

Curriculum Vitae of Amir Mohammadi Nasab

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| CONTACT INFORMATION | Yale University Department of Mechanical Engineering and Materials Science New haven, CT 06511 Office Location: <i>The Faboratory</i> | Webpage: http://www.amnasab.com ✉: amir.nasab@yale.edu ✉: amir.mns2004@gmail.com |
| | Google Scholar: http://scholar.google.com/AmirMohammadiNasab | |
| RESEARCH INTERESTS | Solid Mechanics: Adhesion Mechanics, and Mechanical Instability of Thin Structures. Materials Engineering: Multifunctional Composite Materials, and Biomimetic Materials. Thermophysics: Thermal Analysis, Thermoeconomic Optimization, and Materials for Energy Applications. Soft Robotics: Actuation, Mechanisms, and Materials, using fundamental insights from the above. | |
| EDUCATION | University of Nevada, Reno (UNR), NV, USA <ul style="list-style-type: none">– Ph.D., Department of Mechanical Engineering Fall 2014 - Spring 2019– GPA: 4.0/4.0– Advisor: Dr. Wanliang Shan (Now at Syracuse University)– Research and Teaching Assistant Fall 2014 - Spring 2019– Lab Manager at Shan Research Group (SRG) May 2018 - May 2019– Thesis: Integrating Smart Materials and Adhesion Mechanics for Soft Gripping Mechanisms– Collaboration started with Dr. Kevin Turner at University of Pennsylvania, and Dr. Carmel Majidi at Carnegie Mellon University Iran University of Science and Technology (IUST), Tehran, Tehran, Iran <ul style="list-style-type: none">– M.S., Department of Mechanical Engineering 2007 - 2010– Thesis: Modeling and optimizing a CHP system for a natural gas pressure reduction plant– Genetic algorithm was implemented for Thermoeconomic optimization of a CHP system Amirkabir University of Technology (AUT), Tehran, Tehran, Iran <ul style="list-style-type: none">– B.S., Department of Aerospace Engineering 2003 - 2007 | |
| APPOINTMENT HELD | Postdoctoral Associate, Department of Mechanical Engineering and Material Science, Yale University, The Faboratory, New haven, CT, USA Sep. 2019 - Present <ul style="list-style-type: none">– Advisor: Dr. Rebecca Kramer-Bottiglio– Co-designed a highly stretchable multiphase composite with uniform conductivity– Designed a variable stiffness, electrically conductive, and highly stretchable composite for controlling the trajectories of inflatable soft bodies | |
| PEER REVIEWED PUBLICATIONS | Reverse Chronological Order; ° Co-first Author; * Corresponding Author. [12] A. Mohammadi Nasab , S. Sharifi, S. Chen, Y. Jiao, and W.L. Shan*, <i>Robust three-component elastomer-particle-fiber composites with tunable properties for soft robotics</i> , Advanced Intelligent Systems 2020: 2000166. Link [11] A. Luo°, A. Mohammadi Nasab °, M. Tatari, S. Chen, W.L. Shan*, and K.T. Turner*, <i>Adhesion of flat-ended pillars with non-circular contacts</i> , Soft Matter 2020. Link [10] A. Mohammadi Nasab °, A. Luo°, S. Sharifi, K.T. Turner*, and W.L. Shan*, <i>Switchable Adhesion via Subsurface Pressure Modulation</i> , ACS Applied Materials & Interfaces 2020, 12 (24), 27717-27725. Link | |

- [9] R. A. Bilodeau^o, **A. Mohammadi Nasab**^o, D. S. Shah, and R. Kramer-Bottiglio*, *Uniform Conductivity in Stretchable Silicones via Multiphase Inclusions*, **Soft Matter** 2020, 16 (25), 5827-5839. [Link](#)
- [8] S. Kriegman, **A. Mohammadi Nasab**, D. Shah, H. Steele, G. Branin, M. Levin, J. Bongard, R. Kramer-Bottiglio, *Scalable sim-to-real transfer of soft robot designs*, **IEEE RAS International Conference on Soft Robotics (RoboSoft)** 2020. [Link](#)
- [7] X. Huang, K. Kumar, M. K. Jawed, **A. Mohammadi Nasab**, Z. Ye, W. Shan, and C. Majidi*, *Highly Dynamic Shape Memory Alloy Actuator for Fast Moving Soft Robots*, **Advanced Materials Technologies** 2019: 1800540. [Link](#)
- [6] X. Huang, K. Kumar, M. K. Jawed, **A. Mohammadi Nasab**, Z. Ye, W. Shan, and C. Majidi*, *Chasing Biomimetic Locomotion Speeds: Creating Untethered Soft Robots with Shape Memory Alloy Actuators*, **Science Robotics** 2018, 3 (25), 7557. [Link](#)
- [5] D. Wang, N. Hu, S. Huang, **A. Mohammadi Nasab**, K. Yang, M. C. Abate, X. Yu, L. Tan, W.L. Shan, and Z. Chen*, *Buckling and post-buckling of an elastic rod embedded in a bilayer matrix*, **Extreme Mechanics Letters** 2018, 25, 16. [Link](#)
- [4] M. Tatari, **A. Mohammadi Nasab**, K.T. Turner*, W.L. Shan*, *Dynamically Tunable Dry Adhesion via Subsurface Stiffness Modulation*, **Advanced Materials Interfaces** 2018, 5 (18), 1800321. [Link](#)
- [3] **A. Mohammadi Nasab**^o, A. Sabzehzar^o, M. Tatari, C. Majidi, and W.L. Shan*, *A Soft Gripper with Rigidity Tunable Elastomer Strips as Ligaments*, **Soft Robotics** 2017, 4 (4), 411420. [Link](#)
- [2] **A. Mohammadi Nasab**, D. Wang, Z. Chen, and W.L. Shan*, *Buckling shape transition of an embedded thin elastic rod after failure of surrounding elastic medium*, **Extreme Mechanics Letters** 2017, 15, 51-56. [Link](#)
- [1] S. Sanaye*, and **A. Mohammadi Nasab**, *Modeling and optimizing a CHP system for natural gas pressure reduction plant*, **Energy** 2012, 40 (1), 358369. [Link](#)

PRESENTATIONS **Conference Talks:**

- [4] International Mechanical Engineering Congress and Exposition (IMECE), Pittsburgh, Pennsylvania, USA 2018.
- [3] International Mechanical Engineering Congress and Exposition (IMECE), Tampa, Florida, USA 2017.
- [2] International Mechanical Engineering Congress and Exposition (IMECE), Phoenix, Arizona, USA 2016.
- [1] The 53rd Annual Technical Meeting of the Society of Engineering Science (SES), College Park, Maryland, USA 2016.

Poster Presentations:

- [1] Gordon Research Conference on Adhesion Science of, South Hadley, Massachusetts, USA 2016.

TEACHING

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|---|-------------|
| Instructor for “ System Analysis and Design (ME310) ”, UNR. | Summer 2019 |
| Instructor for “ Introduction to Robotics (ME422/622) ”, UNR. | Spring 2018 |
| Assistant of Instruction for “ Introduction to Robotics (ME422/622) ”, UNR. | 2014- 2016 |
| Assistant of Instruction for “ Introduction to Mechanical Engineering II (ME151) ”, UNR. | Fall 2016 |
| Substitute instructor for “ Continuum Mechanics (ME720) ”, UNR. | Spring 2016 |

HONORS
AND
AWARDS

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| Graduate Deans Merit Scholarship, UNR. | 2017-2018 |
| Outstanding International Graduate Student Award, UNR. | 2017-2018 |
| Outstanding International Graduate Student Award, UNR. | 2016-2017 |

International Graduate Student Scholarship, UNR. 2016-2017
Douglas Bevans Mechanical Engineering Scholarship, UNR. 2015-2016

PROFESSIONAL
AFFILIATIONS
AND SERVICES

Reviewer:

Journal of Soft Robotics, Journal of Frontiers in Robotics and AI Soft Robotics, IEEE International Conference on Robotics and Automation (ICRA), International Conference on Intelligent Robots and Systems (IROS), IEEE International Conference on Soft Robotics (RoboSoft), and IEEE Transaction on Robotics (T-RO).

Memberships and Services:

American Society of Mechanical Engineers (ASME), Student Membership. 2016-2019
Society for the Advancement of Material and Process Engineering (SAMPE), Student Membership. 2017-2018
Materials Research Society (MRS), Student Membership. 2019-2020

RESIDENCY
STATUS

Permanent resident

REFERENCES

Available upon request.

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