Yaghoob (Amir) Farnam, PhD ***Curriculum Vitae***

Professor, Drexel University
United States Fulbright Scholar to Belgium, 2023-24

Dept. of Civil, Architectural & Environmental Engineering
Dept. of Materials Science and Engineering, Affiliated Faculty Member
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OVERVIEW

Dr. Farnam is a professor at Drexel University where he performs fundamental and applied research on the development of advanced, novel, and sustainable materials for civil infrastructure. Some examples of Dr. Farnam's research include development of thermal-responsive self-heating concrete, durable concrete, multifunctional bioinspired construction materials, microbial self-healing concrete, lightweight aggregate from waste glass and coal combustion ash, and advanced manufacturing of construction materials. In conjunction with his position at Drexel, Dr Fanam is co-founder and senior technical advisor in SusMaX Inc (Sustainable Materials Exploration), a Drexel University Spin-out Company supported by the Drexel Applied Innovation Office and National Science Foundation (NSF). In SusMaX, Dr. Farnam attempts to transfer technology and research developed in his lab to industry to address societal challenges in infrastructure materials. He has been involved in multiple projects related to enhancing the performance of infrastructure materials sponsored by the National Science Foundation (NSF), Defense Advanced Research Projects Agency (DARPA), Department of Education (DoE), Pennsylvania Department of Community and Economic Development, Pennsylvania Department of Transportation (PennDOT), United Soybean Board, Compass Minerals Inc., Drexel University, Portland Cement Association, and many more. He is an active member of the American Concrete Institute (ACI), the International Union of Laboratories and Experts in Construction Materials, Systems and Structures (RILEM) and the Transportation Research Board (TRB). Dr Farnam is the recipient of the prestigious 2023-2024 United State Fulbright Scholar to Belgium. He is also a recipient of multiple awards such as the Drexel University Innovation and Early Career Award. His professional membership includes RILEM, ACI, ACerS, AEWG, TRB, ASCE, ASEE, and ASTM. He is also an editorial member of ASCE and ACI peer-reviewed journals.

EDUCATIONS

2015-2016	Postdoc in Civil/Materials Engineering	Purdue University	W. Lafayette, IN
2012-2015	PhD in Civil/Materials Engineering	Purdue University	W. Lafayette, IN
2005-2007	MSc in Civil Engineering	University of Tehran	Tehran, Iran
2001-2005	BSc in Civil Engineering	K.N.T. Uni. of Technology	Tehran, Iran

APPOINTMENTS

- Professor, Department of Civil, Architectural and Environmental Engineering, Drexel University, Philadelphia, PA — 09/2025 – present
- Associate Professor, Department of Civil, Architectural and Environmental Engineering, Drexel University, Philadelphia, PA — 09/2022 – 08/2025
- Affiliated Faculty Member, Department of Chemical and Biological Engineering, Drexel University, Philadelphia, PA — 07/2024 – present
- Affiliated Faculty Member, Department of Materials Science and Engineering, Drexel University, Philadelphia, PA — 04/2018 – present
- Co-Founder & Senior Technical Advisor, SusMaX Inc, Philadelphia, PA — 08/2020 – present
- Visiting Professor, Ghent University, Belgium — 01/2024 – 06/2024
- Assistant Professor, Department of Civil, Architectural and Environmental Engineering, Drexel University, Philadelphia, PA — 09/2016 – 08/2022
- Visiting Investigator, Louisiana Transportation Research Center, Louisiana Department of Transportation and Development, LSU, Baton Rouge, LA — Summer 2018

- Postdoctoral Fellow, Purdue University, West Lafayette, IN 09/2015 – 07/2016
- Visiting Instructor, Purdue University, West Lafayette, IN 09/2015 – 12/2015
- Research/Teaching Assistant, West Lafayette, Purdue University, IN 09/2012 – 08/2015
- Research Scholar, University of Sherbrooke, Sherbrooke, CANADA 09/2010 – 08/2012
- Technical/Project Manager, Construction Materials Institute, University of Tehran, Tehran, IRAN 02/2008 – 08/2010

AWARDS AND HONORS

- The United States Fulbright Scholar Fellowship Award to Belgium, 2023-24 2023
- Outstanding Innovation Award from the Drexel College of Engineering 2023
- Finalist, Moore Foundation Fellowship 2023
- RILEM SMARTINCs Outstanding Research Award 2023
- Outstanding Early-Career Award from the Drexel College of Engineering 2021
- Best Paper Award from the Journal of the American Ceramic Society 2020
- Third Place Poster Award in the Fall 2020 ACI Virtual Convention 2020
- Drexel University Nominee for the Prestigious 2020-2021 Moore Inventor Fellows 2019
- Drexel University Faculty Summer Research Award 2018
- Drexel University Coop Office of the Provost Research Award 2017
- Purdue University College of Engineering Outstanding Research Award 2015
- Purdue University Civil Engineering Graduate Research Award 2015
- Portland Cement Association Education Foundation's J. P. Gleason Fellowship 2014
- Purdue University William L. Dolch Award 2014
- Quebec MELS Merit Research Fellowship (FQRNT) 2012
- University of Sherbrooke Institutional Scholarship 2011
- University of Sherbrooke Institutional Scholarship 2010
- University of Tehran Best Master's Thesis Award 2008
- American Concrete Institute (ACI) Bowling Ball Student Competition 2nd Place Award 2004
- Honors from the Iranian Minister of Science, Research and Technology 2004
- Honors from the President of K.N. Toosi University of Technology 2004
- American Concrete Institute Concrete (ACI) Cube Student Competition 1st Place Award 2003

PUBLICATIONS

Google Scholar Metrics: **Citations > 3800** **h-index = 32**

(Indicates Presenting Author and ** Indicates Undergraduate Students Mentored by Dr. Farnam)*

(i) Peer-Reviewed Journal Papers:

Since Joining Drexel University:

Under Preparation:

J1. S. Visvalingam, G. Hsuan, and **Y. Farnam** (Under Preparation) Evaluation of Alkali Silica Reaction Potential of WCCA/WG-Based LWAs for Concrete Applications.

J2. Irfan MI Iqbal, G. Mishra, I. Verdu, Lee HW, P. Namakiaraghi, L. Meng, C. Sales, A. Raeisi Najaf M. Hubler, Y. Farnam, Enhancing microbial induced calcite precipitation in Cementitious composites cracks: The Synergy of microchannels and hydrogels.

J3. G. Mishra, M.I. Iqbal, N. Lilan, Y. Farnam, Enhancing Concrete Vasculature: Tailored Approaches Through Chemical and Polymer Treatment.

J4. G. Mishra, N. Lilan, M.I. Iqbal, I. Verdú, E. Yen, Y. Farnam, Assessment of self-sealing behavior of vascularized concrete using hydrogel-biological agent assisted approaches.

J5. Y. Alqenai, and Y. Farnam (Under Preparation), Leaching potential of WCA-LWA and concrete made using WCA-LWA according to LEAF.

J6. M. Houshmand, CM. Sales, CL. Schauer, A. Najafi, **Y. Farnam** (Under Preparation), Mechanical Performance of Cementitious Composites Reinforced with Advanced Multi-Purpose Self-Healing Polymeric Fiber (bioFiber).
J7. Y. Alqenai, B. Tejuoso, and **Y. Farnam** (Under Preparation), Assessing Freeze-Thaw Damage of Internally Cured Concrete Using Pre-Saturated Coal Ash Based Fine Lightweight Aggregates.
J8. P. Risdanareni, M. Olivia, Y. Alqenai, B. Tejuoso, G. Mishra, and **Y. Farnam** (Under Preparation), Healing Mortar with Coal Ash-Based Lightweight Aggregates as Bacterial Protector.

Under Internal Review:

J9. S. Visvalingam, N. Lilan, P. Kirabo, J. Baxter, G. Hsuan, and **Y. Farnam** (Under Internal Review), Production of Lightweight Aggregate (LWA) Using Blend of Waste Coal Combustion Ash (WCCA) and Waste Glass (WG) via Sintering: Understanding the effect of WCCA chemical and mineralogical composition.
J10. Y. Alqenai, B. Tejuoso, and Y. Farnam (Under Preparation), Assessing the performance of internally cured concrete using pre-saturated lightweight ceramics manufactured from landfill condition waste coal ash.
J11. L. Meng, H.W. Lee, A. Ashkpour, M.I. Iqbal, C. Sales, **Y. Farnam**, M. Hubler, A. Raeisi Najafi (Under Internal Review), A revisited strength-based phase field method for studying fracture initiation and propagation.
J12. H.W. Lee, Meng L., Ashkpour A., Sadighi A., Irfan Iqbal M., Pour-Ghaz M., Hubler M., Sales C., **Farnam Y**., Raeisi Najafi A. (Under Internal Review), Experiment study and phase field modeling of split tensile test on cementitious cylinder implemented with channel.

Submitted and Under Journal Review:

J13. P.N. Darma, I. Verdú, S. Musfirah, E. Alston, M. Pourghaz, **Y. Farnam**, M.H. Hubler, A.R. Najafi, C.M. Sales (Under Journal Review), Applicability of Electrochemical Impedance Spectroscopy for Monitoring Enzyme-Induced Carbonate Precipitation in Agar, Submitted to the Journal of Sensors and Actuators B: Chemical.
J14. P. Risdanareni, V.A. Kusuma Dewi, R.A. Wahyuono, J.J. Eka Putri, M. Olivia, **Y. Farnam**, N. De Belie (Under Journal Review), Potential Use of Fly Ash Based Nano Silica as Mineral Additive to Improve the Mechanical Properties of Self-Healing Mortar, Submitted to the Journal of Case Studies in Construction Materials.
J15. M. Houshmand, A. Rahmaninezhad, CM. Sales, CL. Schauer, A. Najafi, **Y. Farnam** (Under Journal Review), Self-healing Mechanism and Crack-filling Performance of Multifunctional Bacteria-laden Fiber (bioFiber) in Cementitious Matrix, Submitted to the Journal of Cement and Concrete Composites.
J16. S. Visvalingam, S.K. Moeller, J.B. Baxter; Y.G. Hsuan, Y. Farnam (Under Journal Review), Effect of Fe_2O_3, C, and sintering temperature on the pore structure of lightweight aggregate fabricated via sintering a blend of waste coal combustion ash and NaOH, Submitted to the Journal of Materials in Civil Engineering, ASCE.

Accepted or In Press:

J17. Robin Deb, Mo Balapour, **Y Farnam** (Tentatively Accepted), Scale-up framework to manufacture waste coal ash based lightweight aggregate, Submitted to the Journal of Building Engineering, Elsevier.
J18. Y. Alqenai, M. Zooyousefin, M. Balapour, S. Visvalingam, Y.G. Hsuan, **Y. Farnam** (Tentatively Accepted), A Systematic Approach to Recycling Landfill Condition Waste Coal Ash into High-Performance Lightweight Aggregates for Internal Curing of Concrete, Submitted to the Journal of Materials in Civil Engineering, ASCE.
J19. Y. Alqenai, M. Zooyousefin, and **Y. Farnam** (Accepted), Evaluating the Influence of Ring Formation and Deposit During Sintering of Landfill-Condition-Coal-Ash Based Lightweight Aggregates, Submitted to the International Journal of Applied Ceramic Technology.
J20. R. Deb, S. Visvalingam, and **Y. Farnam** (Accepted), Assessment of Real-time Freeze-thaw Durability of Concrete Pavements containing Low-temperature Phase Change Materials, Submitted to the International Journal of Pavement Research and Technology, Springer.

In 2025:

J21. R. Deb, M.I. Iqbal and **Y. Farnam** (2025), Evaluating Long-term Thermal and Chemical Stability and Leaching Potential of Low-temperature Phase Change Materials in Concrete Slabs Exposed to Outdoor Environmental Conditions, Journal of Materials and Structures, Springer, Volume 58, Issue 1, Pages23, doi: 10.1617/s11527-024-02545-1.
J22. H.W. Lee, S.A. Rahmaninezhad, L. Meng, W.V. Srubar, C.M. Sales, **Y. Farnam**, M.H. Hubler, A.R. Najafi (2025), Prediction of microbial-induced calcium carbonate precipitation for self-healing cementitious material,

Cement and Concrete Composites, Elsevier, Volume 158, April 2025, 105945, doi: 10.1016/j.cemconcomp.2025.105945.

J23. H.W. Lee, M. Li, A. Ashkpour, A. Sadighi, M.I. Iqbal, M. Pourghaz, M. Hubler, C. Sales; **Y. Farnam**, A.R. Najafi (2025), Sensitivity of embedded channel for self-healing agent delivery on splitting tensile strength of concrete, Journal of Building Engineering, Elsevier, Volume 102, May 2025, 111838, doi: 10.1016/j.jobe.2025.111838.

J24. A. Sadighi, S. Kerrane, A., H.W. Lee, L. Meng, M.H. Khaneghahi, S.A. Rahmaninezhad, D. Kamireddi, **Y. Farnam**, C. Sales, C.L. Schauer, and A.R. Najafi (2025), Phase-field modeling of fracture and healing in biofiber-reinforced concrete, International Journal of Mechanical Sciences, Elsevier, Volume 301, September 2025, 110447, doi: 10.1016/j.ijmecsci.2025.110447.

J25. P. Namakiaraghi, I. Verdú, A. Rahmaninezhad, S. Musfirah, M.H. Hubler, A.R. Najafi, C.M. Sales, and **Y. Farnam** (2025), Microbial-Induced Stable Iron Mineral Production for Corrosion Mitigation Application in Reinforced Concrete, Cement and Concrete Composites, Elsevier, Volume 163, October 2025, 106214, doi: 10.1016/j.cemconcomp.2025.106214.

J26. P. Namakiaraghi, E. Yen, and **Y. Farnam** (2025), Using lattice and hollow architected polymeric reinforcement to improve flexural performance of cementitious composite, Construction and Building Materials, Elsevier, Volume 487, 142124, doi: 10.1016/j.conbuildmat.2025.142124.

J27. R. Osan**, R. Deb, M.H. Khaneghahi, P. Namakiaraghi, M.I Iqbal, **Y. Farnam** (2025), Nature Inspired Vascular Self- Thermal Responsive Cementitious Composites with Phase Change Materials, Journal of Building Engineering, Elsevier, Volume 108, 112878, doi: 10.1016/j.jobe.2025.112878.

J28. S. Visvalingam, M. Creighton, J. Baxter, G. Hsuan, and **Y. Farnam** (2025), Production of Spherical Porous Ceramic from Waste Coal Fly Ash and Waste Glass for Construction Lightweight Aggregate, Journal of Materials in Civil Engineering, ASCE, 37 (9), 04025303, doi:10.1061/JMCEE7.MTENG-20305.

In 2024:

J29. Lee HW., Rahmaninezhad A., Meng L., Srubar W., Sales C., **Farnam Y.**, Hubler M., Raeisi Najafi A. (2024), Modeling the Uncoupled Damage-Healing Behavior of Self-Healing Cementitious Material with Phase-Field Method, Journal of Construction and Building Materials, Elsevier, Volume 456, 20 December 2024, 139007, doi: 10.1016/j.conbuildmat.2024.139007.

J30. Y. Alqenai, M. Balapour, M. Zooyousefin**, N. Shrestha**, G. Hsuan, and **Y. Farnam** (2024), Investigating effects of sintering mean residence time on engineering properties of coal ash-based lightweight aggregate, International Journal of Applied Ceramic Technology, 15 July 2024, doi: 10.1111/ijac.14854.

J31. E. Yen, G. Mishra, M.I. Iqbal, P. Namakiaraghi, Y. Shields, K. Van Tittelboom, N. De Belie, **Y. Farnam** (2024), Recent Progress in Vascularization of Cementitious Composites: Fundamental Concepts, Strategies and Applications, Journal of Construction and Building Materials, Elsevier, Volume 449, 25 October 2024, 138419, doi: 10.1016/j.conbuildmat.2024.138419.

J32. Meng L., Lee HW., Ashkpour A., Sales C., **Farnam Y.**, Hubler M., Raeisi Najafi A. (2024), Bound-constrained optimization using Lagrange multiplier for a length scale insensitive phase field fracture model, Journal of Engineering Fracture Mechanics, Elsevier, Volume 310, 8 November 2024, 110496, doi: 10.1016/j.engfracmech.2024.110496.

J33. P. Namakiaraghi and **Y. Farnam** (2024), Development of Engineered Polymeric Reinforced Cementitious Composite (EPRC) Using Nature-Inspired Hollow Architectures: Flexural Experimental and Numerical Evaluations, Journal of Building Engineering, Elsevier, Volume 97, 15 November 2024, 110959, doi: 10.1016/j.jobe.2024.110959.

J34. S.A. Rahmaninezhad, M. Houshmand, A. Sadighi, K. Ahmari, D. Kamireddi, R.M. Street, **Y. Farnam**, C.L. Schauer, A.R. Najafi, C.M. Sales (2024), Overcoming the inhibitory effects of urea to improve the kinetics of microbial-induced calcium carbonate precipitation (MICCP) by Lysinibacillus sphaericus strain MB284, Journal of Bioscience and Bioengineering, Volume 138, Issue 1, July 2024, Pages 63-72, doi: 10.1016/j.jbiosc.2024.03.004.

J35. R. Deb, N. Shrestha**, K.Phan**, M. Cissao**, Y.Alqenai, P. Namkiaraghi, S.Visvalingam, and **Y. Farnam** (2024), Development of Self-Heating Concrete using Phase Change Materials: Multi-scale and In-situ Real-Time Evaluation of Snow Melting and Freeze-thaw Performance, ASCE Journal of Materials in Civil Engineering, Volume 36, Issue 6, doi:10.1061/JMCEE7.MTENG-170408.

J36. P. Namakiaraghi, A. Sadighi, R. Spragg, A.R. Najafi, and **Y. Farnam** (2024), Towards development of cement-based composites reinforced with architected 3D-printed polymers, Construction and Building Materials, Volume 422, doi: 10.1016/j.conbuildmat.2024.135838.

J37. S.A. Rahmaninezhad, M. Houshmand Khaneghahi, A. Sadighi, D. Kamireddi, R.M. Street, **Y. Farnam**, C.L. Schauer, A.R. Najafi, C.M. Sales (2024), Generation of Enhanced Endospores for Microbially Induced Calcium Carbonate Precipitation (MICCP) via Thermal Shock for Concrete Self-Healing, Journal of Construction and Building Materials, Volume 419, doi: 10.1016/j.conbuildmat.2024.135528

J38. MH. Khaneghahi, SA. Rahmaninezhad, D. Kamireddi, A. Sadighi, CM. Sales, CL. Schauer, A. Najafi, **Y. Farnam** (2024), Carbonate biomineralization potential of endospore-laden polymeric fibers (BioFibers) for bio-self-healing applications, Journal of Developments in the Built Environment, Volume 17, March 2024, 100351, doi: 10.1016/j.dibe.2024.100351.

J39. R. Deb, J. He, G. Mishra, **Y. Farnam** (2024), Investigating Temperature Change Rate and Pore Confinement Effect on Thermal Properties of Phase Change Materials for De-icing and Low-temperature Applications in Cementitious Composites, Construction and Building Materials 411, 134237, doi: 10.1016/j.conbuildmat.2023.134237.

J40. MH. Khaneghahi, A. Mutua**, J. He, G. Mishra, **Y. Farnam** (2024), Long-Term Performance of Soybean-Based Concrete Surface Protectant under Laboratory Accelerated Aging Conditions, Transportation Research Record: Journal of the Transportation Research Board, doi: 10.1177/03611981231216982.

J41. MH. Khaneghahi, J. He, **Y. Farnam** (2024), Investigation on Physical and Chemical Protecting Mechanism of SME-PS as a Concrete Surface Protectant, ASCE Journal of Materials in Civil Engineering, 36 (1), 04023529, doi:10.1061/JMCEE7/MTENG-16332.

In 2023:

J42. MH. Khaneghahi, D. Kamireddi, SA. Rahmaninezhad, CL. Schauer, CM. Sales, A. Najafi, A. Cotton**, A. Sadighi, R. Street., **Y. Farnam** (2023), Development of a nature-inspired polymeric fiber (BioFiber) for advanced delivery of self-healing agents, Construction and Building Materials 408, 133765, doi: 10.1016/j.conbuildmat.2023.133765.

J43. A. Sadighi, E. Maghami, MH. Khaneghahi, D. Kamireddi, SA. Rahmaninezhad, **Y. Farnam**, CM. Sales, CL. Schauer, A. Najafi (2025), Fracture analysis of multifunctional fiber-reinforced concrete using phase-field method, International Journal of Solids and Structures, Elsevier, Volume 283, 1 November 2023, 112493, doi: 10.1016/j.ijsolstr.2023.112493.

J44. J. He, M. Balapour, and **Y. Farnam** (2023), Performance of Soy Methyl Ester-Polystyrene as a Concrete Protectant: A State-of-the-Art Review, Transportation Research Record: Journal of the Transportation Research Board, doi: 10.1177/03611981231182696.

J45. J. He, C. Qiao, and **Y. Farnam** (2023), Durability Evaluation of Reinforced Concrete with surface treatment of Soy Methyl Ester-Polystyrene under Freeze-Thaw Cycles and Calcium Chloride, Submitted to Cement and Concrete Composite, Elsevier, Volume 137, article No. 104927, doi: 10.1016/j.cemconcomp.2023.104927.

J46. P. Namakiaraghi, L. McNally**, R. Spragg, and **Y. Farnam** (2023), Enhancing Tensile Response of Polymeric Elements Using Bioinspired 3D Printing: Studying the Effects of Printing Patterns and Process Parameters, the ASTM Journal of Advances in Civil Engineering Materials, Vol. 12, No. 1., doi: 10.1520/ACEM20220066.

In 2022:

J47. M. Balapour, T. Thway**, N. Moser, E.J. Garboczi, Y.G. Hsuan, and **Y. Farnam** (2022), Engineering properties and pore structure of lightweight aggregates produced from off-spec fly ash, Journal of Construction and Building Materials, Volume 348, Article No. 128645, doi: 10.1016/j.conbuildmat.2022.128645.

J48. M. Balapour, M.H. Khaneghahi, E.J. Garboczi, Y.G. Hsuan, D.E. Hun, and **Y. Farnam** (2022), Off-spec fly ash-based lightweight aggregate properties and their influence on the fresh, mechanical, and hydration properties of lightweight concrete: A comparative study, Journal of Construction and Building Materials, Volume 342, Part B, Article No. 128013, doi: 10.1016/j.conbuildmat.2022.128013.

J49. M. Balapour, T. Thway**, R. Rao, N. Moser, E.J. Garboczi, Y.G. Hsuan, and **Y. Farnam** (2022), A thermodynamics-guided framework to design lightweight aggregate from waste coal combustion fly ash, Journal of Resources, Conservation & Recycling, Elsevier, Volume 178, Article No. 106050, pp. 1-11, doi: 10.1016/j.resconrec.2021.106050.

J50. F. Althoey, M. Balapour and **Y. Farnam** (2022), Reducing detrimental sulfate-based phase formation in concrete exposed to sodium chloride using supplementary cementitious materials, Journal of Building Engineering, Volume 45, Article No. 103639, pp. 1-11 doi: 10.1016/j.jobe.2021.103639.

J51. J. He, T. Thway**, and **Y. Farnam** (2022), Effectiveness of Soy Methyl Ester-Polystyrene as a Concrete Protectant on Mitigating the Chemical Interaction between Cement Paste and Calcium Chloride, Transportation Research Record: Journal of the Transportation Research Board, pp. 1-15, doi: 10.1177/03611981211066904.

In 2021:

J52. M. Balapour, A.W. Mutua**, and **Y. Farnam** (2021), Evaluating the thermal efficiency of microencapsulated phase change materials for thermal energy storage in cementitious composites, Cement and Concrete Composite Journal, Elsevier, Volume 116, Article No. 103891, pp. 1-14, doi: 10.1016/j.cemconcomp.2020.103891.

J53. F. Althoey, P. Stutzman, M. Steiger, and **Y. Farnam** (2021), Thermo-Chemo-Mechanical Understanding of Damage Development in Porous Cementitious Materials Exposed to Sodium Chloride Under Thermal Cycling, Cement and Concrete Research, Elsevier, Volume 147, Article No. 106497, pp. 1-13, doi: 10.1016/j.cemconres.2021.106497.

J54. M. Balapour, R. Rao, E.J. Garboczi, S. Spatari, Y.G. Hsuan, and **Y. Farnam** (2021), Thermochemical principles of the production of lightweight aggregates from waste coal bottom ash, Journal of the American Ceramic Society, Volume 104 (1), pp. 613–634, doi: 10.1111/jace.17458.

In 2020:

J55. A.W. Mutua**, M. Balapour, and **Y. Farnam** (2020), Towards development of nature-inspired thermo-responsive vascular composites: Analysis of polymeric composites, Construction and Building Materials Journal, Elsevier, Volume 259, pp. 1-12, doi: 10.1016/j.conbuildmat.2020.120407.

J56. F. Althoey, and **Y. Farnam** (2020), Performance of Calcium Aluminate Cementitious Materials in the Presence of Sodium Chloride, ASCE Journal of Materials in Civil Engineering, ASCE, Vol. 32, Issue 10, pp. 1-10, doi: 10.1061/(ASCE)MT.1943-5533.0003365.

J57. M. Balapour, W. Zhao, E.J. Garboczi, N.Y Oo**, S. Spatari, G. Hsuan, P. Billen, and **Y. Farnam** (2020), Potential Use of Lightweight Aggregate (LWA) Produced from Bottom Coal Ash for Internal Curing of Concrete Systems, Cement and Concrete Composite, Elsevier, Volume 105, pp. 1-12, doi: 10.1016/j.cemconcomp.2019.103428.

In 2019:

J58. F. Althoey and **Y. Farnam** (2019), The effect of using supplementary cementitious materials on damage development due to the formation of a chemical phase change in cementitious materials exposed to sodium chloride, Construction and Building Materials Journal, Elsevier, Volume 210, pp. 685-695, doi: 10.1016/j.conbuildmat.2019.03.230.

J59. M. Ksara, R. Newkirk**, S.K. Langroodi, F. Althoey, C. Sales, C. Schauer, and **Y. Farnam** (2019) Microbial Damage Mitigation Strategy in Cementitious Materials Exposed to Calcium Chloride Deicing Salts, Construction and Building Materials Journal, Elsevier, Volume 195, pp. 1-9, doi: 10.1016/j.conbuildmat.2018.10.033.

In 2018:

J60. Y. Shields**, E. Garboczi, J. Weiss, and **Y. Farnam** (2018), Freeze-Thaw Crack Determination in Cementitious Materials Using 3D X-ray Computed Tomography and Acoustic Emission, Cement and Concrete Composite Journal, Elsevier, Volume 89, pp. 120–129, doi: 10.1016/j.cemconcomp.2018.03.004.

J61. F. Althoey, B. Wisner, A. Kontsos, and **Y. Farnam** (2018), Cementitious Materials Exposed to High Concentration of Sodium Chloride Solution: Formation of A Deleterious Chemical Phase Change, Construction and Building Materials Journal, Elsevier, Volume 167, pp. 543–552, doi: 10.1016/j.conbuildmat.2018.02.066.

J62. L. Nguyen, A.J. Moseson, **Y. Farnam**, and S. Spatari, (2018), Effects of Composition and Transportation Logistics on Environmental, Energy and Cost Metrics for the Production of Alternative Cementitious Binders, Journal of Cleaner Production, Journal of Cleaner Production, Elsevier, Volume 185, 1, pp. 628-645, doi: 10.1016/j.jclepro.2018.02.247.

J63. P. Billen, M. Mazzotti, L. Pandelaers, N. Oo**, W. Zhao, Z. Liu, J. Redus**, I. Diaz, I. Bartoli, **Y. Farnam**, S. Spatari, Y. Hsuan (2018), Melt ceramics from coal ash: constitutive product design using thermal and flow

properties, Resources, Conservation & Recycling Journal, Elsevier, Volume 132, pp. 168–177, doi: 10.1016/j.resconrec.2018.01.035.

J64. H.S. Esmaeeli, **Y. Farnam**, J.E. Haddock, P.D. Zavattieri, J. Weiss (2018), Numerical Analysis of the Freeze-Thaw Performance of Cementitious Composites that Contain Phase Change Material (PCM), Materials and Design Journal, Elsevier, Volume 145, pp. 74-87, doi: 10.1016/j.matdes.2018.02.056.

In 2017:

J65. **Y. Farnam**, H.S. Esmaeeli, P.D. Zavattieri, J. Haddock, J. Weiss (2017), Incorporating phase change materials in concrete pavement to melt snow and ice, Cement and Concrete Composite, Elsevier, 84, pp. 134–145, doi:10.1016/j.cemconcomp.2017.09.002.

J66. **Y. Farnam**, B. Zhang**, and J. Weiss (2017), Evaluating the Use of Supplementary Cementitious Materials to Mitigate Damage in Cementitious Materials Exposed to Calcium Chloride Deicing Salt, Cement and Concrete Composite Journal, Elsevier, doi: 10.1016/j.cemconcomp.2017.05.003.

J67. P. Suraneni, J. Monical**, E. Unal**, **Y. Farnam**, and J. Weiss (2017), Calcium Oxychloride Formation Potential in Cementitious Pastes Exposed to Blends of Deicing Salt, ACI Materials Journal, American Concrete Institute, doi: 10.14359/51689607.

J68. H.S. Esmaeeli, **Y. Farnam**, D. Bentz, P.D. Zavattieri, and J. Weiss (2017), Numerical Simulation of the Freeze-Thaw Behavior of Mortar Containing Deicing Salt Solution, Journal of Materials and Structures, Springer, Volume 50 (96), pp. 1-20, doi: 10.1617/s11527-016-0964-8.

In Sep-Dec 2016:

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C54. F. Althoey*, and **Y. Farnam** (2019), Damage Development in Cementitious Materials Due to Chemical Phase Change Formation in the Presence of NaCl: The Effect of Using Supplementary Cementitious Materials, in: PennConcrete Conference, Harrisburg (PA), Feb 2019.

C55. **Y. Farnam***, C. Villani, J. Jain, and J. Weiss (2018), Durability Performance of Carbonated Calcium Silicate-Based Cementitious Materials Exposed to Freezing and Thawing and Chloride-Based Salt, in: 2018 ACI Fall Convention, Las Vegas (NV), October 2018.

C56. **Y. Farnam*** (2018) Advanced Materials for Enhancing Resilience, Durability and Sustainability of Transportation Infrastructure, in: 2018 Research Symposium, September 27-28, 2018, Pennsylvania Department of Transportation Bureau of Planning and Research, Harrisburg, PA.

C57. D. Christe*, J.J. Bhatt, C.M Sales, and **Y. Farnam** (2018) Empowering Underrepresented Groups to Excel in STEM Through Research Sprints, in: 2018 ASEE Annual Conference & Exposition, June 24-27, 2018, Salt Lake City, UT.

C58. F. Althoey*, and **Y. Farnam** (2018) The Effect of Temperature Variations on the Chemical Stability of Cementitious Materials Exposed to NaCl Solution, in: 9th Advances in Cement-Based Materials Conference, ACerS, June 11-12, 2018, Pennsylvania State University, State College, PA.

C59. M. Balapour*, W. Zhao, E. Garboczi, S. Spatari, G. Hsuan, and **Y. Farnam** (2018) Characterization of Spherical Porous Lightweight Aggregate Made Using Waste Coal Combustion Bottom Ash, in: 9th Advances in Cement-Based Materials Conference (Cements 2018), ACerS, June 11-12, 2018, Pennsylvania State University, State College, PA.

C60. M. Ksara*,**, R. Newkirk, S.K**. Langroodi, F. Althoey, C. Sales, C. Schauer, **Y. Farnam** (2018) Can Microbes Be Used to Mitigate Damage in Concrete due to Calcium Oxychloride Formation? in: National Collegiate Research Conference, NCRC 2018, January 18-20, 2018, Harvard University, Cambridge, MA.

C61. F. Althoey, **Y. Farnam*** (2017), An Advanced Understanding of the Source of the Chemical Damage in Concrete Pavement Exposed to Sodium Chloride Deicing Salt, in: 11th University Transportation Centers Spotlight Conference, Rebuilding and Retrofitting the Transportation Infrastructure, September 26-27, 2017, Washington, DC.

C62. P. Suraneni, C. Qiao, V. Azad, **Y. Farnam**, J. Monical, E. Unal**, C. Villani, B. Isgor, and J. Weiss* (2017), A review of recent work on deicing salt damage to concrete pavements and its mitigation. International

Conference on Advances in Construction Materials and Systems 2017, Chennai, India, 3 - 8 September 2017, pp 1-15.

C63. **Y. Farnam***, H. Shagerdi, P. Zavattieri, J. Haddock, and J. Weiss (2017), Concrete Pavement Containing Phase Change Materials to Melt Snow and Ice, in: International Conference on Highway Pavement and Airfield Technology, Philadelphia, PA, August 27-30.

C64. M. Ksara**, S.K. Langroodi, E. Mayerberger, F. Althoey, C.M. Sales, C. Schauer, and **Y. Farnam*** (2017), Evaluating the Potential Use of Alginate to Enable Microbial Self- Healing in Concrete. 6th Int. Conf. Self-Healing Mater., Friedrichshafen, Germany, June 25-28, pp 1–5.

C65. **Y. Farnam***, H.S. Esmaeeli, P.D. Zavattieri, J. Haddock, and J. Weiss; Incorporating Phase Change Materials in Concrete Pavement to Melt Ice and Snow (2016); in: ACI Fall 2016 Convention, Philadelphia, PA, October 19-27.

C66. **Y. Farnam***, J. Monical**, E. Unal**, and W. J. Weiss; Development of a Low-Temperature Calorimetry Method to Quantify the Potential of Calcium Oxychloride Formation in Cementitious Materials; in: 7th Advances in Cement-Based Materials (Cements 2016), Northwestern University, Evanston (IL), July 10-13, 2016.

C67. H. S. Esmaeeli*, **Y. Farnam**, P. D. Zavattieri, J. Weiss; Numerical Simulation of Freeze-Thaw Behavior of Cementitious Systems Containing Phase Change Materials; in: 7th Advances in Cement-Based Materials (Cements 2016), Northwestern University, Evanston (IL), July 10-13, 2016.

C68. H. S. Esmaeeli, **Y. Farnam**, D. P. Bentz, P. D. Zavattieri and J. Weiss*; The Influence of Pore Size and Freezing Rate on Ice Formation in Concrete; in: 2016 International Concrete Sustainability Conference, RILEM Symposium on Self-Compacting Concrete and North American Conference on Design and Use of Self-Consolidating Concrete, Washington (DC), May 15-18, 2016.

C69. J. Weiss*, **Y. Farnam**, and J. Jain; Performance of Carbonated Calcium Silicate Concrete Exposed to NaCl, $CaCl_2$, and $MgCl_2$ Deicing Salt; in: 2016 ACI Spring Convention, Milwaukee (MI), April 2016.

C70. J. Monical**, E. Unal**, T. Barrett, **Y. Farnam***, and W. Weiss; Reducing Joint Damage in Concrete Pavements: Quantifying Calcium Oxychloride Formation for Concrete Made Using Portland Cement, Portland Limestone Cement, Supplementary Cementitious Materials, and Sealers; in: Transportation Research Board 95th Annual Meeting, Washington (DC), January 2016.

C71. **Y. Farnam**, H.S. Esmaeeli, D. Bentz, P. Zavattieri, and J. Weiss*; Experimental and Numerical Investigation on the Effect of Cooling/Heating Rate on the Freeze-Thaw Behavior of Mortar Containing Deicing Salt Solution; in: International Conference on the Regeneration and Conservation of Concrete Structures (RCCS), Nagasaki (Japan), June 2015, pp. 1-12.

C72. **Y. Farnam***, D. Bentz, and J. Weiss; The Influence of Deicing Salts on Damage Development and Phase Changes in Concrete, 2015 PEGASAS Annual Meeting, Federal Aviation Administration, West Lafayette (IN), May 2015.

C73. **Y. Farnam***, H. Todak, R. Spragg, and J. Weiss; Using Acoustic Emission and Electrical Resistivity to Assess Freeze-Thaw Damage in Concrete; in: AEWG 57th Conference on Acoustic Emission, Chicago (IL), May 2015.

C74. **Y. Farnam** and J. Weiss*; A New Look at an Old Problem: Reexamining the Saltwater Phase Diagrams to Better Describe Concrete Durability; in: 2015 ACI Spring Convention, Kansas City (MO), April 2015.

C75. C. Villani, **Y. Farnam**, T. Washington**, J. Jain, and J. Weiss*; Performance of Conventional Portland Cement and Calcium Silicate Based Carbonated Cementitious Systems During Freezing and Thawing in the presence of Calcium Chloride Deicing Salts; in: Transportation Research Board 94th Annual Meeting, Washington (DC), January 2015, pp. 1–16.

C76. **Y. Farnam*** and J. Weiss; Service-Life and Freeze-Thaw Deterioration: What Classic Phase Diagrams Tell us and Where They Fall Short for Cements; in: Anna Maria Workshop XV: Durability and Service-Life Prediction, Anna Maria (FL), November 2014.

C77. M. Krafcik*, **Y. Farnam**, L. Liston, J. Weiss, B. Tao, and K. Erk; Phase Change Materials for Use in Self-heating Concrete to Prevent the Buildup of Ice and Snow on Pavement Surfaces; in: Materials Science & Technology 2014: Nanotechnology for Energy, Environment, Electronics, and Industry, Pittsburgh (PA), October 2014.

C78. L. Liston, M. Krafcik, **Y. Farnam***, B. Tao, K. Erk, and J. Weiss; Toward the Use of Phase Change Materials (PCM) in Concrete Pavements: Evaluation of Thermal Properties of PCM; in: 2014 FAA Worldwide Airport Technology Transfer Conference: Innovations in Airport Safety and Pavement Technologies, Federal Aviation Administration (FAA), Galloway (Oceanville), New Jersey, USA, August 2014, pp. 1-13.

C79. Y. Qian, **Y. Farnam***, J. Weiss; Using Acoustic Emission to Quantify Freeze-Thaw Damage of Mortar Saturated with NaCl Solutions, In: 4th International Conference on the Durability of Concrete Structures, West Lafayette, Indiana, USA, July 2014, pp. 1-7.

C80. A. Miller*, R. Spragg, F. Antico, W. Ashraf, T. Barrett, A. Behnood, Y. Bu, Y. Chiu, B. Desta, **Y. Farnam**, H. Jeong, W. Jones, C. Lucero, D. Luo, F. Macobatti, C. Nickel, P. Panchmatia, K. Pin, S. Qiang, C. Qiao, H. Shagerdi, Q. Tian, R. Tokpotayeva, C. Vilani, A. Wiese, S. Woodard, and W. J. Weiss, "Determining the Moisture Content of Pre-Wetted Lightweight Aggregate: Assessing the Variability of the Paper Towel and Centrifuge Methods, In: 4th International Conference on the Durability of Concrete Structures, West Lafayette, Indiana, USA, July 2014, pp. 1–5.

C81. **Y. Farnam**, D. Bentz, A. Hampton**, and J. Weiss*; Acoustic Emission and Low Temperature Calorimetry Study of Freeze and Thaw Behavior in Cementitious Materials Exposed to NaCl Salt; in: Transportation Research Board 93rd Annual Meeting, Washington, DC, USA, January 2014, pp. 1–19.

C82. **Y. Farnam***, D. Bentz, A. Sakulich, D. Flynn, and J. Weiss; Evaluation of Freeze and Thaw Damage in Mortars Containing Deicing Salt Using A Low Temperature Guarded Comparative Longitudinal Calorimeter and Acoustic Emission; in: 4th Advances in Cement-based Materials: Characterization, Processing, Modeling and Sensing, University of Illinois at Urbana-Champaign, Urbana, IL, USA, July 8-10, 2013.

C83. **Y. Farnam***, D. Bentz, A. Sakulich, D. Flynn, and J. Weiss; Using Acoustic Emission to Quantify Damage in Cementitious Materials Exposed to Freezing and Thawing; in: AEWG 55th conference on acoustic emission, Anaheim/Los Angeles, CA, USA, June 11-13, 2013.

C84. T. Rahmani*, B. Kiani**, F. Sami**, B.N. Fard**, **Y. Farnam**, M. Shekarchi, Durability of glass, polypropylene and steel fiber reinforced concrete, in: Proceedings of 12th International Conf. on Durability of Building Materials and Components, Porto (Portugal), April 2011, Article No. T31, pp. 1-8.

C85. **Y. Farnam***, A. Behrouzikhah**, F.S. Sabet**, S.M Jalili**, M. Shekarchi, The effect of cement content on concrete durability with respect to environmental compatibility, in: Proceedings of 4th International Conf. on Construction Materials (ConMat'09), Nagoya (Japan), August 2009, pp. 289-294.

C86. **Y. Farnam***, S. Mohammadi, A. Bagherzadeh**, S.K. Babanejad**, Numerical simulation of concrete beam under low velocity impact, in: Proceedings of 4th International Conf. on Construction Materials (ConMat'09), Nagoya (Japan), August 2009, pp. 185-190.

C87. **Y. Farnam***, M. Shekarchi, A. Mirdamadi, Experimental investigation of impact behaviour of high strength fiber reinforced concrete panels, in: Proceedings of the 2nd International Symposium on Ultra High Performance Concrete, Kassel (Germany), March 2008, pp. 751-758.

C88. **Y. Farnam**, M. Mahoutian, S. Mohammadi, M. Shekarchi*, Experimental and numerical studies of impact behavior of fiber lightweight aggregate concrete, in: Proceedings of ASCE & SEI 2008 Structures Conf., Vancouver (Canada), April 2008, pp. 1-10.

C89. **Y. Farnam***, S. Mohammadi, M. Shekarchi M, Study of impact behavior of slurry-infiltrated fiber concrete, in: Proceedings of the 4th National Congress in Civil Engineering, Tehran (Iran), May 2008, pp. 1-8 (in Farsi).

INVITED TALKS & KEYNOTE LECTURES

I1- Development of Self-Heating Concrete, 2025 Student Night and Chapter Dinner Meeting, International Concrete Repair Institute (ICRI), **ICRI Delaware Valley Chapter**, Philadelphia, PA (April 2025).

I2- Using Nature as a source of inspiration to develop construction material technologies for adaptive, resilient and sustainable civil infrastructure, **New York University Abu Dhabi**, United Arab Emirates, (March 2025).

I3- Physical/Chemical Sources of Damage in Cementitious Materials Exposed to Thermal Cycling and Deicing Salt Exposure, **Keynote Lecture,** Concrete Day, University of Tehran, Iran (Sept 2024).

I4- Integrating Nature-inspired Autonomous Self-responsiveness in Cement-based Materials for Civil Infrastructure, **Delft University of Technology (TU Delft), Netherlands** (April 2024).

I5- Development of Thermal Vascular Self-Responsive Cementitious Composites (Thermal-VASC) for Thermal Energy Management in Buildings, **Politecnico di Milano, Italy** (April 2024).

I6- Infrastructure Materials for 21st Century: Integrating Nature-inspired Vascular and Perspiration Concepts to Engineer Thermal Vascular Self-Responsive Cementitious Composites, **Cardiff University, UK** (March 2024)

I7- Thermal-Responsive Vascular Cementitious Composites (Thermal-VASC), **Ghent University, Belgium** (February 2024).

I8- Construction Lightweight Aggregates from Waste Coal Combustion Ash, **Keynote Lecture**, in the 3rd International Conference on Green Construction and Engineering Education, Bali, Indonesia (August 2023).

I9- Infrastructure Materials for 21st Century: Exploring Advanced and Sustainable Engineering Materials, From Seed to Harvest Research Seminar Series: Materials and Sustainability Research, **Drexel Engineering**, PA (June 2023).
I10- Thermochemical-guided sintering framework to convert waste coal combustion ash to value-added porous ceramics as construction lightweight aggregates, **Princeton University**, NJ (March 2023).
I11- Solid waste coal combustion ashes: Are they appropriate feedstock to produce construction aggregates? **University of California, Irvine**, CA (November 2020).
I12- Infrastructure Materials for 21st Century: Exploring Advanced and Sustainable Materials, and Improving Concrete Durability in Cold Environment, **University of Delaware**, Newark (March 2020).
I13- Advanced Materials Development to Enhance Resilience, Durability and Sustainability of Civil Infrastructure, **Louisiana State University**, Baton Rouge, LA (January 2019).
I14- Snow Melting Concrete, **Taste of Science-Philadelphia**, Philadelphia, PA (April 2018).
I15- Advanced Construction Materials for Enhancing Resilience, Durability and Sustainability of Civil Infrastructure, **University of Southern California**, Los Angeles, CA (March 2018).
I16- An Overview of Drexel ASIM Research on Improving Durability and Sustainability of Civil Engineering Materials, **Pennsylvania State University**, State College, PA (Feb 2018).
I17- Towards a Sustainable Solution to Melt Snow and Ice on Concrete Pavement: Use of Phase Change Materials, **Eastern Pennsylvania and Delaware American Concrete Institute Chapter**, King of Prussia, PA (Nov. 2017).
I18- Use of Sustainable and Innovative Construction Materials to Enhance Civil Engineering Practices, **Temple University**, Philadelphia, PA (Oct. 2017).
I19- Freeze-Thaw Durability of Concrete Pavements: Physical/Chemical Sources of Damage and Methods for Damage Mitigation, **Federal Highway Administration (FHWA) Turner-Fairbank Highway Research Center**, McLean, VA, (June 2017).
I20- Advanced Understanding of Concrete Durability Exposed to Freezing and Thawing and Chloride-Based Deicing Salts, **Rutgers University**, Piscataway, NJ (April 2017).
I21- Developing Resilient and Sustainable Concrete for Transportation Infrastructure, Pennsylvania Department of Transportation (**PennDOT**), Harrisburg, PA (Nov. 2016).
I22- Towards Developing Resilient and Sustainable Infrastructure: Service Life Assessment/Improvement, and Advanced Materials Development, **University of Pittsburgh**, Pittsburgh, PA (Feb 2015).

PATENTS

Granted

P1- M. Balapour, **Y. Farnam**, and Y.G. Hsuan (Granted 05/2022), Method of Lightweight Aggregates Production from Waste-Coal Combustion Ash, US Patent No. US11345634.
P2- M. Balapour, and **Y. Farnam** (Granted 11/2024), Manufacturing of Off-Spec Waste Coal Combustion Ash-Based Lightweight Aggregate, U.S. Patent No. US12139437.
P3- M. Balapour, **Y. Farnam**, and Y.G. Hsuan (Granted 07/2024), Method of Lightweight Aggregates Production from Waste-Coal Combustion Ash, China Patent No. CN2020801016180.
P4- M. Balapour, **Y. Farnam** (Granted 07/2025), Lightweight Aggregates Produced from Waste-Coal Combustion Ash, US Patent No. US12351514

Pending

P5- M. Balapour, **Y. Farnam**, and Y.G. Hsuan (Pending), Method of Lightweight Aggregates Production from Waste-Coal Combustion Ash, Australia Patent Application No. 2020439474.
P6- M. Balapour, **Y. Farnam**, and Y.G. Hsuan (Pending), Method of Lightweight Aggregates Production from Waste-Coal Combustion Ash, Europe Patent Application No. 20929013.9, EP4126787.
P7- M. Balapour, **Y. Farnam**, and Y.G. Hsuan (Pending), Method of Lightweight Aggregates Production from Waste-Coal Combustion Ash, Indonesia Patent Application No. P00202212182.
P8- M. Balapour, **Y. Farnam**, and Y.G. Hsuan (Pending), Method of Lightweight Aggregates Production from Waste-Coal Combustion Ash, India Patent Application No. 202227061969.
P9- M. Balapour, and **Y. Farnam** (Pending), A coating approach to prevent agglomeration of spherical lightweight aggregate (LWA) during sintering, US Patent Application No. 18/728,125.

P10- M. Balapour, and **Y. Farnam** (Pending), Method for Producing Lightweight Aggregate from Waste Coal Ash and Product Made Therefrom, U.S. Patent Application No. 20230286861.
P11- **Y. Farnam** (Pending), Thermal Vascular Self-Responsive Cementitious Composites for Civil Infrastructure (Thermal-VASCI), U.S. Patent Application No. 19/964,367, WO2024044129A1.
P12- S. Deshmukh, G. Brown, D. Pannell, **Y. Farnam**, R. Deb (Pending) De-Icing Composition and Methods of Making and Using Thereof.
P13- **Y. Farnam**, Chris Sales, Ahmad Najafi and C Schauer (Pending), Multifunctional Damage Responsive Polymeric Fiber, US Provisional Application No. 63/482,994, WO2024086547A9.
P14- **Y. Farnam**, and C. Sales (Pending), Development of Advanced Vascular Delivery Techniques to Transport Bio-Functional Agents in Cracked Concrete for Self-Healing Applications, US Provisional Application No. 63/656,152.
P15- C. Sales, and **Y. Farnam**, Process for Microbial Induced Stable Iron Precipitation to Prevent and Mitigate Corrosion, Invention Disclosure No. DREX1244USP.
P16- M. Ulrich, C. Adams, M.I. Iqbal, G. Mishra, H.W. Lee, A. Najafi, C. Acarturk, J. Wabg, H.W. Joo, L. Meng, **Y. Farnam**, W. Srubar III, M. Alvaro, P.N. Araghi, J. Price, C. Sales, M. Pourghaz, I. Verdu, M. Hubler, Method and composition for repair and prolonged function of concrete utilizing biological application" refers to the technology of self-healing or "bio-concrete, 51606.17650 | 2025-054, Pending.

STUDENTS/SCHOLARS/SCIENTISTS ADVISED/MENTORED

(i) Visiting Scholars/Professors

Current:

1. **Geetika Mishra,** PhD, Research Assistant Professor

Former:

2. **Dr. Monita Olivia, PhD,** Fulbright Visiting Scholar at Dr Farnam's Lab, Associate Professor and Head of Laboratory of Structural Engineering of the Department of Civil Engineering at Universitas Riau (2023-2024)
   Research Area: Using nano-silica to improve concrete mechanical and durability performance.
3. **Dr. Puput Risdanareni, PhD**; Fulbright Visiting Scholar at Dr Farnam's Lab, Assistant Professor, Universitas Negeri Malang, Indonesia (2023)
   Research Area: Enabling microbial self-healing in concrete using lightweight aggregate made via recycling coal combustion ash.

(ii) Postdoctoral and Research Scientists

Current:

1. **Mohammad Irfan Iqbal**, PhD
2. **Robin Deb**, PhD
3. **Mohammad Houshmand**, PhD

Former:

4. **Geetika Mishra,** PhD
   Research Area: Bioinspired self-healing of aged concrete using microbial induced calcite precipitation.
5. **Parsa Namaki Araghi,** PhD
   Research Area: Biological approaches to mitigate corrosion in aged reinforced concrete structures.
6. **Kumaran Coopamootoo,** PhD
   Research Area: Polymeric damage responsive multifunctional fiber for concrete self-healing.
7. **Debajyoti Saha**, PhD
   Research Area: Bioinspired micro-drilling for concrete vascularization.
8. **Jialuo He**, PhD
   Research Area: Effectiveness of Soybean-Based Sealant to Reduce Deicing Salt Damage in Concrete
9. **Mohammad Balapour**, PhD
   Research Area: Sustainable Engineering of Lightweight Aggregate for Concrete Use from Waste Coal Combustion Ash

(iii) PhD Students

Current:

1. **Yacoub Alqenai**, PhD Student, Starting Fall 2024, Expected Graduation Date: Summer 2028
2. **Thiha Thway**, PhD Student, Starting Fall 2024, Expected Graduation Date: Summer 2028

Former:

3. **Sharaniya Visvalingam**, PhD Candidate, Graduation Date: Summer 2025
   Dissertation Title: Engineering Lightweight Aggregates from Waste Coal Combustion Ash and Waste Glass: Influence of Composition and Sintering Parameters
4. **Yousif Alqenai**, PhD, Graduation Date: Summer 2024
   Dissertation Title: A Circular Economy Approach Utilizing Landfill Condition Waste Coal Ash to Manufacture Fine Lightweight Aggregates for Concrete Internal Curing Applications
5. **Mohammad Houshmand**, PhD, Graduation Date: Summer 2024
   Dissertation Title: Engineering Nature-Inspired Damage-Responsive Polymeric Fibers (bioFibers) for Advanced Delivery of Microbial-based Self-Healing Agents into Cementitious Composites
6. **Robin Deb**, PhD, Graduation Date: May 2024
   Dissertation Title: Long-term Performance of Self-heating Concrete Composites using Low-Temperature Phase Change Materials for Snow-melting and Freeze-thaw Resilience Applications
7. **Parsa Namaki Araghi**, PhD, Graduation Date: December 2023
   Dissertation Title: Engineering Cementitious Composite with Nature-Inspired Architected Polymeric Reinforcing Elements Using Additive Manufacturing Method
8. **Mohammad Balapour**, PhD, Graduation Date: August 2021
   Dissertation Title: Conversion of Waste Coal Combustion Ash to Value-Added Construction Lightweight Aggregates through A Holistic Thermodynamics-Guided Manufacturing Framework
9. **Fadi Althoey**, PhD, Graduation Date: June 2019
   Dissertation Title: Understanding and Mitigating Damage Development in Cementitious Materials Exposed to Sodium Chloride

(iv) MSc Students

Current:

1. **Niyousha Niknezhad**, Expected Graduation Date: Summer 2026
   Thesis title: Understanding Mechanical Response of Vascular Cementitious Composites Under Direct Tensile Loading
2. **Noelle Lilan**, Expected Graduation Date: Spring 2027
   Thesis title: Development of a CO_2 sequestration manufacturing technology to produce sustainable construction aggregate using Pennsylvania coal ash industrial wastes

Former:

3. **Ethan Yen**, Graduation Date: Summer 2024
   Thesis title: Using Alginate and Nature-Inspired Vascular System to Deliver Biological Self-Healing Agent in Concrete
4. **Bankole Tejuoso**, Graduation Date: Summer 2024
   Thesis title: Freeze-thaw performance of internally cured concrete with coal ash-based lightweight aggregates
5. **Mohammadamin Zooyousefin**, Graduation Date: Summer 2023
   Thesis title: Non-Thesis MS
6. **Rathin Rao**, Graduation Date: Fall 2020
   Thesis title: Non-Thesis MS
7. **Dane Bell**, Graduation Date: Summer 2020
   Thesis title: Using Additive Manufacturing to Develop Shape Topology Optimization of Internal Structures for Reinforced Concrete Designs
8. **Mohammad Balapour**, Graduation Date: December 2019
   Thesis title: Characterizing physical properties of lightweight aggregate made from waste coal ash using x-ray computed tomography
9. **Maissoun Ksara**, Graduation Date: June 2018
   Thesis title: Evaluating the Use of S. pasteurii on Mitigating the Damage Response of Cementitious Materials Exposed to Calcium Chloride

10. **Weijin Zhao**, Graduation Date: Dec 2017
    Thesis title: Evaluation of Potential Use of Spherical Porous Reactive Aggregate (SPoRA) for Internal Curing of Cementitious System
11. **Yasmina Shields**, Graduation Date: June 2017
    Thesis title: Freeze-thaw crack determination in cementitious materials using 3D X-ray computed tomography and acoustic emission

(v) Undergraduate Students and Coop (* Indicates Underrepresented Minorities)

1. Erica Alston, Drexel University (UG and Coop, Fall 2023-Present)
2. Sumeet Musfirah, Drexel University (UG and Coop, Winter 2024-Present)
3. Karamoko Sow*, Drexel STAR Scholar (Summer 2024-Present)
4. Noelle Lilan*, Drexel University (UG and Coop, June 2023-Present)
5. Rhythm Osan*, Drexel STAR and UREP Scholar, and NSF REU (Summer 2022-Present)
6. Priscilla Kirabo*, Drexel STAR Scholar (UG and Coop, Summer 2022-Present)
7. Ethan Yen*, Drexel UREP Scholar (Summer 2023-Summer 2024)
8. Ibrahim Raheel, Drexel University (Nov 2023-April 2024)
9. Thuy Nguyen*, Drexel University (January 2023-Winter 2024)
10. Aiden Cotton, Drexel University and NSF REU (Fall 2021-Summer 2023)
11. Mohammadamin Zooyousefin, Drexel University (Fall 2021-Summer 2023)
12. Sarah Sowah*, LS-AMP, Drexel University (Fall 2021-Summer 2022)
13. Grace Cunningham, NSF REU, Lehigh University (Summer 2022)
14. Jacob Carter, NSF REU, Rowen University (Summer 2022)
15. Joshua Perez*, LS-AMP, Drexel University (Fall 2021-Winter 2022)
16. Nishant Shrestha, Drexel University (Fall 2021-Summer 2023)
17. Mohamed Cissao, Drexel University (Fall 2021)
18. Kham Phan, Drexel University (Fall 2021)
19. Liam McNally, Drexel University (Winter 2021-Summer 2023)
20. Christian Albert, Drexel University (UG and Coop, Spring 2021-Summer 2022)
21. Thiha Thway, Drexel University (Fall 2019-Fall 2020)
22. Alejandro Ochoa*, Drexel University (Fall 2020)
23. Engy Khoshit*, Drexel University (Winter 2020-Spring 2020)
24. Jessica Butterly, Drexel University (REU, Fall 2018-Winter 2019)
25. Angela Mutua, Drexel University (UG and Coop, Winter 2018-Summer 2018)
26. Rayna Newkirk, Drexel University (STAR Scholar, Summer 2017-Fall 2017)
27. Patrick Stoehr, Drexel University (NSF REU, Fall 2017-Summer 2018)
28. Nay Ye Oo, Drexel University (UG and Coop, Winter-Summer 2017)
29. Robert Howell, Drexel University (STAR Scholar, Summer 2017)
30. Maissoun Ksara, Drexel University (UG and Coop, Winter 2017- Spring 2018)
31. Yasmina Shields, Drexel University (Winter 2016- Fall 2017)
32. Bochen Zhang, Purdue University (SURF Fellow, Summer 2014)
33. Allison Hampton, Purdue University (SURF Fellow, Summer 2013)
34. Taylor Washington*, Purdue University (2013-2016)
35. Khalela El-Naggar*, Purdue University (2015-2016)
36. Mitchell Rector, Purdue University (Fall 2015)
37. Sarah Dick, Purdue University (2012-2013)
38. Martin Bobcek, Purdue University (2012-2013)

(vi) K-12 STEM Scholars (* Indicates Underrepresented Minorities)

1. Jeyden Latimer*, Science Leadership Academy Beeber, Ben Franklin STEM Scholar, Philadelphia, PA (Summer 2024).
2. Leo Ladik*, Moorestown High School, Ben Franklin STEM Scholar, Philadelphia, PA (Summer 2023)
3. Abdul-latif William*, Boys' Latin Charter School, Philadelphia PA (Winter and Spring 2023)
4. Jayden Thomas*, Boys' Latin Charter School, Philadelphia PA (Winter and Spring 2023)
5. Karim Martin*, Boys' Latin Charter School, Philadelphia PA (Winter and Spring 2023)

6. Anas Talouli*, Carver High School of Engineering and Science, Ben Franklin STEM Scholar, Philadelphia, PA (Summer 2022)
7. Yuliana Lugo*, Mastery Charter, Thomas Campus, Ben Franklin STEM Scholar, Philadelphia, PA (Summer 2022)
8. Noah Rosen*, Bethesda Chevy Chase High School, Ben Franklin STEM Scholar, Bethesda, MD (Summer 2021)
9. Noel Clarke*, Upper Darby High School, Ben Franklin STEM Scholar, Upper Darby, PA (Summer 2021)
10. Kiyah Talley, Central High School. Philadelphia, PA (Summer 2021).
11. Nimah Amedu*, West Chester East High School, Ben Franklin STEM Scholar, West Chester, PA (Summer 2021).
12. Devon Mignone, Conestoga High School, Chester County, PA (Summer 2021).
13. Jaiquan Boykins*, Lankenau Environmental Science Magnet High School, Ben Franklin STEM Scholar, Philadelphia, PA (Summer 2017)
14. Jannat Williams*, Freire Charter High School, Ben Franklin STEM Scholar, Philadelphia, PA (Summer 2017)

(vii) Student Award/Recognition/Achievements

Year	Student	Award / Recognition
2025	Yacoub Alqenai	The 2025 IFMA Foundation Scholarship
2024	Yacoub Alqenai	The 2024 IFMA Foundation Scholarship
2024	Sharaniya Visvalingam	The Paul Lemmo Award from the Drexel College of Engineering
2024	Yousif Alqenai	Best Presentation Award, the World of Coal Ash Conference
2024	Yousif Alqenai	American Coal Ash Association (ACAA) Educational Foundation Student Travel Award
2024	Ethan Yen	Pennoni Undergraduate Research & Enrichment Programs (UREP) Mini-Grant
2024	Rhythm Osan	Undergraduate Research & Enrichment Programs (UREP) Travel Grant
2024	Priscilla Kirabo	DAAD Research Internships for Science & Engineering (RISE)
2024	Mohammad Houshmand	National Science Foundation Travel Award to attend The NSF 3D Printing Concrete Workshop
2024	Mohammad Houshmand	The Drexel University Provost Research Excellence Award
2024	Mohammad Houshmand	The 2024 Joseph and Shirley Carleone Endowed Fellowship
2023	Rhythm Osan	Pennoni Undergraduate Research & Enrichment Programs (UREP) Mini-Grant
2023	Mohammad Houshmand	National Science Foundation INTERN Award
2023	Parsa Namaki Araghi	National Science Foundation Travel Award to attend The NSF 3D Concrete Printing Workshop
2023	Mohammad Houshmand	RILEM SMARTINCs Outstanding Research Award
2023	Sarah Sowah	American Council of Engineering Companies/Maryland Award
2023	Mohammad Houshmand	Science Image Award, NanoPhotography Competition, Nanotechnology World Association.
2023	Parsa Namaki Araghi	2023 Chuck Pennoni Civil Engineering Fellowship
2022	Yousif Alqenai	American Coal Ash Association Educational Foundation David C. Goss Scholarship
2022	Noel Clarke	Ben Franklin Scholarship for College Education
2022	Parsa Namaki Araghi	Provost Teaching Assistant Excellence Award, Drexel University
2022	Joshua Perez	Drexel College of Engineering Outstanding Undergraduate Student Award
2022	Yousif Alqenai	American Coal Ash Association Educational Foundation Scholarship
2022	Mohammad Houshmand	Shabahang Student Award, First Place

2020-2021	Mohammad Balapour	Research Excellence Post-Candidacy Award from Drexel University
2021	Mohammad Balapour	Best ACerS Journal Paper Award
2021	Mohammad Balapour	College of Engineering 2021 Outstanding PhD Student Award
2021	Parsa Namaki Araghi	Third Place Poster Award in the Fall 2020 ACI Convention
2020	Mohammad Balapour	National Science Foundation INTERN Award
2020	Engy Khoshit	American Coal Ash Association Educational Foundation Scholarship
2020	Mohmmad Balapour	C. Pennoni Civil Engineering Fellow Scholarship
2018-2019	Mohammad Balapour	Drexel College of Engineering Carleone Award
2017	Fadi Althoey	The Drexel University Provost Summer Research Award

EDUCATIONAL ACTIVITIES

(i) Course Taught

Since Joining Drexel University:

- ENGR 113: First-Year Engineering Design, 3 Credits, Drexel University, PA
- CIVE T580: Forensic for Construction Materials, 3 Credits, Drexel University, PA
- CIVE 615: Infrastructure Condition Evaluation, 3 Credits, Drexel University, PA
- CIVE 520: Advanced Concrete Technology, 3 Credits, Drexel University, PA
- CIVE 250-A: Construction Materials, 3 Credits, Drexel University, PA
- CIVE 250-001: Construction Materials Laboratory, 1 Credits, Drexel University, PA
- CIVE 477, and 478: Senior Seminar, 3 Credits, Drexel University, PA
- ENGR 111: Introduction to Engineering Design & Data Analysis, 3 Credits, Guest Instructor, Drexel University, PA
- CAEE 202: Introduction to Civil, Architectural & Environmental Engineering, 3 Credits, Guest Instructor, Drexel University, PA

Before Joining Drexel University:

- CE 331: Engineering Materials II, 3 Credits, Purdue University, IN
- CE 331 (3-6-7-9): Engineering Materials II Laboratory, Purdue University, IN
- CE 530: Properties, Production and Performance of Concrete, Purdue University, IN
- Workshop courses: (1) Significance and Applicability of High-Performance Concrete (HPC), (2) Mix Design for HPC, and (3) Production Methods for HPC, University of Tehran, IRAN

(ii) PhD Dissertation Committee Membership

- XXXX
- Yousif Alqenai, Drexel University, PA
- Mohammad Houshmand, Drexel University, PA
- Robin Deb, Drexel University, PA
- Guido Silva, Pontificia Universidad Católica del Perú, Peru
- Ali Rahmanizadeh, Drexel University, PA
- Mohsen Foroughi, Drexel University, PA
- Mohammad Balapour, Drexel University, PA
- Fadi Althoey, Drexel University, PA
- Parsa Namaki Araghi, Drexel University, PA
- Long Nguyen, Drexel University, PA
- Siavash Vahidi, Drexel University, PA
- Hadi Shagerdi Esmaeeli, Purdue University, PA

(iii) Outreach Activities and Contributions to Diversity

- CAEE Summer CAMP 2022
- 2-Day K-12 Summer Workshop, Self-Healing BioConcrete, August 2021, Eureka Summer Camp, Girls Inc. Philadelphia.
- Taste of Science-Philadelphia, Guest Speaker, April 24, 2018, Philadelphia Science Festival.

- Organizing and Technical Committee Member, K-12 STEM Scholar Workshop: Engineer Your City with Self-Healing Infrastructure, Summer 2017, Franklin Institute STEM Scholar and Elsevier.
- Organizing Member, Middle School STEM Girls Summer Camp, Summer 2017 and Summer 2018, Girls Inc. Philadelphia.

PROFESSIONAL AND SERVICE ACTIVITIES

(i) University Service Activities

- Member, Drexel College of Engineering Research Advisory Committee, 2025 - Present.
- Member and College of Engineering Representative, Drexel University Senate Committee on The Faculty Affairs, 2025 – Present.
- College of Engineering Representative, Drexel University Senate Committee on Research Scholarship & Creative Activity (SCRSCA), 2023- Present.
- Member, Civil Engineering Program Committee, 2021-present.
- Member, Drexel CAEE Strategic Planning Committee, 2021-present.
- Founder and Faculty Advisor, Drexel American Concrete Institute (ACI) Student Chapter, Drexel University, PA, 2017-Present.
- Faculty Advisor, Drexel American Society of Highway Engineers (ASHE) Student Chapter, Drexel University, PA, 2017-Present.
- Faculty Advisor, Drexel American Society of Civil Engineers (ASCE) Student Chapter, Drexel University, PA, 2021-2025.
- Chair, Drexel CAEE Award Selection Committee, 2021-2023.
- CAEE Representative and Member, Drexel COE Award Selection Committee, 2021-2023.
- Boy's Latin Charter School STEM Program, Nov 2022.
- Ben Franklin STEM Scholars Internship Open House, March 2023.
- Drexel College of Engineering Admitted Students Day, Sunday April 24, 2022.
- Drexel CAEE Department Faculty Representative, Undergraduate Open House, Sunday Aug 22, 2021.
- Member, Drexel CAEE Curriculum Committee, 2020-2023.
- Faculty Advisor, Drexel Persian Students Association, Drexel University, PA, 2021-2023.
- Speaker, Lettuce Talk About Research, Drexel ASCE Student Organization Speaker, March 2020.
- Drexel CAEE Department Faculty Representative, Undergraduate Open House, Sunday, Feb 16, 2020.
- Member, Drexel College of Engineering Graduate Programs Committee, 2020.
- Member, Drexel College of Engineering Strategic Planning Committee: Talent Cultivation Working Team, 2019.
- Organizer, PennDOT Staff and Research Directors Visit to College of Engineering Research Capabilities, August 2019.
- Drexel CAEE Department Faculty Representative, Undergraduate Open House, Saturday, August 18, 2019.
- CAEE Department One-on-One Perspective Student Meeting, July 2019.
- Drexel CAEE Department Construction Materials Teaching Lab Update, Summer 2018.
- Drexel CAEE Department Faculty Representative, Undergraduate Open House, Saturday, March 3, 2018.
- Member, Drexel College of Engineering Strategic Planning for Research Committee, Cyber-Physical Infrastructure and Advanced Manufacturing, 2017-2018.
- Drexel ASCE Student Organization Speaker, 2017 and 2018.
- Member, CIVE 375 Curriculum Review Committee Member, Fall 2017, Drexel University, PA.
- Member, CAEE Department Recruitment and Outreach Activities Committee, Fall 2016 - Spring 2017, Drexel University, PA.
- Drexel CAEE Department Representative, Graduate Open House, Saturday, March 18, 2017.
- Drexel CAEE Department Representative, Graduate Open House, Saturday, October 22, 2016.

(ii) Professional Membership

- The International Union of Laboratories and Experts in Construction Materials, Systems and Structures (RILEM)
- American Concrete Institute (ACI)
- American Ceramic Society (ACerS)
- Acoustic Emission Working Group (AEWG)
- Transportation Research Board (TRB)
- American Society of Civil Engineering (ASCE)

- American Society of Engineering Education (ASEE)
- American Society for Testing and Materials (ASTM International)

(iii) Professional Committee Activities

- Visiting Board Member, Eastern Pennsylvania and Delaware Chapter, American Concrete Institute.
- Member, RILEM Committee 289-DCM: Long-term durability of structural concretes in marine exposure conditions, The International Union of Laboratories and Experts in Construction Materials, Systems and Structures.
- Member, RILEM Committee 304-ADC: Assessment of Additively Manufactured Concrete Materials and Structures, The International Union of Laboratories and Experts in Construction Materials, Systems and Structures.
- Voting Member, ACI Committee 81-0A - Materials Journal Associate Editors, American Concrete Institute.
- Voting Member, ACI Committee 242: Alternative Cements, American Concrete Institute.
- Voting Member, ACI Committee 564: 3-D printing with Cementitious Materials, American Concrete Institute.
- Voting Member, ACI Committee 564-0B - Structural Design and Testing, American Concrete Institute.
- Voting Member, ACI Committee 123: Research and Current Developments, American Concrete Institute.
- Associate Member, ACI Committee 236: Material Science of Concrete, American Concrete Institute.
- Associate Member, ACI Committee 201: Durability of Concrete, American Concrete Institute.
- Committee Communications Coordinator, TRB AFN 10: Standing Committee on Basic Research and Emerging Technologies Related to Concrete, National Research Council, The National Academies of Sciences, Engineering, and Medicine, (2016-2022).
- Associate Member, TRB AFN 30: Standing Committee on Durability of Concrete (AFN 30), National Research Council, The National Academies of Sciences, Engineering, and Medicine.
- Associate Member, TRB A0040T: Design and Construction Group Younger Member Subcommittee, National Research Council, The National Academies of Sciences, Engineering, and Medicine.

(iv) Professional Conference/Workshop Activities

- Conference Chair and Organizer, 10th International Conference on Self-healing Materials, Drexel University, Philadelphia, PA, June 8-10, 2026.
- Scientific Committee Member, 10th International Conference on CONcrete under SEvere Conditions – Environment and Loading 2024, Chennai, India, 25-27 Sep 2024.
- Scientific Committee Member, RILEM Spring Convention, Milan, Italy, April 7-12, 2024.
- Session Moderator, RILEM Spring Convention, Milan, Italy, April 7-12, 2024.
- Scientific Committee Member, The 4th International Conference on Green Civil and Environmental Engineering (GCEE 2023), Bali, Indonesia, August 2023.
- Keynote Speaker, The 4th International Conference on Green Civil and Environmental Engineering (GCEE 2023), Bali, Indonesia, August 2023.
- Session Moderator, ACerS 13th Advances in Cement-Based Materials (Cements 2023), Columbia University, New York, June 14–16, 2023.
- Scientific Committee Member, Conference on Self-Healing, Multifunctional and Advanced Repair Technologies in Cementitious Systems, Ghent, Belgium, 22-23 May 2023.
- Session Moderator, Conference on Self-Healing, Multifunctional and Advanced Repair Technologies in Cementitious Systems, Ghent, Belgium, 22-23 May 2023.
- Session Moderator, 3rd RILEM International Conference on Concrete and Digital Fabrication (Digital Concrete 2022), Loughborough, UK, 26-29 June 2022.
- Session Moderator, ACI 123 Concrete Research Poster Session, ACI Spring 2021 Convention, Virtual, March 28-April 1, 2021.
- Session Moderator, ACI 123 Concrete Research Poster Session, ACI Fall 2020 Convention, Virtual, October 25-29, 2020.
- Session Moderator, ACI 123 Concrete Research Poster Session, ACI Fall 2019 Convention, Cincinnati, OH, October 20-24, 2019,
- Session Moderator, ACI 123 Concrete Research Poster Session, ACI Spring 2019 Convention, Quebec City, QC, March 23–27, 2019.
- Conference Scientific Committee Member, 2019 Tran-SET Conference, San Antonio (TX), April 11-12, 2019.

- Session Organizer and Chair, 3D Printing of Cement-Based Materials: Recent Advancements, Potential Challenges and Future Opportunities for Transportation Industry, Transportation Research Board Meeting, National Research Council, Jan 2019, Washington DC.
- Conference Session Chair, Hard Matter Self-Healing Materials 8, 6th International Conference on Self-Healing Materials, Friedrichshafen, Germany, June 25-28, 2017.
- Member of Organizing Committee, International Conference on Advances and Innovations in Engineering, Firat University, Faculty of Engineering in Elazığ, Turkey, May 10-12, 2017.
- Member of Scientific and Technical Committee, International Conference on Advances and Innovations in Engineering, Firat University, Faculty of Engineering in Elazığ, Turkey, May 10-12, 2017.
- Webinar Organizer and Moderator, Advances in Concrete Pavement Joint Durability, Transportation Research Board Meeting, National Research Council, March 2017.
- Conference Session Chair, Performance of Accelerated Concrete: Practical Applications and How They are Working, Transportation Research Board Meeting, National Research Council, Jan 2017, Washington DC.
- Organizing Team Assistant, 4th International Conference on the Durability of Concrete Structures, West Lafayette, Indiana, July 2014
- Organizing Team Assistant, 4th North American Conference on the Design and Use of SCC and 6th International RILEM Symposium on Self-Compacting Concrete: Design, Production, and Placement of SCC, Montreal, Canada, September 2010

(v) Professional Journals/Conferences Activities

Editorial Board Member:

- Associate Editor: ACI Materials Journal (2024-Present).
- Associate Editor: ASCE Journal of Materials in Civil Engineering, ASCE (2021-Present).
- Handling Editor: Transportation Research Record, Journal of Transportation Research Board (2020-Present).
- Editorial Board Member: Journal of Sustainability, MDPI (2020-2023).

Reviewer:

- Journal of Cement and Concrete Composite (Elsevier)
- Journal of Cement and Concrete Research (Elsevier)
- Journal of Construction and Building Materials (Elsevier)
- Journal of Building Engineering (Elsevier)
- Journal of Materials and Structures (Springer)
- ACS Sustainable Chemistry & Engineering (ACS)
- Advances in Civil Engineering Materials (ASTM International)
- Journal of Materials in Civil Engineering (ASCE)
- Journal of Nondestructive Evaluation (Springer)
- Transportation Research Record: Journal of the Transportation Research Board (TRB)
- American Concrete Institute (ACI) Journals and Special Publications
- International Journal of Impact Engineering (Elsevier)
- International Conference on New Material and Chemical Industry
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