

2024 Emerging Leaders Alliance Conference for Young Professionals

Seven young professionals represented ACI during the Emerging Leaders Alliance (ELA) Conference, held September 22-25, 2024, at The Landing Hotel in Pittsburgh, PA, USA.

The ELA is a partnership among leading engineering and science-based organizations that provides high-quality leadership training. For the past 16 years, ELA has successfully hosted an interdisciplinary leadership conference for young professionals, providing advanced training in topics, such as management, personal branding, social styles, problem solving, presentation skills, and global diversity.

Applicants with less than 8 years of industry experience were required to submit a resume, nomination letter, and response to essay questions related to leadership.

The Class of 2024 Emerging Leaders Alliance included: Luca Galli, Research and Teaching Assistant, University of Miami, Coral Gables, FL, USA; Nima Khodadadi, Research Assistant, University of Miami, Coral Gables, FL; Samuel Matthews, Project Engineer, Foundation Systems Engineering, PC, Johnson City, TN, USA; Katey O'Quinn, Civil Engineer, Bureau of Reclamation, Denver, CO, USA; Karthik Pattaje, Associate Materials Engineer, Wiss, Janney, Elstner Associates, Inc., Northbrook, IL, USA; Sivakumar Ramanathan, Assistant Professor University of Miami, Coral Gables, FL; and Ivy Thibodeaux, Civil Engineer, Louisiana Coastal Protection and Restoration, Baton Rouge, LA, USA.

This is ACI's seventh year participating in the conference. Kanette Worlds, ACI Student, Faculty, & Young Professional Activities Coordinator, also attended the conference as a partner representative. Other partners included The American Institute of Mining, Metallurgical, and Petroleum Engineers (AIME); Association for Iron & Steel Technology (AIST); International Erosion Control Association (IECA); Society for Mining, Metallurgy, & Exploration (SME); Society of Petroleum Engineers (SPE); and The Minerals, Metals & Materials Society (TMS).

CIM's National Steering Committee Announces New Board

The National Steering Committee (NSC) for the Concrete Industry Management (CIM) program—a business-intensive program that awards students with a 4-year BS in concrete industry management—announced the election of its 2024-2026 officers and seven new or returning members to its Board of Directors.

The NSC officers include Chairman Karl Watson Jr., Chief Executive Officer, Baker Construction Enterprises; Vice

Chairman Bruce Christensen, President, Master Builders Solutions USA and Canada; and Secretary/Treasurer Heather Brown, Vice President, QC/QA, Irving Materials, Inc. All officers also serve on the Board of Directors. In addition to the officers, the NSC Board of Directors include: Steven Bishop, President/COO, Maschmeyer Concrete Company of Florida; Ben Blankenship*, Vice President, Sales – Texas, Ash Grove Cement Company; Steve Cox*, Vice President – Customer Success, Command Alkon; Kelly Curtis, Senior Vice President, Cement Sales & Logistics, Votorantim Cement North America; Paula Dunn, Director, Learning and Development, Sika Corporation; Brian Gallagher, Vice President, Corporate Development, Graycor; Julie Garbini*, Executive Director, Concrete Advancement Foundation; Douglas Guerrero, Chairman, CIM Patrons, California State University, Chico; Marti Harrell, Executive Director, Precast/Prestressed Concrete Institute Georgia/Carolina Region; Ray Hefner*, Executive Director, American Society of Concrete Contractors; Nicole Maher, Interim Executive Director, National Steering Committee; Guillermo Martinez Sans*, Executive Vice President Human Resources USA, CEMEX; John McDougall, Director of Business Development, Baker Restoration & Waterproofing; Paul Ozinga*, Executive Vice President, Ozinga RMC, Inc.; Andrew Pinkerton, Executive Director, Cement Council of Texas; Ben Robuck, Vice President – Infrastructure and Direct Work, CEMEX; Tom Strittmatter, Senior Vice President – Construction Chemicals, Sika Corporation; Pierre Villere*, Chairman and Senior Managing Partner, Allen-Villere Partners; and Tim Wrinkle, Product Manager, Mack Trucks.

Honorary Directors include David Vickers, Permian Basin Materials, LLC; Earl Keese, CIM National Steering Committee; and L. Michael Shydrowski, BASF Corporation.

*Indicates new and re-elected Board members.

ASTM International Pledges to Enhance Climate Resilience

During a panel discussion in New York, NY, USA on September 23, 2024, ASTM International Vice President, Global Cooperation, Teresa Cendrowska, discussed ASTM's commitment to the President's Emergency Plan for Adaptation and Resilience (PREPARE) Call to Action to the private sector. The event introduced a new cohort of organizations responding to the PREPARE Call to Action and showcased the ways key private sector entities support climate-vulnerable communities.

The panel took place during New York Climate Week. John Podesta, Senior Advisor to U.S. President Joe Biden for International Climate Policy, spoke at the event. Nisha Biswal, Deputy CEO of the U.S. Development Finance Corporation

(DFC) also spoke. The panel was moderated by Gillian Caldwell, U.S. Agency for International Development (USAID) Chief Climate Officer.

During her presentation, Cendrowska outlined how ASTM pledges to enhance climate resilience through several key initiatives, including:

- Creating and revising standards to help communities transition from identifying climate vulnerabilities to taking concrete adaptation actions. This includes developing standards for climate and community mapping, nature-based flood mitigation, property resilience, flood-resistant building materials, climate risk management, sustainable agriculture, and smart textiles;
- Providing access to its standards at no cost through its Memorandum of Understanding program. ASTM will also partner with companies and other PREPARE partners to develop new standards that meet the needs of climate-vulnerable communities in developing countries, leveraging its global network and consensus-based process; and
- Developing an online repository of case studies showcasing how voluntary technical standards have been applied in emerging economies to enhance climate resilience. ASTM will also compile a database of over 700 standards from 65 organizations to support the Disaster Resilience Scorecard for Cities of the United Nations Office for Disaster Risk Reduction to help cities move from assessment to action.

For more information, visit www.astm.org.

In Remembrance

Kevin Wolf, FACI, of Gresham, OR, USA, passed away earlier this year at the age of 67. He was retired from the CalPortland Cement Company where he served as the Director of Technical



Wolf

Services in the Pacific Northwest and Canada. He was responsible for managing the Technical Services and Quality Assurance lab for that region.

He became a member of ACI in 1987, and served on ACI Committees 301, Specifications for Concrete Construction; 304, Measuring, Mixing, Transporting, and Placing Concrete; 332, Residential Concrete Work; and 522, Pervious Concrete. He also served on ASTM International Committees C01, Cement, and C09,

Concrete and Concrete Aggregates, and was past Chair of the Technical Committee for the Oregon Concrete and Aggregate Producers Association.

Wolf received his technical education at Mt. Hood Community College, Gresham, OR, where he studied civil engineering technology and where the concrete industry caught his interest.

After starting his career working at an independent testing lab for 2 years, he went to work for CalPortland. This began his over 40-year tenure as a Cement and Concrete Technician, gleaned information from ACI journals and using all the opportunities at ACI meetings and at other professional venues to expand his knowledge of

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cement and concrete. His technical interests included cement and supplementary cementitious materials, hydration, and the advancement of concrete as the highly technical building material it is.



Mejía-Borrero

ACI member **José Miguel Mejía-Borrero** of Bayamón, Puerto Rico, passed away September 29, 2024, at the age of 30. He served as Vice President of the ACI Puerto Rico Chapter and was set to become the next president of the Chapter. He was a member of the ACI Chapter Activities Committee and ACI Committees S806, Young Member Activities; 134, Concrete

Constructability; 325, Concrete Pavements; and 327, Roller-Compacted Concrete Pavements.

Mejía-Borrero had more than 7 years of experience, most

of which was spent in the construction of concrete and asphalt pavements for the SJU International Airport. His passion for his work in concrete will always be remembered. He was committed to the educational and professional growth of university students—the future of Puerto Rico.

He received his BS in civil engineering from Universidad Politécnica de Puerto Rico, San Juan, Puerto Rico, in 2018.

Dyke Starnes of Raleigh, NC, USA, passed away on August 31, 2024, at the age of 78. He was a member of ACI Committee 439, Steel Reinforcement, and ACI Subcommittee 439-A, Steel Reinforcement-Wire.

Starnes received his BS in civil engineering from North Carolina State University, Raleigh, NC, and completed studies for a Master of Engineering from Old Dominion University, Norfolk, VA, USA. He worked as a professional engineer for 48 years, and was employed by Insteel Wire Products, Mount Airy, NC for most of his career.



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Pushing Boundaries Along the Road to Net Zero

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The cement and concrete industry faces the challenges of climate change head-on, with leaders recognizing the need for increased sustainability in both products and processes. Achieving net-zero emissions requires a holistic approach, involving multi-faceted adjustments throughout the supply chain. Heidelberg Materials, a global player in the industry, is actively implementing innovative measures to reduce its environmental footprint, encompassing plant and product improvements and availabilities, and the integration of carbon capture, utilization, and storage (CCUS) technologies.

Innovations in Low-Carbon Cement

The initial focus of carbon reduction efforts in the cement industry involves producing lower carbon cement and developing the availability of supplementary cementitious materials (SCMs). Heidelberg Materials has introduced several products, such as new slag cement and fly ash facilities, EcoCemPLC™ and EcoCem®PLUS, which demonstrate a smaller environmental footprint than ordinary portland cement. For instance, EcoCem®PLUS is a blended portland limestone cement that reduces carbon footprint by over 22% compared to ordinary portland cements. Most of the North American Heidelberg Materials cement plants have transitioned to producing EcoCemPLC™ as its primary product.

EcoCem®PLUS, produced in Alberta, Canada, offers both strength and durability while significantly lowering the carbon footprint of concrete. The Mitchell Cement Plant and Terminal in Indiana, began operation in 2023, exemplifies a new standard for cement production, significantly reducing energy usage, fuel consumption, and emissions per ton of cement produced.

Carbon Capture and Storage Initiatives

Heidelberg Materials is actively engaged in carbon capture initiatives, emphasizing investments in site characterization, carbon capture, and storage. The Mitchell plant received funding for a front-end engineering design study retrofitting Mitsubishi Heavy Industries America's carbon capture technology. Mitchell could potentially store up to two million tons of carbon per year. Additionally, the Mitchell CarbonSAFE project, in collaboration with the University of Illinois, aims to safely store over 50 million metric tons of CO₂ over 30 years. Heidelberg Materials recently finalized award negotiations with the U.S. Department of Energy's (DOE) Office of Clean Energy Demonstrations (OCED) with a total OCED cost share of up to \$500 million. The funding supports successfully completing the Front-End Engineering and Design (FEED) work necessary to verify the Mitchell CCUS project's technical feasibility. Heidelberg Materials' award is part of OCED's Industrial Demonstrations Program providing up to \$6 billion in funding to demonstrate commercial-scale decarbonization solutions needed to move energy-intensive industries toward net-zero across the U.S.



Mitchell IN plant gains D.O.E demonstration Grant up to \$500M.

In Edmonton, Canada, Heidelberg Materials is working on North America's first industrial full-scale CCUS solution in the cement industry. This transformative program aims to address Scope 1, 2, and 3 emissions, reducing emissions across plant production, energy creation, and downstream processes.

Overcoming Older Specifications

One challenge in adopting lower carbon solutions is the industry's reliance on prescriptive specifications, mandating mix recipes. To facilitate the expansion of low-carbon solutions, there's a need for flexibility and a shift toward performance-based metrics. Integrating carbon budget goals into project specifications can encourage the use of lower-carbon solutions, aligning with initiatives in cities like Portland and Vancouver to procure lower-carbon concretes through material and building-level strategies.

Collaboration for a Net Zero Future

In conclusion, achieving net-zero carbon in the cement and concrete industry requires a combination of strategies, including low-carbon cement, producing more SCMs, developing alternative SCMs, moving to alternative fuel and power sources, and carbon capture. Heidelberg Materials is at the forefront of these efforts, partnering with public and private entities, emphasizing collaboration across the industry, and setting ambitious goals to achieve net-zero emissions by 2050, if not earlier.