

## **Tarek Ragab, PhD, P.E.**

Associate Professor and Associate Director of Civil Engineering  
244 Lab Science West,  
Arkansas State University  
State University, AR 72467  
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### **Education**

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Ph.D. June 2010 (GPA: 3.945) Civil, Structural and Environmental Engineering Department, State University of New York at Buffalo, Buffalo, NY.

M.Sc. June 2007 (GPA: 3.945) Civil, Structural and Environmental Engineering Department, State University of New York at Buffalo, Buffalo, NY

M.Sc. June 2005 Structural Engineering Department, Alexandria University, Alexandria, Egypt

B.Sc. June 2002 (GPA: 90/100) Civil Engineering Department, Alexandria University, Alexandria, Egypt. Graduated with distinction honors. 2<sup>nd</sup> out of 611 students

### **Academic Experience**

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January 2023- Present	<b>Associate Director of the Civil Engineering Program</b> College of Engineering and Computer Science, Arkansas State University
July 2022-Present	<b>Associate Professor of Civil Engineering</b> College of Engineering and Computer Science, Arkansas State University
August 2016-June 2022	<b>Assistant Professor of Civil Engineering</b> College of Engineering and Computer Science, Arkansas State University
August 2015-August 2016	<b>Senior Research Scientist</b> Civil, Structural and Environmental Engineering Department State University of New York at Buffalo
September 2010-August 2015	<b>Assistant Professor</b> Civil Engineering Department, University of Tabuk
June 2006-July 2010	<b>Research Assistant</b> Civil, Structural and Environmental Engineering Department State University of New York at Buffalo
August 2005-June 2006, Summer 07, 08 and 09	<b>Teaching Assistant</b> Civil, Structural and Environmental Engineering Department State University of New York at Buffalo
September 2002- August 2005	<b>Teaching Assistant</b> Structural Engineering Department, Alexandria University

### **Professional Experience**

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August 2002-August 2005	<b>Part time Structural Engineer</b> FACB LLC
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### **Professional Licensure**

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Registered Professional Engineer in Arkansas, (license number 18917)

### **Courses Taught**

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<u>Arkansas State University:</u>	
CE3213 Structural Analysis I:	Every Spring since Spring17 – ongoing
CE3233 Structural Analysis II:	Every Fall since Fall16 – ongoing

CE4243 Reinforced Concrete Design: Spring20, Every Fall since Fall16 – ongoing  
 CE4283 Structural Steel Design: Every Spring since Spring17– ongoing  
 ENGR 2403 Statics: Summer18, Summer19, Summer20, Summer 23, Every Fall since Fall18 – ongoing  
 ENGR4823 Earthquake Engineering: Spring20, Spring22, Spring24  
 ENGR2413 Mechanics of Materials: Fall22  
 CE2202 Civil Engineering Presentations: (2 sections) Every Spring since Spring19  
 CE429v Special Problems in steel design: Fall17, Fall18  
 CE429v Special Problems in Reinforced Concrete design: Spring19  
 ENGR 4463 Senior Design I: Fall16, Fall17, Spring22  
 ENGR 4482 Senior Design II: Spring17, Spring18, Fall22

University of Tabuk:

CE302 Structural Analysis I: Fall10, Spring11, Spring12, Fall12, Spring13, Fall13, Spring14, Fall14, Spring15  
 CE303 Structural Analysis II: Spring11, Fall11, Spring12, Summer12, Spring13, Summer13, Fall13, Spring14, Summer14, Fall14, Spring15  
 CE451 Reinforced Concrete I: Fall11, Summer12, Fall12, Summer13, Fall13, Spring14, Fall14  
 CE452 Reinforced Concrete II: Spring12, Spring13, Spring14, Fall14, Spring15, Summer15  
 CE405 Steel Structures: Fall12, Spring13, Spring14, Summer14  
 CE406 Earthquake Engineering: Spring14, Fall14, Spring15, Summer15  
 CE494 Computer Applications for Civil Engineering: Fall11, Fall12, Fall13  
 CE321 Materials I: Fall10  
 CE495 Graduation Project I: Fall12, Fall13, Fall14  
 CE496 Graduation Project II: Spring13, Spring14, Spring15  
 CE487 Special topics: Fall12

**Oversight of Ph.D. Students**

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1. Ji Zhang, “Electro-thermo-mechanical behavior of strained graphene nanoribbons”. State University of New York at Buffalo. January 2020. Lead advisor: Cemal Basaran
2. Weixiang Zhang, “Wind forces in metal-semiconductor graphene nanoribbons heterojunctions” State University of New York at Buffalo. January 2020. Lead advisor: Cemal Basaran
3. Yanbiao Chu, “Multi-scale damage mechanics of next generation interconnects for nano-electronics and power electronics”. State University of New York at Buffalo. August 2015. Lead advisor: Cemal Basaran
4. Pierre Gautreau, “Analysis of Carbon Nanotubes under Electrical and Mechanical Stresses: A Study of the Influence of Non-Equilibrium Lattice Vibrations and Strain Deformation”. State University of New York at Buffalo. December 2013. Lead advisor: Cemal Basaran

**Oversight of Master’s Students**

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5. Tingyue Lan, “Using graphene and single walled carbon nanotubes for next generation cool power electronics: A Multi-scale framework”. State University of New York at Buffalo. May 2018. Lead advisor: Cemal Basaran
6. Yin Fu, “The effect of Stone-Wales defects on the mechanical behavior of graphene nano-ribbons”. State University of New York at Buffalo. 2017. Lead advisor: Cemal Basaran

**Graduate Dissertation and Thesis Committee Member**

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1. Hilal Huseyinli, “Development and Validation of Transportation Resilience Scale: An Empirical Study”, Master of Science in Engineering, Nimat IbneHossian, Advisor, December 2023

**Undergraduate Student Advising**

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1. Shelby Blankenship, “Using Ground Penetration Radar for assessment of Arkansas bridges and highways”. Arkansas State University, Fall2021, Spring2022
2. Sydney Beavers, “Molecular Dynamics Simulations of the Mechanical Fracture of Graphene Nanoribbons”. Arkansas State University, Fall2020, Spring2021

3. Hannah Massey, Jesse Ward, Ryan Brunell, Samuel Spann, “Structural Health Monitoring of Reinforced Concrete Beams”. Arkansas State University, Fall2017, Spring2018
4. Carter Andrews, Hunter Egan, Luke Griffin, Matt Reid, “Nucor Barge Mooring System”. Arkansas State University. Fall2016, Spring2017
5. Matthew Miller, Daniel Sheffield, Yen Tran, Abdeljalil El Assali, “Westside High School Gymnasium Expansion”. Arkansas State University. Spring2022, Fall2022

### **Research Funding (Total: \$81,690)**

1. “Assessment mini-grant” Arkansas State University, Office of Assessment. Role: PI, (\$1,000). December 2021-December 2022
2. “Visually-enhanced structural analysis education using advanced structural software”. Kays Foundation. Role: PI, (\$2,500). January 2020-September 2021
3. “Temperature dependence of joule heating in graphene nanoribbons”. University of Tabuk. Role: PI, (\$10,000). January 2015-November 2015.
4. "Phonon-phonon scattering rates in carbon nanotubes". University of Tabuk. Role: PI, (\$10,000). January 2014-November 2014.
5. “Unraveling of double walled carbon nanotubes using molecular dynamics simulations”. King Abdulaziz City for Science and Technology (KACST). Role: PI, (\$19,000).May 2013-May 2014.
6. "Time evolution of the electron-phonon scattering rates in single-walled carbon nanotubes". University of Tabuk. Role: PI, (\$13,330). January 2013-November 2013.
7. "Developing a Matlab molecular dynamics code with emphasis on carbon potential for educational and research purposes". University of Tabuk. Role: PI, (\$12,260). January 2012-November 2012.
8. "Development of computer aided learning package for engineering courses". University of Tabuk. Role: Co-PI, (\$13,600). January 2012-November 2012.

### **Awards and Honors**

Nominated for the “You made a difference” award in advising. Wilson advising center, Arkansas State University, 2020

Nominated for the Faculty Achievement Award in research, Arkansas State University, 2018

Research Professor of the month, Arkansas State University, December 2017

NSF fellowship for attending the Summer Institute on Nano Mechanics and Materials, held at Northwestern University, USA, summer 2007

Retention fund scholarship, State University of New York at Buffalo, 2006

Full PhD Scholarship, State University of New York at Buffalo, 2005

Quonswa award for Excellence in Hydraulics, Alexandria University, 2002

Quonswa award for Excellence in Hydraulics, Alexandria University, 2001

### **Editorship, Conference Organization and Panel services**

Guest editor of ASME Journal of Electronic Packaging 2010 special issue on Carbon nanotubes and graphene.

Associate Editor, Open Journal of Modelling and Simulation (OJMSi)

Associate Editor, Nanomedicine & Nanotechnology Open Access

Editorial Board Member, Progress of Electrical and Electronic Engineering.

Editorial Board Member, Journal of Material Science and Technology Research.

Symposium organizer "Multi-Scale Analysis of Graphene and Carbon Nano Tube", 17<sup>th</sup> U.S. National Congress on Theoretical & Applied Mechanics, Michigan, June 2014.

Panel reviewer, NASA's Technology Research Fellowships (NSTRF) Panel 7, 2017/2018

Panel reviewer, NASA's Technology Research Fellowships (NSTRF) Panel 11, Modeling, Simulation, Information Technology and Processing, 2017/2018

Session Chair "Multi-Scale Computations in Fluids, Structures, and Materials". ASME IMECE2017, Tampa, Florida, November 2017.

Session Chair "Modeling and Experiments in Nanomechanics and Nanomaterials". ASME IMECE2018, Pittsburg, Pennsylvania, November 2018.

Session Chair "Modeling and Experiments in Nanomechanics and Nanomaterials". ASME IMECE2019, Salt Lake City, Utah, November 2019.

Scientific Committee member, TranSET Conference, Jonesboro, Arkansas, June2021

Scientific Committee member, Second International Conference on Civil Infrastructure and Construction 2023

### **Technical Reviewer**

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Carbon	Structural Engineering and Mechanics
ASCE Journal of Nanomechanics and Micromechanics	Computational Materials Science
Mechanics of Advanced Materials and Structures	International Journal of Materials and Structural Integrity
Research Grant Council (RGC) of Hong Kong	Journal of Applied Physics
Journal of Electronic Packaging, ASME	EuroPhysics letters
Journal of Electronic materials	Recent Patents on Biomedical Engineering
The Journal of Physical Chemistry	Materials
International Journal of Electronics and Communications	Nanomaterials
Applied sciences	Crystals
International Journal of Molecular Sciences	
IEEE Transactions on Components, Packaging and Manufacturing Technology	
Journal of Computational Methods in Sciences and Engineering	
2014 ASME International Mechanical Engineering Congress & Exposition (IMECE14)	
2008 ASME International Mechanical Engineering Congress & Exposition (IMECE08)	
2020 IEEE Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems (ITHERM20)	
2021 TranSET Conference	
Second International Conference on Civil Infrastructure and Construction 2023	

### **Press**

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Press article acknowledging research under the title of "Carbon nanotubes are superior to metals for electronics, according to engineers" in the ScienceDaily. April 21, 2009, <http://www.sciencedaily.com/releases/2009/03/090320134041.htm>

**Publications** (34 Publication in peer-reviewed journals / 681 citations according to Google scholar as of August 2023)

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### **Patents**

(1) Electrostatic doping-based all GNR tunnel field-effect transistor, US patent 10,593,778 B1(March 17, 2020)

## Publications in refereed journals

- (J1) Zhang, J., Tarek Ragab, T., Wang, M., Wang, W., Zhu, Y., Zhang, H., Wang, X., Jiang, K., “Effect of graphene nanoplatelets relative size and polyethylene chain length on the enhancement of thermal conductivity of their composite”. *International Journal of Thermal Sciences*, Vol. 195, pp 108617, (2024)
- (J2) Zhang, J., Zhu, Y., Ragab, T., Wang, W., Zhang, H., Wang, X., Jiang, K., “Numerical modeling of Van der Waals interaction between a spherical particle and rough surfaces with different planar asperity distributions”. *Powder Technology*, Vol. 428, pp 118877, (2023)
- (J3) Zhang, J., Ragab, T., Zhang, W., Basaran, C., “High current density electron wind forces in metallic graphene nanoribbons”. *Nanotechnology*, Vol. 31, pp 355203, (2020)
- (J4) Zhang, W., Ragab, T., Zhang, J., Basaran, C., “Influence of defects on dissipative transport in graphene nanoribbons tunnel field-effect transistor”. *Nanotechnology*, Vol. 31, pp 045703, (2020)
- (J5) Zhang, W., Ragab, T., Zhang, J., Basaran, C., “Impact of electrostatic doping level on the dissipative transport in graphene nanoribbons tunnel field-effect transistors”. *Carbon*, Vol. 153, pp 120, (2019)
- (J6) Zhang, J., Osloub, E., Siddiqui, F., Zhang, W., Ragab, T., Basaran, C., “Anisotropy of Graphene Nanoflake Diamond Interface Frictional Properties”. *Materials*, Vol. 12, PP1425, (2019)
- (J7) Zhang, W., Ragab, T., Basaran, C., “Electrostatic Doping-Based All GNR Tunnel FET: An Energy-Efficient Design for Power Electronics”. *IEEE Transactions on Electron Devices*, Vol. 66, pp 1971, (2019)
- (J8) Zhang, J., Ragab, T., Basaran, C., “Comparison of fracture behavior of defective armchair and zigzag graphene nanoribbons”. *International Journal of Damage Mechanics*, Vol. 28, pp 325, (2019)
- (J9) Ragab, T., Basaran, C., “Shear Strength of Square Graphene Nanoribbons beyond Wrinkling”. *Journal of Electronic Materials*, Vol.47, pp 3891, (2018)
- (J10) Zhang, J., Zhang, W., Ragab, T., Basaran, C., “Mechanical and electronic properties of graphene nanomesh heterojunctions”. *Computational Materials Science*, Vol. 153, pp 64, (2018)
- (J11) Lan, T. Ragab, T., Basaran, C., “Electron-phonon scattering and Joule heating in copper at extreme cold temperatures”. *Computational Materials Science*, Vol. 149, PP 397, (2018)
- (J12) Zhang, W., Basaran, C., Ragab, T., “Impact of geometry on transport properties of armchair graphene nanoribbon heterojunction”. *Carbon*, Vol. 124, pp 422, (2017)
- (J13) Zhang, J., Ragab, T., Basaran, C., “The effects of vacancy defect on the fracture behaviors of zigzag graphene nanoribbons”. *International Journal of Damage Mechanics*, Vol. 26, pp 608, (2017)
- (J14) Ragab, T., McDonald, J., Basaran, C., “Aspect ratio effect on shear modulus and ultimate shear strength of graphene nanoribbons”. *Diamond & Related Materials*, Vol.74, pp 9, (2017)
- (J15) Zhang, W., Ragab, T., Basaran, C., “Unraveling mechanics of armchair and zigzag graphene nanoribbons”. *International Journal of Damage Mechanics*, Vol. 26, pp 447, (2017)
- (J16) Zhang, J., Ragab, T., Basaran, C., “Influence of Vacancy Defects on the Damage Mechanics of Graphene Nano Ribbons”. *International Journal of Damage Mechanics*, Vol. 26, pp 28, (2017)
- (J17) Fu, Y., Ragab, T., Basaran, C., “The effect of Stone-Wales defects on the mechanical behavior of graphene nanoribbons”. *Computational Materials Science*, Vol. 124, pp 142, (2016)
- (J18) Chu, Y., Gautreau, P., Ragab, T., Basaran, C., “Strained Phonon-Phonon Scattering in Carbon Nanotubes”. *Computational Materials Science*, Vol. 112, pp 87, (2016).
- (J19) Chu, Y., Ragab, T., Gautreau, P., Basaran, C., “Mechanical Properties of Hydrogen-Edge-Passivated Chiral Graphene Nanoribbons”. *ASCE Journal of Nanomechanics and Micromechanics*, Vol. 5, pp 04015001, (2015).

- (J20) Gautreau, P., Chu, Y., Ragab, T., Basaran, C., “Phonon–phonon scattering rates in single walled carbon nanotubes”. *Computational Materials Science*, Vol.103, pp 151, (2015).
- (J21) Chu, Y., Ragab, T., Basaran, C., “Temperature dependence of Joule heating in Zigzag Graphene Nanoribbon”. *Carbon*, Vol. 89, pp 179, (2015).
- (J22) Chu, Y., Gautreau, P., Ragab, T., Basaran, C., “An accelerated algorithm for full band electron phonon scattering rate computation”. *Computer Physics Communications*, Vol.185, pp 3392, (2014).
- (J23) Gautreau, P., Ragab, T., Chu, Y., Basaran, C., “Phonon dispersion and quantization tuning of strained carbon nanotubes for flexible electronics”. *Journal of Applied Physics*, Vol.115, pp 243702, (2014).
- (J24) Chu, Y., Ragab, T., Basaran, C., “The size effect in mechanical properties of finite-sized graphene nanoribbon”. *Computational Materials Science*, Vol. 81, pp 269, (2014).
- (J25) Gautreau, P., Ragab, T., Basaran, C., “Influence of Hot Phonons on Wind Forces in Metallic Single Walled Carbon Nanotubes”. *Carbon*, Vol.57, pp 59, (2013).
- (J26) El-Garhy, B., Ragab, T., Asal, F., “A Computer Aided Learning Package for Teaching Geotechnical Engineering”. *Electronic Journal of Geotechnical Engineering*, Vol. 18-G, pp1437, (2013).
- (J27) Gautreau, P., Ragab, T., Basaran, C., “Hot phonons contribution to joule heating in single-walled carbon nanotubes”. *Journal of Applied Physics*, Vol.112, pp 103527, (2012).
- (J28) Ragab, T., Basaran, C., “The unravelling of open-ended single walled carbon nanotubes using molecular dynamics simulations”. *ASME Journal of Electronic Packaging*, Vol. 133, pp 020903, (2011).
- (J29) Ragab, T., Basaran, C., “The prediction of the effective charge number in single walled carbon nanotubes using Monte Carlo simulation”. *Carbon*. Vol. 49, pp 425, (2011).
- (J30) Ragab, T., Basaran, C., “Semi-classical transport for predicting joule heating in carbon nanotubes”. *Physics Letters A*, Vol. 374, Issue 24, pp 2475, (2010).
- (J31) Ragab, T., Basaran, C., “A quantum mechanical formulation of electron transport induced wind forces in metallic single walled carbon nanotubes”. *Carbon*, Vol. 48, Issue 1, pp 47, (2010).
- (J32) Ragab, T., Basaran, C., “A framework for stress computation in Single-walled carbon nanotubes under uniaxial tension”. *Computational Materials Science*, Vol. 46, Issue 4, pp 1135, (2009).
- (J33) Ragab, T., Basaran, C., “Joule heating in single-walled carbon nanotubes”. *Journal of Applied Physics*, Vol. 106, Issue 6, pp 63705, (2009). Selected for simultaneous publication in the Virtual Journal of Nanoscale Science & Technology, Vol. 20, Issue 14.
- (J34) El-Hifnawy, L.M., Mashaly, E.S.A., El-Heweity, M.M., Ragab, T.M., “Evaluation of the Performance of Circular Hollow Section Joints Reinforced by Stiffened Plates under Fatigue Loading”. *Alexandria Engineering Journal*, Vol. 43, no. 6, pp 849, (2005).

#### **Publications in refereed conference proceedings**

- (P1) Wang, M., Zhang, J., Ragab, T., Wang, W., “Effect of Grain Number on the Uniaxial Tensile Properties of Polycrystalline Nickel Nanowires”. Proceeding of the 10th International Conference on Manipulation, Manufacturing and Measurement on the Nanoscale (IEEE 3M-NANO 2021), Xi’an, China, (2021).
- (P2) Gautreau, P., Ragab, T., Basaran, C., “Hot phonons contribution to scattering rates in single-walled carbon nanotubes”. Proceeding of Nanotech Interconnect World 2013, Washington D.C., USA, (2013).
- (P3) Ragab, T., Basaran, C., “Modeling Joule Heating in Carbon Nanotubes with Monte Carlo Simulations”. Proceeding of IEEE ITherm 2012, San Diego, USA, (2012).
- (P4) Basaran, C., Ragab, T., “Damage Mechanics of Carbon Nano Tubes Under Uniaxial Tension”. Proceeding of InterPack’09, San Francisco, USA, (2009).
- (P5) Ragab, T., Basaran, C., “Stress computation in a single-walled carbon nanotube under uniaxial tension”. Proceeding of 2009 Conference on Grand Challenges in Modeling and Simulation, Istanbul, Turkey, (2009).

- (P6) El-Hifnawy, L.M., Mashaly, E.S.A., El-Heweity, M.M., Ragab, T.M., “Effect of Stress Concentrations in Tubular Multi-planar Gap Joints on Fatigue Design”. Proceeding of the 5th International Conference on Civil and Architectural Engineering, Military Technical College, Cairo, Egypt, (2004).

### **Technical and Conference presentations**

1. “Impact of doping level on dissipative carrier transport in GNR TFET devices”, ASME International Mechanical Engineering Congress and Exposition (IMECE19), Salt Lake City, UT, November, 14<sup>th</sup> 2019
2. “Electrostatic doping based all GNR tunnel FET: An energy efficient design for power electronics”, ASME International Mechanical Engineering Congress and Exposition (IMECE19), Salt Lake City, UT, November, 14<sup>th</sup> 2019
3. “Tuning the electro-mechanical properties of graphene nanomesh heterojunctions”, ASME International Mechanical Engineering Congress and Exposition (IMECE19), Salt Lake City, UT, November, 14<sup>th</sup> 2019
4. “Interface properties of graphene on diamond substrate”, ASME International Mechanical Engineering Congress and Exposition (IMECE19), Salt Lake City, UT, November, 14<sup>th</sup> 2019
5. “Effective charge numbers in metallic graphene nanoribbons”, ASME International Mechanical Engineering Congress and Exposition (IMECE19), Salt Lake City, UT, November, 14<sup>th</sup> 2019
6. “Frictional properties of graphene nano-flakes on diamond substrate”, ASME International Mechanical Engineering Congress and Exposition (IMECE18), Pittsburgh, PA, November, 12<sup>th</sup> 2018
7. “Mechanical and electrical properties of graphene nanomesh heterojunctions”, ASME International Mechanical Engineering Congress and Exposition (IMECE18), Pittsburgh, PA, November, 12<sup>th</sup> 2018
8. “Electron induced wind forces in metallic graphene nanoribbons”, ASME International Mechanical Engineering Congress and Exposition (IMECE18), Pittsburgh, PA, November, 12<sup>th</sup> 2018
9. “Electrostatic doping based graphene nanoribbon tunneling transistor: A Simulation study”, ASME International Mechanical Engineering Congress and Exposition (IMECE18), Pittsburgh, PA, November, 14<sup>th</sup> 2018
10. “Impact of geometry on transport properties of armchair graphene nanoribbon heterojunction”, ASME International Mechanical Engineering Congress and Exposition (IMECE17), Tampa, Florida, November, 9<sup>th</sup> 2017
11. “Unravelling mechanics of armchair and zigzag graphene nanoribbons”, ASME International Mechanical Engineering Congress and Exposition (IMECE17), Tampa, Florida, November, 9<sup>th</sup> 2017
12. “Fracture behavior and ultimate failure strength of graphene nanomeshes”, ASME International Mechanical Engineering Congress and Exposition (IMECE17), Tampa, Florida, November, 9<sup>th</sup> 2017
13. “Fracture behavior and ultimate failure strengths of graphene nanoribbons”, ASME International Mechanical Engineering Congress and Exposition (IMECE17), Tampa, Florida, November, 9<sup>th</sup> 2017
14. “Size effect on the shear modulus and shear strength of graphene nanoribbons”, ASME International Mechanical Engineering Congress and Exposition (IMECE17), Tampa, Florida, November, 9<sup>th</sup> 2017
15. “Electron-phonon scattering rates and joule heating in copper at extreme low temperatures”, ASME International Mechanical Engineering Congress and Exposition (IMECE17), Tampa, Florida, November, 9<sup>th</sup> 2017
16. “Graphene nanoribbon mechanics post-wrinkling stage”, ASME International Mechanical Engineering Congress and Exposition (IMECE17), Tampa, Florida, November, 8<sup>th</sup> 2017.
17. “Impact ionization in semiconducting single wall carbon nanotubes using ensemble Monte Carlo simulation”, ASME International Mechanical Engineering Congress and Exposition (IMECE17), Tampa, Florida, November, 7<sup>th</sup> 2017
18. “Strain tuning of phonon dispersion relations in Single-walled carbon nanotubes”, MRS Spring Meeting and Exhibit, Phoenix, AZ, March 31<sup>st</sup> 2016.
19. “Development of a Graphene Nano Ribbon Power Electronics”, Office of Naval Research 331 Peer review, Department of Defense, Arlington, VA, December 8<sup>th</sup> 2015.

20. “Mechanical Properties of Graphene Nano-ribbon”, Invited Lecture, Nano-Science Workshop, Department of Physics, University of Tabuk, Tabuk, KSA, May, 23rd 2013.
21. “Review of Joule heating in graphene nanoribbon (GNR)”, IEEE ITherm2012, San Diego, California, May 30th 2012.
22. "Modeling Joule Heating in Carbon Nanotubes with Monte Carlo Simulations", IEEE ITherm2012, San Diego, California, May 30th 2012.
23. “Molecular Dynamics Simulations for Single-Walled Carbon Nanotubes under uniaxial tension”, Invited seminar lecture, Alexandria University, Alexandria, Egypt, September, 28th 2010.
24. “Atomistic Modeling of Tin Surface and Grain Boundary Diffusion”, ASME International Mechanical Engineering Congress and Exposition (IMECE09), Lake Buena Vista, Florida, November, 19th 2009.
25. “Key Note Lecture- Using Single-Walled Carbon Nanotubes for Electronics”, ASME International Mechanical Engineering Congress and Exposition (IMECE09), Lake Buena Vista, Florida, November, 18th 2009.
26. “Quantum Mechanical Formulation For the Joule Heating in Single-walled Carbon Nanotubes”, ASME International Mechanical Engineering Congress and Exposition (IMECE09), Lake Buena Vista, Florida, November, 17th 2009.
27. “Prediction of Current-induced Forces in Single-walled Carbon Nanotubes”, ASME International Mechanical Engineering Congress and Exposition (IMECE09), Lake Buena Vista, Florida, November, 16th 2009.
28. “Simulating Single Walled Carbon Nanotube Failure under Tension”, ASME International Mechanical Engineering Congress and Exposition (IMECE09), Lake Buena Vista, Florida, November, 17th 2009.
29. “Quantum mechanical formulation for the joule heating in single walled carbon nanotubes” Nanostructured systems, state University of New York at Buffalo, Buffalo, NY, February, 17th 2009.
30. “Joule heating single-walled carbon nanotubes”, Spintronic/Nanostructures workshop, state University of New York at Buffalo, Buffalo, NY, April, 24th 2009.

### **Professional Membership**

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Member, American Society of Civil Engineers (ASCE), (Membership number 000012275693)

Member, American Institute for Steel Construction

### **Professional Service**

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ABET Evaluator EAC, Civil Engineering (2023- Present)

### **University Service**

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Member, Middle East Studies Committee, Arkansas State University (Current)

Member, Undergraduate Graduation and Academic Appeals Committee, Arkansas State University

Member, Undergraduate Enrollment and Academic Policies Committee, Arkansas State University

Member, Engineering workshop organizing committee, University of Tabuk

Member, University non-academic-Engineering jobs hiring committee, University of Tabuk

Member, University Projects committee, University of Tabuk

### **College Service**

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Chair, ABET outcome No. 2 assessment Committee, Arkansas State University (Current)

Chair, Environmental engineering faculty search Committee, 2022

Member, Engineering PRT Committee (Current)

Member, Faculty Achievement Awards Committee (Current)



Member, Engineering undergraduate scholarship committee (Current)  
Member, ABET outcome No. 3 assessment Committee, Arkansas State University (Current)  
Member, Program Viability review committee, Arkansas State University, 2021  
Member, mechanical engineering faculty search committee, Arkansas State University, 2021, 2019  
Member, Faculty Workload committee, Arkansas State University  
Member, Honors and award committee, Arkansas State University  
Member, Job fair organizing committee, University of Tabuk  
Member, Faculty hiring committee, University of Tabuk  
Member, International collaboration committee, University of Tabuk

### **Departmental Service**

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Member, Lab committee, University of Tabuk  
Member, Accreditation committee, University of Tabuk  
Department's academic coordinator, University of Tabuk

### **Other Services within the University**

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Represented the Civil Engineering program at the new student orientation event, June 30, 2021, May 17, 2017, April 10, 2017  
Represented the Civil Engineering program at the Pack preview day, October 30, 2020, October 26, 2019  
Represented the Civil Engineering program at the select a major event, September 30, 2020, October 3, 2018  
Represented the Civil Engineering program at Fall Commencement, December 14, 2019  
Represented the Civil Engineering program at the First year convocation, August 17, 2019  
Represented the Civil Engineering program at the transfer student registration event, March 29, 2019  
Represented the Civil Engineering program at the spring 2019, spring 2018 Engineering banquet  
Represented the Civil Engineering program at the honor's student registration event, April 10, 2018  
Represented the Civil Engineering program at the Red Wolves Rising Event, at Jonesboro, AR, November 14, 2017  
Represented the Civil Engineering program at the Fall Senior preview days, October 28, 2017, November 29, 2016  
Represented the Civil Engineering program at the A-State College Fair, October 18, 2017  
Represented the Civil Engineering program at the inaugural Red Wolves Rising Event at Little Rock, October 17, 2017  
Participated in the field trip to an ARDOT bridge construction site in Pochontas for Engineering students, AR, September 20, 2017