

Implementing Transportation Innovation

2022 Transportation Infrastructure
Durability Conference

August 9th-11th, 2022





Welcome!

On behalf of the University of Maine, Transportation Infrastructure Durability Center, and the Advanced Structures & Composites Center, welcome to the 4th Annual Transportation Infrastructure Durability Conference. For those of you traveling in from distant places, I hope you take time to enjoy Maine's unique natural beauty, and see firsthand the potential for transportation innovation right here in Vacationland.

We are gathered here for our first in person conference in three years. The COVID-19 pandemic has had an immeasurable impact on every facet of life in recent memory, but together we have held strong and are once again able to share ideas and innovations with each other face-to-face.



To this end, I am excited and pleased to welcome all of our distinguished speakers, moderators, and panelists from around the country and beyond who are here to present their experiences and research in Transportation Innovation!

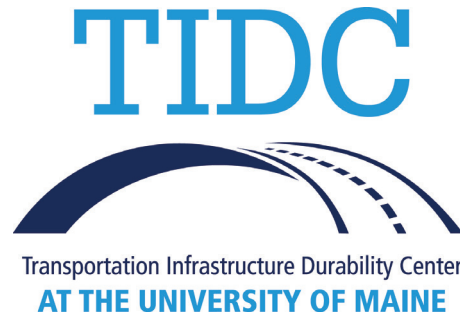
Thank you, and I hope you enjoy the 2022 TIDC Annual Conference!



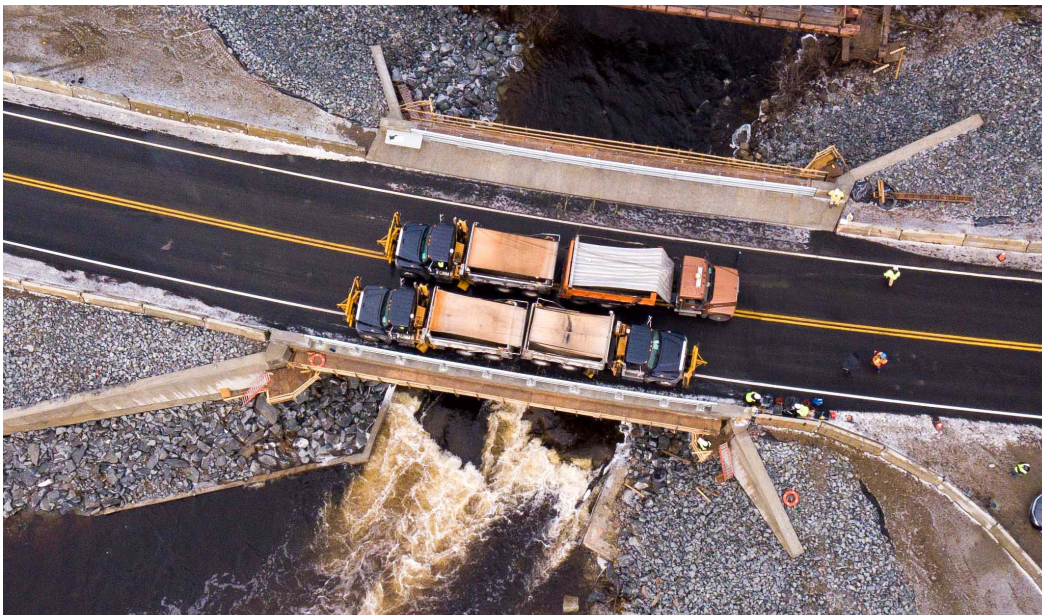
Dr. Habib Dagher, P.E.

Executive Director, Advanced Structures & Composites Center
Principal Investigator, New England Aqua Ventus I
Director, TIDC Center
Professor, Civil Engineering
BIW Professor of Structural Engineering

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Above: load testing on the Grist Mill Bridge in Hampden, Maine

Tuesday, August 9th DAY 1

3:00 - 5:00 pm
Speakers Tour of ASCC

5:00 - 6:00 pm
Networking & Registration

6:00 - 8:00 pm
Welcome Reception Dinner
Keynote Speaker Victoria Sheehan

Wednesday, August 10th DAY 2

8:00 - 9:00 am
Check-in & Breakfast

9:00 - 9:15 am
Welcome Address from TIDC
Director Dr. Habib Dagher

9:15 - 9:45 am
Keynote Speaker Allie Kelly

9:45 - 10:15 am
Session 1: Innovation Panel

10:15 - 10:30 am
Break

10:30 am - 12:00 pm
Session 2: Novel Composite
Materials in Transportation

12:00 - 1:00 pm
Lunch

1:00 - 2:30 pm
Session 2: Structural Composites in
Transportation

2:30 - 2:45 pm
Break

2:45 - 4:15pm
Session 3: Concrete Durability in
the Era of Carbon Neutral
Emissions

4:15 - 4:30pm
Closing Remarks

Thursday, August 11th DAY 3

8:00 - 9:00 am
Check-in & Breakfast

9:00 - 9:15 am
Welcome Address from TIDC
Director Dr. Habib Dagher

9:15 - 10:30 am
Session 4: Resiliency in
Transportation

10:30 - 10:45 am
Break

10:45 am - 12:15 pm
Session 5: Geotechnical
Innovation: Crossing the Gap
Between the Lab & Market

12:15 - 1:15 pm
Lunch

1:15 - 2:30 pm
Session 6: Cutting-Edge
Advancements in Paving

2:30 - 2:45 pm
Closing Remarks

2:45 - 4:30 pm
Advanced Structures &
Composites Center Tours
(Optional)

Below: UConn students on site at
Cos Cob Bridge



PROGRAM DAY 1 –

Tuesday, August 9, 2022

3:00 - 5:00 pm

Speakers Tour: Advanced Structures & Composites Center

Conference speakers will tour our state of the art research facility located at the University of Maine. They will see cutting edge research projects in the areas of wood composites, civil infrastructure, floating offshore wind, bio-based additive manufacturing and more. The 100,000 sf facility is home to the world's largest 3D polymer printer, the Alford Wind and Wave Basin and more. A second tour for conference attendents is scheduled for the conclusion of day 3.

5:00 - 6:00 pm

Networking Social & Event Registration

While attendents get signed in, the event floor will be open for networking and discussion. Light snacks and a wine/beer bar will be open during this time.

6:00 - 8:00 pm

Opening Ceremonies & Welcome Reception Dinner

After all have settled in, a buffet style dinner will be served as the opening address is given by TIDC Director Dr. Habib Dagher. The evening will conclude with a keynote address by New Hampshire Department of Transportation Commissioner Victoria Sheehan, titled: Innovations and Transportation Research.



Above: WNEU students mixing cement materials



Above: Students from UMass Lowell conducting sensor tests on the Grist Mill Bridge in Hampden, Maine

Wednesday, August 10, 2022

8:00 - 9:00 am

Poster Session 1 & Registration

While registrants that did not attend the Tuesday night session get signed in, there is a gallery of student and researcher submitted technical posters on display, highlighting the hard work and research of our engineers and Students. These posters will remain on display throughout the event. Breakfast will also be served at this time.

9:00 - 9:15 am

Day 2 Welcome

A morning address will be given by TIDC Director Dr. Habib Daghar to kick off day 2 of the conference.

9:15 - 9:45 am

Keynote Session

To start our lineup of panelist sessions, Allie Kelly, Executive Director of The Ray, will give a Keynote address, titled: Exciting Advancements in Transportation Innovation.

9:45 - 10:15 am

Session 1: Innovation Panel Discussion

Implementation of transformational transportation research

Moderator:

Dale Peabody, P.E.

Panelists:

Dr. Habib Daghar, P.E.

Allie Kelley

Victoria Sheehan

10:15 - 10:30 am Break

10:30 - 11:30 am

Session 2: Novel Composite Materials in Transportation

Moving beyond steel and concrete

Moderator:

Dr. Roberto Lopez-Anido, P.E.

Panelists & Presentation Titles:

Dr. Joe Fox - *Key Attributes of FRP Composites for Infrastructure Applications*

Ed Pilpel - *Life Cycle Assessment (LCA): A Central Element and Toll for Understanding the Many Aspects of Sustainability*

John Busel - *Looking at the Past to See the Future*

Joe Stillwell, P.E. - *Integrating Composite Material Properties*

11:30 am - 12:00 pm

Session 2 Discussion and Q&A

12:00 - 1:00 pm Lunch

1:00 - 2:00 pm

Session 3: Structural Composites in Transportation

Design, manufacturing, applications, and installation of structural composites

Moderator:

Dr. Bill Davids, P.E.

Panelists & Presentation Titles:

Ken Sweeney, P.E. - *The Evolution of the GBeam™ and its Role for the Future of Transportation Infrastructure*

Wayne Frankhauser Jr., P.E. - *Past, Present, and Future of Structural Composites*

Dr. Dayakar Penumadu - *Smart Fiber Reinforced Polymer Composite Bridge Deck For Rural Tennessee*



Left: (Back) Carmala Buzzell, Wendall Harriman II, Ken Sweeney, Tim Kenerson, and Dr. Bill Davids (Front) Dr. Habib Dagher Posing with a section of the Composite Tub girder at AIT Bridges in Brewer, Maine

2:00 - 2:30 pm

Session 3 Discussion and Q&A

2:30 - 2:45 pm Break

2:45 - 3:45 pm

Session 4: Concrete Durability in the Era of Carbon Neutral Emissions

State-of-the-art in low carbon emission concrete

Moderator:

Dr. Eric Landis, P.E.

Panelists & Presentation Titles:

Drew Burns - *Taking Charge of our Carbon Neutral Concrete Future for the Transportation Industry*

Dr. Reza Moini - *Resilience in Architected Materials-by-Design as a Means to Harness Sustainable Infrastructure*

Dr. Kay Wille - *Advancements in UHPC Research*

3:45 - 4:15 pm

Session 4 Discussion and Q&A

4:15 - 4:30 pm

Day 2 Wrap-Up

PROGRAM DAY 3 –

Thursday, August 11, 2022

8:00 - 9:00 am Poster Session 2

The gallery of student and researcher submitted technical posters will continue to be on display throughout the event but this block will be dedicated to settling in and viewing our student and researcher technical posters. Breakfast will be served at this time.

9:00 - 9:15 am Day 3 Welcome

A morning address will be given by TIDC Director Dr. Habib Daghar to kick off day 3 of the conference.

9:15 - 10:00 am Session 5: Resiliency in Transportation *Modeling and designing effective infrastructure resiliency strategies*

Moderator:
Peter Slovinsky

Panelists & Presentation Titles:
Kirk Bosma, P.E. - *Prioritizing Coastal Resilience: Modeling Flood Risks in a Changing Climate*

Mark Lickus - *Resiliency in Action: Aging Infrastructure, Highway Flooding and Coastal Marsh Restoration at Back River Creek Marsh in Woolwich, Maine*

Dr. Thomas Ballestero - *The Realities of Green Stormwater Infrastructure and Flood Reductions at the Watershed Scale*

10:00 - 10:30 am Session 5 Discussion and Q&A

10:30 - 10:45 am Break

10:45 - 11:45 am

Session 6: Geotechnical Innovation

Crossing the Gap Between the Lab and Market

Moderator:

Dr. Aaron Bradshaw, P.E.

Panelists & Presentation Titles:

Dr. Aaron Gallant, P.E. - *Successful scaling of an innovative subgrade stabilization method in the lab: what's next?*

Gary Seider, P.E. - *Helical Pile Augmentation with Collar Vane - Research*

Dr. Kord Wissmann - *Implementing Geo-Innovation for Transportation Projects*

Leon Van Paassen, Ph.D. - *Biogeotechnics From Lab to Field*

11:45 am - 12:15 pm

Session 6 Discussion and Q&A

12:15 - 1:15 pm Lunch

1:15 - 2:00 pm

Session 7: Cutting-Edge Advancements in Paving Material and Assessment Advancements for Durable Pavements

Moderator:

Dr. Jo Sias, P.E.

Panelists & Presentation Titles:

Dr. Eshan Dave - *Density Measurement of Asphalt Mixtures and Pavements using a Dielectric Measurement System*

Dr. Julie Vanderbossche - *Innovations in the Area of Concrete Pavements*

Dr. Ram Veeragaravan - *Recent Technologies to Enhance Quality Control in Asphalt Paving - FHWA Efforts*



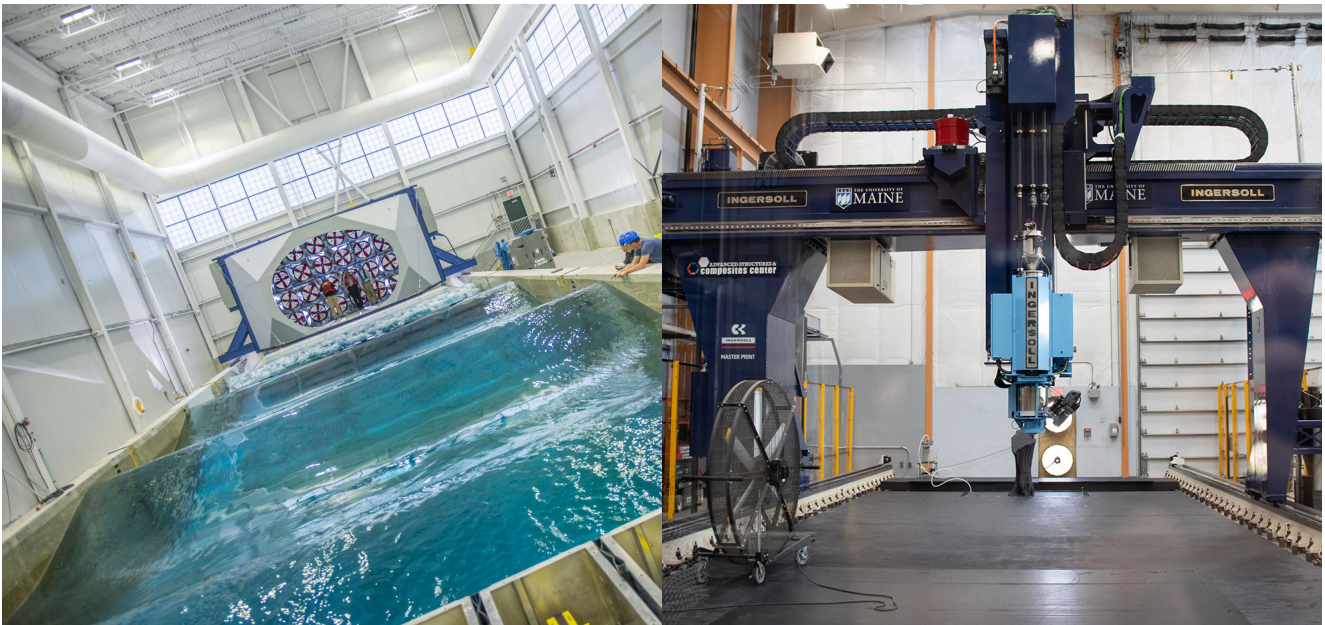
Above: URI students identifying plants at a roadside site

2:00 - 2:30 pm
Session 7 Discussion and Q&A

2:30 - 2:45 pm
Closing Remarks

3:00 - 4:30 pm
Advanced Structures & Composites Center Tour

Conference attendees who signed up for the ASCC tour will visit our state of the art research facility located at the University of Maine. They will see cutting edge research projects in the areas of wood composites, civil infrastructure, floating offshore wind, bio-based additive manufacturing and more. The 100,000sqft facility is home to the world's largest 3D polymer printer, the Alford Wind and Wave Basin and more.



Above: the W2 Wind Wave Basin (left) and the World's Largest 3D Printer (right) located at the UMaine Advanced Structures & Composites Center

2023 TIDC Railroad Symposium

Coming February 16th, 2023



2023 TIDC Annual Conference

Coming August 8th-10th, 2023

Be On The Lookout For More Information
www.tidc-utc.org

LEARN MORE

Overview

The Transportation Infrastructure Durability Center (TIDC) is the 2018 US DOT Region 1 (New England) University Transportation Center (UTC) located at the University of Maine Advanced Structures and Composites Center. TIDC's focus is on extending the life and improving the durability of transportation assets. TIDC has six member Universities within the New England Region.

Mission Statement

The mission of the Transportation Infrastructure Durability Center (TIDC) is to develop innovative, sustainable, next-generation solutions to improve the durability and extend the lifespan of existing and new transportation assets in New England and beyond. We are committed to making dramatic impacts in the cost-effectiveness of transportation infrastructure through transformative research, education, outreach, workforce development, and technology transfer through four research thrust areas; 1) monitoring and assessment, 2) new materials for longevity and constructability, 3) new systems for longevity and constructability, and 4) connectivity for enhanced asset and performance management.

Want To Learn More?

Visit us today at
www.tidc-utc.org



SPEAKERS & MODERATORS

Session 1: Innovation



Dale Peabody, P.E.

Director of Research & Innovation, Maine DOT

Dale has been with the Maine Department of Transportation since 1983, serving in different positions from Bridge Designer and Assistant R&D Engineer to his current position as the Director of the Research and Innovation Office. In this position he manages the department research program including new product evaluations, experimental construction, SHRP2 product implementation and innovation deployment. He has been in numerous leadership positions within AASHTO currently serving as the vice chair for the Special Committee on Research & Innovation and the chair of the Research Advisory Committee. He is the Advisory Board chair for the Transportation Infrastructure Durability Center at the University of Maine. He received a B.S degree in Civil Engineering from the University of Maine and is a registered Professional Engineer in Maine.



Allie Kelly

Executive Director, The Ray

Allie Kelly is Executive Director of The Ray. In that role, she leads the nonprofit organization that has built the nation's only publicly accessible, living laboratory for transportation innovation. Allie was recruited to lead as its first Executive Director in 2015. In three years, she has helped the organization to implement and build almost a dozen ground-breaking, world-leading technology demonstrations, including the first solar road in the United States and the world's first public demonstration of a drive-through tire safety station. She was the recipient of the 2018 Atlanta Technology Professionals (ATP) Impact Award and was listed as one of the 100 Women to Know by Engineering Georgia in 2018 and 2019.



Dr. Habib Dagher, P.E.

Director, TIDC, Executive Director, ASCC, University of Maine

Dr. Habib Dagher, P.E. is the founding Executive Director of the Advanced Structures & Composites Center, a National Science Foundation funded research center housed in an 100,000 sf laboratory with more than 260 full and part-time personnel. The UMaine Composites Center is a world leader in the development of low-cost, high-performance structural composites for construction. The Center has served more than 500 clients worldwide, and has received top national awards for its research.



Victoria Sheehan

Commissioner, New Hampshire DOT

Sworn in as the Commissioner of the New Hampshire Department of Transportation on October 19, 2015, Victoria Sheehan oversees a state agency with an operating budget of \$650 million and over 1640 full-time employees dedicated to providing safe and efficient transportation systems. Ms. Sheehan brings both transportation engineering and management experience to her role as Commissioner. In her years as a dedicated public employee, she has worked as a resident engineer and as a project manager, with a record of delivering contracts on-time and on-budget. She also has extensive experience in asset and performance management.

Session 2: Novel Composite Materials in Transportation



Dr. Roberto Lopez-Anido, P.E.
Professor, University of Maine

Dr. Roberto Lopez-Anido has more than 22 years of experience in the areas of mechanics of fiber-reinforced polymer (FRP) composites for construction, durability analysis of composite materials, advanced experimental methods for composites, composites manufacturing, rehabilitation of civil infrastructure, design of composite structures, and structural health monitoring.

Dr. Lopez-Anido is a research leader in FRP composites at UMaine's Advanced Structures and Composites Center, and has produced 60 refereed journal publications, 89 conference publications, one book, and six patents.



Joseph Fox
President, FX Consulting, LLC.

Joe Fox is a consultant for the specialty chemicals and materials industries. He is President of FX Consulting in Dublin, Ohio. Joe is a chemist by training and has a bachelor's degree in chemistry from Lehigh University and a PhD in chemistry from Penn State. He is a 40-year veteran of the chemicals industry, having worked at Standard Oil of Ohio, BP America, Ashland Chemical and INEOS Composites. He is an active member of the Institute for Advanced Composites Manufacturing Innovation (IACMI), the American Composites Manufacturers Association (ACMA) and the American Society of Civil Engineers (ASCE).



Ed Pilpel
President, Sustainable Composites

Mr. Pilpel received his BSME and Environmental Certificate from the University of Hartford and MSME from University of Connecticut. He has over 45 years experience in thermoset and thermoplastic composites design and manufacturing. Mr. Pilpel holds 30 U.S. patents as well as corresponding foreign patents in over 10 countries. Has served on ASTM and ISO committees. Currently working with composite startup companies focused on recycling and sustainable composite materials and products.



John P. Busel
Vice President, Composites Growth Initiative at ACMA

John Busel is Vice President, Composites Growth Initiative and has been with the American Composites Manufacturers Association for over 18 years. Mr. Busel has led composites industry programs in market development for infrastructure and construction for over 25 years, and is very active in codes and standards development, and promotes composites through education and awareness to engineers, architects, owners, and specifiers. During his 35 years of experience in the composites industry, he has done work in market development, composites design, tool engineering, manufacturing, and research and development of thermoset and thermoplastic composite materials. He is a Fellow of American Concrete Institute (ACI), and member of American Society of Civil Engineers, Society of Plastic Engineers, and ASTM. He was chairman of ACI Committee 440 – FRP Reinforcement. He is also active in standards development in ACI, ASCE, IEEE, and ASTM. He has been recognized by ACI for Distinguished Service, is Chair of the SPE Composites Division, and in 2019, he was the recipient and inducted into the ACMA Composites Industry Hall of Fame. Mr. Busel holds a BS Civil Engineering degree from Bradley University.



Joe Stillwell, P.E.
Fabrication Engineer, MaineDOT

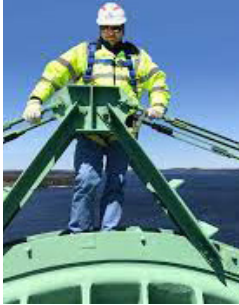
Joe has been with the Maine Department of Transportation since 2010, serving in different positions from Assistant Engineer to his current position as Fabrication Engineer for the Maine DOT. He received a B.S degree in Civil Engineering from the University of Maine and is a registered Professional Engineer in Maine.

Session 3: Structural Composites in Transportation



Dr. Bill Davids, P.E.
Professor, University of Maine

Dr. Bill Davids is a Professor of Civil and Environmental Engineering at the University of Maine, where he teaches classes in structural design, structural analysis, and numerical methods. He was a bridge engineer for four years prior to entering academia. Bill has directed research in bridge engineering, inflatable structures, and the mechanics of solid and engineered wood. He has authored or co-authored 50+ articles in peer-reviewed journals. Bill holds a Ph.D. in Civil Engineering from the University of Washington, B.S. and M.S. degrees in Civil Engineering from the University of Maine, and is a licensed PE.



Wayne Frankhauser, Jr., P.E.
Bridge Program Manager, MaineDOT

Wayne Frankhauser, P.E. is the Maine Department of Transportation Bridge Program Manager. The Bridge Program is responsible for the design and construction of bridge preservation, rehabilitation, and replacement projects statewide. He has over 28 years of experience with MaineDOT in design, project management, and construction. Wayne has been involved in the use of innovative materials, contracting methods, and construction techniques throughout his career. Wayne is a member of the AASHTO Committee on Bridges and Structures. He received a B.S. in Civil Engineering from the University of Maine in 1993. Before attending university, he served in U.S. Army.



Dr. Dayakar Penumadu
Fred N. Peebles Professor and Institute for Advanced Material and Manufacturing (IAMM) Chair of Excellence, University of Tennessee, Knoxville

Dr. Penumadu served as the Head of the Department of Civil and Environmental Engineering at the University of Tennessee, Knoxville (UTK) from 2007 to 2014. Prior to joining UTK, he was a faculty member at Clarkson University for 8 years. Dr. Penumadu was the lead Principal Investigator for National Composites Manufacturing Institute (IACMI) with DOE from UTK and currently serves as a PI for two NSF Industry-University Cooperative Research Centers on Manufacturing and Materials Joining (Ma2JIC) and Composites and Hybrid Materials Interfacing (CHMI)



Ken Sweeney, P.E.
President & Chief Engineer, AIT Composites

Ken leads the senior management team, ensuring day-to-day operations are successful and strategic goals are met. Ken spreads information about the benefits of composites to the structural engineering community through conventions and seminars. He is one of the leaders fighting for composites to become more prominent in this industry. As the former Chief Engineer of Maine DOT, Ken brings a deeper understanding of the problems faced in our transportation infrastructure.

Session 4: Concrete Durability in the Era of Carbon Neutral Economics



Dr. Eric Landis, P.E.
Professor, University of Maine

Eric's research interests are in experimental mechanics and fracture, with particular focus on the use of innovative laboratory techniques to solve problems of fracture and failure in cement-based and wood-based composite materials. He also dabbles in computational modeling, biomimetics, burrowing marine invertebrates, and other things he should probably keep his nose out of. He has particular expertise in x-ray computed tomography and associated 3D image processing, as well as a background in quantitative acoustic emission analysis techniques. He has published numerous scientific papers, and he is co-author of the text *Fracture and Fatigue of Wood* (Wiley, 2003). Prior to his academic career he spent several years in civil engineering consulting. At UMaine he has been honored for both his teaching and research. In 2002 he was presented with the UMaine Presidential Outstanding Teaching Award, in 2004 he was Distinguished Maine Professor, and in 2006 he was the Carnegie Foundation U.S. Professor of the Year in Maine.



Drew Burns, CAE
Executive Director, NEU Center for Carbon Neutral Concrete, American Concrete Institute

Drew Burns was recently appointed as Executive Director of NEU: an ACI Center of Excellence in Carbon Neutral Concrete in July of 2022. Prior to NEU, Burns was the Executive Director of the Slag Cement Association (SCA) and the Great Lakes Cement Promotion Council (GLCPC), where he worked with industry professionals to promote the use of more sustainable cementitious products like slag cement and portland limestone cement. Burns obtained the Certified Association Executive credential in 2019 from the American Society of Association Executives, one of the highest professional development achievements for association and nonprofit professionals. ASBI Leadership Award in 2004.



Dr. Reza Moini
Assistant Professor, Princeton

Reza Moini joined the Civil and Environmental Engineering Department at Princeton University as an assistant professor in January 2021. He is directing the Architected Materials and Additive Manufacturing (AM2) Lab at Princeton and is an associated faculty with the Institute of Materials as well as the Andlinger Center of Energy and Environment. Moini completed his Ph.D. in the Lyles School of Civil Engineering at Purdue University in 2020, his M.S. from University of Wisconsin-Milwaukee in 2013, and his B.S. from Qom University in Iran. He has worked in the construction industry for six years, and his current research focuses on the design, mechanics, and manufacturing of resilient architected civil engineering materials. His work is motivated by the intellectual challenge of understanding the mechanics of intrinsically brittle materials and developing tough and flaw-tolerant materials without changing the materials' composition.



Dr. Kay Wille
Associate Professor, University of Connecticut

Dr. Wille received his doctor (Ph.D.) degree in Civil Engineering at the University of Leipzig, Germany in 2008. Financially supported by a post-doctoral scholarship from the German Academic Exchange Service (DAAD), Dr. Wille joined the materials and structural research at the University of Michigan in 2008. At UMICH he continued and emphasized his work on UHPC material development and characterization. In 2010 Dr. Wille accepted a faculty position at the University of Connecticut and established the Advanced Cementitious Materials and Composites (ACMC) Laboratory. His research emphasizes Ultra-high performance concrete: Material Design, Structural Application and Numerical Simulation. Dr. Wille serves in several committees related to his research interest, such as ACI 544: Fiber reinforced concrete and ACI 239: Ultra high performance concrete. In 2015 he received the NSF CAREER award and in 2016 he co-chaired the first international interactive symposium on UHPC in Des Moines, Iowa.

Session 5: Resiliency in Transportation



Peter Slovinsky

Marine Geologist, Maine Dept. of Agriculture, Conservation, & Forestry

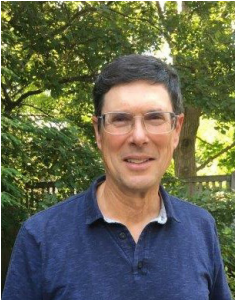
Peter Slovinsky is a coastal geologist with the Maine Geological Survey where his focus has been on predicting potential impacts of coastal erosion and sea level rise. He was a NOAA Coastal Management Fellow and holds a M.S. in Geological Sciences from the University of South Carolina. When he's not in the field doing research, he can be found surfing Maine's cold waters.



Kirk Bosma, P.E.

Senior Coastal Engineer, Vice President, Woods Hole Group

Kirk F. Bosma, PE, is a Senior Coastal Engineer and Vice President at Woods Hole Group. He earned his Masters in Coastal Engineering from the University of Delaware in 1996 and his B.S. in Civil Engineering in 1994. Kirk has more than 25 years of experience in the fields of coastal sciences and engineering as well as climate change and resilient design, specializing in the areas of developing gray, green, and hybrid coastal engineering adaptations for fostering urban and rural resiliency in a cost-effective approach. He has completed comprehensive coastal flood risk assessments that incorporate storm surge risk coupled with increased precipitation and sea level rise. Kirk's work on the MassDOT's Massachusetts Coast Flood Risk Model is a model for vulnerability assessment of coastal infrastructure.



Mark Lickus

Project Hydrologist, MaineDOT

Mark Lickus is a Project Hydrologist in the MaineDOT Environmental Office where he has worked in the Surface Water Resources Group since 2009. His current duties are primarily focused on aquatic organism passage at road-stream crossings but his work also includes hydrology studies, stream geomorphic assessments, wetlands and tidal restoration, preliminary fish passage design development, and environmental construction support for culvert and bridge projects. He has a Master's in Environmental Management from the Yale School of Forestry (1991), and a Bachelors in Geology from the University of Colorado (1983).



Dr. Thomas Ballestero, P.E.

Director of the Stormwater Center, University of New Hampshire

Tom Ballestero is the former Director of the University of New Hampshire Stormwater Center. His general area of expertise is the restoration of impaired aquatic systems. This expertise includes efforts in stream restoration, wetlands restoration, living shorelines, and stormwater management. Dr. Ballestero has been at the University of New Hampshire since 1983.

Session 6: Geotechnical Innovation



Dr. Aaron Bradshaw, P.E.

Associate Professor, University of Rhode Island

Aaron Bradshaw is an Associate Professor in the Department of Civil and Environmental Engineering at the University of Rhode Island (URI), and has been at URI since 2011. He also holds a limited joint appointment in the Department of Ocean Engineering. Dr. Bradshaw earned his B.S. in Civil Engineering (Magna Cum Laude) in 1996 from Tufts University, his M.S. in Ocean Engineering in 1999 from URI, and his PhD in Civil Engineering in 2006 from URI. He worked as a geotechnical engineering consultant at Hart Crowser in Seattle, WA from 2000 to 2003 and is a registered professional engineer in Rhode Island. Dr. Bradshaw's research interests are in marine geotechnics including soil-structure interaction and soil liquefaction. While at URI he has taught courses in soil mechanics, shallow and deep foundations, marine geotechnics, and geotechnical earthquake engineering.



Dr. Aaron Gallant, P.E.

Assistant Professor, University of Maine

Dr. Aaron Gallant earned his BS in Civil Engineering from Tufts University and went on to pursue his Masters and Doctorate in Civil Engineering from Northwestern University, specializing in geotechnical engineering. His research interests lay in combining theory and practice to reconcile observed performance and behavior of natural landforms, geo-materials, and subsurface infrastructure, with emerging interest on ground improvement/stabilization, behavior of gassy/unsaturated sediments and resiliency to instabilities during extreme events and dynamic loading, and soil-structure interaction. He previously worked as a Geotechnical Engineer at CH2M Hill in Virginia before coming to teach in the Civil and Environmental Engineering department at the University of Maine in 2016. He is a member of the American Society of Civil Engineers, the Deep Foundations Institute, and the US Universities Council on Geotechnical Engineering Research.



Gary Seider, P.E.

Engineering Manager, Hubbell Power Systems

Registered Professional Engineer, State of Florida & Missouri
B.S., Mechanical Engineering, University of Missouri-Rolla (1987)

Membership:

- Member, American Society of Civil Engineers (ASCE)
- Member, Deep Foundations Institute (DFI)
- Helical Piles and Tiebacks Committee – past Chairman



Dr. Kord Wissmann

President, GeoPier Foundations

Dr. Wissmann is the president of Geopier Foundation Company and has led the company to a more than 10-fold growth over the past 20 years with design/build construction projects in more than 30 countries and 5 continents. Kord is the recipient of 28 US patents, has published more than 40 technical papers, and is internationally recognized as a driving force in the field of geotechnical ground improvement. Kord holds bachelor's and doctoral degrees in Civil Engineering from Virginia Tech and a master's degree from UC Berkeley.



Leon Van Paassen

Senior Investigator, NSF Centre for Bio-mediated and Bio-inspired Geotechnics

Leon van Paassen is Associate Professor at Arizona State University and Thrust Leader within the Center for Bio-mediated and Bio-inspired Geotechnics. He got his M.Sc. and Ph.D. from Delft University of Technology, The Netherlands. He has more than 20 years of experience in academia and industry developing bio-based ground improvement methods from lab to the field. He has co-authored over 100 peer-reviewed journal articles, technical reports and abstracts for conference proceedings, predominantly in the emerging field of biogeotechnics. Recently he gave up his tenured position at ASU for a part-time research affiliation and moved back to the Netherlands where he joined Boskalis, a large Dutch Dredging and Marine Engineering contractor.

Session 7: Cutting-Edge Advancements in Paving



Dr. Jo Sias, P.E.
Professor, University of New Hampshire

Dr. Jo Ellen Sias is a Professor in the Department of Civil and Environmental Engineering at the University of New Hampshire (UNH). She received her B.S. from UNH and M.S. and Ph.D. degrees in Civil Engineering from North Carolina State University before joining the UNH faculty in 2001. Her research focuses on characterization of asphalt materials, specifically with respect to recycling, cracking, and aging, and on the impacts of climate change on infrastructure. She is director of the UNH Center for Infrastructure Resilience to Climate (UCIRC) and co-director of the Infrastructure and Climate Network (ICNet). Dr. Sias is the current president for the Association of Asphalt Paving Technologists and is active in several Transportation Research Board committees. She holds the UNH Carpenter Professorship and is an associate editor for the International Journal of Road Materials and Pavement Design. In 2015, she was a Fulbright Fellow at the University of Nottingham, UK and is involved in several international organizations and collaborative activities.



Dr. Eshan Dave
Associate Professor, Civil & Environmental Engineering, University of New Hampshire

Eshan Dave obtained his M.S. and Ph.D. degrees from University of Illinois at Urbana-Champaign in Civil Engineering in 2003 and 2009 respectively. At present, he is Associate Professor in the Department of Civil and Environmental Engineering at the University of New Hampshire and Visiting Professor at the Université Gustave Eiffel in France. Eshan's research interests include performance evaluation of pavements and paving materials, development and implementation of performance based specifications, resilient design of transportation infrastructure, climate variability impacts on infrastructure longevity, life cycle assessment, and cold regions pavement operability and performance. He is actively involved in Transportation Research Board as a Committee Research Coordinator for AKT30 (Pavement Maintenance). Eshan is also leader for the RILEM cluster on bituminous material and pavements and Deputy Chair for the RILEM technical committee on Performance-based Asphalt Recycling. He is member of the board of directors for International Society of Asphalt Pavements (ISAP) and chair of the Technical Committee on Pavement Field Evaluation. He has recently led and participated in research studies on performance-based material selection, design and management of pavement infrastructure and climate-change adaptation strategies of road infrastructure.



Dr. Julie Vandenbossche
Professor, Civil & Environmental Engineering, University of Pittsburgh

Dr. Julie Vandenbossche is a William Kepler Whiteford Professor and Professor of Civil and Environmental Engineering at the University of Pittsburgh. She earned her BS and MS in Civil Engineering from Michigan State University and went on to pursue her Doctorate in Civil Engineering at the University of Minnesota. While at the University of Pittsburgh, she received the Professor of the year award, ASCE Pittsburgh Section (2013), and has authored numerous publications in the areas of pavement and concrete.



Dr. Ram Kumar Veeraragavan
Highway Technology Partners / Project Engineer, Federal Highway Administration

Dr. Ram Kumar is currently working as a Project Engineer at the Federal Highway Administration-Mobile Asphalt Technology Center (MATC) since Oct 2019. He has been associated with State DoTs in performance testing, evaluation, refinement, and implementation of Superpave performance prediction tests on hot mix asphalt at the national level. He has rich experience working with State DoT agency personnel and contractors on onsite field testing, asphalt plant operation, and safety. He has participated in conferences for knowledge dissemination to DoT personnel, helped fine-tune test protocols and quality assurance procedures through specification reviews, and provided technical support to National research initiatives on testing and use of new materials for improved performance of road infrastructure.

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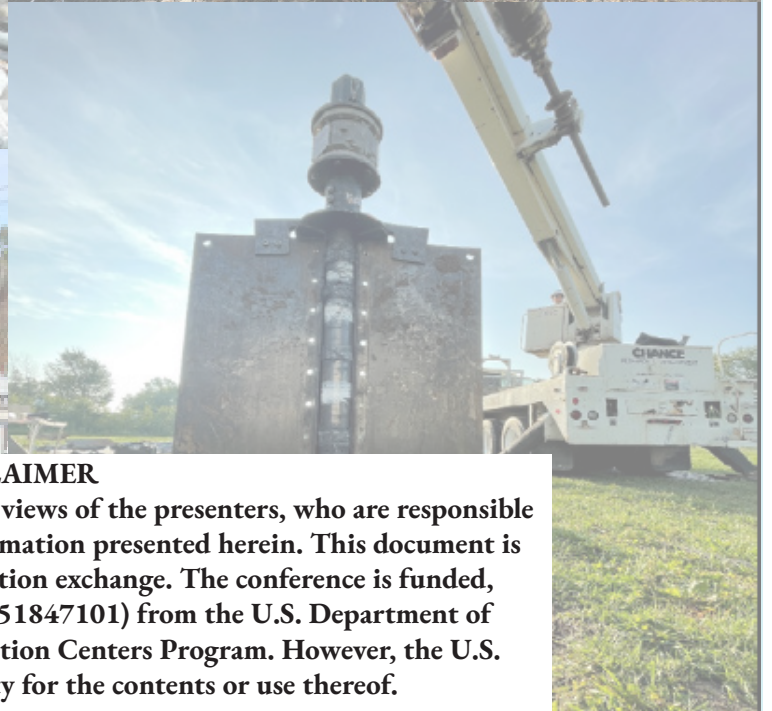
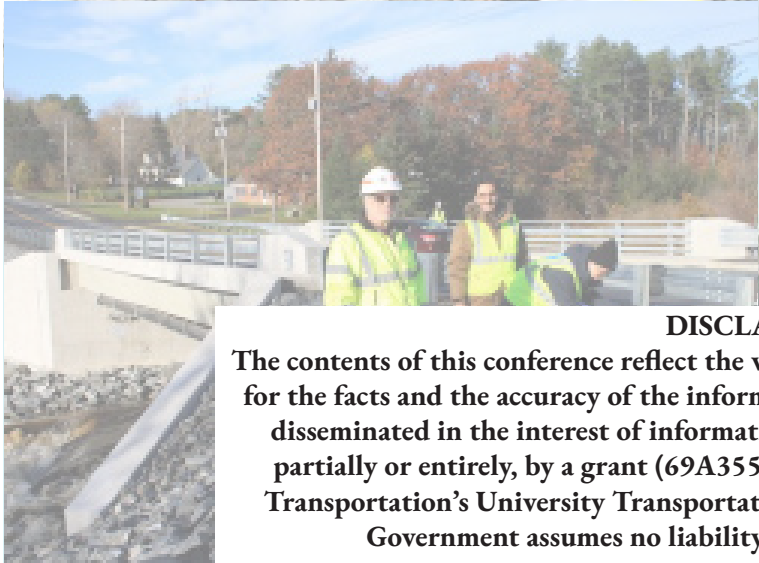
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NOTES



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