

Curriculum Vitae

Sayed A. Nassar, Ph.D., Fellow ASME

Distinguished University Professor-Mechanical Engineering
John F. Dodge Endowed Chair of Engineering
Director and PI, NSF IUCRC for Composite and Hybrid Material Interfacing-Oakland University
Founding Director and PI, Fastening and Joining Research Institute (FAJRI)-Oakland University

Education

Ph.D. Aerospace Engineering	University of Cincinnati, Cincinnati, Ohio-USA
MS Aerospace Engineering	University of Cincinnati, Cincinnati, Ohio-USA
BS Aeronautical Engineering	Cairo University, Cairo-Egypt

Research (Google Scholar [h-index 29](#))

Material Joining, Threaded Joints, Adhesive Joints, Solid Mechanics, Experimental Mechanics, Modeling and Simulation.

Teaching Interests

Mechanical system design, fastening and joining, mechanics of materials, finite element analysis (FEA), mechanical vibrations, engineering mechanics.

Eminence in Research and Scholarship

- John F. Dodge Endowed Chair of Engineering, Oakland University (2022~)
- Founding Director and PI, NSF IUCRC- Composite and Hybrid Material Interfacing (CHMI), Oakland University (2021~)
- Founding Director and PI, Fastening and Joining Research Institute (FAJRI)- Oakland University

Professional Experience

2022-present	John F. Dodge Endowed Chair of Engineering , Oakland University, Rochester, Michigan
2012-present	Distinguished University Professor , Oakland University, Rochester, Michigan Founding Director and Principal Investigator , Fastening and Joining Research Institute (FAJRI), Department of Mechanical Engineering, Oakland University, Rochester, Michigan.
Jan 2018- July 2018	Visiting Professor, Department of Mechanical and Aerospace Engineering , Politecnico di Torino, Turin, Italy (sabbatical leave from Oakland University)
2007-2011	Professor of Mechanical Engineering , Oakland University, Rochester, Michigan. Founding Director and Principal Investigator , Fastening and Joining Research Institute (FAJRI).
2003-2006	Assoc. Professor, Professor , Department of Mechanical Engineering, Oakland University, Rochester, Michigan. Founding Director and Principal Investigator , Fastening and Joining Research Institute (FAJRI).
2000-2002	Visiting Professor , Department of Mechanical Engineering, Oakland University, Rochester, Michigan.
1988 - 2002	Professor of Mechanical Engineering , Lawrence Technological University, Southfield, Michigan.
1985-1988	Associate Professor , Mechanical Engineering Department, Lawrence Technological University, Southfield, Michigan.
1981 - 1985	Senior Stress Analyst , Bechtel Power Corporation –Midland Nuclear Plant project, Nuclear Plants), Dow Corning Corp. (NDT-pressure vessels), Lecturer , University of Cincinnati, Cincinnati, Ohio (Winter 1981)
1981-1984	Adjunct Professor , Saginaw Valley State University, University Center, Michigan.
1981	Instructor (Winter Semester 1981), University of Cincinnati, Cincinnati, Ohio.
1976 - 1981	MS and Ph.D. Graduate Research Assistant , Aerospace Engineering Department, University of Cincinnati.
1975-1976	Research and Development Engineer , Egypt Airlines, Cairo, Egypt.
1970 - 1975	Military draft service, Honorable discharge at the rank of Captain (Egyptian military reserve).

Recent Honors and Awards

- John F. Dodge Endowed Chair of Engineering (2022~), Oakland University
- Frank Giblin Life Time Achievement (2019), Oakland University.
- Distinguished Service Award (2017), SECS-Oakland University
- Research Award (2013), School of Engineering and Computer Science, Oakland University
- Distinguished University Professor (2012~), Oakland University
- Achievement Award (2012), NASA Engineering and Safety Center
- Fellow ASME (2006~), American Society of Mechanical Engineers
- Emeritus Professor, (2002~) Lawrence Technological University
- Leadership Award AUFD (2009), All University Fund Drive, Oakland University
- Trustees' Achievement Award (2006), Oakland University
- Recognition Award-Research (2005), Oakland University

Books Published

Handbook of Bolts and Bolted Joints, John H. Bickford and **Sayed Nassar**, Editors, 1998, ISBN 0-8247-9977-1, Marcel Dekker, Inc. N.Y., N.Y.: textbook for OU courses ME4730/5730/6730/7730, EME5103 Fasteners and Bolted Joints at Lawrence Technological University. The book is widely cited by researchers in academia and industry.

Book Chapters

1. **Nassar, S.A.**, Yang, X., "Modeling the Effect of Nut Thread Profile Angle on the Vibration Loosening of Preloaded Bolted Joint Systems", 2020, Book Chapter, Advanced Structured Materials, Springer.
2. **Nassar, S.A.** and Yang, X. J., "Contact, Friction, and Wear of Threaded Fasteners", 2013, Encyclopedia of Tribology, Springer.
3. **Nassar, S.A.** and Yang, X. J., "Failure and Safety of Bolted Joints", 2013, Encyclopedia of Tribology, Springer.
4. **Nassar, S.A.** and Yang, X. J., "Bolted Connections", 2013, Encyclopedia of Tribology, Springer.
5. **Nassar, S.A.**, "Use of Ultrasonics in Bolted Joints", 1998, Book Chapter, Handbook of Bolts and Bolted Joints, Bickford, J.H., and Nassar, S.A. (editors), Taylor&Francis, New York, New York, pp. 631-657.

Patents (7 total: 6 issued + 1 pending)

1. **Sayed A. Nassar**, Gerry Grzadzinski, and Sherif Gindy, "Conveyor Diagnostic System", 2006, US Patent No. US 6,865,955 B2.
2. **Sayed A. Nassar**, Gerry Grzadzinski, and Sherif Gindy, "Conveyor Diagnostic System Having Local Positioning System", 2007, US Patent No. 7,293,465.
3. **Sayed A. Nassar** and Gerry Grzadzinski, "Ultrasonic Control of Bolt Tightening", 2008, US Patent No. 20060137463.
4. Latcha, **Sayed A. Nassar**, Mehmet Uras, "Rapid Deployment Impact Technology", 2016, US Patent 6875216.
5. Latcha, M., **Nassar, S.A.**, Uras, M., "Mechanism for Rapid De-Coupling of Load Bearing Structures", US Patent No. 9,482,256.
6. Michael Latcha, **Sayed A. Nassar**, Mehmet Uras, "Mechanism for rapid de-coupling of load-bearing structures", 2019, European Union Patent number EP 2 746 717 B1.
7. **Sayed A. Nassar**, Gerry Grzadzinski, and Sherif Gindy, "Mechanical Diagnostic System for Automotive Robots", 2004, US Patent is Pending. Attorney Docket No. 706743.

Journal publications

Google Scholar h-index 29 (as of February 2023)

1. Gerini-Romagnoli, M, **Nassar, S. A.**, "Novel Modeling of Heat and Moisture Diffusion in Adhesive Joints", 2022, ASME Journal of Materials Technology, vol. 144, pp. 041004-1~10.
2. Piazza, G, Gerini-Romagnoli, M., Burczyk, M., Belingardi, G., **Nassar, S.A.**, 2021 " Reversible Adhesive Joining using Thermally Expandable Particle Additives", Journal of Advanced Joining Processes, vol. 5, pp. 100088-1~9.
3. Sinthusiri, C., **Nassar, S.A.**, "Effect of Bolt Preload and Non-central Loading on Bolt Shear Load Distribution in Lap Shear Joints", 2021, Journal of Advanced Joining Processes, vol. 3, pp. 10005-1~9.
4. Romagnoli, M., G., **Nassar, S.A.**, Lee, J.H., "Formulation of Bearing Friction Torque in Threaded Joints with Nonflat Contact", 2020, ASME Journal of Pressure Vessel Technology, vol. 143, pp. 1~8.

5. Mazhari, E., **Nassar, S.A.**, Belingardi, G. Gerini-Romagnoli, M., “Formulation of Cohesive Failure Load for Bonded Single Lap Joints using Coupled Elasto-Plastic Stress-Diffusion Model”, 2019, *Journal of Adhesion Science and Technology*”, TAST 1670594.
6. Li, T., **Nassar, S.A.**, El-Zein, M, “Novel Model for Mean Stress Effect on High-Cycle Fatigue Performance of Threaded Fasteners”, 2020, Special Issue of the *Journal of Advanced Joining Processes*, Springer.
7. Jagatap, S., **Nassar, S.A.**, Tardito, M., Effect of Autoclave Cure Pressure and Temperature on Polycarbonate Single Lap Joints with Polyurethane Film Adhesive”, 2019, *Journal of Adhesion Science and Technology*, vol.33 (1), pp.18-34.
8. Jagatap, S., **Nassar, S. A.**, Razavykia, A., Belingardi, G., “Process variable effect on the strength of autoclave-bonded film adhesive joints”, 2019, *Journal of Adhesion Science and Technology*, DOI: 10.1080/01694243.2018.1559436.
9. Morfini, I., Goglio, L., Belingardi, G., **Nassar, S. A.**, “Effect of Autoclave Cure Time and Bonded Surface Roughness on the Static and Fatigue Performance of Polyurethane Film Adhesive Single Lap Joints”, 2019, *International Journal of Adhesion and Adhesives*, paper J1543.
10. Kazemi, A., **Nassar, S.A.**, “A Novel Principle Stress-Based Model for Multi-axial Fatigue of Preloaded Threaded Fasteners”, 2017, *ASME Journal of Pressure Vessels Technology*.
11. Mazhari, E., Nassar, S.A., “A Coupled Peel and Shear Stress-Diffusion Model for Adhesively Bonded Single Lap Joints”, 2017, *Journal of Manufacturing Science and Engineering-ASME Transactions*.
12. **Nassar, S.A.**, Mazhari, E., “A Coupled Shear Stress-Diffusion Model for Adhesively Bonded Single Lap Joints”, 2016, *Journal of Applied Mechanics- ASME Transactions*, vol 83(10), pp. 101006-1~7.
13. Zaki, A.M., **Nassar, S.A.**, Shillor, M., “Inverse Problem Solution for Bolt Preload Using Measured Surface Deformation”, 2016, *Journal of Pressure Vessels Technology- ASME Transactions*, accepted (in press).
14. Sakai, K , **Nassar, S. A.**, “Failure Analysis of Composite-Based Lightweight Multimaterial Joints after Cyclic Heat at High Relative Humidity”, 2016, *Journal of Manufacturing Science and Engineering-ASME Transactions*, vol. 139 (4), pp. 041007-1~11.
15. Wu, Z., **Nassar, S. A.**, Jagatap, S., and Satav, K., “Thread Forming in Lightweight Material Joints Using Self-Tapping Screws”, 2016, *Journal of Manufacturing Science and Engineering-ASME Transactions*, vol. 138 (9), pp. 091006-1~10.
16. **Nassar, S. A.**, and Sakai, K., “effect of Cyclic Heat, Humidity, and Joining Methods on the Static and Dynamic Performance of Lightweight-Material Single Lap Joints”, 2015, *Journal of Manufacturing Science and Engineering-ASME Transactions*, vol. 137, no. 5, pp. 051026-1~11.
17. **Nassar, S. A.**, Wu, Z., Moustafa, K., and Tzelepis, D., “Effect of Adhesive Nanoparticle Enrichment on Static Load Transfer Capacity and Failure Mode of Bonded Steel-Magnesium Single Lap Joints”, 2015, *Journal of Manufacturing Science and Engineering-ASME Transactions*, vol. 137, no. 5, pp. 051024-1~6
18. **Nassar, S. A.**, and Kazemi, A., “Clamp Load Decay due to Material Creep of Lightweight-Material Joints under Cyclic Temperature”, 2015, *Journal of Manufacturing Science and Engineering-ASME Transactions*, vol. 137(5), pp. 051025-1~7.
19. Wu, Z., **Nassar, S. A.**, and Yang, X., “Axial Fatigue Performance of Medical Screws in Synthetic Bone”, 2015, *International Journal of Biomedical Engineering and Technology*, vol. 17, no. 2, pp. 192~207
20. Wu, Z., **Nassar, S. A.**, and Yang, X., “Nonlinear Deformation Behavior of Bolted Flanges under Tensile, Torsional, and Bending Loads”, 2014, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 136, no. 6, pp. 061201-1~8
21. Mao, J., **Nassar, S. A.**, and Yang, X., “An Improved Model for Adhesively Bonded DCB Joints”, 2014, *Journal of Adhesion Science and Technology*, vol. 28, no. 6, pp. 613~629
22. **Nassar, S. A.** and Ali, R. “An Improved Cumulative Damage Criterion for Preloaded Threaded Fasteners”, 2014, *Journal of Mechanical Design- ASME Transactions*, vol. 136, no. 7, pp. 074502-1~5
23. Ganeshmurthy, S., and **Nassar, S. A.**, “Finite Element Simulation of Process Control for Bolt Tightening in Joints with Nonparallel Contact”, 2014, *Journal of Manufacturing Sciences and Engineering-ASME Transactions*, vol. 136, no. 2, pp. 021018-1~9.
24. Yan, C., Mao, J., **Nassar, S. A.**, Wu, X., and Kazemi, A., “Experimental and Numerical Investigation of The Effect of Key Joint Variables on the Static and Fatigue Performance of Bonded Metallic Single-lap Joints”, 2014, *Journal of Adhesion Science and Technology*, vol. 28, no. 20, pp. 2069~2088
25. Abboud, A., and **Nassar, S. A.**, “Viscoelastic Strain Hardening Model for Gasket Creep Relaxation”, 2013, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 135, no. 3, pp. 031201-1~9
26. **Nassar, S. A.**, Mao, J., Yang, X., and Templeton D., “A Damage Model for Adhesively Bonded Single-Lap Thick Composite Joints”, 2012, *Journal of Engineering Materials and Technology-ASME Transactions*, vol. 134, no. 4, pp. 041004-1~7
27. Zaki, A.M., **Nassar, S. A.**, and Yang, X., “Effect of Conical Angle and Thread Pitch on the Self-Loosening Performance of Preloaded Countersunk-Head Bolts”, 2012, *Journal of Pressure Vessels Technology -ASME Transactions*, vol. 134, no. 2, pp. 021210-1~8.
28. Housari, B., Alkelani, A., and **Nassar, S. A.**, “A Proposed Model for Predicting Clamp Load Loss due to Gasket Creep Relaxation in Bolted Joints”, 2012, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 134, no.2, pp. 021201-1~5.

29. Yang, X., **Nassar, S.A.**, Wu, Z., and Meng, A., “Nonlinear Behavior of Preloaded Bolted Joints Under a Cyclic Separating Load”, 2012, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 134, no.1, pp. 011206-1~9.
30. Wu, Z., **Nassar, S. A.** and Yang, X., “Pullout Performance of Self-Tapping Medical Screws”, 2011, *Journal of Biomechanical Engineering-ASME Transactions*, vol. 133, no. 11, pp. 111002-1~9.
31. Meng, A., **Nassar, S. A.**, and Templeton, D., “A Novel Optical Method for Real-Time Control of Bolt Tightening”, 2011, *Journal of Pressure Vessel Technology-ASME Transactions*, vol.133, no. 6, pp. 061211-1~5.
32. Yang, X., **Nassar, S.A.**, and Wu, Z., “Criterion for Preventing Self-Loosening of Preloaded Cap Screws Under Transverse Cyclic Excitation”, 2011, *Journal of Vibrations and Acoustics-ASME Transactions*, vol. 133, no. 4, pp. 041013-1~11.
33. **Nassar, S.A.**, and Ganganala, M., “Effect of Separating Load Eccentricity on the Clamp Load Loss in a Bolted Joint Using a Strain Hardening Model”, 2011, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 133, no. 2, pp. 021206-1~8.
34. **Nassar, S.A.**, Yang, X., Gandham, S., and Wu, Z., “Nonlinear Deformation Behavior of Clamped Bolted Joints under a Separating Service Load”, 2011, *Journal of Pressure Vessel Technology-ASME Transactions*, vol.133, no. 2, pp.021001-1~9.
35. Yang, X., and **Nassar, S. A.**, “Analytical and Experimental Investigation of Self-Loosening of Preloaded Threaded Fasteners”, 2011, *Journal of Vibrations and Acoustics-ASME Transactions*, vol. 133, no. 3, pp. 031007-1~8.
36. Zaki, A.M., **Nassar, S. A.**, and Yang, X., “Effect of Thread and Bearing Friction Coefficients on the Self-Loosening of Preloaded Countersunk-Head Under Periodic Transverse Excitation”, 2010, *Journal of Tribology-ASME Transactions*, vol. 132, no. 3, pp. 031601-1~11.
37. **Nassar, S.A.**, Wu, Z., and Yang, X., “Achieving Uniform Clamp Load in Gasketed Bolted Joints Using a Nonlinear Finite Element Model”, 2010, *Journal of Pressure Vessel Technology- ASME Transactions*, vol. 132, no. 3, pp. 031205-1~10.
38. **Nassar, S.A.**, and Abboud, A., “An Improved Stiffness Model for Bolted Joints”, 2009, *Journal of Mechanical Design-ASME Transactions*, vol. 131, no. 12, pp. 121001-1~11.
39. **Nassar S. A.**, and Yang, X., “Novel Formulation of Bolt Elastic Interaction in Gasketed Joints”, *Journal of Pressure Vessel and Technology- ASME Transactions*, 2009, vol. 131, no. 5, pp. 051204-1~9.
40. **Nassar, S.A.**, Yang, X., “A Mathematical Model for Vibration-Induced Loosening of Preloaded Threaded Fasteners”, 2009, *Journal of Vibrations and Acoustics- ASME Transactions*, vol.131, no. 2, 021009-1~13.
41. **Nassar, S.A.**, and Zaki, A., “Effect of Coating Thickness on the Friction Coefficients and Torque-Tension Relationship in Threaded Fasteners”, 2009, *Journal of Tribology- ASME Transactions*, vol.131, no. 2, pp. 021301-1~11.
42. **Nassar, S.A.**, and Virupaksha, V., “Effect of Adhesive Thickness and Properties on the Biaxial Interfacial Shear Stresses in Bonded Joints Using a Continuum Mixture Model”, 2009, *Journal of Engineering Materials and Technology-ASME Transactions*, vol.131, no. 2, pp. 021015-1~9.
43. Alkelani A. A., **Nassar S. A.**, and Housari B. A., “Formulation of Elastic Interaction Between Bolts During the Tightening of Flat-Face Gasketed Joints”, 2009, *Journal of Mechanical Design-ASME Transactions*, Vol. 131, no. 2, pp. 021004-1~9.
44. **Nassar S. A.**, Yang, X., and Ganeshmurthy, S., “Analysis on Yield Tightening of Threaded Fasteners”, 2009, *SAE International Journal of Materials and Manufacturing*, vol. 1, no. 1, pp. 249~254
45. Kuttler, K. L., **Nassar, S. A.**, and Shillor, M., “Dynamic Analysis of Two Adhesively Bonded Rods”, 2009, *Annals of the Academy of Romanian Scientists Series on Mathematics and its Applications*, vol. 1, no. 1, pp. 83~111.
46. Alkelani, A.A., Housari, B., and **Nassar, S.A.**, “A Proposed Model for Creep Relaxation of Soft Gaskets in Bolted Joints at Room Temperature”, 2008, *Journal of Pressure Vessels Technology-ASME Transactions*, vol. 130, no. 1, pp. 011211-1~7.
47. Ganeshmurthy, S., Grzadzinski, G., **Nassar, S.A.**, “Torque-Angle Signature Analysis of Automotive Weld Stud Tightening”, 2008, *Journal of Materials & Manufacturing-SAE Transactions*, pp. 687-698.
48. Ganeshmurthy, S., Housari, B., **Nassar, S. A.**, “Investigation of the Effect of Adhesive Coating on Threaded Fastener Performance”, 2008, *Journal of Materials & Manufacturing-SAE Transactions*, pp. 707-717.
49. Housari, B., Dykas, S.M., Grzadzinski, G., **Nassar, S.A.**, “DOE Investigation of the Effect of Dimensional Thread Tolerance on the Vibration-Induced Loosening of Fasteners”, 2008, *Journal of Materials & Manufacturing-SAE Transactions*, pp. 663-671.
50. Guessous L, Barber GC, Zou Q, and **Nassar S. A.** “A Numerical Investigation of Bolt Underhead Temperature Evolution Under Various Fastening Conditions”, 2008, *STLE Tribology Transactions*, vol. 51, no. 4, pp. 494~503
51. **Nassar S. A.**, and Yang. X., “Novel Formulation of the Tightening and Breakaway Torque Components in Threaded Fasteners”, 2007, *Journal of Pressure Vessels Technology-ASME Transactions*, vol. 129, no. 4, pp. 653~663.
52. **Nassar S. A.**, and Yang. X., “Torque-Angle Formulation of Threaded Fastener Tightening”, 2007, *Journal of Mechanical Design-ASME Transactions*, vol. 130, no. 2, pp. 024501-1~4
53. Housari, B. A., and **Nassar S. A.**, “Effect of Threaded and Bearing Friction Coefficients on the Vibration-Induced Loosening of Threaded Fasteners”, 2007, *Journal of Vibration and Acoustics-ASME Transactions*, vol. 129, no. 4, pp. 484~494.
54. **Nassar S. A.**, Ganeshmurthy, S., Ranganathan, R. M. and Barber, G., “Effect of Tightening Speed on the Torque-Tension and Wear Pattern in Bolted Connections”, 2007, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 129, no. 3, pp. 426~440

55. **Nassar, S.A.**, and Housari, B. A., “Study of the Effect of Hole Clearance and Thread Fit On the Self-Loosening of Threaded Fasteners”, 2007, *Journal of Mechanical Design-ASME Transactions*, vol. 129, no. 6, pp. 586~594.
56. **Nassar, S.A.**, and Matin, P., “Cumulative Clamp Load Loss due to A Fully Reversed Cyclic Service Load Acting on An Initially Yielded Bolted Joint System”, 2007, *Journal of Mechanical Design-ASME Transactions*, vol. 129, no. 4, pp. 421~433.
57. **Nassar, S.A.**, and Meng, A., “Optical Monitoring of Bolt Tightening Using 3D Electronic Speckle Pattern Interferometry”, 2007, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 129, no. 1, pp. 89~95.
58. **Nassar, S.A.**, Virupaksha, V. and Ganeshmurthy, S., “Effect of Bolt Tightness on the Behavior of Composite Joints”, 2007, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 129, no. 1, pp. 43~51.
59. **Nassar, S.A.** and Sun, T., “Surface roughness effect on the torque-tension relationship in threaded fasteners”, 2007, *ImechE Journal of Engineering Tribology*, vol. 221, no. 2, pp. 95~103.
60. Meng, A., Yang, X., and **Nassar, S.A.**, “Effect of Bearing Friction and Hole Clearance on the Clamp Load-Deformation Correlation in Bolted Joints”, 2007, *Journal of Materials & Manufacturing –SAE Transactions*, pp. 699-706.
61. Yang, X., **Nassar, S.A.**, “Elasto-Plastic Clamp Load Analysis of Bolted Joints for Strain Hardening of Bolt Material Under Separating Loads”, 2007, *Journal of Materials & Manufacturing-SAE Transactions*, pp. 672-686.
62. Zou, Q., Sun, T., **Nassar, S.A.**, Barber, G.C., Gumul, A.K., “Effect of Lubrication on Friction and Torque-Tension Relationship in threaded fasteners”, 2007, *Tribology Transactions*, vol. 50, no. 1, pp. 127-136.
63. Andrews, K.T., Guessous, L., **Nassar, S.**, Putta, S.V., and Shillor, M., “A One-Dimensional Spot-Welding Model”, 2006, *Journal of Applied Mathematics*, vol. 2006, Article ID 17936, pp. 1-24.
64. **Nassar, S.A.**, and Matin, P., “Nonlinear Strain Hardening Model for Predicting Clamp Load Loss in Bolted Joints”, 2006, *Journal of Mechanical Design-ASME Transactions*, vol. 128, no. 6, pp. 1328~1336.
65. **Nassar, S.A.**, and Housari, B. A., “Effect of Thread Pitch and Initial Tension on the Self-Loosening of Threaded Fasteners”, 2006, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 128, no. 4, pp. 590~598.
66. **Nassar, S.A.**, and Veeram, A., “Ultrasonic Control of Fastener Tightening using Varying Wave Speed”, 2006, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 128, no. 3, pp. 427~432.
67. **Nassar, S.A.**, and Alkelani, A. A., “Clamp Load Loss due to Elastic Interaction and Gasket Creep Relaxation in Bolted Joints”, 2006, *Journal of Pressure Vessel Technology-ASME Transactions*, vol. 128, no. 3, pp. 394~401.
68. **Nassar, S.A.** and Matin, P.H., “Clamp Load Loss Due to Fastener Elongation Beyond its Elastic Limit”, 2006, *Journal of Pressure Vessel Technology-ASME Transactions*, Vol. 128, no. 3, pp. 379~387.
69. Chiang, Y. J., **Nassar, S. A.**, and Barber, G. C., “Multi-Variable Effects of Fastening Parameters on Stress Development at Bolt Threads”, 2006, *Journal of Materials and Manufacturing, SAE Transactions*, SAE Transactions, pp. 842-856.
70. Smith, L.M., **Nassar, S.A.**, Burgeon, J., Ganeshmurthy, S., “Torsional Stiffness of a Vehicle Underbody Frame: Bolt Sensitivity Study”, 2006, *Journal of Materials and Manufacturing, SAE Transactions*, pp. 826-841.
71. **Nassar, S.A.**, Andrews, K.T., Kruk, S., and Shillor, M., “Modeling and Simulations of a Bonded Rod”, 2005, *Journal for Mathematical and Computer Modeling*, vol. 42, no. 5-6, pp. 553~572.
72. **Nassar, S.A.**, Matin, P. H., and Barber G. C., “Thread Friction Torque in Bolted Joints”, 2005, *Journal of Pressure Vessels Technology- ASME Transactions*, vol. 127, no. 4, pp. 387~393.
73. **Nassar, S.A.**, Barber, G.C., and Zuo, D., “Bearing Friction Torque in Bolted Joints”, 2005, *Tribology Transactions*, vol. 48, no. 1, pp. 69~75.
74. Yang, X. and **Nassar, S. A.**, “Constitutive Modeling of Time-Dependent Cyclic Straining for Solder Alloy 63Sn-37Pb”, 2005, *Mechanics of Materials*, vol. 37, no. 7, pp. 801~814.
75. Zou, Q., Sun, T.S., **Nassar, S.**, Barber, G.C., and El-Kham, H., “Contact Mechanics Approach to Determine Effective Radius in Bolted Joints”, 2005, *Journal of Tribology-ASME Transactions*, vol. 127, no. 1, pp. 30-36.
76. **Nassar, S.A.**, El-Kham, H., Barber, G.C., Zou, Q., and Sun, T.S., “An Experimental Study of Bearing and Thread Friction in Fasteners”, 2005, *Journal of Tribology, ASME Transactions*, Vol. 127, pp. 263~272.
77. **Nassar, S.A.** and Yang, X., J., “Bolted Connections”, 2013, **Encyclopedia of Tribology**, Springer.
78. **Nassar, S.A.** and Yang, X. J., “Failure and Safety of Bolted Joints”, 2013, **Encyclopedia of Tribology**, Springer.
79. **Nassar, S.A.** and Yang, X. J., “Contact, Friction, and Wear of Threaded Fasteners”, 2013, **Encyclopedia of Tribology**, Springer.
80. **Nassar, S. A.**, Yang, X., “Modeling of the Effect of Nut Thread Profile Angle on the Loosening Performance of Bolted Joint Systems”, 2020, **Advance Structured Materials**, Springer.
81. Jagatap, S. “Effect of Cure Parametes on Glass Transition temperature and Strength of Autoclaved Film Adhesive Joints”, 2022, Ph.D. Dissertation-Oakland University: **S.A. Nassar**, Ph.D. Advisor.
82. Gerini-Romagnoli, M., “Two-Dimensional Coupled Stress-Heat and Moisture Diffusion Modeling of SLJ”, 2021, Ph.D. Dissertation-Oakland University, Ph.D. Advisor: **Nassar, S. A.**
83. Sinthurisi, C., “Effect of bolt preload and Noncentral Loading on Bolt Shear Load in SLJ”, 2021, Ph.D. Dissertation-Oakland University, Ph.D. Advisor: **Nassar, S. A.**
84. Sakai, K., “Hybrid Joining of Lightweight Materials”, 2017, Ph.D. Dissertation- Oakland University, Advisor **Nassar, S. A.**

85. Mazhari, E., “Hybrid Stress-Moisture Modeling of Adhesive Joints”, 2017, Ph.D. Dissertation Oakland University, Ph.D. Advisor **Nassar, S. A.**
86. Kazemi, A., “Novel Bolt Fatigue Model under Combined Cyclic Axial and Transverse Shear Loads”, 2017, Ph.D. Dissertation- Oakland University, Ph.D. Advisor: **Nassar, S. A.**
87. Mao, J., “Damage Modeling of Bonded Joints”, 2013, Ph.D. Dissertation: **Nassar, S. A.** -Thesis Advisor, Oakland University.
88. Abboud, A., “Modeling of Gasket Creep Relaxation and Elastic Interaction in Bolted Flanges”, 2013, Ph.D. Dissertation: **Nassar, S. A.** -Thesis Advisor, Oakland University.
89. Zaki, A., “A Multi-Variable Model for Investigating the Vibration-Induced Loosening of Preloaded Threaded Fasteners”, 2013, Ph.D. Dissertation: **Nassar, S. A.** -Thesis Advisor, Oakland University.
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91. Wu, Z., “Mechanical Performance of Medical Screws”, 2012, Ph.D. Dissertation: **Nassar, S. A.** -Thesis Advisor, Oakland University.
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- 93- Zou, Q., Sun, T.S., **Nassar, S.**, Barber, G.C., El-Khiamy, H., “Contact Mechanics Approach to Determine Effective Radius in Bolted Joints”, 2004, Proceedings of the ASME/STLE International Joint Tribology Conference, October 24-27, Paper TRIB2004-64115, TRK-12 TOC, Long Beach, CA.
- 94- **Nassar, S.A.**, Matin, P., and G. Barber, “Thread Friction Torque in Bolted Joints”, 2004, Proceedings of ASME Pressure Vessels and Piping Conference, PVP-Vol. 478, pp.145-149, July 25-29, La Jolla, CA.
- 95- **Nassar, S.A.**, Barber, G.C., and Zuo, D., “Bearing Friction Torque in Bolted Joints”, 2004, Proceedings of the STLE Conference, May 17-20, Toronto, Canada.

Citations 3000+

Sample Invited Presentations to Learned Audience (2004-present)

1. **Nassar, S.A.**, “Reversible Adhesive Joining using Thermally Expandable Particle-Additives”, 2021, **Advanced Joining Processes Conference**, Sentra, Portugal Oct. 21-22.
2. **Nassar, S.**, “Novel Modeling of Mean Stress Effect on the High-Cycle Fatigue Performance of Preloaded Threaded Fasteners”, 2019, **ASME Pressure Vessels and Piping Conference**, July 15-19, San Antonio, Texas, USA.
3. **Nassar, S.**, Fatigue Performance of Ultrahigh Strength Fasteners, 2018, Proceedings of the **ASME Pressure Vessels and Piping Conference**, July 14-18, Prague, Czech Republic.
4. **Nassar, S.A.**, “Fundamentals of Bolted Joints”, July 2019, **ASME Tutorial**, Pressure Vessels and Piping, San Antonio, Texas-USA
5. **Nassar, S.A.**, “Technology Advances in Automotive Fastening”, Feb. 2018, **Next Generation Vehicle, Hyundai Research Center, Namyang, S. Korea.**
6. “Key Variables in Automotive Joint Analysis”, Nov. 1, 2017, **Keynote Webinar presentation** at the Fastening and Joining Symposium, Hyundai Research Center, Seoul, South Korea.
7. **Nassar, S.A.**, “Research Advances in Fastening and Joining”, March 1-31, 2017, Invited month-long Doctoral research seminar series, Department of Mechanical, Aerospace, and Automotive Engineering, Politecnico di Torino, Turin, Italy.
8. **Nassar, S.A.**, “Advances in Automotive Fastening and Joining”, Feb. 23, 2017, invited research seminar, Mechanical Engineering Department, Hanyang University, Seoul, South Korea.
9. **Nassar, S.A.**, “Advances in Automotive Joint Analysis”, Feb. 21-22, 2017, Hyundai Research Center, Seoul, South Korea.
10. **Nassar, S.A.**, “Advances in Lightweight Material Joining Technology”, April 9, 2015, Keynote presentation at the International Lightweight Material Conference, Southfield, MI.
11. **Nassar, S.A.**, “Inverse Problem Solution for Bolt Preload Using Measured Surface Deformation”, July 22, 2013, Department of Mechanical, Aerospace, and Automotive Engineering, Politecnico di Torino, Turin, Italy.
12. **Nassar, S.A.**, “Achieving Uniform Clamping in Gasketed Flat Face Joints”, July 22, 2013, Department of Mechanical, Aerospace, and Automotive Engineering, Politecnico di Torino, Turin, Italy.
13. **Nassar, S.A.**, “Review of Fasteners and Bolted Joints”, July 16, 2013, Tutorial, ASME-PVP Conference, Paris, France.
14. **Nassar, S.A.**, “Composite Joining Research”, Nov. 5, 2012, Department of Mechanical and Aerospace Engineering, University of Sydney, Sydney, Australia.
15. **Nassar, S.A.**, “Composite Fastening and Joining Technology”, 2012, invited Keynote presentation, Symposium on Composite Joining at the SEM XII International Congress on Experimental and Applied Mechanics, June 11-14, Costa Mesa, California, USA.
16. **Nassar, S.A.**, “Joining of Composites”, 2013, Mechanical Engineering Department, University of Dublin, June 6, Dublin, Ireland.
17. **Nassar, S.A.**, “Advances in Automotive Fastening and Joining Research”, Dec. 7, 2011, Torino Polytechnic University, Torino, Italy.
18. **Nassar, S.A.**, “Improved Cumulative Fatigue Damage Criterion for Preloaded Threaded Fasteners”, Dec. 12, 2011, invited seminar, Mechanical Engineering Department, Akhbar el-Yom Academy, Cairo, Egypt.
19. **Nassar, S.A.**, “Vibration-Induced Loosening of Preloaded Threaded Fasteners”, Dec. 22, 2011, invited seminar, Mechanical Engineering Department, Mansura University, Egypt.

20. **Nassar, S.A.**, “Pullout Performance of Pedicle Screws”, June 3, 2011, invited seminar, Bone Research Institute, Medical School, Shanghai Jiaotong University, Shanghai, P.R. China.
21. **Nassar, S.A.**, “Fastening and Joining Research Applications for Agriculture Equipment”, January 2010, John Deere Technical Center, Moline, IL.
22. **Nassar, S.A.**, “Effect of Eccentricity of Cyclic Tensile Loads on the Clamp Load Loss in a Bolted Joint with Yielded Fastener: A Non-Linear Model”, 2009, ASME-PVP Conference presentation, July 28, Prague, Czech Republic.
23. **Nassar, S.A.**, “Recent Advances in Fastening and Joining Research”, August 2009, Technical University of Vienna, Vienna, Austria.
24. **Nassar, S.A.**, “Teaching of Science and Technology in Developing Countries”, July 2009, Annual AMSE Conference, Washington D.C., USA.
25. **Nassar, S.A.**, “Automotive Fastening: Case Studies”, Chrysler LLC-Egypt (Arab American Vehicle AAV), Cairo, Egypt, Feb. 2009.
26. **Nassar, S.A.**, “Academia, Innovation, and Entrepreneurship”, Michigan Defense Innovation Symposium, Livonia, Michigan, Nov. 17-18, 2009.
27. **Nassar, S.A.**, “Clamp Load Loss Due to Vibration-Induced Loosening of Threaded Fasteners”, 2008, Mechanical Engineering Department, Wayne State University, October 24, Detroit, Michigan.
28. **Nassar, S.A.**, “Advances in Fastening and Joining Research”, 2008, Research Institute of Metal Based Materials, School of Material Science, Tongji University, August 7, Shanghai, P.R. China.
29. **Nassar, S.A.**, “Fastening and Joining Research Update”, 2008, Department of Applied Mechanics and Engineering, Southwest Jiaotong University, August 5, Chengdu, P.R. China.
30. **Nassar, S.A.**, “Review of Automotive Fastening Engineering”, 2008, Beijing Benz DaimlerChrysler (BBDC), July 17, Beijing, P.R. China.
31. **Nassar, S.A.**, “Automotive Fastening and Joining”, 2008, Chrysler Technical Center, Chrysler LLC, May 29, Auburn Hills, MI.
32. **Nassar, S.A.**, “Weak Link Systems Approach to Mechanical Design, 2008, Keynote presentation, Sixth International Engineering Conference (IEC6), March 18-21, Sharm El-Sheikh, Egypt.
33. **Nassar, S.A.**, “Fasteners and Bolted Joints Short Course”, 2008, Short Course, John Deere Product Engineering Center, February 4-5, Waterloo, IA.
34. **Nassar, S.A.**, “Research Advances in Fastening and Joining”, December 2007, KAU-Jeddah, Saudi Arabia.
35. **Nassar, S.A.**, “Research Advances in Fastening and Joining”, December 2007, Cairo University, Cairo, Egypt.
36. **Nassar, S.A.**, “Recent Advances in Fastening and Joining Research, December 2007, Mansoura University, Mansoura, Egypt.
37. **Nassar, S.A.**, “Reliability of Bolted Assemblies: A Systems Approach, December 2007, Chrysler – AAV, Cairo, Egypt.
38. **Nassar, S.A.**, “Reliability of Bolted Assemblies: A Systems Approach”, October 2007, NASA-JSC, Houston, Texas.
39. **Nassar, S.A.**, “Review of Fasteners and Bolted Joint Research”, July 2007, John Deere Technical Center, Moline, IL.
40. **Nassar, S.A.**, “A Systems Approach to Automotive Fastening and Joining”, July 2007, Advance Manufacturing Engineering Lecture Series, Chrysler Jeep and Truck Engineering Center, Detroit, Michigan.
41. **Nassar, S.A.**, “Review of Recent Advances in Fasteners and Bolted Joints Research”, Keynote presentation, SAE Fatigue Committee mini symposium (Bolt Project), Oakland University, Rochester, Michigan.
42. **Nassar, S.A.**, “A Systems Approach to Automotive Fastening and Joining”, May 2007, Advance Manufacturing Engineering Lecture Series, Chrysler Technical Center, Auburn Hills, Michigan.
43. **Nassar, S.A.**, “Adhesive Bonding of Dissimilar Materials”, June 2006, invited lecture, Material Properties Institute (MPA), University of Stuttgart, Stuttgart Germany.
44. **Nassar, S.A.**, “Research Topics in Fastening and Joining”, June 2006, invited lecture, Department of Micro-Mechanics, Munich University of Applied Sciences, Munich, Germany.
45. **Nassar, S.A.**, “Bolting and Adhesive Bonding Research”, June 2006, invited lecture, Department of Mechanical Engineering, Mannheim University of Applied Sciences, Mannheim, Germany.
46. **Nassar, S.A.**, “Automotive Fastening and Joining Technology”, May 2006, Advance Manufacturing Engineering Lecture Series, DaimlerChrysler Technical Center, Auburn Hills, Michigan.
- 47.
48. **Nassar, S.A.**, “Academia, Innovation, and Entrepreneurship”, Michigan Defense Innovation Symposium, Nov. 17-18, 2008, Livonia, Michigan.
49. **Nassar, S.A.**, “Advanced Fastener Technology with Applications”, paid two-day seminar, July 5-6, 2010, Shanghai Detroit Precision Fastener, Shanghai, P.R. China.
50. **Nassar, S.A.**, “Fasteners and Bolted Joints”, 2009, paid two-day short course, John Deere Technical Center, Nov. 30-Dec. 1, Madrid, Spain.
51. **Nassar, S.A.**, “Process Control of Bolted Joint Assembly”, 2009, paid one half-day tutorial, John Deere Technical Center, Dec. 2, Madrid, Spain.

52. **Nassar, S.A.**, “Clamp Load Loss in Bolted Joints”, 2010, invited seminar, John Deere Technology Center, Jan. 20, Moline, IL.
53. **Nassar, S.A.**, “Vibration-Induced Loosening of Preloaded Threaded Fasteners”, 2010, invited seminar, John Deere Technology Center, Jan. 20, Moline, IL.
54. **Nassar, S.A.**, “Teaching of Science and Technology in Developing Countries”, 2009, invited keynote presentation, Annual AMSE Conference, July 2-3, Washington D.C.
55. **Nassar, S.A.**, “Advanced Fasteners and Bolted Joint Technology”, 2011, paid one-day seminar, China First Auto Technical Center, May 24, Changchun, P.R. China.
56. **Nassar, S.A.**, “Advanced Fasteners and Bolted Joint Technology”, 2011, paid one-day seminar, China First Auto-Truck Division, May 26, Qingdao, P.R. China.
57. **Nassar, S.A.**, “Advanced Fasteners and Bolted Joint Technology”, 2011, one-day short course training, China Second Auto Technical Center, May 30, Wuhan, P.R. China.
58. **Nassar, S.A.**, “Recent Advances in Fastening and Joining Research”, November 2005, Polymer Engineering Department, University of Akron, Akron, Ohio.
59. **Nassar, S.A.**, “Adhesive Joining of Composite Materials”, April 2005, National Institute for Material Testing, Paris, France.
60. **Nassar, S.A.**, “Fastening and Joining Research”, April 2005, invited lecture, Technical University of Vienna, Vienna, Austria.
61. **Nassar, S.A.**, “Automotive Fastening and Joining Technology”, April 2005, invited lecture, Material Properties Institute (MPA), University of Stuttgart, Stuttgart Germany.
62. **Nassar, S.A.**, “Fastening and Joining of Automotive Composites”, April 2005, invited lecture, Material Properties Institute (MPA), University of Stuttgart, Stuttgart Germany.
63. **Nassar, S.A.**, “Friction Torque Components in Threaded Fasteners”, January 2005, invited lecture, Scientific Research Society-Sigma Xi, Oakland University, Rochester, Michigan.
64. “Bearing Friction Torque in Bolted Joints”, 2004, STLE Conference, May 17-20, Toronto, Canada.
65. **Nassar, S.A.**, “Recent Advances in Fastening and Joining Research”, Dec. 2004, invited lecture, Mechanical Engineering Department, Kobe University, Kobe, Japan.
66. **Nassar, S.A.**, “Collaborative Research in Automotive Fastening and Joining”, Nov. 2004, Material Properties (MPA), University of Stuttgart, Stuttgart, Germany.
67. **Nassar, S.A.**, “Automotive Fastening and Joining Research”, Nov. 2004, invited lecture, DaimlerChrysler, AG-University of Stuttgart-Oakland University meeting, Stuttgart, Germany.
68. **Nassar, S.A.**, “Failure Analysis of Conveyor Systems”, Sept. 2004, invited lecture, DaimlerChrysler Center Managers conference, Kuka Robotics Corp., Sterling Heights, Michigan.
69. **Nassar, S.A.**, “Recent Advances in Fastening and Joining Research”, Dec. 2004, Manufacturing Engineering Department, City University of Hong Kong, Hong Kong.
70. **Nassar, S.A.**, “Automotive Fasteners and Bolted Joints”, March 2005, invited lecture, DaimlerChrysler-Arab American Vehicle (AAV), Cairo, Egypt.
71. **Nassar, S.A.**, “Durability and Performance of Pneumatic Tools”, 2004, DaimlerChrysler Corporate Standardization meeting, live and video satellite linked audiences across the USA and Canada, September 10, Chrysler Technical Center, Auburn, Michigan.
72. **Nassar, S.A.**, “Conveyor Diagnostic Systems”, 2004, DaimlerChrysler Preventative Maintenance Symposium, July 20, Oakland University, Rochester, Michigan.
73. **Nassar, S.A.**, “Reliability of Automotive Assembly Robots “, 2004, DaimlerChrysler Preventative Maintenance Symposium, July 20, Rochester, Michigan.
74. **Nassar, S.A.**, “Real Time Control of Fastener Tightening Using Ultrasonics”, 2004, DaimlerChrysler Preventative Maintenance Symposium, July 20, Oakland University, Rochester, Michigan.
75. **Nassar, S.A.**, “Optical Control of Fastener Tightening in Automotive Plants”, 2004, DaimlerChrysler Preventative Maintenance Symposium, July 20, Oakland University, Rochester, Michigan.
76. **Nassar, S.A.**, “Process Optimization of Automotive Nut-Runners”, 2004, DaimlerChrysler Preventative Maintenance Symposium, July 20, 2004, Oakland University, Rochester, Michigan.
77. **Nassar, S.A.**, “Performance of Pneumatics Tools”, 2004, DaimlerChrysler Preventative Maintenance Symposium, July 20, 2004, Oakland University, Rochester, Michigan.
78. **Nassar, S.A.**, “A Systems Approach to Automotive Fastening and Joining”, 2004, Advance Manufacturing Engineering Training, DaimlerChrysler Technical Center, Auburn Hills, MI.
79. **Nassar, S.A.**, “A Systems Approach to Fasteners and Bolted Joints”, 2003, Hot Topic Lecture Series, Vehicle Engineering division, DaimlerChrysler Technical Center, Auburn Hills, MI.
80. **Nassar, S.A.**, “A Systems Approach to Automotive Fastening and Joining”, 2003, Advance Manufacturing Engineering Training, DaimlerChrysler Technical Center, Auburn Hills, MI.

81. **Nassar, S.A.**, “A Systems Approach to Fasteners and Bolted Joints”, 2002, Hot Topic Lecture Series, Vehicle Engineering division, DaimlerChrysler Technical Center, Auburn Hills, MI.
82. **Nassar, S.A.**, “Reliability of Automotive Assemblies”, 2000, presented at the annual Bolting Technology Council meeting, Detroit, MI.
83. **Nassar, S.A.**, “Recent Advances in Fasteners and Bolted Joints”, 1998, Joint Seminar-Mechanical and Aerospace Engineering Departments, Cairo University, Cairo, Egypt.
84. **Nassar, S.A.**, “Reliability of Bolted Joints – Case Studies from the Automotive Industry”, 1996 Fastener Conference and Expo, Novi, MI.
85. **Nassar, S.A.**, “Reliability of Bolted Joints: An Overall Review”, 1995, TAREC- Distinguished Lecture Series.
86. **Nassar, S.A.**, “Effect of Surface Roughness on Fastener Torque-Tension Relationship”, 2005, ASME International Design Engineering Technical Conference, September 24-28, Long Beach, CA.
87. **Nassar, S.A., Nassar, S.A.**, “Prediction of Clamp Load Loss under Fully Reversed Cyclic Loads in Bolted Joints”, 2005, ASME International Design Engineering Technical Conference, September 24-28, Long Beach, CA.
88. **Nassar, S.A.**, “Ultrasonic Control of Fastener Tightening using Variable Wave Speed”, 2005, ASME Pressure Vessels and Piping Conference, Paper# PVP2005-71578, July 17-21, Denver, Colorado.
89. **Nassar, S.A.**, “Bearing and Thread Friction in Fasteners”, 2004, ASME/STLE International Joint Tribology Conference, October 24-27, Long Beach, CA.
90. **Nassar, S.A.**, “Military Applications in Fastening and Joining”, 2004, Military Fastening and Joining Conference and Expo, Sept. 28-30, Rosemont, IL.
91. **Nassar, S.A.**, “Optical Inspection of Bolted Joints”, 2004, presented at the 16th World Conference on Non-Destructive Testing, August 30- September 3, Montreal, Canada.
92. **Nassar, S.A.**, “Fastener Tightening Beyond Yield”, 2004, ASME Pressure Vessels and Piping Conference, July 25-29, La Jolla, CA.
93. **Nassar, S.A.**, “Thread Friction Torque in Bolted Joints”, 2004, ASME Pressure Vessels and Piping Conference, July 25-29, La Jolla, CA.

Research Grants- Awarded at OU (2000-present) Total \$14,168,220 (S. Nassar, PI)

(Note: all below grants were processed through OU Grants Office with no match: covered 35 RA stipends for an average duration of 4 years, post-docs, visiting scholars, faculty release time, purchase of all research equipment at FAJRI, etc:
To date, Cash Revenue to OU General Budget from my grants is \$3,224,442-Indirect Cost and \$640,93 in Fringe Benefits)

\$730,000	NSF IUCRC Phase 1: Composite and Hybrid Material Interfacing (CHMI) Nassar, S. A. (PI) , Yang, L. (Co-PI) (2021-2026)
\$150,000	General Motors IUCRC-CHMI research-Oakland University Nassar, S. A. (PI) , Yang, L. (Co-PI) (2021-2026)
\$150,000	John Deere company IUCRC-CHMI Research-Oakland University Nassar, S. A. (PI) , Yang, L. (Co-PI) (2021-2026)
\$150,000	Hyundai-America IUCRC-CHMI Research -Oakland University Nassar, S. A. (PI) , Yang, L. (Co-PI) (2021-2026)
\$150,000	Dominion Energy IUCRC-CHMI-Oakland University Nassar, S. A. (PI) , Yang, L. (Co-PI) (2021-2026)
\$1,100,000	US Army GVSC/NCMS ((2021-2023) Modeling, Simulation, and Degradation of Multi-material Adhesive Joints Nassar, Sayed (Sole PI)

\$15,000	NSF IUCRC Planning grant: Digital Composite Joining Center at OU Nassar, S. A. (PI) , Yang, L. (Co-PI) (2018-2019)
\$303,373	NCMS/TARDEC Layered Transparent Armor Analysis and Testing Nassar, S.A. (Sole PI) (2019-2020)
\$549,999	Adhesive Bonding of Lightweight Materials NCMS/TARDEC Nassar, S.A. (Sole PI) (2017-2021)
\$104,916	NCMS/TARDEC Process Optimization of Layered Safety Glass Bonding Nassar, S.A. (Sole PI) (2017-2020)
\$507,772	NCMS/TARDEC Process Optimization of Layered Safety Glass Bonding Nassar, S.A. (Sole PI) (2015-2019)
\$1,088,012	US Army TARDEC Delamination Analysis and Testing of Adhesively-Bonded Layered Composites Nassar, S.A. (Sole PI) (2011-2015)
\$495,488	US Army TARDEC Delamination Analysis and Testing of Adhesively-Bonded Layered Composites Nassar, S.A. (Sole PI) (2011-2015)
\$920,733	Mississippi State Univ./US Army TARDEC Development of Rapid Deployment Impact Technology Nassar, S.A. (Sole PI) (2010-2012)
\$200,000	DaimlerChrysler CTC, Auburn Hills, Mich. Automotive Fastening and Joining-unrestricted grant- unrestricted grant Nassar (PI) (2008)
\$359,864	Michigan State University/US Army TARDEC Hybrid Joining of Dissimilar Light Weight Materials Nassar, S.A. (Sole PI) (2012-2016)
\$200,000	DaimlerChrysler CTC, Auburn Hills, Mich. Automotive Fastening and Joining-unrestricted grant Nassar (PI) (2007)
\$150,000	DTE Energy Unrestricted research grant for FAJRI Nassar (PI) (2007-2009)

\$56,000	Cummins Technical Center FEA Simulation of Drive Train Nassar, S.A. (Sole PI) (2008-2009)
\$150,000	DaimlerChrysler CTC, Auburn Hills, Mich. Vibration loosening of Automotive Joints Nassar (PI) (2006)
\$40,000	General Motors Tech Center FEA Simulation of Chassis Joints Nassar, S.A. (Sole PI) (2008-2009)
\$150,000	DaimlerChrysler CTC, Auburn Hills, Mich. Gasketed Joint Modeling- unrestricted grant Nassar (PI) (2005)
\$24,565	NSF-SBIR Phase I OU-share of \$100k NSF award to collaborator: Sandalwood Enterprise Ultrasonic Control of Fastener Tightening Nassar, S.A. (Sole PI) (2004)
\$150,000	DaimlerChrysler, CTC- Auburn Hills, Mich. Use of Ultrasonics in Bolted Joints-unrestricted grant Nassar (PI) (2004)
\$5,639,788	US Army TARDEC/TACOM/ US Navy Research, Material Joining, Vibration Loosening, Composites Joints, Gasket Creep, Elastic Interaction, NDT Fatigue, Simulation, Medical Screws, Damage Modeling. Nassar, S.A. (Sole PI) (2003-2014)
\$150,000	DaimlerChrysler, CTC- Auburn Hills, Mich. Automotive Fasteners and Bolted Joints-unrestricted grant Nassar (PI), Gary Barber (Co-PI) (2002)
\$118, 445	Chrysler Challenge Fund Optimization of Automotive Lugnut joint (additional \$200k in kind equipment from Chrysler for to FAJRI-OU) Nassar, S.A. (Sole PI) (2000-2001)

Research Proposals - Pending award in 2022 \$500,000 (S. Nassar, PI)

\$300,000	PPG/GVSC Fatigue of High-Performance Adhesives for Ground Vehicles Nassar, S.A. (sole PI)
\$200,000	PPG Tech Center, Pittsburgh, PA Material Characterization of Automotive Adhesives Nassar, S.A. (sole PI)

Ph.D. Dissertations and MS Theses Supervision at OU (36) (19 Ph.D. + 17 MS)

<i>Name</i>	<i>Thesis Title and graduation date</i>
Nitesh Hulikar	Constitutive Modeling of Strength Degradation of Adhesive Joints (Ph.D. dissertation research: ongoing)
Marco Gerini-Romagnoli	2-D Constitutive Modeling of Stress-Diffusion in Adhesive Joints (Ph.D. 2021: Assistant Research Scientist, NSF IUCRC-Oakland University)
Chaiwat Sinthurisri	Modeling of Bolt Shear Load Distribution in Lap Shear Joints (Ph.D. 2021: Design Manager, Fisker Inc, CA)
Shraddha Jagatap	Process Optimization Adhesive Joints (Ph.D., 2022 Leer Corporation)
Tianwu Li	Fatigue of Preloaded Threaded Fasteners (Ph.D. 2020 China Institute of Standards, Beijing)
Amir Kazemi	Multi-axial Fatigue of Preloaded Threaded Fasteners (Ph.D., 2017: now at General Motors Technical Center, Warren, Michigan)
Kerri Sakai	Hybrid Joining of Lightweight Materials (Ph.D., 2017: now at Toyota Research Planning Center, Farmington Hills, MI)
Emad Mazhari	Coupled-Stress Diffusion Modeling of Single Lap Joints (Ph.D., 2017: now at FCA Technical Center, Auburn Hills, MI)
Jianghui Mao	Damage Modeling of Laminated Composite Joints (Ph.D., 2013: Stellantis, CTC, Auburn Hills, MI)
Brian Munn	Fatigue of Threaded Fasteners (Ph.D.: 2015 now at TRW Automotive, Shelby Township)
Amro Zaki	Vibration Loosening of Preloaded Countersunk Head Cap Screws (Ph.D., 2013: now at Magna Automotive, Troy, Michigan)
Zhijun Wu	Failure and damage analysis of spine screws (Ph.D., 2012: Special Instructor, ME Dept., Oakland University)
Antoine Abboud	Creep Relaxation of Gasketed Bolted Flanges (Ph.D., 2013: now at Maclaren Automotive, Livonia, Michigan)
Saravanan Ganeshmurthy	Simulation of Process Control Methods for Bolted Joints (Ph.D., 2012: now at FCA Technical Center, Auburn Hills, MI)
Aidong Meng	Optical Control of Fastener Tightening (Ph.D., 2008: now at General Motors Technical Center, Warren, MI)
Vinay Virupaksha	Fastening and Joining of Composite Joints (Ph.D., 2008: General Motors Technical Center, Warren, MI)
Ali Alkelani	Creep Relaxation of Gasketed Bolted Joints (Ph.D., 2007: now at BMW Motors, South Carolina, USA)
Basil Housari	Self-Loosening of Threaded Fasteners Due to Cyclic Transverse Loads (Ph.D., 2006: now at BMW Motors, South Carolina, USA)
Tianshu Sun	Tribology of Bolted Joints (Ph.D., 2008)
Camilla Salvatore	Fatigue of Additive Manufacturing Adhesive Joints (MS, in progress: Double Degree with PoliTo, Italy)
Romano Aloviseti	Friction Drill Screw Joining of Sheet Metal (MS 2021 Double Degree with PoliTo, Italy)
Daniel Nappi	Static Performance of Additive Manufacturing Adhesive Joints (MS, 2021: Double Degree with PoliTo, Italy)
Giulio Piazza	Reversible Structural Adhesive Joining (MS 2020: Double Degree with PoliTo, Italy)
Chao Yang	Cyclic Corrosion of Composite Joints (MS 2019: Double Degree with PoliTo, Italy)
Marco Attanasio	Reversible Hot-Melt Adhesives (MS 2018: Double Degree with PoliTo, Italy)
Isotta Morfini	Effect of Autoclave Cure Time and Bonding Surface Roughness on Lightweight-Materials Joints (MS 2018: Double Degree with PoliTo, Italy)
Marcello Tardito	Autoclave Adhesive Bonding of Lightweight Material-Joints (MS 2016: Italian Design, Turin, Italy)

Andrea Piccatto	Multiaxial Performance of Fatigue of Clamped Automotive Sheet Metal Joints (MS 2017, with Politecnico di Torino, Turin, Italy.)
Moustapha Diab	Adhesive bonding of composites (MS 2014)
Kassem Moustafa	Effect of Adhesive Nanoparticle Enrichment on Joint Static and Dynamic Performance. (MS 2014)
Rania Ali	Fatigue Performance of Preloaded Threaded Fasteners (MS, 2012: now Ph.D. candidate at University of Florida)
Mohan Ganganala	Strain Hardening Model of Preloaded Joint under Off-Center Loading (MS 2010)
Amro Zaki	Vibration Loosening of Preloaded Countersunk Head Cap Screws (MS 2009: now at Chrysler Technical Center, Auburn Hills, Mich.)
Satya Gandham	Behavior of Bolted Joints under Tensile Service Loads (MS 2008)
Antoine Abboud	Improved Stiffness Model of Gasketed Joints (MS, 2008: now at Magna Automotive, Troy, Michigan)
Zhijun Wu	FEA Modeling (MS, 2008: now at Oakland University, Rochester, Michigan)
Yipeng Zuo	Effect of Non-Parallel Fastener Underhead Contact on the Torque-Tension Relationship (MS, 2006)
Aditya Veeram	Real- Time Ultrasonic Control of Bolt Tightening Using Variable Wave Speed (MS, 2005)
Dajun Zuo	Reliability of Fasteners and Bolted Joints (MS, 2003: now at American Axle and Manufacturing, Detroit, Michigan)

Supervision of Research Faculty and Post-Docs (at the Fastening and Joining Research Institute-OU)

Dr. Zhijun Wu (2014-2016), Visiting Assistant Professor, Mechanical Engineering, Oakland University
Dr. Mehmet Uras (2011-2014), senior researcher.
Dr. Xianjie Yang (2005-2013), visiting research professor, Southwest Jiaotong University, PRC.
Dr. Meir Shillor (2003-present), Professor of Mathematics and Statistics, Oakland University.
Dr. Xin Wu (2008-2012), Assoc. Professor (Materials, adhesive bonding), Wayne State University.
Dr. Sharif Gindy (2010-present), senior researcher.
Dr. Michael Latcha (2010-present), Associate Professor, Mechanical Engineering, Oakland University.
Dr. Hiu Li (2009), post-doc.
Dr. Aidong Meng (2008-2009), post-doc.
Dr. Basil Housari (2009), visiting researcher, (ME, vibration-induced loosening), Chrysler LLC.
Dr. Ron Averil (2004-2008), Assoc. Professor (ME, design optimization), Michigan State University.
Dr. Gary Barber, (2000-2006), Professor and Chair of ME (tribology), Oakland University.
Dr. Beth Zou (2003-2005), Assistant Professor (ME-tribology), Oakland University.
Dr. Randy Gu (2003-2004), Professor (ME-CAE modeling), Oakland University.
Dr. Lorenzo Smith (2003-2005), Assistant Professor (ME-FEA modeling), Oakland University
Dr. Lian Yang (2003-2005), Associate Professor (ME-digital shearography).
Dr. Laila Guessous (2004-2005), Assistant Professor (ME-spot weld modeling).
Dr. Abdel-Nasser Zayed (2000-2001), post-doc (ME), Zagazig University, Egypt.

Service

2021	Scientific Committee, Advanced Joining Processes (AJP) Conference, Sentra, Portugal (Oct. 2021)
2019	Scientific Committee, Advanced Joining Processes (AJP) Conference, Azores, Portugal (Oct. 2019)
2019~present	Associate Editor, Journal of Advanced Joining Processes
2016-2019	Associate Editor, ASME Journal of Pressure Vessels
2017~present	Chair, Technical Committee on Fastening and Joining, ASME-Design Engineering Division.
2017-2018	Organizer, ASME PVP2018 Symposium on Fastening and Adhesive Joining Research, Prague, July 2018.
2017-2018	Organizer, ASME 3 rd . Symposium on Fastening and Joining, IMECE2017, Nov 9-14, Pittsburgh, PA
2016-2017	Organizer (Threaded Fasteners), ASME PVP2017, July 13-14, Big Island, Hawaii.
2016-2017	Organizer, ASME 2 nd . Symposium on Fastening and Joining, IMECE2017, Nov 6-7, Tampa, FL.
2017	Chair, Co-Chair, sessions of Bolted Joints and Adhesive Bonding, ASME IMECE2017, Nov.6-7, Tampa, FL

2015-2016 Member, University Search Committee for Assoc. Vice President for Research, Oakland University
2015 Member, University Advisory Committee, Distinguished Professor Rank, Oakland University
2012-2013 *Member*, Provost Search Committee, Oakland University.
2012 *Chair*, Research Support Committee, SECS.
2010-2011 *Coordinator*, ME Research Seminar Series.
2013-2014 *Member*, ME Graduate Committee.
2008-2009 *Chair*, Search Committee for Dean of Engineering (SECS), Oakland University.
2009 *Chair*, All University Fund Drive (AUFDD), Oakland University.
2008-2012 *Advisor* to Dean Ron Sudol of CAS, Oakland University.
2006-2006 *Charter Member*, Research Committee, SECS-Oakland University, Rochester, MI.
2006 *Chairman*, Symposium on Fastening and Joining (SOFAJ), ASME Pressure Vessels and Piping Conference, July 21-26, Vancouver, British Columbia, Canada.
2006 *Chairman*, Symposium on Fastening and Joining (SOFAJ), ASME Pressure Vessels and Piping Conference, July 22-27, Vancouver, British Columbia, Canada.
2003-2006 *Advisor*, ASME student section, Oakland University.
2003 *Member*, Executive Committee, School of Engineering and Computer Science (SECS), Oakland University.
1989-1994 *Member*, Faculty Council, College of Engineering, Lawrence Technological University (LTU),
Chair, *Governance Committee*: Drafted By-Laws, led the establishment of a tenure review procedure, and lead the organization of a tenure review committee)
1991-1994 *Charter Member*, *Ad-Hoc University Senate*, Lawrence Technological University.
(leading role in the 1992 national search for LTU President, developing the Senate By-Laws).
1986-2000 *Advisor*, ASME student section, Lawrence Technological University.
1989-1990 *Chairman*, ASME-Southeastern Michigan Section (SMS)
1991 *Chairman of the ASME Regional Student Conference*, RSC-Region 5.
Co-Chairman of Student Technical Conference
1988-1989 *Secretary*, ASME-Southeastern Michigan Section (SMS)
1990-2000 *Founding Chairman*, Fastening and Joining Research Council, ASME-SMS
1989-1993 *Vice Chairman*, *Bolting Technology Council (BTC)*, New York, New York.
1992-1995 *Chairman*, *Fastening and Joining Committee*, Design Division, ASME.
1991 *Technical Chair*, 16th. International Conference of AMSE, Detroit, Michigan.
1991 *Editor*, “*Technology Transfer: Challenges and Opportunities*”, 1991, Proceedings of the Sixteenth AMSE Conference, October 25-27, Detroit, MI.
1992 *Technical Chair*, 17th. International Conference of AMSE, Michigan State University.
1992 *Editor*, “*Technology Transfer: Challenges and Opportunities*”, 1992, Proceedings of the Seventeenth AMSE Conference, October 29-31, Michigan State University, East Lansing, MI.

Professional

- **Associate Editor**, Journal of Advanced Joining Processes (2019-present)
- **Associate Editor**, ASME Journal of Pressure Vessels (2016-2019)
- **Chair**, ASME Fastening and Joining Committee, Design Engineering Division (2017-present)
- **Scientific Committee**, Advanced Joining Process Conference (2019-present)
- **Chair/Topic Organizer**: Symposium on Fastening and Joining Research, ASME-IMECE2017, Nov. 3-9, 2017, Tampa, Florida.
- **Topic Organizer**: Session on Threaded Fastener Research, ASME-PVP2017, July 13-18, Big Island, Hawaii.
- **Chair**, Symposium on Fastening and Joining Technology, IMECE2016-ASME, Nov. 12-17, 2016, Phoenix, AZ.
- **Fellow** ASME (2006--)
- **Member** SAE International (2005-2014)
- **Guest Assoc. Editor**, ASME Journal of Pressure Vessel Technology (2006--).
- **Editor/Co-Editor**, ASME-PVP peer-reviewed Proceedings (2006, 2007, 2008, 2009, 2010, 2011, 2012,2013,2014)
- **Editor**, “*Handbook of Bolts and Bolted Joints*”, 1998, Bickford, J.H., Nassar, S., Editors, Marcel Dekker, N.Y., N.Y.
- **Editor**, “*Technology Transfer: Challenges and Opportunities*”, 1992, Proceedings of the Seventeenth AMSE Conference, October 29-31, Michigan State University, East Lansing, MI.
- **Editor**, “*Technology Transfer: Challenges and Opportunities*”, 1991, Proceedings of the Sixteenth AMSE Conference, October 25-27, Detroit, MI.
- **Founding Director/Principal Investigator**, Fastening and Joining Research Institute (FAJRI), Oakland University (2003-present). FAJRI is a federally funded center with 20 researchers. FAJRI is the only academic research center in

the world that is solely dedicated to fastening and joining research, which includes threaded fasteners and bolted joints, adhesive bonding, welding, and riveting.

- **Reviewer (ongoing)**, ASME Journal of Mechanical Design, ASME Journal of Pressure Vessels Technology, Journal of Materials and Manufacturing-SAE Transactions, International Journal of Engineering Tribology, AIAA Journal of Aerospace Engineering.

Consulting Experience

Partial list of clients includes NASA*, DaimlerChrysler**-USA, General Motors, Ford, John Deere, General Dynamics Land Systems, Hyundai Research Center, Namyang (near Seoul)-S. Korea***, American Axle.

- * 2007-2012 paid subject matter expert (SME) on NASA Threaded Fastener System Standard (TFSS) team that developed standard NASA-STD-5020 for the US space flight hardware.
- ** 1999-2008 Consultant and Intern Professor, Advance Manufacturing Engineering, Chrysler Tech Center, Auburn Hills, Michigan-USA.
- *** 2017-2018 Technical Advisor, Next Generation Vehicle, Hyundai Motor Company, Seoul-South Korea.
- *** 2014-2019 Consultant, Next Generation Vehicle-Fastening and Joining, Hyundai Research Center, Namyang, South Korea.