

aci[®] Foundation Fellowships and Scholarships for 2023-2024

Nineteen fellowships and 14 scholarships were awarded to students from 27 different institutions

The ACI Foundation announced its 2023-2024 Fellowship and Scholarship recipients. The ACI Foundation is a nonprofit subsidiary of the Institute that promotes progress, innovation, and collaboration in the concrete industry through strategic investments in research, scholarship, and ideas. With the help of generous donors from the concrete community, the ACI Foundation strongly supports students joining the field of concrete and becoming the industry's key designers, engineers, construction managers, and contractors. The ACI Foundation is leading the way to ensure a sustainable, successful future for the concrete industry through intentional and focused investments in ideas, research, and people. Since the inception of the Foundation's Fellowship program in 2008, the ACI Foundation has provided financial support, mentorship, and internship opportunities to over 275 students.

ACI Foundation Fellowships

The ACI Foundation Fellowships are offered to high-potential undergraduate and graduate students in engineering, construction management, and other appropriate curricula who are endorsed by an ACI member. The purpose of the Fellowship program is to identify, attract, and develop outstanding professionals for productive careers in the concrete field. During the academic year, each student will receive a 10,000 USD educational stipend (15,000 USD for the Daniel W. Falconer Memorial Fellowship), paid travel expenses and attendance fees to attend two ACI Concrete Conventions, and assistance in finding an industry mentor. The recipients include:

ACI Foundation Concrete Materials Fellowship

Sherryen Mutoka is pursuing her PhD at the University of Notre Dame, Notre Dame, IN, USA, working in the Kinetic



Mutoka



Londo

Structures Laboratory under the direction of ACI member Ashley Thrall. Her research interests include the accelerated fabrication of civil infrastructure in which steel and concrete are the primary materials. Mutoka is investigating various approaches to be used in reinforcing three-dimensional (3-D) printed concrete walls by conducting full-scale experiments along with developing numerical models of the walls.

After graduating, she plans to become a practicing engineer and join a design firm that provides resilient designs using innovative solutions, such as bendable concrete. Additionally, she hopes to use the knowledge acquired through her research and industry experience to advance building codes.

ACI Foundation Concrete Practitioner Fellowship

Avery Londo is attending Montana Technological University, Butte, MT, USA. During a research project to design a sustainable concrete by cement replacement with cow dung ash, she became fascinated by the mixture design aspect of concrete. In 2022, Londo found another opportunity to learn more about mixture proportioning as mixture design captain of the American Society of Civil Engineers (ASCE) Student Chapter concrete canoe team.

This year, Londo plans to start an ACI chapter at the



Struck



Uddin



Rezaee



Hays



Hassan

university to inspire interest in concrete and to further educate her peers. After college, she will pursue a career in structural engineering. In preparation for and during her career, she plans to become involved with ACI Committees 301, Specifications for Concrete Construction, and E702, Designing Concrete Structures.

ACI Foundation Fellowship

Noah Struck is a structural engineering graduate student at the University of Minnesota, Twin Cities, Minneapolis, MN, USA. A course on prestressed concrete design sparked his ambition for a career in the design of transportation-related concrete structures.

Struck increased his technical knowledge of concrete structural design during an internship with Kimley-Horn's structures team this past summer. While working for Kimley-Horn, he had an opportunity to design reinforced concrete drilled shaft foundations for high mast light poles, create a 3-D model of a reinforced concrete spread footing for a wayfinding sign, and inspect concrete bridges and parking structures for maintenance and repair assessments. The design experience provided a deeper knowledge of concrete design software.

ACI Foundation Fellowship

Mohammad Jobaer Uddin is a doctoral student in civil engineering at Oklahoma State University, Stillwater, OK, USA. Under the supervision of Tyler Ley, FACI, he is researching the impact of mixture design parameters on the fresh properties of concrete by investigating rheological properties, slump, and finishability. He has established some fundamental parameters that allow for a nearly 20% reduction in the carbon footprint of concrete by using optimal gradation and admixture dosage. Uddin is also working on a novel testing method for determining the workability of slipform concrete.

Following the completion of his PhD, Uddin intends to work in the ready mixed or admixture industries to conduct research and development. He is also interested in serving on ACI Committee 309, Consolidation of Concrete.

ACI Foundation Fellowship

Saida Rezaee is a reinforced concrete researcher in the Department of Civil and Environmental Engineering at the University of Waterloo, Waterloo, ON, Canada. Her master's

research is investigating the feasibility of using steel fibers to reduce the amount of reinforcing bars in the top mat of bridge decks. Her long-term career goal is to work as a structural engineer in the concrete industry.

Rezaee has worked as a bridge engineering associate at the Ministry of Transportation Ontario, performing structural design calculations for multiple highway bridges to determine possible rehabilitation solutions. Additionally, she has been an assistant project manager in the construction industry and observed the process of constructing mid- to high-rise residential buildings at different stages of completion.

ACI Foundation Future Concrete Industry Leader Fellowship

Jenna Hays is a civil engineering student at Northern Arizona University, Flagstaff, AZ, USA. Her goal is a structural engineering career in the concrete industry. She is conducting undergraduate research with a structural engineering professor to investigate the performance of glass fiber-reinforced polymer material when used in couplers as a sustainable alternative to steel material couplers used to connect spans of reinforcing bars in concrete.

During the school year, Hays is employed as a supplemental instruction leader, which is a peer tutor, for the Applied Mechanics Statics course. She is also an officer of the school's ASCE chapter. During summers, she works as an intern at Coffman Engineers back home in Alaska.

ACI Foundation Middle East & North Africa Fellowship

Habibelrahman Hassan is a graduate student at the American University of Sharjah (AUS), Sharjah, UAE, working on his master's degree thesis on concrete 3-D printing (C3DP). His senior capstone research project involved developing a polyethylene fiber-reinforced concrete mixture with specific rheological requirements and then testing its fresh and hardened properties. Hassan worked as a research assistant, helping with laboratory work to investigate the substitution of cement with varying percentages of different industrial wastes on the behavior of 3-D printable concrete mixtures. As an undergraduate at AUS, he was a member of the founding executive board of the ACI AUS Student Chapter and attended the ACI Concrete Conference on Innovation held in Dubai, UAE.



Baten



Boyle



Acuna



Hogarth



Tawil



Godinez

ACI Presidents' Fellowship

Bayezid Baten is pursuing his PhD at the University of Illinois at Urbana-Champaign (UIUC), Urbana, IL, USA. His research interests include developing low-cost and eco-friendly ultra-high-performance concrete (UHPC) using innovative materials and efficient optimization. The goal of the research is to optimize particle packing as an efficient way to ensure low-cement UHPC with low cost and high mechanical properties. He is a member of the ACI UIUC Student Chapter.

After graduation, Baten intends to join the concrete industry and mentor young researchers to contribute to infrastructure development and state-of-the-art research work. In close association with the professional community, his goal is to develop UHPC as a sustainable construction material and promote its application in ensuring more durable infrastructure.

Baker Student Fellowship

Colin Boyle attends Cornell University, Ithaca, NY, USA. During his freshman year, ACI Honorary Member Ken Hover became his mentor and research advisor. After a semester of training, Boyle began leading a research project, funded by Thalle Industries Inc., to create a concrete mixture that would neutralize contaminated soil from underground gas leaks. Using the excavated soil and biochar as aggregates, the research team designed a controlled low-strength mixture that eliminates pollution and can be put back into the trench and easily excavated during future projects. The promising results allowed Boyle and the research team to write a technical report to present to Thalle Industries that successfully gained funding for the upcoming academic year.

Barbara S. and W. Calvin McCall Carolinas Fellowship

Paul Acuna is pursuing his PhD at North Carolina State University (NCSU), Raleigh, NC, USA. He is investigating the use of carbon fiber-reinforced and glass fiber-reinforced polymers as the primary source of both prestressed and passive reinforcement for concrete structures. The project involves a case study of a multispan, nonsteel reinforced bridge that is being constructed in the Outer Banks area of North Carolina. The data and results from this project are expected to support the enhancement of codes and standards, such as the recently released ACI CODE-440.11-22: Building Code Requirements for Structural Concrete Reinforced with Glass Fiber-Reinforced

Polymer (GFRP) Bars—Code and Commentary. Acuna is a member of the ACI NCSU Student Chapter and serves as a graduate advisor and a Supplemental Examiner for the ACI Concrete Field Testing Technician – Grade I certification.

Charles Pankow Foundation Student Fellowship

Katie Hogarth is pursuing her PhD in civil engineering at Idaho State University (ISU), Pocatello, ID, USA. Her interest in concrete was inspired by Mustafa Mashal during her undergraduate and graduate coursework. Working on research projects at the ISU Engineering Research Complex encouraged Hogarth to pursue a career in concrete. The thesis of her master's research focused on the innovation of coupling beams, specifically double-beam coupling beams, and increasing their sustainability in an earthquake. This involved seismic testing of the specimen and analyzing the product. Her PhD research focuses on seismic retrofit of bridge piers that incorporate a telescoping pipe connection. Increasing the longevity and sustainability of infrastructure is something that intrigues her as a career.

Daniel W. Falconer Memorial Fellowship

Dana Tawil is pursuing her PhD in civil engineering at the University of Ottawa, Ottawa, ON. Her doctoral research involves the condition and structural assessment of transversely prestressed infill slabs retrieved from the well-known Champlain Bridge in Montréal, QC, Canada, after 57 years in service. The work entails a detailed evaluation of the extent of corrosion damage in the slabs prior to testing them for structural capacity and failure mode to link structural behavior to material deterioration. Finally, a management protocol will be developed, enabling optimized maintenance and rehabilitation techniques for similar bridges. Tawil is committed to advancing the concrete industry by identifying and addressing its crucial knowledge gaps in forensic engineering.

Darrell F. Elliott Louisiana Fellowship

Sergio Godinez is pursuing his PhD at the University of California San Diego (UCSD), San Diego, CA, USA. The focus of his research is the nonlinear seismic response of high-rise reinforced concrete structures. Godinez is investigating the use of macro-elements to predict the force distribution on reinforced concrete floor diaphragms in



Kohany



Valmassoi



Mayorga Gallegos



Broyles



Garcia



Merejildo Santiago

nonlinear time-history analyses. His long-term goal is to work at a research-oriented university and serve as part of an institution focused on the evaluation of design guidelines for concrete structures. Godinez also has a passion for teaching, which he has been able to develop at UCSD as an instructional assistant for undergraduate and graduate courses, and as the instructor of an undergraduate course.

Don Marks Memorial Fellowship

Timothy Kohany is a structural engineering graduate student at Manhattan College, Bronx, NY. He has completed summer internships at a structural engineering firm. Kohany assisted in the design of a bridge replacement. By using as-built drawings and creating 3-D models, his team calculated precise locations for the center of gravity for each pick and determined the available strength of the concrete during suspension. This required calculating a weight takeoff of the existing superstructure and its supporting piers. This value would determine what size crane would be used to lift out the old sections and where to position the cuts of both the concrete deck and girders to optimize the number of picks.

JoAnne K. and Cecil L. Jones Carolinas Fellowship

Samuel Valmassoi is pursuing his master's degree in structural engineering and mechanics at North Carolina State University (NCSU). He has worked as an undergraduate research assistant with Rudolf Seracino, FACI, at the NCSU Constructed Facilities Laboratory, primarily on research related to the Harkers Island bridge replacement. This project will replace two 50-year-old bridges with a new single-span bridge that will be the first in North Carolina to be entirely reinforced with fiber-reinforced polymer (FRP) composites rather than steel.

As a future designer, Valmassoi is excited about the prospect of using FRP to design and build more resilient and sustainable structures. He plans to continue research with the goal of increasing our understanding of FRP-reinforced concrete structures.

Nicholas F. Maloof, Jr. GA Chapter ACI Fellowship

Carlos Franco Mayorga Gallegos is pursuing his PhD in structural engineering at the University of California San Diego. He has continued taking courses related to the seismic design of reinforced concrete (RC) structures and started working

with ACI member Georgios Tsampras on developing a design methodology for high-performance building systems in which seismic protection devices are installed in connections between the floor diaphragm and the RC walls to limit the transferred forces. The inclusion of these connections avoids the complex interaction and stress concentration observed in RC monolithic connections and reduces the structural seismic responses and their dispersion. The proposed design methodology considers model calibration, numerical nonlinear analyses, and the ACI 318 design requirements.

Robert F. Mast Memorial Fellowship

Johnathan Broyles is a graduate student at Penn State University, State College, PA, USA. His long-term career goal is to advance the design of concrete structures as a faculty member with an institution or in a research and development position in the industry to study how more sustainability can be integrated into building design. His research is focused on reducing embodied carbon emissions (ECe) to provide strategies for structural engineers to calculate the ECe of different concrete floors, including reinforced concrete and post-tensioned systems, with the goal of determining the most efficient structural and sustainable design solution. Broyles plans to participate in ACI subcommittees that assess the sustainability of concrete in computational tools and design.

S.P. Shah Fellowship

Marina Garcia is a PhD Student at Purdue University, West Lafayette, IN, focusing on carbon-neutral concrete. As an undergraduate student, she attended the Spanish Association for Structural Engineering Conference. The conference provided an opportunity to network with concrete experts and learn about the concrete industry and its future, which inspired her career path. Garcia became a bridge engineer for K2 Engineering, a civil engineering firm in Spain, and worked on various international projects. During her master's program, she became familiar with ACI. Seeing the magnitude of the ACI community and the opportunities given to young researchers in the United States, she decided to move abroad and pursue a higher education degree with a focus on concrete.

Tribute to the Founders Fellowship

Anabel Merejildo Santiago is beginning her PhD studies in civil engineering at the University of Puerto Rico at



Chen



Mueller



Mohammed



Weiksnar



Mansour

Mayagüez, Mayagüez, Puerto Rico, focusing on transportation engineering. Her first hands-on experience with concrete was participating in the ACI Pervious Concrete Cylinder Student Competition in 2015. Later, she served as President of the ACI Polytechnic University of Puerto Rico Student Chapter. Merejildo Santiago is now President of the ACI Puerto Rico Chapter. For 7 years, her professional career has involved testing concrete. Her master's thesis was on integrating constructability into concrete pavements. After finishing her PhD, she looks forward to educating the transportation industry on the importance of concrete and helping improve outdated construction techniques.

ACI Foundation Undergraduate and Graduate Scholarships

Funded primarily through donations, the ACI Foundation administers these scholarships, which are offered to high-potential, undergraduate or graduate students. During the academic year, each student will receive a 5000 USD educational stipend to their institution for tuition, residence, books, and materials.

Recipients of the 2023-2024 ACI Foundation Scholarships are:

ACI Foundation Scholarship

Sandy Chen is pursuing a master's degree at the University of Toronto, Toronto, ON. A past student of ACI Honorary Member Ken Hover, her area of research is determining the properties of a new European cement and its feasibility in the North American construction industry. Her project is directly tied to concrete sustainability because this European cement has a lower carbon footprint due to its high supplementary cementitious material (SCM) content. She is very interested in the sustainability aspect of concrete because the concrete industry needs to evolve to stay current. In her long-term concrete industry career, Chen plans to continue in academia and pursue a PhD in concrete materials. Ultimately, she wants to continue learning and growing with the concrete industry.

ACI Foundation Scholarship

Timothy Mueller, a PhD Student at the University of Florida, Gainesville, FL, USA, is working on projects pertaining to evaluating concrete tub at-grade railroad crossings, and also a nondestructive testing (NDT) project looking at the evaluation of crossties (including concrete) by

backscatter radiography. With experience in innovative technologies such as 3-D printing and evaluating structures using NDT techniques, Mueller looks forward to a career in forensic engineering. This field is one that can combine his many developed skills and interests. He finds that many of the problems seen in the industry often have engaging combinations of problems including both structural- and material-rooted issues.

ACI Foundation Scholarship

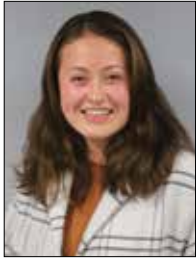
Tijani Mohammed is a PhD Student in materials science, engineering, and commercialization at Texas State University, San Marcos, TX, USA. His research is mainly focused on sustainability, reducing carbon emissions, alternative cementitious materials, and SCMs. During his master's program, Mohammed worked on reducing CO₂ emissions with the incorporation of SCMs. He used 50 and 70% fly ash as a substitute for normal cement and studied various engineering properties. Mohammed's long-term goal is to impact society through sustainable development, taking advantage of by-products, waste, and recycled materials to save and preserve natural resources for future use. He also aspires to become an academic educator in engineering.

ACI Foundation Scholarship

Kate Weiksnar is a student at the University of Florida studying a hybrid of environmental and civil engineering. Her focus is on the development and monitoring of portland cement concrete mixture designs incorporating municipal solid waste incineration bottom ash as an aggregate substitute. Weiksnar plans to build on her successes and continue to advance her high-impact niche of concrete and solid waste management research. Through these efforts, she strives to do her part to decarbonize the concrete industry. After she receives her PhD, she hopes to continue doing research in a national laboratory setting to apply her experiences to solve challenging national security problems, such as optimizing concrete materials for nuclear reactor containment and nuclear waste disposal.

Bernard Erlin Memorial Scholarship

Moustafa Mansour is a PhD Student at The University of British Columbia – Okanagan, Kelowna, BC, Canada. His thesis is focused on the application of composite materials in



Murphree



Stark



GeethaRani



Dodd



Majano

seismic retrofitting of concrete columns. The research will explore new techniques to solve seismic deficiency in columns. During his undergraduate studies, Mansour participated in two research projects in two different fields of concrete: seismic retrofitting of concrete structures and geopolymer concrete technology. Mansour is a member of ACI Subcommittees 440-F, FRP-Repair-Strengthening, and 549-K, FRCM/SRG Material Characteristics. He is also the Communications Manager for the Canadian Society for Civil Engineering (CSCE) Student Competitions Committee. As a teaching assistant, he has taught over 440 students. Throughout his academic journey, he seeks to contribute to the advancement of concrete practices and industry.

Bertold E. Weinberg Scholarship

Madeleine Murphree is pursuing her master's degree at the University of Florida. She is researching mass concrete durability for a project sponsored by the Florida Department of Transportation (FDOT). This research will directly influence FDOT's mass concrete specifications. Murphree interned at Wiss, Janney, Elstner Associates, Inc., where she worked closely with experienced materials scientists to consult on concrete durability issues. With her mentor, she started the ACI University of Florida Student Chapter. She served as the Chapter's Vice President and Design Team Lead, before being elected President. Murphree hopes to continue at the forefront of the concrete industry by attending ACI Concrete Conventions and joining technical committees, such as ACI Committee 207, Mass and Thermally Controlled Concrete.

Katharine & Bryant Mather Scholarship

Micah Stark is a PhD Student at Texas A&M University, College Station, TX. During his PhD program, his goal is to find opportunities to reduce the impact of concrete structures in two ways: making structural designs more efficient and finding ways to apply carbon-reducing material technologies directly and easily into structural designs. Stark has started research into rapid-setting and high-early-strength binders that look to reduce construction time and emissions associated with it. He plans to work in sustainability consulting for structural engineers, helping design novel solutions to reduce the environmental impact of concrete structures, or to continue in academia conducting research and teaching sustainable technologies to the next generation of structural engineers.

Master Builders Solutions Concrete Materials Scholarship

Nithya Nair Vijayakumaran Nair GeethaRani is pursuing her PhD at The University of Texas at Arlington, Arlington, TX. For her thesis, she is working on a U.S. National Science Foundation (NSF) funded project, aiming to achieve better control of the carbonation of alkali-activated materials (AAM). GeethaRani will be using bio-inspired approaches to control the carbonation of AAM mixtures. Marine organisms can convert CO₂ into biogenic materials, especially CaCO₃, the most abundant biomineral, and this process is termed biomineralization. Controlling the crystallization of inorganic CaCO₃ with organic molecules has also been shown to produce "organic-inorganic" hybrid phases with remarkable strength, toughness, and resilience. Her research work focuses on the CO₂ sequestration in slag cement-based cementitious systems using bio-inspired materials. The development of such material compositions can help improve sustainability by reducing atmospheric CO₂ and contribute toward achieving the global net-zero emission goals.

Nick Bada – ACI Ontario Chapter Graduate Scholarship

Jeremy Dodd is a graduate student at Western University, London, ON. He received two undergraduate research awards from the Natural Sciences and Engineering Research Council of Canada (NSERC) and Western University. These awards helped him initiate his research activities in collaboration with Stephenson Engineering, Toronto, ON, of examining the structural behavior of novel smart-floor systems. For his master's project, he is considering examining the potential use of shape memory alloys in the connections of precast concrete floor systems. This research will lead to a floor system that is easy to construct, environmentally friendly, and sustainable. A passionate structural engineering student, he hopes to use his passion to pursue a career in the concrete industry and develop improved, sustainable, and safer designs.

Richard D. Stehly Memorial Scholarship

Ariel Majano is studying in the Concrete Industry Management (CIM) program at the New Jersey Institute of Technology (NJIT), Newark, NJ, USA. He participated in an internship program at Hunter Roberts Construction Group based in New York, NY. He worked under the construction



Snitzer



Kamal



Hicks



Rider

management staff, specifically the superintendents, and was assigned to create a matrix to track the specific curtain wall anchor plates that would require grout. Majano is President of the ACI NJIT Student Chapter and plays a big role in involving new students, as well as current members of the chapter, in competitions, conventions, and school activities during the semester. As a past ACI Foundation Future Concrete Industry Leader Fellowship recipient, he wants to show other students that they, too, can reach great success through the ACI Foundation.

Roger S. Johnston Memorial Scholarship

William Snitzer is an undergraduate student at Arizona State University, Tempe, AZ. His interest in concrete began in a concrete materials science course where he studied topics such as concrete chemistry and field practices, and where he received his ACI Concrete Field Testing Technician – Grade I certification. He participated in the ASCE student competition on the Arizona State heavy civil team and is now the captain of Arizona State's team and coaches younger students on concrete structures and asphalt materials, estimates, and methods of construction. He is also President of the ACI Arizona State University Student Chapter. In January 2021, he started working for a heavy civil contractor that serves the Arizona, New Mexico, and Texas Departments of Transportation.

Schwing America Scholarship

Meraj Rubayat Kamal is pursuing his research career in construction materials and is a PhD Student at The University of British Columbia – Okanagan. He is working on developing nano-modified high-performance concrete with recycled materials. He is also doing research on several projects: Tolko Industries Ltd. for the use of wood fly ash as an SCM, Klad Surfaces for glass fiber-reinforced concrete (GFRC) with recycled glass as a sand replacement, and Twente-am for 3-D-printed concrete with wood fly ash. In addition, he is the Marketing Team Chair for the Wilden Living Lab project, a research and learning initiative for sustainable home building, where he serves as a liaison with different industry partners and stakeholders.

Stewart C. Watson Memorial Scholarship

Cameron Hicks is pursuing his master's degree in architectural engineering with an emphasis on structural

engineering at Kansas State University, Manhattan, KS, USA. He is working on his master's thesis on extruded recycled plastic as a partial coarse aggregate replacement in concrete beams. Hicks is designing the experiment where he will create 12 ft (4 m) long beams with different types of reinforcement and plastic aggregate replacements. Based on previous tensile and compression cylinder testing, there will be three control beams, three beams with 15% replacement, and three beams with 30% replacement. Beams will be designed so that some fail in shear, flexure, and crushing to see the impacts of the plastic replacement. The ability to store plastic in concrete mixtures will greatly reduce plastic waste around the world.

W. Gene Corley Scholarship

Bo Rider is pursuing his master's degree at Cornell University. His coursework, extracurriculars, and employment have focused on concrete. His relationships with passionate, engaged faculty sparked his interest in concrete, and their mentorship compelled him to pursue a graduate degree and career in concrete engineering. He intends to use his graduate education to contribute to the concrete industry by conducting progressive research while teaching the next generation of concrete engineers. He served as the Lead of the Cornell Concrete Canoe project team. He also completed an internship at Arup in New York, NY. Rider is currently Vice President of the Cornell ASCE Student Chapter.

Apply Online

ACI Foundation Graduate and Undergraduate Fellowships and Scholarships are available to applicants whose studies relate to concrete. The online application for the 2024-2025 academic year will open on July 5, 2023, and close on November 1, 2023. Visit www.acifoundation.org/scholarships for eligibility rules and submission instructions.

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