Ali Ghahremaninezhad

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Last CV Date Confirmed: 2020-01-30

RESEARCH INTERESTS

NSF CAREER Award: Dr. Ali Ghahremaninezhad receives the NSF CAREER Award titled Bio-Inspired Genetically Engineered Self-Healing for Cementitious Materials. NSF MRI Award: Dr. Ali Ghahremaninezhad (PI) receives the NSF MRI Award titled MRI: Acquisition of a High-Resolution X-Ray Micro-Computed Tomography System for multidisciplinary and Integrated Research and Education. ANNOUNCEMENT: Ph.D. Research Positions in Bio-Inspired Self-Healing of Cementitious Materials Ph.D. research positions are available immediately in the Advanced Materials Research Lab at the University of Miami to perform interdisciplinary research in the area of bio-inspired self-healing of cementitious materials. Highly motivated applicants are encouraged to send a CV to Dr. Ali Ghahremaninezhad via email at a.ghahremani@miami.edu.

HIGHER EDUCATION

- University of Texas at Austin, Austin, Texas, Ph.D. in Engineering Mechanics. (2011)
- Sharif University of Technology, Tehran, Iran, M.S. in Structural Engineering. (2003)
- Sharif University of Technology, Tehran, Iran, B.S. in Civil Engineering. (2001)

EXPERIENCE

- University of Miami, Associate Professor. (2019 - Present)
- University of Miami, Assistant Professor. (2012 - 2019)
- University of Texas, Instructor. (2011 - 2012)
- University of Texas, Postdoctoral Fellow. (2011 - 2012)
- University of Texas, Graduate Research Assistant. (2005 - 2011)
- University of Texas, Teaching Assistant. (2005 - 2010)

PUBLICATIONS

Juried or Refereed Journal Articles or Exhibitions

- Kamali, M., **Ghahremaninezhad, A.** (2018). A Study of Calcium-Silicate-Hydrate/Polymer Nanocomposites Fabricated Using the Layer-By-Layer Method. *Materials,* 11, 527.
- Frota Bashuni, M., Kamali, M., **Ghahremaninezhad, A.** (2018). A study on the hydration, strength and electrical resistivity of ternary cementitious materials containing recycled glass powder. *Frontiers of Structural and Civil Engineering,* 1-10.
- Farzanian, K., **Ghahremaninezhad, A.** (2018). Desorption of superabsorbent hydrogels with varied chemical compositions in cementitious materials. *Mater. Struct.,* 51, 3.
- Kamali, M., **Ghahremaninezhad, A.** (2018). Effect of Biomolecules on the Nanostructure and Nanomechanical

Property of Calcium-Silicate-Hydrate. *Scientific Reports,* 8, 9491.

- Farzanian, K., **Ghahremaninezhad, A.** (2018). On the Effect of Chemical Composition on the Desorption of Superabsorbent Hydrogels in Contact with a Porous Cementitious Material. *Gels,* 4, 70.
- Farzanian, K., **Ghahremaninezhad, A.** (2018). On the interaction between superabsorbent hydrogels and blended mixtures with supplementary cementitious materials. *Advances in Civil Engineering Materials,* 7, 567-589.
- Kamali, M., **Ghahremaninezhad, A.** (2017). An investigation into the influence of superabsorbent polymers on the properties of glass powder modified cement pastes. *Constr. Build. Mater.,* 149, 236-247.
- Flores, J., Kamali, M., **Ghahremaninezhad, A.** (2017). An Investigation into the Properties and Microstructure of Cement Mixtures Modified with Cellulose Nanocrystal. *Materials,* 10, 1-16.
- Wehbe, Y., **Ghahremaninezhad, A.** (2017). Combined effect of shrinkage reducing admixtures (SRA) and superabsorbent polymers (SAP) on the autogenous shrinkage, hydration and properties of cementitious materials. *Constr. Build. Mater.,* 138, 151-162.
- Farzanian, K., **Ghahremaninezhad, A.** (2017). The effect of the capillary forces on the desorption of hydrogels in contact with porous cementitious material. *Mater. Struct.,* 50, 216.
- Gooranorimi, O., **Ghahremaninezhad, A.** (2016). Investigating surface morphology and cracking during lithiation of Al anodes. *AIMS Mater. Sci.,* 3, 1632–1648.
- Kamali, M., **Ghahremaninezhad, A.** (2016). Investigating the hydration and microstructure of cement pastes modified with glass powders. *Constr. Build. Mater.,* 112, 915–924.
- Teixeira, K. P., Rocha, I. P., Carneiro, L. D., Flores, J., Dauer, E. A., **Ghahremaninezhad, A.** (2016). The effect of curing temperature on the properties of cement pastes modified with TiO2 nanoparticles. *Materials ,* 9, 1-15.
- Farzanian, K., Teixeira, K. P., Rocha, I. P., De Sa Carneiro, L., **Ghahremaninezhad, A.** (2016). The mechanical strength, degree of hydration, and electrical resistivity of cement pastes modified with superabsorbent polymers. *Constr. Build. Mater.,* 109, 156–165.
- Kamali, M., **Ghahremaninezhad, A.** (2015). An investigation into the hydration and microstructure of cement pastes modified with glass powders. *Construction and Building Materials,* Accepted..
- Kamali, M., **Ghahremaninezhad, A.** (2015). Effect of glass powders on the mechanical and durability properties of cementitious materials. *Construction and Building Materials,* 98.
- Boyce, B., Kramer, S., Fang, H., Cordova, T., Neilson, M., Dion, K., Kaczmarowski, A., Karasz, E., Xue, L., Gross, A., **Ghahremaninezhad, A.,** Ravi-Chandar, K., Lin, S., Chi, S., Chen, J. (2014). The Sandia Fracture Challenge: blind round robin predictions of ductile tearing. *International Journal of Fracture,* 186, May-68.
- **Ghahremaninezhad, A.,** Ravi-Chandar, K. (2013). Crack nucleation from a notch in a ductile material under shear dominant loading. *International Journal of Fracture,* 184, 253-266.
- **Ghahremaninezhad, A.,** Ravi-Chandar, K. (2013). Ductile failure behavior of polycrystalline Al 6061-T6 under shear dominant loading. *International Journal of Fracture,* 180, 23-39.
- **Ghahremaninezhad, A.,** Ravi-Chandar, K. (2012). Deformation and failure in nodular cast iron. *Acta Materialia,* 60, 2359-2368.
- **Ghahremaninezhad, A.,** Ravi-Chandar, K. (2012). Ductile failure behavior of polycrystalline Al 6061-T6. *International Journal of Fracture,* 174, 177-202.
- **Ghahremaninezhad, A.,** Ravi-Chandar, K. (2011). Ductile failure in polycrystalline OFHC copper. *International Journal of Solids and Structures,* 48, 3299-3311.
- Shadja, H. M., **Ghahremaninezhad, A.** (2006). An FGM coated elastic solid under thermomechanical loading: A two dimensional linear elastic approach. *Surface and Coatings Technology,* 200, 4050-4064.

Conference Proceedings

- Mirante, S., **Ghahremaninezhad, A.** (2018). *The effect of glucose on the properties of cement paste.* International Congress of Polymers in Concrete (ICPIC2018).
- Flores, J., Rocha, I. P., de Sá Carneiro, L., Teixeira, K. P., Kamali, M., **Ghahremaninezhad, A.**

(2016). *Effect of recycled glass powder and nanomaterials on the performance of concrete.* Las Vegas, NV: Proceedings of 4th International Conference in Sustainable Construction Materials and Technologies.

- Farzanian, K., Wehbe, Y., **Ghahremaninezhad, A.** (2016). *The effect of superabsorbent polymers (SAP) on the performance of cementitious materials.* Las Vegas, NV: Proceedings of 4th International Conference in Sustainable Construction Materials and Technologies.
- Flores, J., Kamali, M., **Ghahremaninezhad, A.** (2015). *Electrical Resistivity Measurement to Study Alkali-Silica-Reaction Cracking in Mortar.* Miami, FL: ASCE Forensic Engineering 7th Congress.
- Kamali, M., **Ghahremaninezhad, A.** (2015). *Sustainable Construction Concrete using Recycled Glass.* Miami, FL: 2015 International Concrete Sustainability Conference.

PROFESSIONAL

Funded Research Performed

- Giancaspro, J. W. (Co-Investigator), Ghahremaninezhad, A. (Principal Investigator), "MRI: Acquisition of a High Resolution X-Ray Tomography System for Multidisciplinary and Integrated Research and Education," Sponsored by National Science Foundation (NSF). (2019 - 2022)

- Giancaspro, J. W. (Principal Investigator), Ghahremaninezhad, A. (Co-Investigator), "Hybrid Nanomaterials for Space Habitat Construction," Sponsored by Florida Space Grant Consortium NASA. (2018 - 2020)

- Ghahremaninezhad, A. (Principal Investigator), Knecht, M. R. (Principal Investigator), "A Bio-Inspired Approach to Tailor the Structure and Mechanical Properties of Calcium-Silicate-Hydrate in Infrastructure Materials," Sponsored by Collaborative Research Initiative for the Frost Institute for Chemistry and Molecular Science. (2018 - 2019)

- Ghahremaninezhad, A. (Principal Investigator), "Encouraging Female Students from Minority Communities to Pursue Careers in Sustainable Transportation," Sponsored by FedEx. (2018)

- Ghahremaninezhad, A. (Co-Investigator), Joo, S. H. (Principal Investigator), "Multifunctional Nanostructured Sensors with Structural Property in Space Applications," Sponsored by NASA, Florida Space Research Grant. (2017 - 2018)

- Ghahremaninezhad, A. (Principal Investigator), "Durability Testing and Chemical Characterization of Algae-based Binder Concrete," Sponsored by Oceans Technology Group. (2017 - 2018)

- Ghahremaninezhad, A. (Principal Investigator), "In-situ Materials for Space Infrastructure Using 3D Printing," Sponsored by NASA, Florida Space Research Grant. (2016 - 2018)

- Ghahremaninezhad, A., Sponsored by Federal Highway Administration, National Summer Transportation Institute. (2017)

- Ghahremaninezhad, A., "Bio-inspired bacteria induced biomineralization for self-healing of smart infrastructure materials," Sponsored by 2014 Provost Research Awards. (2016 - 2017)

- Ghahremaninezhad, A., Sponsored by Federal Highway Administration, National Summer Transportation Institute. (2016)

- Ghahremaninezhad, A. (Collaborator), "REMADE ," Sponsored by DOE. (- 2016)

- Ghahremaninezhad, A., Sponsored by Federal Highway Administration, National Summer Transportation Institute. (2015)

- Ghahremaninezhad, A., "Nanostructured Multifunctional Structural-Energy Storage Material Systems," Sponsored by 2014 Provost Research Awards. (2014 - 2015)

- Ghahremaninezhad, A. (Principal Investigator), "The Structural and Durability Performance of Glass Modified Concrete," Sponsored by Florida Department of Transportation and The Hinkley Center. (2013 - 2015)

Editorial Responsibilities

Professional and Honorary Organizations

- American Concrete Institute , Member. (2014 - Present)
- American Society of Mechanical Engineers, Member. (2013 - Present)