

# ACI President Spotlight: Maria Juenger

From an undergraduate researcher to ACI President

**M**aria Juenger, FACI, began her term as the 102nd ACI President at the conclusion of the ACI Concrete Convention – Spring 2025 in Toronto, ON, Canada. Juenger is Professor and Ernest Cockrell, Jr. Centennial Chair in Engineering #2 in the Fariborz Maseeh Department of Civil, Architectural and Environmental Engineering at The University of Texas at Austin (UT Austin), Austin, TX, USA. Her teaching and research efforts are focused on materials used in civil engineering applications. She primarily examines chemical issues in cement-based materials, including phase formation in cement clinker, hydration of cements and supplementary cementitious materials (SCMs), and chemical deterioration processes in concrete.

## First Research Projects

Juenger began her academic journey at Duke University in Durham, NC, USA, where she received her BS in Chemistry and Spanish. During her freshman year, a classmate approached her with a newspaper ad offering free rent of an apartment in exchange for participation in various types of research projects. Juenger signed up for the program and selected pharmacology research as her interest because that area of study was the closest to chemistry.

“Little did I know that that basically meant animal research,” Juenger said. “I learned that I didn’t want to do research on rats, but that I do like research and the process of it. I like the people who are in the labs, and that was the positive take for me.”

She spent the following summer working at the University of Arizona in Tucson, AZ, USA, in an organic chemistry lab that was materials-chemistry related because at that point, she knew she wanted to study materials. From that experience, her love of research was reinforced, but she was still unsure if she had found the right field. “I wasn’t sure I wanted to deal with organic chemistry,” Juenger said of that experience.

## First Encounter with ACI

Juenger continued her journey to find her passion by attending graduate school at Northwestern University, Evanston, IL, USA, where she studied under her advisor,



Maria Juenger, ACI President, 2025-2026

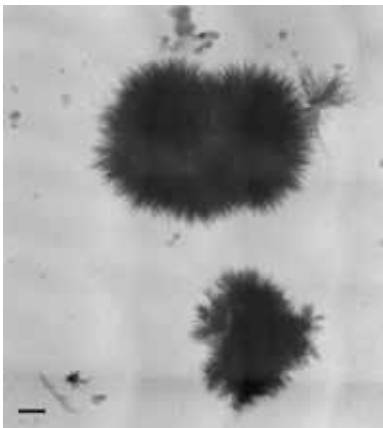
Professor Hamlin Jennings. With her chemistry background in material science, Juenger described that work. “I never touched an aggregate, and everything I ever did was on the order of 5 to 20 g—really tiny stuff.”

At the time, Northwestern University hosted the National Science Foundation’s Center for Advanced Cement-Based Materials (ACBM), a research consortium founded by ACI Honorary Member Surendra Shah. The center comprised researchers with diverse skill sets, including expertise in civil engineering, material science, geology, physics, and chemistry, from multiple universities and the National Institute of Standards and Technology (NIST). “He pulled people into studying cements and concrete that were not normal cement and concrete people. As part of this initiative, he trained a lot of students,” Juenger said of Shah.

Around this time, Shah and others had proposed that ACI should create a committee with a similarly diverse membership; and in 1996, ACI Committee 236, Material Science of Concrete, was established. ACI Past President



Maria Juenger and her undergraduate chemistry research advisor at Duke University, the late Richard A. Palmer, in 1994



This image taken with the XM-1 soft X-ray transmission microscope at the Advanced Light Source (ALS), E.O. Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA, USA, shows C-S-H growing on portland cement particles. Scalebar is one micrometer

David Lange, a previous student at the ACBM Center, served as the inaugural Chair of the committee. During Juenger's last year at Northwestern University, the ACI Concrete Convention was held in Chicago, IL, in March 1999. The convention's theme was High Performance Concrete, and ACI Committee 236 and ACBM organized two of the event's 21 sessions on that theme (12 papers were published in SP-189, including the paper "Using Nitrogen Adsorption to Quantitatively Study Microstructure of Cement Pastes" by Juenger and Jennings).

"That year it was actually closer for me to get on the train and go to the convention that day than it was for me to go to campus in Northwestern," Juenger said. "So I went to the convention, I went to the session, and that's it." However, it took a few more years for Juenger to become an active ACI member.

## Research Journey Continues

Juenger continued her academic work at the Department of Civil and Environmental Engineering at University of California, Berkeley (UC Berkeley), Berkeley, CA, USA, as Postdoctoral Researcher. There was a lot of large-scale testing, and this is where she began scaling up from paste to mortars



The Center for Advanced Cement Based Materials (ACBM) brought together researchers across fields and institutions to study the materials science of concrete. The center was led by Professor Surendra Shah at Northwestern University (far right). Other ACBM faculty in this picture from 1997 (from left to right) are Francis Young (University of Illinois at Urbana-Champaign), Hamlin Jennings (Northwestern University), and David Lange (University of Illinois at Urbana-Champaign)

(her first aggregates) to study alkali-silica reactions and fiber-reinforced systems. Although she was starting to use some aggregates, it was all still on a pretty small scale. "I got to do what I wanted to do when I first chose to go—to work on this synchrotron light source microscope that looks at things that are really tiny." Juenger was still not engaged with ACI during her 3 years at UC Berkeley.

## Reintroduction to ACI

Things changed when Juenger interviewed at UT Austin, where she was asked if she would be attending ACI conventions. "UT Austin has a strong tradition of participation in ACI," she said. Notably, there have been three ACI Past Presidents from the university, including Phil M. Ferguson (1959), James O. Jirsa (2000), and Sharon Wood (2015). Furthermore, the two current ACI Vice Presidents, Scott Anderson and Matt Sherman, both received their graduate degrees from UT Austin.

"So, the expectation was to come to ACI," Juenger continued. "And what I found when I came here is that I knew people." She found a welcoming and supportive community of former Northwestern students and professionals from UT Austin and UC Berkeley. They helped guide her to committees where she could learn and contribute. When she began making new professional connections, she realized that because of ACI Committee 236, there was a group of people at ACI that were like her. Juenger also attributes Women in ACI as pivotal for creating and maintaining a welcoming and inclusive environment.

As she became more engaged with ACI, Juenger hesitated to continue the big time and financial commitment that her participation required. She credits Kim Kurtis, FACI, as being

her role model as she balanced memberships on the ACI Educational Activities Committees and Technical Activities Committees with her responsibility of chairing committees.

"I asked her why she gave so much to ACI. Her response is something I will never forget. 'I give to ACI because of what ACI gives to me.' ACI gives us a community where we can share ideas, learn from each other, make impactful contributions to the concrete industry, and make friends. We receive recognition for our work and have the opportunity to help the next generation of industry leaders," Juenger said. Juenger's network of people continued to grow and expand as she continued attending ACI conventions. "I have really valued what this community has brought," she said.

### Presidential Goals

Juenger highlighted some of the goals in ACI's newly released Strategic Plan that resonate with her starting with "Enhance the ACI Experience." The task group that wrote the plan, led by ACI Vice President Scott Anderson, recognized ACI's need to "Deliver engaging, valuable membership experiences. Attract, engage, and support young members. [And] Foster a vibrant, inclusive community." Juenger noted that people come to ACI for these experiences, and she is eager to help ACI meet these expectations.

"As many of you know, the core of ACI are the volunteers. If we did not have volunteers, we would not have ACI," Juenger said.

Part of fostering an inclusive community is embracing ACI's international members and partners. ACI has an international presence in the increasingly interconnected world, and the strategic plan recommends that the Institute "Engage Globally" as a goal. Juenger is excited to work with ACI to further its global engagement by expanding to key international locations, promoting ACI documents in other languages and customizing them where appropriate, and increasing translations efforts and international participation.

Juenger noted another goal of the strategic plan that is near and dear to her professional interests, "Advance Resiliency and Sustainability." She has been researching and advocating for sustainable cements and SCMs for over 20 years. She is invested in helping ACI influence global efforts on the sustainability and resiliency of concrete.

"I want to thank the ACI community for this opportunity to lead and guide ACI toward its strategic goals. I'm looking forward to hearing your ideas and working with you," Juenger said.

She is happy to engage with the membership. If you have any questions, email [askthepresident@concrete.org](mailto:askthepresident@concrete.org).

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