

EDUCATION	<ul style="list-style-type: none"> <li>- <b>Georgia Institute of Technology</b>, Atlanta, GA Ph.D., Civil and Environmental Engineering <span style="float: right;">Aug. 11 - May 15</span> Thesis: <i>Physical Properties of Geomaterials for Thermal Energy Geosystems</i> Major: Experimental Geomechanics; Minor: Computational heat transfer and mass transport through fractured porous media</li> <li>- Amirkabir University of Technology (Tehran Polytechnic), Tehran, Iran M.Sc., Geotechnical Engineering <span style="float: right;">Sep. 04 - Mar. 07</span> Thesis: <i>Numerical Modeling of the Behavior of Granular Materials under Triaxial Loading with Discrete Element Method</i></li> <li>- Semnan University, Semnan, Iran B.Sc., Civil Engineering <span style="float: right;">Sep. 99 - Jun. 03</span></li> </ul>
EMPLOYMENT	<ul style="list-style-type: none"> <li>- <b>Assistant Professor, The University of Utah</b> <span style="float: right;">Jul. 21 - on</span></li> <li>- Lecturer, California State University, Long Beach <span style="float: right;">Aug. 19 - June 21</span></li> <li>- Research Scientist, California Institute of Technology <span style="float: right;">Feb. 16 - Dec. 19</span></li> <li>- Graduate Research Assistant, Georgia Institute of Technology <span style="float: right;">Aug. 11 - Dec. 15</span></li> <li>- Senior Engineer, Imen Saazeh Fadak Consultants, Tehran <span style="float: right;">Sep. 05 - Jul. 10</span></li> <li>- Staff Engineer, Prozheh Saaz Consultants, Tehran, Iran <span style="float: right;">Jul. 03 - Aug. 05</span></li> </ul>
SELECT HONORS AND AWARDS	<ul style="list-style-type: none"> <li>- <i>ARMA Future Leader</i>, American Rock Mechanics Association <span style="float: right;">Jun. 24, 2020</span></li> <li>- <i>WPI STEM Faculty Launch</i>, NSF, Worcester Polytech. Inst. <span style="float: right;">Oct. 2-3, 2019</span></li> <li>- <i>NHERI Summer Institute</i>, NSF, Univ. Texas San Antonio <span style="float: right;">Jun. 4-6, 2018</span></li> <li>- <i>USUCGER Early Career Workshop</i>, NSF, CWRU <span style="float: right;">May 20-22, 2018</span></li> <li>- <i>Graduate Research Fellowship</i>, CEE, Georgia Tech, Atlanta, GA <span style="float: right;">2011-2015</span></li> <li>- <i>Full Scholarship for Graduate Studies</i>, Tehran Polytechnic, Iran <span style="float: right;">2004-2007</span></li> <li>- <i>Full Scholarship for Undergrad Studies</i>, Semnan Univ., Iran <span style="float: right;">1999-2003</span></li> <li>- <i>Programming Olympiad</i>, Runner Up, Tehran, Iran <span style="float: right;">Nov. 1998</span></li> </ul>
PROFESSIONAL MEMBERSHIPS	<ul style="list-style-type: none"> <li>- American Society of Civil Engineers <i>ASCE</i> <span style="float: right;">2001-on</span></li> <li>- Geo-Institute <i>GI</i> and Engineering Mechanics Institute <i>EMI</i> <span style="float: right;">2007-on</span></li> <li>- International Society of Soil Mech. and Geotech. Engr. <i>ISSMGE</i> <span style="float: right;">2007-on</span></li> <li>- US Universities Council on Geotech. Education and Research <i>USUCGER</i> <span style="float: right;">2011-on</span></li> <li>- American Rock Mechanics Association <i>ARMA &amp; ISRM</i> <span style="float: right;">2017-on</span></li> <li>- Society of Women Engineers <i>SWE</i> <span style="float: right;">2016-2019</span></li> <li>- American Geophysical Union <i>AGU</i> <span style="float: right;">2016-on</span></li> <li>- Society of Petroleum Engineers <i>SPE</i> <span style="float: right;">2017-2020</span></li> </ul>
SELECT RESEARCH PROPOSALS	<ul style="list-style-type: none"> <li>- <i>Compressibility of Heavy Oil-Bearing Sediments under Temperature Treatments</i>, American Chemical Society, PI, under Review <span style="float: right;">Oct. 2022</span></li> <li>- <i>CarbonSAFE Phase II: Storage Complex Feasibility</i>, National Energy Technology Laboratory, Department of Energy, Key Personnel <span style="float: right;">Sep. 2022</span></li> <li>- <i>Offshore Energy Safety: Gulf Research Program</i>, National Academies of Sciences, Engineering, and Medicine, PI, under Review <span style="float: right;">Aug. 2022</span></li> <li>- <i>Non-Destructive Evaluation of Cracks in Concrete Bridge Decks</i>, Utah Department of Transportation, PI, deferred to Mar. 23 <span style="float: right;">Mar. 2022</span></li> <li>- <i>Hybrid Numerical Simulation of Hydraulic Fractures in Pre-fractured Rocks and Induced Seismicity</i>, Microseismic Inc., PI, funded <span style="float: right;">Nov. 2019</span></li> <li>- <i>Direct monitoring of hydraulic fractures in rocks using Neutron Tomography</i>, Institut Laue-Langevin, Grenoble, France, PI, funded <span style="float: right;">Feb. 2017</span></li> </ul>

SELECT  
PUBLICATIONS

- **Roshankhah, S.** (2023). "The Role of Natural Fracture Density and Orientation and Rock Matrix Permeability on Fracture Network Growth upon Fluid Injection in Naturally Fractured Rocks: A Computational Study." *JRMRE*, In submission.
- Mohammadi, K., Pu, Y., Sadeghpour, H.\*, & **Roshankhah, S.** (2023). "Characteristics of Induced Seismicity in terms of Rock Natural Fracture Density and Orientation" *JGR Solid Earth*, In submission.
- **Roshankhah, S.** & Sadeghpour, H.\* (2023). "Hydraulic Fractures in Naturally Fractured Reservoirs Bounded by Different Lithologies." *57th US Rock Mechanics and Geomechanics Symposium*, Atlanta, In submission.
- **Roshankhah** & Mohammadi (2023) "Pre-to-Post-Failure behavioral spectrum of jointed rock slopes." *Geocongress*, Mar. 26-29, CA, USA.
- Mohammadi, McCormack, Dvory, & **Roshankhah** (2022) "Seismic Behavior of Naturally Fractured Rocks involved in Deep Geo-energy Applications." *Coupled Processes in Fractured Geological Media*, Nov. 14-16, Berkeley, CA, USA.
- **Roshankhah** & McLennan (2022) "HF Containment in Reservoirs Bounded by Other Rock Layers" *Rock Mech. & Geomech. Symp.*, Jun. 26-29, NM, USA.
- **Roshankhah**, Teimouri, & Mohammadi (2021) "Thermo-Mechanical Response of Layered Rocks upon Single-Mode Microwave Treatment." *International Geomechanics Symposium*, Nov. 3-5, Virtual.
- **Roshankhah**, Garcia, & Santamarina (2021) "Thermal Conductivity of Sand-Silt Mixtures." *Journal of Geotech. and Geoenviron. Engineering*. 147(2).
- **Roshankhah**, K-Nejad, Mohammadi, & Teran (2020) "Behavior of Pre-fractured Rocks subjected to Hydraulic Fracturing: A Finite-Discrete Element Modeling." *International Conference on Energy Geotechnics*, Apr. 10-13, CA, USA.
- **Roshankhah** & Mohammadi (2020) "Fabric-dependent Hydro-Mechanical Behavior of Pre-fractured Rocks." *Geocongress*, Feb. 25-28, MN, USA.
- **Roshankhah**, Cruz, Shin, Lizcano, & Santamarina (2019) "Kinematic Dilation During the Hydraulic Stimulation of Pre-fractured Rocks." *Geotechn. Let.*, 9(2).
- Angulo-Ruiz, **Roshankhah**, & Hunt (2019) "Elasto-plastic Surface Deformation and Rebound for Normal Particle-Wall Collisions in Various Fluids." *The Journal of Fluid Mechanics*, 871, 1044-1066.
- Bachus, **Roshankhah**, Santamarina, et al. (2019). "Characterization and Engineering Properties of Dry and Ponded Class-F Fly Ash." *The Journal of Geotechnical and Geoenvironmental Engineering*, 145(3), 1-11.
- **Roshankhah**, Mohammadi, Yu, & Miao (2019) "Relative Orientations Matter: Orientations of Wellbore, Bedding Planes, & Principal Stresses." *The 53rd US Rock Mechanics & Geomechanics Symposium*, Jun. 23-26, NYC, USA.
- **Roshankhah**, Rosakis, Viggiani, Andrade, et al. (2018). "Neutron Imaging: Lab Observation of Hydraulic Fractures in Shales" *Geotech. Let.*, 8(4), 316-323.
- **Roshankhah** & Santamarina (2014). "Engineered Granular Materials for Heat Conduction and Load Transfer." *Geotech. Let.*, 4(2), 145-150.

SELECT INVITED  
TALKS

*Tailoring the Fracture Network Evolution and Response of Civil, Energy, and Environmental Geosystems*

- University of Illinois Urbana-Champaign Mar. 10, 2023
- Northwestern University Mar. 8, 2023
- ARMA Future Leaders Lecture Series Feb. 10, 2023
- Chemical Engineering, University of Utah Jan. 30, 2023
- CEE, University of Utah Mar. 30, 2021
- Auburn University Feb. 19, 2021
- University of Houston Jan. 12, 2021
- Rutgers University Feb. 05, 2020
- North Carolina State University Jan. 30, 2020
- University of Akron Mar. 20, 2019

- Drexel University Mar. 12, 2019
- University of California, San Diego Nov. 30, 2018
- University of California, Irvine Nov. 28, 2018

TEACHING &  
MENTORING  
EXPERIENCES

*Graduate Courses*

- **Jointed Rock Mechanics and Stability**, University of Utah Fall 2023
- **Advanced Foundation Engineering**, University of Utah Fall 2022

*Undergraduate Courses*

- **Geotechnical Engineering (theory and Lab)**, Univ. Utah Spring 2022 & 23
- **Civil Engineering Materials (theory and Lab)**, Univ. Utah Fall 2021
- **Geotechnical Engineering (theory)**, Cal State Long Beach Spring 2020 - 2021
- **Civil Engineering Materials (theory and Lab)**, CSULB Fall 2019 - 2021
- **Geotechnical Engineering (theory)**, Cal Poly Pomona Fall 2019

*Mentoring*

- **UROP**, Univ. Utah Spring 2023
  - \* Hannah Morrison, Senior Honor student in CEE: DIC for HF in jointed rocks
  - \* Jun Ha Kim, Senior Honor student in CEE: AE for HF in jointed rocks
- **Mentor-Student Program**, ARMA Jun. 2022 - on
- **Research advising and mentoring**, University of Utah Aug. 2021 - on
  - \* Morteza Shafiei, Acoustic Emissions for Crack Evaluations (PhD student)
  - \* Hamid Sadeghpour, Mechanical Behavior of Layered Materials (PhD student)
- **UROP**, University of Utah Summer 2022
  - \* Collin Dover, Freshman in CS: Data logging
- **High School Internship Program**, University of Utah Summer 2022
  - \* Calista Ousley, What are Geotechnical and Geo-Energy engineering Disciplines?
- **UROP**, University of Utah Spring 2022
  - \* Tory Duval, Junior in CEE: Root-inspired Anchorage Systems
  - \* Naeun Lee, Junior in CEE: Root-inspired Anchorage Systems
  - \* Damien Redder, Junior in CEE: self-healing or Bio-concrete
- **Undergraduate Research Fellowship**, Caltech Summer 2018 and 19
  - \* Rahul Arun, senior undergrad student in ME: Rheology of Granular Materials
  - \* Olivia Ernst, senior undergrad student in ME: Rheology of Granular Materials
- **Freshman Research Institute**, Caltech Summer 2016
  - \* Kenny Duran, Freshman in ME: Characteristics of Heavy Oils
- **Senior Undergrad Research Assistant**, Georgia Tech Summer 2013 and 14
  - \* Adrian Garcia, senior in CEE: Thermal Conductivity of Granular Materials

SELECT  
LEADERSHIP AND  
PROFESSIONAL  
SERVICES

- **Founder**: ARMA Future Leader Lecture Series Sep. 2022-on
- **Member**: ARMA Future Leader Selection Committee Classes 2021 & 2022
- **Member**: ARMA Early Career Keynote Speaker Selection Committee Feb. 2023
- **Faculty Advisor**: ARMA Student Chapter at Univ. Utah Aug. 2022-on
- **Panelist in 2022 AGI Leadership Forum** Mar. 28-29, 2022
- **Committee Member**:
  - \* Geo-Institute Rock Mechanics Jan. 2022 - on
  - \* ARMA Hydraulic Fracturing Apr. 2022 - on
  - \* ARMA Underground Storage & Utilization Sep. 2022 - on
- **Session Chair**
  - \* 54th thru 57th Rock Mechanics and Geomechanics Symposia Jan. 20 - Jun. 23
  - \* *2nd International Conference on Energy Geotechnics* Jul. 19-Sep. 20
  - \* *Engineering Mechanics Institute, 2017* Sep. 16-Jul. 17
- **Technical Reviewer** for seven journals and five conferences Aug. 2015 - on