

DAVOOD ASKARI, PhD

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As an assistant professor of mechanical engineering, Dr. Askari is actively involved in teaching, research, professional services, and scholarship activities. His research and teaching interests include design, materials, manufacturing, composites, nanostructures, and nanocomposites.

(a) PROFESSIONAL PREPARATION

Sharif University of Technology, Tehran, IRAN	Mechanical Engineering	B.Sc. 1997
Eastern Mediterranean University, Famagusta, N. Cyprus	Mechanical Engineering	M.Sc. 2002
University of Hawaii at Manoa, Honolulu, HI, US	Mechanical Engineering	Ph.D. 2009
Villanova University, Villanova, PA, US	Nan-Bio-Mechanical Characterization Lab	Postdoctoral Feb.–Aug. 2009

(b) APPOINTMENTS

Aug. 2013 – to date	Assistant Professor, Department of Mechanical Engineering, Wichita State University (WSU), Wichita, KS.
Aug. 2009–May 2013	Assistant Professor, Department of Engineering, The University of Texas at Brownsville (UTB), Brownsville, TX.
Aug. 2003-Jan. 2009	Research Assistant, University of Hawaii at Manoa (UH-Manoa), HI
Sept. 2000-June 2003	Teaching/Research Assistant, Department of Mechanical Engineering, Eastern Mediterranean University (EMU), Famagusta, Northern Cyprus
May 1997-Sept. 2000	Mechanical Design Engineer, Advanced Manufacturing Research Center (AMRC), Sharif University of Technology (SUT), Tehran, Iran.

(c) RESEARCH INTERESTS:

1. Synthesis, characterization, and applications of 3 – D carbon nanostructures
2. Fabrication, characterization, and applications of intermetallic silver gallium NanoNeedles
3. Synthesis, characterization, and applications of hydrophobic and superhydrophobic thin films
4. Design, analysis, manufacturing, and testing of composites and multifunctional nanocomposites
5. Nanoindentation of nanocomposites, biological hard tissues, and hard shells
6. Numerical and analytical modeling of nanostructures, composites, and nanocomposites
7. Design and Analysis of Mechanical Subsystems

(d) TEACHING EXPERIENCE:

(i) *Courses taught in Mechanical Engineering Department of the Wichita State University*

1. ME 762 – Polymeric Composite Materials
2. ME 650T – Manufacturing of Composites

3. ME 650TL – Manufacturing of Composites Lab
4. ME 541 – Mechanical Engineering Design II
5. ME 439 – Mechanical Engineering Design I

(ii) *Courses taught in Engineering Department of the University of Texas at Brownsville*

1. ENGR 4309 – Mechanical Subsystem Design
2. ENGR 4407 – Manufacturing Process Technologies
3. ENGR 3405 – Engineering Materials and Lab
4. ENGR 2307 – Engineering Materials I for Engineering Technology Students and Lab
5. ENGR 1304 – Engineering Graphics I and Lab
6. UNIV 1101 – First Year University Seminar

(e) SELECTED 10 PUBLICATIONS:

1. Askari, D., P. Veedu, V., and Ghasemi Nejhad, M. N., “A Theoretical Investigation on Chirality Dependence of Single-Walled Carbon Nanotubes Thermal Conductivity,” *Nano Communications*, Vol. 1, No. 1, pp 22-30, 2014.
2. *Kalamkarov, A. L., *Askari, D., and Ghasemi Nejhad, M. N., “Transversely Isotropic Constitutive Properties Modeling of Tubular Sandwich Composite Structures: Axial Mechanical Properties,” *Journal of Thermoplastic Composite Materials*, Vol. 27, No 10, pp. 1349–1369 (2014) (*equal contribution).
3. Martirosyan, K. S., Bouniaev, M. M., Rakhmanov, M., Touhami, A., Islam, N., Askari, D., Trad, T., Litvinov, D., Lyshevski, S. E., “An Integrated Multidisciplinary Nanoscience Concentration Certificate Program for STEM Education,” *Journal of Nano Education*, Vol. 5, No. 2, pp. 154-163 (2013).
4. Kumar, S., Lopez, C., Probst, O., Francisco, G., Askari, D., and Yang, Y., “Flow Past a Rotationally Oscillating Cylinder,” *Journal of Fluid Mechanics*, Vol. 735, pp. 307-346 (2013).
5. Islam, N. and Askari, D., “Performance Improvement of an AC Electroosmotic Micropump by Hydrophobic Surface Modification,” *Microfluidics and Nanofluidics*, Vol. 14, Issue 3-4, pp 627-635 (2013).
6. Askari, D. and Ghasemi Nejhad, M. N., “Effects of Vertically Aligned Carbon Nanotubes on Shear Performance of Laminated Nanocomposites Bonded Joints,” *Science and Technology of Advanced Materials*, Vol. 13, No. 4, pp. 045002, (2012).
7. Askari, D. and Feng, G. “Finite Element Analysis of Nanowire Indentation on a Flat Substrate,” *Journal of Materials Research*, Vol. 27, Issue 03, pp 586-591, (2012)
8. Jalilian, R., Rivera, J., Askari, D., Arva, S., Rathfon, J. M., Cohn, R. W., and Yazdanpanah, Mehdi M. "Towards Wafer-Scale Patterning of Freestanding Intermetallic Nanowires," *Nanotechnology*, Vol. 22, No. 29, pp. 295601-295607, (2011).
9. Kalamkarov, A. L., Askari, D., Veedu, P. V., Ghasemi Nejhad, M. N., “Generally Cylindrical Orthotropic Constitutive Properties Modeling of Single-Walled Nanotubes Filled with Matrix,” *Journal of Composite Materials*, Vol. 41, No. 6, pp. 757-779, (2007).
10. Askari, D., Veedu, P. V., Ghasemi Nejhad, M. N., “Chirality Dependence of Single-Walled Carbon Nanotube Material Properties: Axial Coefficient of Thermal Expansion,” *Journal of Nanoscience and Nanotechnology*, Vol. 6, No. 7, pp. 2167-2174, (2006).

(f) AWARDS AND GRANTS:

1. Ghasemi Nejhad, M. N., Veedu, P. V., Cao, A., Ajayan, P., Askari, D., “Three-Dimensionally Reinforced Multifunctional Nanocomposites,” US – International Patent, *Issued No.: 8,148,276*, Awarded date: April 3, 2012.

2. Ghasemi Nejhada, M. N., Veedu, P. V., Askari, D., Yuen, A., “Polymer Matrix Composites with Nano-scale Reinforcement,” US – International Patent, *Issued No.: 7,875,212*, Awarded date: Jan. 25, 2011.
3. Islam, N. (PI), Askari, D. (Co-PI), Kumar, S. (Co-PI), Yang, Y. (Co-PI), Ciocanel, C. (Co-PI), “Acquisition of Micro Particle Image Velocimetry (micro-PIV) System for Microfluidics and Biomedical Applications,” NSF-MRI, Proposal No: 1338008, Sept. 1, 2013, \$ 173,274.
4. Askari, D. “Synthesis of Carbon Nanotubes and Fabrication and Testing of 3D Reinforced Nanocomposites,” Olegario Vazquez Rana/Frances Rusteberg Faculty Fellowship, College of Science, Math, and Technology, University of Texas at Brownsville, Jan. 30, 2012, \$2,350.
5. Huq, H. F. (PI), Askari, D. (Co-PI), Mihut, D. (Co-PI), Islam, N. (Co-PI), and Tidrow S. C., “Acquisition of a Sputtering System for Device and Material Research (SDMR) at Hispanic Gateway Institutions,” NSF-MRI, Proposal No: 1229523, January 26, 2012, \$215,000.
6. Martirosyan, K. S. (PI), Askari, D. (Co-PI), Islam, N. (Co-PI), Touhami, A. (Co-PI), and Trad, T. (Co-PI), “NUE: Development of the Nanoscale Engineering Concentration (NEC) at the University of Texas at Brownsville,” NSF-Nanotechnology Undergraduate Education, Proposal No: 1138205, April 20, 2011, \$200,000.

(g) SYNERGISTIC ACTIVITIES

1. Served as a reviewer for several scientific journals and technical conferences
2. Served as a symposium organizer and session chair for several technical conferences
3. Served as a technical committee member in technical conferences and societies
4. Member of several professional societies
5. Attended numerous professional development workshops related to teaching and research
6. Served in various departmental and college committees
7. Served as an advisor/supervisor for undergraduate, Master’s, and PhD students’ research
8. Have collaborated with researchers from other universities and industry

(h) LINK TO “EXTENDED CV”

(i) LINK TO ”RESEARCH WEBPAGE”

- 1. Research Interests (under construction)**
- 2. Research Projects (under construction)**
- 3. Existing Research Facilities/Equipment in TBA Lab (under construction)**
- 4. Research Team (under construction)**
- 5. Open Positions (under construction)**
- 6. News (under construction)**
- 7. Useful Links (under construction)**