

Kosar Mozaffari | Curriculum Vitæ

Department of Mechanical Engineering, Room W232, University of Houston
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Education

University of Houston

PhD in Mechanical Engineering, US

GPA: 4.0/4.0

Courses:

- Methods of Applied Mathematics I & II
- Continuum Mechanics I & II
- Applied Nonlinear Optimization
- Computational Modeling
- Finite Element Methods
- Homogenization Theory for Heterogeneous Materials
- Deep Learning

Sharif University of Technology

BSc in Structural Engineering, Iran

GPA: 17.18/20

Houston, Texas

Jun 2018 – Present

Tehran

Sep 2011 – May 2015

Academic Experiences

UNIVERSITY OF HOUSTON

Research Assistant, US

- Effective ionic conductivity of soft solid heterogeneous electrolytes
- Apparent piezoelectricity in 2D electrets of ultra-thin MoO₂

UNIVERSITY OF HOUSTON

Teaching Assistant, US

- Solid Mechanics (Fall 2018) (Instructor: Dr. Yashashree Kulkarni)
- Solid Mechanics (Spring 2019) (Instructor: Dr. Yashashree Kulkarni)
- Mechanics II (Summer 2019) (Instructor: Dr. Yashashree Kulkarni)
- Thermodynamics (Fall 2019) (Instructor: Dr. Holley Love)
- Solid Mechanics (Spring 2020) (Instructor: Dr. Yashashree Kulkarni)
- Solid Mechanics (Summer 2020) (Instructor: Dr. Yashashree Kulkarni)

SHARIF UNIVERSITY OF TECHNOLOGY

Research Assistant, Iran

- Singularities near a circular nano-inhomogeneity considering surface/interface elasticity

Houston, Texas

Jun 2018 – Present

Houston, Texas

Aug 2018 – Aug 2020

Tehran

Sep 2015 – Apr 2017

Awards and Certificates

Sep 2020: ABS Scholarship Award, University of Houston, Houston, Texas, US

Apr 2019: ABS Scholarship Award, University of Houston, Houston, Texas, US

Apr 2019: Outstanding Teaching Assistant Award, University of Houston, Houston, Texas, US

Feb 2018: Presidential Fellowship, University of Houston, Houston, Texas, US

Feb 2018: Houston Endowment Fellowship, University of Houston, Houston, Texas, US

Sep 2015 - Apr 2017: Member of Iran's National Elites Foundation, Tehran, Iran

Apr 2015: Merit-based M.Sc Admission Offer, Sharif University of Technology, Tehran, Iran

Apr 2015: Ranked within the top 10% among more than 100 undergraduate students of Civil Engineering Department, Sharif University of Technology, Tehran, Iran

Sep 2011: Ranked top 0.1 percent in the Iranian Nationwide University Entrance Exam, Iran

Sep 2004 - Apr 2011: Qualified as a member of National Organization for Developing Exceptional Talents (NODET), Tehran, Iran

Publications

- **Mozaffari, K.**, Liu, L., & Sharma, P. (2020). "Theory of soft solid electrolytes: overall properties of composite electrolytes, effect of deformation and microstructural design for enhanced ionic conductivity.", *Journal of the Mechanics and Physics of Solids*, Submitted
- Torbati, M., **Mozaffari, K.**, Liu, L., & Sharma, P. (2020). "The coupling of mechanical deformation and electromagnetic fields in biological cells." *Reviews of Modern Physics*, Submitted
- Darbaniyan, F., **Mozaffari, K.**, Liu, L., & Sharma, P. (2020). "Soft matter mechanics and the mechanisms underpinning the infrared vision of snakes.", *Matter*, Accepted for publication
- Apte, A., **Mozaffari, K.**, Samghabadi, F. S., Hachtel, J. A., Chang, L., Susarla, S., ... & Sharma, P. (2020). "2D Electrets of Ultrathin MoO₂ with Apparent Piezoelectricity.", *Advanced Materials*, 2000006
- **Mozaffari, K.**, Yang, S., & Sharma, P. (2019). "Surface Energy and Nanoscale Mechanics." *Handbook of Materials Modeling: Applications: Current and Emerging Materials*, 1-26

Skills

Programming: MATLAB, Mathematica, Pascal, Python, C++

Languages

Azerbaijani(Turkish): Mother tongue

Persian: Native language

English: Professional proficiency

References

Dr. Pradeep Sharma (Current Advisor)

Professor and Chair of Mechanical Engineering Department, Houston, Texas

Email:psharma@uh.edu

UNIVERSITY OF HOUSTON

Dr. Yashashree Kulkarni

Professor of Mechanical Engineering Department, Houston, Texas

Email:ykulkarni@uh.edu

UNIVERSITY OF HOUSTON

Dr. Liping Liu

Professor of Mechanical & Aerospace Engineering Department, Piscataway, New Jersey

Email:liu.liping@rutgers.edu

RUTGERS UNIVERSITY