R. and Ideker, J.H., "Tension and Cyclic Behavior of High-Performance Fiber-Reinforced Cementitious Composites," *ASCE Journal of Materials in Civil Engineering*, V31 [10], October, 2019, https://doi.org/10.1061/(ASCE)MT.1943-5533.0002844.

Deboodt, T., Isgor, O.B., Wildenschild, D. and Ideker, J.H., "Use of Iodine for Improving Phase Quantification Using X-ray Tomography", Cement and Concrete Research, V 116, February 2019, pp. 102-111, https://doi.org/10.1016/j.cemconres.2018.11.004.

Li, C., Thomas, M.D.A. and Ideker, J.H., "A Mechanistic Study on Mitigation of Alkali-silica Reaction by Fine Lightweight Aggregates," *Cement and Concrete Research,* V104, February 2018, pp. 13-24, https://doi.org/10.1016/j.cemconres.2017.10.006.

Deboodt, T., Ideker, J.H., Isgor, O.B. and Wildenschild, D., "Quantification of Synthesized Hydration Products using Synchrotron Microtomography and Spectral Analysis," *Construction and Building Materials*, V157 [30], December 2017, pp. 476-488, https://doi.org/10.1016/j.conbuildmat.2017.09.031.

Mazarei, V., Trejo, D., Ideker, J.H. and Isgor, B., "Synergistic Effects of ASR and Fly Ash on the Corrosion Characteristics of Reinforced Concrete Systems," *Construction and Building Materials,* V153, October 2017, pp. 647-655, https://doi.org/10.1016/j.conbuildmat.2017.07.097.

Adams, M.P. and Ideker J.H., "Influence of Aggregate Type on Conversion and Strength in Calcium Aluminate Cement Concrete," *Cement and Concrete Research*, V100, October 2017, pp. 284-296, https://doi.org/10.1016/j.cemconres.2017.07.007.

Adams, M.P., Lute, R., Moffat, E.G., Ideker, J.H., "A New Procedure for Determining the Converted Strength of Calcium Aluminate Cement Concrete," *ASTM Journal of Testing and Evaluation,* V46 [4], March 2018, pp. 1659-1672, https://doi.org/10.1520/JTE20160277.

Trejo, D., Mazarei, V., Ideker, J.H. and Isgor, B., "The Influence of ASR Reactivity on Corrosion in Reinforced Concrete," *ACI Materials Journal,* V114 [5], September 2017, pp. 723-731, 10.14359/51689895.

Fu, T., Deboodt, T. and Ideker, J.H., "Development of Shrinkage Limit Specification for High Performance Concrete used in Bridge Decks," *Cement and Concrete Composites*, V72, September 2016, pp. 17-26, https://doi.org/10.1016/j.cemconcomp.2016.05.015.

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," *Construction & Building Materials*, V119 [30], August 2016, pp. 53-60, 10.1016/j.conbuildmat.2016.05.068.

Andiç-Çakır, Ö, Poole, A. B. and Ideker, J.H., "ICAAR 1974-2016: Conferences Investigating AAR in Concrete ," ICE Construction Materials, Publication Issue CM3, June, 2016. https://doi.org/10.1680/jcoma.15.00074.

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," *Computers and Geosciences,* V92, July, 2016, pp. 79-89. https://doi:10.1016/j.cageo.2016.04.002.

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," *Construction and Building Materials*, V102 Part 1, January 2016, pp. 802-810, https://doi.org/10.1016/j.conbuildmat.2015.11.022.

Rajabipour, F., Giannini, E., Dunant, C., Ideker, J.H. and Thomas, M.D.A., "Alkali–silica reaction: Current understanding of the reaction mechanisms and the knowledge gaps" *Cement and Concrete Research*, V 76, October 2015, pp. 130-146, https://doi.org/10.1016/j.cemconres.2015.05.024.

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. DOI: 10.1016/j.cemconcomp.2014.12.004

Schumacher, K., and Ideker, J.H., "New Considerations in Predicting Mitigation of Alkali-Silica Reaction Based on Fly Ash Chemistry," *Accepted to ASCE Journal of Materials in Civil Engineering*, V 27 [4], April 2015. *http://dx.doi.org/10.1061/(ASCE)MT.1943-5533.0001021#sthash.BODgIuTr.dpuf*

Verba, C.A., O'Connor, W., Rush, G., Palandri, J., Reed, M.H. and Ideker, J.H., Geochemical Alteration of Simulated Wellbores of CO_2 Injection Sites Within the Illinois and Pasco Basins, *International Journal of Greenhouse Gas Control*, V 23, April 2014, pp. 119-134.

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*
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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, https://doi.org/10.1016/j.cemconres.2010.11.012

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. DOI: 10.1016/j.cemconres.2009.08.030

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. DOI: 10.1016/j.cemconres.2006.10.011

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. DOI: 10.1016/j.cemconres.2004.01.011

Collins, C.L., Ideker, J.H., Kurtis, K.E., "Examination of the Effects of LiOH, LiCl, and $LiNO_3$ on Alkali-Silica Reaction," *Cement and Concrete Research*, 34 [8] August 2004, pp. 1403-1415.

Articles Submitted for Review (0)

Works in Progress (6)

Ghanizadeh, A., Parashar, A., Drimalas, T., Folliard, K.J., Ideker, J.H., Snyder, A., and Thomas, M.D.A., Current State of Alkali-Silica Reaction (ASR) Testing: A Review, in preparation.

Khelf, F., Ideker, J.H. and Barbosa, A., "Generalized Numerical Model for the Uniaxial Constitutive Behavior of Fiber Reinforced Cement-Based Composites: Formulation, Verification, and Implementation," *In preparation.*

Fournier, B., Lingard, J., Custodio, J., Ideker, J.H., Drimalas, T., Thomas, M.D.A., "RILEM LNEC Cube Study Paper II-Field Results", *In preparation*.

Li, C., Azad, V.J., Rodriguez, D.E., Verba, C., Isgor, O.B., and Ideker, J.H., "Elucidating Mechanisms of Class H Cement Degradation under CO_2 (CO_2-O_2) Storage, *Planned Submission to Cement and Concrete Composites, 2020*

Isgor, O.B., Ideker, J.H., Sohn, B., Li, C. and Darsow, D., "Synergistic Deterioration: Effect of NaCl Ingress on Alkali-Silica Reaction," *planned submission to Cement and Concrete Composites*

Ideker, J.H., Bentivegna, A.F., 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*

Research Reports and Technical Documents (21)

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Presentations

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"How Do We Specify Concrete that is Resistant to ASR?," Minnesota Concrete Council, May 9, 2021, Zoom Talk, ~150 attendees

"Alkali-Silica Reaction: Research Needs and the Link to Practice," RILEM Roc&Tok, RILEM Education Series, June 3, 2021, Zoom Talk, ~140 attendees

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"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 CO_2-O_2: 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 alkalies 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

"Oregon State University Ecampus Lunch Series – Creative Assessments," The Oregon State Engineering Student, Team Project-Based Asynchronous Assessment, October 27, 2021, (~30 attendees).
"Alkali-Silica Reaction: Research Needs and the Link to Practice," Rok&Tok, Webinar, June 3, 2021.

"How Do We Specify Concrete that is Resistant to ASR?," RILEM, Minnesota Concrete Council, 250 person webinar, May 11, 2021

"Experimental and Numerical Modeling Approach to Elucidating Damage Mechanisms in Cement-Well Casing-Host Rock Settings for Underground Storage of CO_2," 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

Deboodt, T., Wilson, A., Ideker, J.H.* and Adams, M.P.*, "Re-evaluation of Testing Parameters in the Accelerated Mortar Bar Test," 15th International Conference on Alkali Aggregate Reaction in Concrete, Editors Hasparyk and Sanchez, Sao Paulo, Brazil, July, 4-7 2016, 10 pp.

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 CO_2 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 CO_2 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," P*roceedings 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

2020-present	Chair, RILEM TC-301 ASR, Risk Assessment of Concrete Mixture Designs with Alkali-silica Reactive (ASR) Aggregates
2020-2021	NSF CMMI Game Changers Academy
2018-present	Member, Committee on Publications (COP), ASTM International
2017-present	Member, C09 Executive Committee, Member-at-Large
2014-2019	Member, RILEM TC-258
	Task Group on Alkali Aggregate Reactivity Performance-Based Approach
2009 – present	Member, ASTM International
	Secretary, Subcommittee C09.50 – Aggregate Reactions in Concrete, 2018-present
	Chair, Subcommittee C09.50 - Risk Management for Alkali Aggregate Reactions, 2011-2017
	New Standard Developed Under Chaired Leadership: *ASTM C 1778-14 "Standard Guide For Reducing the Risk of Deleterious Alkali-Aggregate Reaction in Concrete"*
	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 231), 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
	Voting Member SC2 - Evaluate 2018 published papers for the Wason Medal for Materials Research
	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

December 2019 – NSF SBIR/STTR Program Reviewer

February 2018 – NSF SBIR/STTR Program Reviewer
March 2017 - NSF SAEM Program Reviewer
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
2020 ICAAR, Lisbon, Portugal, June 2020
2020 Calcium Aluminate Cements, Edinburgh, UK, June 2020
2014 Calcium Aluminate Cements, Avignon, France, June 2014.
2014 Concrete Durability Conference, Purdue University, June 2014

Textbook Reviewer
PCA Design and Control 14th Edition
PCA Design and Control 15th Edition

Conference/Meeting Organization
2020 Gordon Conference "Cutting-Edge Developments and Characterization of Cement-Based Materials"
Gordon Research Conference (GRC Power Hour™) Addresses challenges women face in science and issues of diversity and inclusion. The program supports the professional growth of all members of our communities by providing an open forum for discussion and mentoring.
Organizers: Kimberly Kurtis (Georgia Institute of Technology, USA) and Jason Ideker (Oregon State University, USA)

2019-2021 The Corvallis Workshops, 4th – *Concrete Fit for Purpose*, June 15-18, 2021
Workshop Organizers: Jason H. Ideker, Karen L. Scrivener and Anthony F. Bentivegna
Oregon State University, Corvallis, USA

2019-2021 Doctoral Short Course – *Concrete Fit for Purpose*, June 13-15, 2021
Workshop Organizers: Jason H. Ideker, Karen L. Scrivener, O. Burkan Isgor, David Trejo and W. Jason Weiss, Oregon State University, Corvallis, USA

2016-2017 Doctoral Short Course - *Service-Life Prediction of Concrete*, July 9-14, 2017
Short Course Organizers: Jason H. Ideker (Chair), O. Burkan Isgor, David Trejo and W. Jason Weiss

2016-2017 The Corvallis Workshops, 3rd – *Service-Life Prediction of Concrete*, July 16-19, 2017
Workshop Organizers: Jason H. Ideker, Karen L. Scrivener and Anthony F. Bentivegna
Oregon State University, Corvallis, USA

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

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

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

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

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

2010-2011 The Corvallis Workshops, *Inaugural- 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

2020-Present	Chair, ENGINEERING+, College of Engineering
	2021 ABET team specifically cited Engineering+ effort as an institutional strength.
2019-2020	Chair, First Year Engineering Experience Committee, College of Engineering
2019	Ad-Hoc Tenure Committee Member, Erdem Coleri
2019	Ad-Hoc Mid-Tenure Committee Member, Yelda Turkan
2019	Faculty Senate, Elected Member from COE
2019	COE Strategic Plan Revision 2021-2025, Research Committee, Member
2018-2019	COE Interdisciplinary Committee
2018-2019	COE Associate Dean for Research, Search Committee, Member
2018-2019	COE First Year Experience Committee
2017-2019	CCE Undergraduate Committee, Chair
2015-2016	CCE Architectural Engineering Degree Task Group, Member
2014-2015	CCE Head Search, Committee Member
2014-2015	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
2010-2013	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
2008-2015	Advisor, ASCE Concrete Canoe Team, Oregon State University