

Industry Impact, Part 1

Through the ACI Foundation's Fellowship and Scholarship Program

by Veronica Nehasil, Ann M. Masek, and Chandice Moore

Since the ACI Foundation's establishment in 1989, the organization has striven to influence a future where everyone has the knowledge needed to use concrete effectively to meet the demands of a changing world. For decades, ACI and the ACI Foundation have been supporting students studying in concrete-related fields—making strategic investments in ideas, research, and people to create the future of the concrete industry—which is exemplified in the tagline “Building the Future.”

Over the last two decades, the ACI Foundation's Fellowship and Scholarship Program has been steadily growing. During that time, the program has helped fund the education of over 330 up-and-coming industry professionals by seeking out and awarding financial aid to high-potential students with varied career pursuits from across the United States, Canada, Mexico, the Middle East, and North Africa.

In early 2022, the Foundation began the process of gathering, compiling, and organizing data from the last 20 years on its Scholarship program's impact, not only on ACI but on the concrete industry as a whole—including overall industry retention of ACI Foundation awardees, their continued involvement within ACI, their meaningful contributions to the concrete industry, and the legacies of mentorship shared from awardee to awardee.

The Foundation Fellowship and Scholarship Program fundamentally provides financial aid to deserving students for tuition and school expenses, along with optional industry mentorship. Fellowship finalists and awardees are also invited to attend ACI Conventions within their award cycle for recognition and additional networking opportunities.

Given the program's emphasis on providing a holistic experience for students and a path to ACI participation, it comes as no surprise that the data shows a 93% overall

industry retention rate for both ACI Foundation Fellowship and Scholarship recipients since 2002.

These awardees have contributed greatly to advancing the industry and ACI, working across sectors including research and education, concrete restoration and repair, design, code improvement, and more. They have, in turn, become mentors to up-and-coming concrete professionals, and their work, expertise, and dedication uplift communities and make concrete safe and sustainable.

The Foundation sat down with several past awardees to hear about their journeys of receiving their award, establishing themselves in their careers, their impact on the concrete industry, and their plans for the future. Their stories are as follows:

Supporting Young Members



Anahid Behrouzi is a two-time ACI Foundation Fellowship awardee, receiving the Presidents' Fellowship and Tribute to the Founders Fellowship in 2014 and 2015, respectively. She was first introduced to ACI and the Foundation through her involvement in the ACI Student Chapter at the University of Illinois Urbana-

Champaign, Urbana, IL, USA, and her faculty advisor, Daniel Kuchma, a Professor of civil and environmental engineering at Tufts University, Medford, MA, USA, and an active ACI member. While attending her first ACI Concrete Convention, Behrouzi was introduced to then-Scholarship Council members Tyler Ley and John Schemmel, who encouraged her to maintain her involvement with ACI committees.

“I got hooked from there,” she said. “I felt like they had

trust in me and were encouraged when they gave me their time. At that point, ACI S805 [Student and Young Professional Activities Committee] was run by faculty, but John [Schemmel] wanted to transition it to being student-run—and they asked me to be Secretary. I felt that everyone was very supportive, and I actually had a place where my voice could be heard.”

Behrouzi is now an Associate Professor of architectural engineering at California State Polytechnic University, San Luis Obispo, CA, USA, where she specializes in reinforced concrete and earthquake engineering. She has written and contributed to over 30 scholarly articles and research papers dealing with the seismic performance of reinforced concrete; engineering education; and diversity, equity, and inclusion (DEI) in the engineering sector.

Her activity within ACI includes refining the Foundation’s Fellowship and Scholarship program to provide even more opportunities for students and encouraging the ACI community to embrace students and the young professional members of ACI. Behrouzi has also made significant contributions to the ACI Professors’ Workshop and Women in ACI.

Behrouzi went on to detail the impact of not only receiving financial support from the ACI Foundation but also career support in the form of industry mentorship, which offered her inspiration and guidance as she started her career in the concrete industry.

“Ron Klemencic [CEO of Magnusson Klemencic Associates] was my mentor initially, then he introduced me to Anne Ellis [CEO of Ellis Global]. I am fortunate when extremely busy industry leaders make time to meet with me at every convention. When you feel like you’re a part of a family, you want to pay it forward,” she said.

Staying Involved in ACI



“Completing a PhD is a leap that you take when you don’t really know if you’re going to make it,” Tyler Ley, FACI, said. “But the fact that ACI supported me, invested in me, and believed in me; that was a really big deal.”

As an undergraduate at Oklahoma State University, Stillwater, OK, USA, Ley attended a forum led by concrete materials specialist, ACI Past President, and U.S. Army Corps engineer Bryant Mather, who spent his career and life pursuing excellence in concrete. “I knew about concrete, but I didn’t really know about concrete—and the presentation made the hair on my neck stand up for two days,” Ley recalled.

Recipient of the 2005-2006 Foundation Student Fellowship, Ley is now a Regents Professor and the Gilbert, Cooper, W&W Steel Chair in Civil and Environmental Engineering at Oklahoma State University. He is also the proud creator of a successful concrete-focused YouTube Channel, www.youtube.com/tylerley. This channel aims to

educate people of all ages about the wonders of concrete and engineering. Ley has endorsed countless applicants for ACI Foundation student awards, made himself indispensable as a mentor to a broad range of awardees over the years, delivered over 250 technical talks, and developed tools to evaluate concrete durability and mixture quality. He is Chair of ACI Subcommittee 211-I, Assessing Aggregate Gradation, and actively contributes to nine other ACI committees.

Ley made a point of recognizing the impact of his many mentors over the years, both while he was completing his education and during his career. “I keep coming back to ACI Conventions for all the great people that attend the meeting. I’ve received so much mentorship and so much opportunity from ACI. This mentorship is a fundamental part of ACI,” he said. Just connecting with the ACI community offers informal mentoring through networking, knowledge transfer, and educational and career opportunities for students and young professionals.



Enriching Community through Design

Kyle Dunning was the 2011 recipient of the Baker Student Fellowship, the 2012 recipient of the Bertold E. Weinberg Scholarship, and has worked at Walter P Moore, Austin, TX, USA, for over 10 years. Dunning has already assisted on many major infrastructure projects and was recently made a Principal at the company.

“What I’ve found the most rewarding is the impact I can personally have on the built environment around me—and we’re very fortunate that Austin is a very active market,” he said. “There’s a lot of building diversity that I get to contribute to. We’ve worked on the university arena and football stadiums here in town, as well as courthouses and hospitals. So, these big projects that the public interacts with every day are ideally adding value to the community and enriching their lives. Being able to innovate on the structure system but also provide a reliable and safe structure is very rewarding.”

Dunning states that his biggest career accomplishment thus far has been serving as the lead structural and design engineer at the Texas Children’s Hospital in Austin, which opened in February 2024. “Just seeing that go from the early design and innovation phase to construction, and now to getting ready to open with nurses and doctors already testing out the space is really exciting,” he said.

Dunning also sits on an internal sustainability committee at Walter P Moore, which explores research topics such as new and upcoming systems for concrete, recycled aggregates, and carbon tracking in general for the company’s designs.

“It’s all about figuring out what’s achievable and what we can implement. The building industry is very comfortable with things the way they are, and making a pitch to change the process and introduce something new can be scary. But it can

also be very rewarding. A goal of mine is to keep pushing the decision-makers and funders of projects to try new things and to hopefully reap the rewards.”

Contributing to Sustainability through Repair



Heather Todak received her ACI Foundation Scholarship in 2015 as a graduate student at Purdue University, West Lafayette, IN, USA, and soon after began working as an Associate with Wiss, Janney, Elstner Associates, Inc. (WJE). “My ACI involvement picked up when I first began my career at WJE, and as a young associate, the company was

really supportive of me getting involved with technical committees early on,” she said.

“My graduate research involved the use of nondestructive testing (NDT) methods, which is the part of my work I’m most passionate about. Within the first couple years of my career, I got involved in ACI Committee 228, Nondestructive Testing of Concrete, and related technical committees and subcommittees. Looking back, I think that involvement has helped guide my whole career path. Now NDT is a big part of my professional practice, and I’m an active contributor for several technical committees and subcommittees that are focused on NDT and repair of concrete,” Todak stated.

Todak also serves as Chair of ACI Subcommittee 228-B, Visual Condition Survey of Concrete, which prepared the new ACI PRC-228.4-23, “Visual Condition Survey of Concrete—Guide,” released in late 2023.

“In nondestructive evaluation, a lot of our work involves trying to better understand internal concrete conditions or potential defects that are not visible. I’ve had a few projects where we’ve been called into some challenging situations by building owners or contractors, and we have been able to clearly identify the extent of an issue and implement a repair strategy that the whole project team is confident in. And in a lot of cases, the alternative to that approach would be demolition and rebuilding. Being able to use these techniques to help prevent significant concrete waste is personally rewarding,” she said.

She is actively involved in the ACI Foundation Scholarship Council; ACI Committee C691, Nondestructive Concrete Specialist Certification; and ACI Committee E905-TG1, GPR Document, for the development of a ground-penetrating radar (GPR) certification workbook, among several others. Todak also contributes to Women in ACI and serves as a Board member and Chair of the Concrete Awards Committee for the ACI Southern California Chapter.

Getting young associates involved in ACI is critical for them to gain knowledge about concrete, grow their network, and sustain our global community that collaborates to create information on the best use of concrete. “Involvement with ACI helps get your name out there alongside some of the most influential people and brightest minds in whatever your area

of interest might be. Connecting with that community is invaluable for a successful career, and it can help guide your work in the direction that you are most passionate about,” Todak stressed.

Updating Codes to Contribute to Safety



Kevin Mueller was the 2009 and 2010 recipient of the Kumar Mehta Scholarship for Sustainable Concrete. The financial assistance allowed him to expand his studies into involvement in ACI and be a part of work he was excited about, especially code improvement.

“I started attending meetings of [Joint ACI-TMS] Committee 216, Fire Resistance and Fire Protection of Structures, early on in graduate school and continued once I graduated. Now, I serve as Chair. My first job was at a protective design firm, where I designed for blast and vehicle impact and other extreme loads on buildings. That prompted me to get involved with the blast community at ACI, where I joined [ACI] Committee 370, Blast and Impact Load Effects. Things just snowballed from there,” he said.

In addition to serving on ACI Committee 133, Disaster Reconnaissance, he was invited to contribute to ACI Subcommittee 562-F, Fire, while they were revising the code.

Mueller also serves on the ACI Foundation Scholarship Council, “It is a perfect avenue to help give back to ACI. The Foundation really jumpstarted my involvement [in ACI] by allowing me to go back to conventions during grad school and use that to further my career.”

Mueller now works as an Associate for Thornton Tomasetti and specializes in protective design and extreme impacts on concrete structures, such as blast, impact, and fire. He has been a consultant on projects across all sectors, including major defense research at Pantex and Naval Air Weapons Station China Lake.

“All the companies that I see represented [at ACI Conventions], to me, are the top companies in the country. When you don’t see people represented, it makes you wonder why aren’t they involved, and why aren’t they trying to be at the forefront? To be a part of this industry, you need to help support the other side of it, which is all the technical committee work, guides, standards, and codes,” Mueller said.

Involving Young Professionals



Alvaro Ruiz Empanza, recipient of the 2019 ACI Presidents’ Fellowship, began his educational path in Spain and Germany and later moved to the United States to complete his PhD at the University of Miami, Coral Gables, FL, USA.

“My advisors were the current ACI President, Antonio Nanni, and the

Manager of the Structures and Materials Center at the University of Miami, Francisco De Caso. They both pushed me to get involved in activities other than my research,” Empananza said. “They were always saying: Doing research is great, studying is very good, but you need to get out of the box. You need to network and get involved in professional organizations so that you make an impact in the ‘real world.’”

Within months of moving to Florida, and under the mentorship of Nanni and De Caso, Empananza signed up to become a student member of ACI and was invited to present his research at the ACI Concrete Convention – Fall 2017; since then, he has never missed an opportunity to attend.

Empananza has spent his early career highly involved with the ACI Foundation Development Committee, the ACI Student and Young Professional Activities Committee, and eight additional ACI committees, including ACI 440, Fiber-Reinforced Polymer Reinforcement. He has worked extensively with the ACI Foundation Scholarship Council Subcommittee, Award Promotion & Student Engagement, to refine their mentorship program. He is currently Chair of ACI Subcommittee S806, Young Member Activities.

As an active young professional, he imparted what he believes is the best advice for students who wish to gain a better foothold with ACI and the industry: “If your advisors grant you the opportunity to attend the [ACI] Conventions, select the committees that best align with your interests and attend their meetings; sit at the front, engage with the committee chair, and be readily available to contribute.”

“At the end of the day, the younger people are the ones that are going to be leading the Institute. You need to show that willingness to be there and to contribute,” Empananza advised.

Supporting Current Students



Dana Tawil, winner of the 2023 Daniel W. Falconer Memorial Fellowship, is a Structural Engineer in her third year of doctoral research at the University of Ottawa, Ottawa, ON, Canada. She’s passionate about concrete restoration and letting her interests guide her career.

“It’s not just about design. It’s not just about doing something innovative; you must have a passion toward what you’re doing, otherwise you won’t want to advance [the area] or keep pushing forward. The more passionate you are, the more meaningful your research is,” Tawil said.

Tawil currently has three supervisors for her research: Beatriz Martín-Pérez, University of Ottawa, and a member of the ACI Committee 222, Corrosion of Metals in Concrete; and Martin Noël and Leandro Sanchez, also from the University of Ottawa—all of whom encouraged and supported her effort in applying for an ACI Foundation Fellowship.

“When I received this award, I felt a responsibility. I feel like I have a responsibility to keep advancing this field

because you see how much effort people put into creating and supporting the awards,” she said.

Tawil’s award also included an internship with the ACI Engineering Department, which she completed in November 2023.

“My internship with ACI was an eye-opening journey that surpassed my expectations. Coming from a background deeply rooted in concrete design and research, the challenges presented during the internship were both different and stimulating. Aside from contributing to the development of artificial intelligence software for retrieving information from ACI documents, participating in committee meetings provided me with a profound understanding of the detailed processes that occur behind the scenes before information is published. This exposure widened my perspective and allowed me to appreciate the comprehensive efforts involved in shaping our industry standards and advancements. Every aspect of the internship did indeed contribute to my professional growth,” Tawil said.

“Dana was a great help to the Engineering Department during her time with ACI,” Mike Tholen, ACI Senior Managing Director of Technical Operations, said.

“One of her tasks was to evaluate artificial intelligence software that could help ACI by looking through ACI documents to answer technical questions. She did an excellent job and clearly presented her work to the Engineering team and IT staff, allowing us to provide feedback to the software developer to improve the product. Dana was a great addition to the team for the short time she was at ACI, and we look forward to seeing her at future conventions.”

Elevating Our Infrastructure Systems



Recipient of the Foundation’s W.R. Grace Scholarship in the 2008 cycle, **Robert Moser** has recently been invited to add his expertise to the Foundation’s Scholarship Council. “Looking back, and I didn’t really think about it until I joined the Scholarship Council, but I think I’ve been a member of ACI for almost 20 years now. A lot of my professors had

a strong engagement with ACI, which spurred me to get involved. ACI rolled out its free student membership several years ago, and that’s definitely something students should take advantage of. It’s a great opportunity to get access to resources and a community that will help your technical and career interests,” he said.

Moser was awarded a scholarship from the ACI Georgia Chapter around the same time that he received his Foundation scholarship. It was then that he was introduced to then-ACI President David Darwin, with whom he is currently collaborating with on concrete dam resilience projects.

Moser currently works as a Senior Scientific Technical Manager at the Engineer Research and Development Center (ERDC)—the research and development (R&D) arm of the

U.S. Army Corps of Engineers. The ERDC specializes in the R&D of infrastructure systems, environmental systems, energy, force protection, Arctic engineering, construction activities, geospatial mapping, and remote sensing technology for other federal departments—specifically the Department of Defense.

“I work in the Geotechnical and Structures Laboratory, which does most of our work in construction, materials, and structural engineering. Historically, some of the biggest names in the concrete community, including past ACI leadership, have come out of the group in the Katharine and Bryant Mather Building that I started with. We have a strong agency interest in collaboration with ACI. Most of what we reference is from ACI, and a lot of the things that we may be doing in our construction practice or developing through our R&D programs need ACI as a conduit to have a much broader impact,” Moser said.

Concrete and infrastructure are not only Moser’s career, they’re also his passion.

“You hear the statistic all the time—[concrete] is the most used material in the world behind water. There’s about a cubic yard of concrete dedicated to your existence somewhere in the world—from the road you drove on to get to work and the piping and utility systems that got water to your house to brush your teeth in the morning, to the bridges, protective structures that are in dangerous places in the world protecting our soldiers’ lives, and hydropower dams that are providing clean energy. Concrete is everywhere and enables everything that we do. And although everybody has bright ideas for things that we can do with other materials and whatnot, there’s nothing that’s going to replace what concrete does. Concrete

of the future may look a little different, but there’s nothing that’s going to replace concrete.”

Selected for reader interest by the editors.



Veronica Nehasil is a Junior Program Coordinator and Database Developer with the ACI Foundation. She frequently writes or contributes to the Foundation’s *Concrete International* articles. Nehasil received the 2021 College of the Atlantic Bill Carpenter Award for Writing. She received her BA in human ecology from the College of the Atlantic, Bar Harbor, ME, USA.



Ann M. Masek is the Executive Director of the ACI Foundation and a Certified Association Executive. She has worked in the concrete industry for 26 years. She has been building and leading the ACI Foundation team (an amazing staff of five plus dozens of excellent volunteers) for the last decade in support of a wide range of research, innovation, and educational initiatives that facilitate progress in the concrete construction industry.



Chandice Moore is a Program Manager for the ACI Foundation. She administers the ACI Foundation Fellowship and Scholarship Program, which serves the concrete industry by awarding fellowships and scholarships to high-potential students in concrete-related graduate and undergraduate degree programs.

Apply for a Scholarship or Fellowship

Applications open July 1, 2024. Visit www.ACIFoundation.org for details on how to prepare. Scholarship awards are 5000 USD for tuition; Fellowship awards are 10,000 USD for educational expenses and expenses to attend ACI Conventions.

Sign up for Concrete SmartBrief

**The smart way to stay
on top of concrete
industry news.**

Created by SmartBrief in partnership with ACI, Concrete SmartBrief provides a daily e-mail snapshot of the concrete industry with news from leading global sources. Summaries of what matters to you, written by expert editors, to save you time and keep you informed and prepared.

Welcome to Concrete SmartBrief; sign up at:

www.smartbrief.com/ACI