M Taher A Saif
Edward William and Jane Marr Gutgsell Professor
Mechanical Science and Engineering, University of Illinois at Urbana-Champaign
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Education

B.S.	Civil Engineering (Structures)	Bangladesh University of Engineering and Technology (BUET)	1984
M.S.	Civil Engineering (Structures)	Washington State University Pullman, WA	1987
Ph.D	Theoretical and Applied Mechanics	Cornell University Ithaca, NY	1993

Academic Positions

8/2010-present	Edward William and Jane Marr Gutgsell Professor, University of Illinois (UIUC)
8/2006-present	Professor, Mechanical Science and Engineering (UIUC)
8/2003-7/2006	Associate Professor, Mechanical and Industrial Engineering (UIUC)
6/1997-7/2003	Assistant Professor, Mechanical and Industrial Engineering (UIUC)
1996-97	Research Associate, National Nanofabrication Facility, Cornell University
1993-96	Post Doctoral Associate, Electrical Engineering, Cornell University
1984-86	Lecturer, Bangladesh University of Engineering and Technology, Dhaka
Faculty affiliate	Neuroscience Program, UIUC, Beckman Institute, UIUC

Visiting position

06/2019-12/2019	Distinguished Visiting Professor at the Leibniz Institute for new Materials, Saarbrucken, Germany.
9/2005-1/2006	Guest Scientist, Max Planck Institute, Stuttgart (Arzt Department)
3/2011-6/2011	Guest Professor, Faculty of Physics, University of Vienna

Honors and Awards

Member, National Academy of Engineering, 2024.

Fellow, AAAS (American Association for the Advancement of Science), 2023.

List of Teachers Ranked as Excellent by Their Students, Center for Innovation in Teaching & Learning, UIUC: Fall 2022, Spring, Fall 2023.

Engineering Science Medal, Society of Engineering Science, 2020

Warner T. Koiter Medal, American Society of Mechanical Engineers, 2018

Member, Board of Governors, Research and Innovation Centre for Science and Engineering (RISE), Bangladesh University of Engineering and Technology, 2021-

Member, Executive Board, Applied Mechanics Division, American Society of Mechanical Engineers, 2018-

Member, International Advisory Board, North South University, Bangladesh, 2016-

President, Society of Engineering Science, 2016

Member, Board of Directors, Society of Engineering Science, 2012-2016

Fellow of the American Society of Mechanical Engineers, 2011

Member of UIUC panel evaluating the academic engineering program of Jubail Industrial & University Colleges of the Royal Commission, Jubail, Saudi Arabia, 2011

Edward William and Jane Marr Gutgsell Professor, University of Illinois, 2010 – date

Member, Scientific Advisory Board, Singapore-MIT Alliance for Research and Technology, 2010-12

College of Engineering Outstanding Advisors list, 2009

Willett Faculty Scholar, College of Engineering, UIUC, 2003-2009

Xerox Award for Faculty Research (5 years), College of Engineering, (UIUC), 2006

Xerox Award for Faculty Research (2 years), College of Engineering, UIUC, 2003

Associate, Center for Advanced Study, UIUC, 2004-05

Listed in the Daily Illini “Incomplete List of Teachers Ranked as Excellent by Their Students” for Spring 2003, Spring 2004, Fall 2006

MechSe Alumni Effective Teaching Award (by alumni graduated during 2004), 2006

NSF Invited Member, U.S.-Japan Young Researchers' Exchange Program for Nanotechnology, Sept. 25-Oct. 2, 2003 in U.S., and Nov. 5-13, 2003 in Japan.

Strathmore’s Who’s Who, 2002-2005
Who’s Who in Engineering Education, 2002
National Science Foundation CAREER Award, 1998

GE Scholar, 1998

Ralph Bolgiano, Sr. Outstanding Teaching Assistant Award, Cornell University, UIUC, 1991

Research interests

Deformation mechanisms of nanoscale materials
Mechanics of MicroElectroMechanical Systems (MEMS)
Biomechanics: Cellular mechanics and mechanotransduction, cancer metastasis, neuro mechanics
Biohybrid robots, engineered living systems

Professional affiliations

Fellow and Member, American Society of Mechanical Engineers
Member, Technical Committee, MEMS Subdivision, International Mechanical Engineering Congress and Exposition, Nov. 2000, 2001, 2002, 2003, 2004
Vice Chair, Electronic Materials Committee of the ASME Materials Division, 2001-03
Chair, Electronic Materials Committee of the ASME Materials Division, 2003-05
Member, Technical Committee, 2007 IEEE/ASME International Conference on Advanced Intelligent Megatronics, ETH Zürich, Switzerland, September 4-7, 2007
Member, Society for Engineering Science
Member, Materials Research Society (MRS)
Member, Biophysical Society (BPS)
Member, Biomedical Engineering Society (BMES)
Member, Society for Neuroscience (SfN)
Member, American Association for the Advancement of Science (AAAS)

Editorship

Guest Editor, Proceedings of the National Academy of Science, USA, 2018
Associate Editor, Journal of Mechanics and Physics of Solids, 2018-
Associate Editor, ASME Journal of Applied Mechanics, 2013-17
Guest Editor, Materials Research Society Bulletin on In Situ Mechanical Testing at the Micro-/Nanoscale, May 2010
Editorial Board, International Journal of Applied Mechanics (IJAM)

Courses taught (1 course per semester)

Mechanical Design (Mostly seniors)
Engineering Materials (juniors and seniors)
Failure mechanisms in engineering materials (Seniors and junior grad students)
Senior design (Seniors)

Mechanics of MEMS (Mostly PhD students)
Neuromechanics (Grad students)

Journal publications

1990

1. Grigoriu, M. and M. T. A. Saif, "Fatigue Analysis of Cracked Anisotropic Plates Subject to Stochastic Loads," Computers and Structures, 37:2, 169-173, 1990.
2. Grigoriu, M., M. T. A. Saif, S. El Borgi, and A. R. Ingraffea, "Mixed Mode Fracture Initiation and Trajectory Prediction Under Random Stresses," International Journal of Fracture, 45, 19-34, September 1990.

1993

3. Glaucio, P. H., M. T. A. Saif, and S. Mukherjee, "A Finite Elastic Body with a Curved Crack Loaded in Anti-Plane Shear," International Journal of Solids and Structures, 30:8, 1015-1037, 1993.
4. Saif, M. T. A. and C-Y. Hui, "Near Tip Fields for a Stationary Mode III Crack Between a Linear Elastic and an Elastic Power Law Hardening Material," International Journal of Fracture, 64:1, 1-26, November 1993.
5. Saif, M. T. A., C. Y. Hui, and A. T. Zehnder, "Interface Shear Stresses Induced by Non-uniform Heating of a Film on a Substrate," Thin Solid Films, 224:2, 159-167, March 1993.

1994

6. Hui, C.-Y. and M. T. A. Saif, "Asymptotic Stress Field of a Mode III Crack Growing Along an Elastic/Elastic Power-Law Creeping Bimaterial Interface," Journal of Applied Mechanics, 61, 384-389, June 1994.
7. Saif, M. Taher A. and C.-Y. Hui, "Plane Strain Asymptotic Fields of a Crack Growing along an Elastic-Elastic Power-law Creeping Bi-Material Interface," Journal of the Mechanics and Physics of Solids, 42:2, 181-214, February 1994.

1996

8. Saif, M. T. A. and N. C. MacDonald, “A Millinewton Microloading Device,” Sensors and Actuators A, 52, 65-75, May 1996.
9. Saif, M. T. A. and N. C. MacDonald, “Planarity of Large MEMS,” Journal of Microelectromechanical Systems, 5:2, 79-97, June 1996.
10. MacDonald, N. C., S. G. Adams, A. A. Ayon, K. F. Bohringer, L.-Y. Chen, J. H. Das, D. Haronian, W. Hofmann, X. T. Huang, A. Jazairy, R. E. Mihailovich, S. A. Miller, I. Ogo, R. Prasad, B. W. Reed, M. T. A. Saif, K. A. Shaw, R. Y. Webb, and Y. Xu, “Micromachined Microdevices and Microinstruments,” Microelectronic Engineering, 30, 563-564, 1996.

1998

11. Saif, M. T. A. and N. C. MacDonald, “Measurement of Forces and Spring Constants of Microinstruments,” Review of Scientific Instruments, 69:3, 1410-1422, March 1998.
12. Saif, M. T. A. and N. C. MacDonald, “Microinstruments for Submicron Material Studies,” Journal of Materials Research, 13:12, 3353-3356, December 1998.

1999

13. Saif, M. T. A., B. E. Alaca, and H. Sehitoglu, “Analytical Modeling of Electrostatic Membrane Actuator for Micro Pumps,” Journal of Microelectromechanical Systems, 8:3, 335-345, September 1999.

2000

14. Saif, M. T. A., “On a Tunable Bistable MEMS-Theory and Experiment,” Journal of Microelectromechanical Systems, 9:2, 157-170, June 2000.

2001

15. Haque, M. A. and M. T. A. Saif, “Microscale Materials Testing Using MEMS Actuators,” Journal of Microelectromechanical Systems, 10:1, 146-152, 2001.

2002

16. Haque, M. A. and M. T. A. Saif, “In-situ Tensile Testing of Nano-scale Specimens in SEM and TEM,” Journal of The Society for Experimental Mechanics, 42:1, 123-128, 2002.
17. Alaca B. E., M. T. A. Saif, and H. Sehitoglu, “On the Interface Debond at the Edge of a Thin Film on a Thick Substrate,” Acta Materialia, 50, 1197-1209, 2002.
18. Xue, Z., M. T. A. Saif, and Y. Huang, “The Strain Gradient Effect in Micro-Electromechanical-Systems (MEMS),” Journal of Microelectromechanical Systems, 11:1, 27-35, 2002.
19. Haque, M. A. and M. T. A. Saif, “Application of MEMS Force Sensors for In-Situ Mechanical Characterization of Nano-Scale Thin Films in SEM and TEM,” Sensors and Actuators A, 97-98, 239-245, 2002.
20. Sulfridge, M., T. Saif, N. Miller, and K. O‘Hara, “Optical Actuation of a Bistable MEMS,” Journal of Microelectromechanical Systems, 11:5, 574-583, October 2002.
21. Saif, M. T. A., S. Zhang, M. A. Haque, and K. J. Hsia, “Effect of Native Oxide on the Elastic Response of Nanoscale AL Films,” Acta Materialia, 50:11, 2779-2786, 2002.
22. Saif, T. A., “On the Capillary Interaction Between Solid Plates Forming Menisci on the Surface of a Liquid,” Journal of Fluid Mechanics, 473, 321-347, 2002.

23. Alaca, B. E., J. C. Selby, M. T. A. Saif, and H. Sehitoglu, "Biaxial Testing of Nanoscale Films on Compliant Substrates: Fatigue and Fracture," Reviews of Scientific Instruments, 73, 2963-70, 2002.
24. Haque, M. A. and M. T. A. Saif, "Mechanical Behavior of 30-50 nm Thick Aluminum Films Under Uniaxial Tension," Scripta Materialia, 47, 863-867, 2002.

2003

25. Saif, T. and A. Haque, "Mechanical Behavior of Nano Scale Thin Films Using MEMS Sensors," International Journal of Computational Engineering Sciences, 4:2, 169-173, June 2003.
26. Haque, M. A. and M. T. A. Saif, "A Review of MEMS-Based Microscale and Nanoscale Tensile and Bending Testing," Special Issue of Experimental Mechanics, 43:3, 248-255, September 2003.
27. Saif, M. T. A., C. R. Sager, and S. Coyer, "Functionalized Biomicroelectromechanical Systems Sensor for Force Response Study at Local Adhesion Sites of Single Living Cells on a Substrate," Annals of Biomedical Engineering, 31:8, 950-961, 2003.
28. Haque, M. A. and M. T. A. Saif, "Strain Gradient Effect in Nanoscale Thin Films," Acta Materialia, 51, 3053-3061, 2003.

2004

29. Sulfridge, M., T. Saif, N. Miller, and M. Meinhart, "Nonlinear Dynamic Study of a Bistable MEMS: Model and Experiment," J. MEMS, 13:5, 725-731, October 2004.
30. Alaca, B. E., H. Sehitoglu, and T. Saif, "Guided Self-Assembly of Metallic Nanowires and Channels," Applied Physics Letters, 84:23, 4669-4671, June 2004.
31. Saif, T., "Scaling the Depth," Mechanical Engineering, 126:4, 2004 (invited article).
32. Bauer, J. M., T. A. Saif, and D. J. Beebe, "Surface Tension Driven Formation of Microstructures," Journal MEMS, 13:4, 553-558, August 2004.
33. Haque, M. A. and M. T. A. Saif, "Deformation Mechanisms in Free-standing Nano-scale Thin Films: A Quantitative In-situ Transmission Electron Microscopy Study," Proceedings of the National Academy of Science, 101:17, 6335-6340, April 2004.
34. Bauer, J. M., T. A. Saif, and D. J. Beebe, "Liquid Phase Construction of Microstructures," Journal of MEMS, 13:4, 553-558, August 2004.

2005

35. Haque, M. A. and M. T. A. Saif, "Thermo-Mechanical Properties of Nano-Scale Freestanding Aluminum Films," Thin Solid Films, 484, 364-368, 2005.
36. Haque, M. A. and M. T. A. Saif, "In-situ Tensile Testing of Nanoscale Freestanding Thin Films Inside a Transmission Electron Microscope," Journal of Materials Research (In-situ Focus Issue), 20:7, 1769-1777, July 2005.
37. Yang, S. and T. Saif, "Reversible and Repeatable Linear Local Cell Force Response Under Large Stretches," Experimental Cell Research, 305, 42-50, 2005.
38. Yang, S. and T. Saif, "Micromachined Force Sensors for the Study of Cell Mechanics," Review of Scientific Instruments, 76, 044301, 2005. Also selected for publication in the April 1, 2005 issue of Virtual Journal of Biological Physics Research.
39. Hattar, K., J. Han, M. T. A. Saif, and I. M. Robertson, "In-situ TEM Observation of Toughening Mechanism in Ultra-Fine Grained Columnar Aluminum Thin Films," Journal of Materials Research (In-situ Focus Issue), 20:7, 1869-1877, 2005.
40. Mani, S. and T. M. A. Saif, "Mechanism of Controlled Crack Formation in Thin-Film Dielectrics," *Applied Physics Letters*, 86, 201903, 2005 (available online).

2006

41. Meinhart, M., N. R. Miller, and M. T. A. Saif, “Dry Stiction of Micro Structures – Theory and Experiment,” Proceedings of the Royal Society of London, Series A, 462, 567-585, 2006.
42. Mani, Sathya, Taher Saif, and Jong H. Han, “Effect of Annealing on the Conductivity of Electroless Deposited Ni Nanowires and Films,” IEEE Transactions on Nanotechnology, 5:2, 138-141, March 2006.
43. Han, J. H., and M. T. A. Saif, “In-situ Microtensile Stage for Electromechanical Characterization of Nanoscale Freestanding Films,” Review of Scientific Instruments, 77:4, 45102-1-8, April 2006.

2007

44. Mani, S. and T. Saif, “Stress Development in PECVD Silicon Dioxide Thin-Films Due to Hydrogen Evolution,” This Solid Films, 515:5, 3120-3125, 2007.
45. Rajagopalan, J., J. Han, and M. T. A. Saif, “Plastic Deformation Recovery in Freestanding Nanocrystalline Aluminum and Gold Thin Films,” *Science*, 315, 1831-1834, March 2007.
46. Rajagopalan, J. and M. T. A. Saif, “A Single Degree of Freedom Model for Thermoelastic Damping,” Journal of Applied Mechanics (ASME Transactions), 74:3, 461-468, May 2007.
47. Yang, S. and M. T. A. Saif, “MEMS Based Force Sensors for the Study of Indentation Response of Single Living Cells,” Sensors and Actuators A: Physical, 135:1, 16-22, 2007.
48. Yang, Shengyuan, and M. T. A. Saif, “Force Response and Action Remodeling (Agglomeration) in Fibroblasts Due to Lateral Indentation,” Acta Biomaterialia, 3:1, 77-78, 2007.

2008

49. Rajagopalan, J., J. H. Han, and M. T. A. Saif, “Bauschinger Effect in Unpassivated Freestanding Nanoscale Metal Films,” Scripta Materialia, 59:7, 734-737, 2008.
50. Yang, S., and M. T. A. Saif, “Microfabricated Force Sensors and Their Applications in the Study of Cell Mechanical Response,” Experimental Mechanics, 49:1, 135-151, 2008. Invited Article.
51. Rajagopalan, J., J. H. Han, and M. T. A. Saif, “On Plastic Strain Recovery in Freestanding Nanocrystalline Metal Thin Films,” Scripta Materialia, 59, 921-926, 2008. Invited Article.

2009

52. Siechen, S., S. Yang, A. Chiba, and T. Saif, "Mechanical Tension Contributes to Clustering of Neurotransmitter Vesicles at Presynaptic Terminals," Proceedings of the National Academy of Science, 106:31, 12611-12616, August 4, 2009.

2010

53. Ahmed, W., T. Wolfram, A. Goldyn, K. Bruellhoff, B. Aragues Rioja, M. Moller, J.P. Spatz, M. T. A. Saif, J. Groll, and R. Kemkemer, "Myoblast Morphology and Organization on Biochemically Micro-patterned Hydrogel Coatings under Cyclic Mechanical Strain," Biomaterials 31: 250-8, 2010.
54. Ahmed, W. W., M. H. Kural, and T. Saif, "A Novel Platform for in situ Investigation of Cells and Tissues under Mechanical Strain," Acta Biomaterialia, 6(8):2979-90, August 2010. Epub 2010 Feb 25.
55. Eberl, C. and T. Saif, "In Situ Mechanical Testing of Biological and Inorganic Materials at the Micro- and Nanoscales," MRS Bulletin, Volume 35, No. 5, May 2010.

56. Rajagopalan, J., C. Rentenberger, H. P. Karnthaler, G. Dehm, and M. T. A. Saif, "In situ TEM Study of Microplasticity and Bauschinger Effect in Nanocrystalline Metals," Acta Materialia, Volume 58, Issue 14, Pages 4772-4782, August 2010.
57. Tang, X., T. B. Kuhlenschmidt, M. S. Kuhlenschmidt, and M. T. A. Saif, "Mechanical Force Affects Expression of an In vitro Metastasis-like Phenotype in HCT-8 cells," Biophysical Journal, Volume 99, Issue 8, 2460-2469, 20 October 2010. (Cover article)
58. Rajagopalan, J., A. Tofangchi, and M. T. A. Saif, "Drosophila Neurons Actively Regulate Tension in their Axons in Vivo," Biophysical Journal, 99(10) pp. 3208 – 3215, 17 November 2010.
59. Kang, W. and M.T.A. Saif, "A Novel Method for In Situ Uniaxial Tests at Micro/Nano Scale–Part I: Theory," Journal of MicroElectroMechanicalSystems, Vol 19(6), pp1309-1321, Nov 2010.
60. Kang, W., J. H. Han, and M T.A. Saif, "A Novel Method for In Situ Uniaxial Tests at Micro/Nano Scale–Part II: Experiment," Journal of MicroElectroMechanicalSystems, Vol 19(6), pp1322-1330, Nov 2010.
61. Rajagopalan, J., A. Tofangchi, and M. T. A. Saif, "Linear, High Resolution BioMEMS Force Sensors with Large Measurement Range," Journal of MicroElectroMechanicalSystems, Vol 19(6), pp1380-1389, Nov 2010.
62. Bajaj, P., X. Tang, M. T. A. Saif, and R. Bashir, "Stiffness of the Substrate Influences the Phenotype of Embryonic Chicken Cardiac Myocytes," Journal of Biomedical Materials Research: Part A, Volume 95A, Issue 4, pages 1261-1269, 15 December 2010.
63. Kang, W., J. Rajagopalan, and M. T. A. Saif, "In Situ Uniaxial Mechanical Testing of Small Scale Materials - a Review," Journal of Nanoscience and Nanotechnology Letter, 2(4), 282-287, 2010 (invited article).

2011

64. Tang, X., P. Bajaj, R. Bashir, and M. T. A. Saif, "How Far Cardiac Cells Can See Each Other Mechanically," Soft Matter (Cover article), 7, 6151-6158, 2011. **DOI:** 10.1039/C0SM01453B
65. Rajagopalan, J. and M. T. A. Saif, "MEMS Sensors and Microsystems for Cell Mechanobiology,"Invited article in the Journal of Micromechanics and Microengineering, 2011, 21 054002 doi, special focus issue on MEMS for Biology and Medicine.
66. Cha, C., J. H. Jeong, X. Tang, A. T. Zill, Y. S. Prakash, S. C. Zimmerman, T. A. Saif, and H. Kong, "Top-down Synthesis of Versatile Polyaspartamide Linkers for Single-step Protein Conjugation to Materials," Bioconjugate Chemistry, 22 (12), pp 2377–2382, 2011.
67. Nishitani, W., T. Saif, and Y. Wang, "Calcium Signaling in Live Cells on Elastic Gels under Mechanical Vibration at Subcellular Levels," PLoS ONE 6(10): e26181, 2011.
68. Kang, W. and M. T. A. Saif, "In Situ Thermo-Mechanical Testing for Micro/Nanomaterials," MRS Communications, 1(1), 13-16, 2011, (IOP Select Paper).
69. Kang, W. and M. T. A. Saif, "A Novel SiC MEMS Apparatus for In Situ Uniaxial Testing of Micro/Nanomaterials at High Temperature," Journal of Micromechanics and Microengineering, 21 105017, 2011.
70. Rajagopalan, J. and M. Taher A. Saif, "Influence of Microstructural Heterogeneity on the Deformation Behavior of Nanocrystalline Metals," Journal of Materials Research, 26, 2826-2832 2011.

2012

71. Ahmed, W. W., T. C. Li, S. S. Rubakhin, A. Chiba, J. V. Sweedler, and T. A. Saif, "Mechanical Tension Modulates Local and Global Vesicle Dynamics in Neurons," Journal of Cellular and Molecular Bioengineering, Vol 5(2), pp 155-164, 2012 (invited article).

72. Chan, V., J. H. Jeong, P. Bajaj, M. Collens, T. Saif, H. Kong, and R. Bashir, "Multi-Material Bio-Fabrication of Hydrogel Cantilevers and Actuators with Stereolithography," Lab on a Chip, 12(1):88-98, 2012.
73. Tang, X., M. Y. Ali, and M. T. A. Saif, "A Novel Technique for Micro-patterning Proteins and Cells on Polyacrylamide Gels," Soft Matter, 8(27), pp. 7197-7206, 2012.
74. Emerson de Souza, W. Ahmed, V. Chan, R. Bashir, T. A. Saif. "Cardiac myocytes' dynamic behavior differs depending on heart segment" Biotechnology and Bioengineering, Sept 5, 2012, doi: 10.1002/bit.24725.
75. Tang, X., Q. Wen, T. B. Kuhlenschmidt, K.S. Kuhlenschmidt, P.A. Janmey, and T. A. Saif, "Attenuation of Colon Cancer Cells Mechanosensitivity throughout in vitro Metastasis," Plos ONE, 7(11): e50443, 2012. DOI: 10.1371/journal.pone.0050443
76. Chan, V., K. Park, M. Collens, H.J. Kong, T. Saif, and R. Bashir, "Development of miniaturized walking biological machines," *Scientific Reports*, 2(857), Nov 15, 2012, doi:10.1038/srep00857.

2013

77. Kang W. and T. Saif, "Size and Temperature Effect on Brittle-to-Ductile Transition in Single Crystal Silicon," Advanced Functional Material, 23(6), 713-719, 2013.
78. Ahmed W., B. Williams, A. Silver, and T. A. Saif, ”Measuring the non-equilibrium vesicle dynamics in neurons under tension,” Lab on a Chip, 2013 (DOI:10.1039/C2LC41109A).
79. Rajagopalan, J. and M. T. A. Saif, "Fabrication of freestanding 1D PDMS microstructures using capillary micromolding," J MEMS, 22(5), 992 – 994, 2013, DOI: 10.1109/JMEMS.2013.2262605.
80. Chaenyung Cha, Eleni Antoniadou, Minkyung Lee, Jae Hyun Jeong, Wylie W. Ahmed, Taher A. Saif, Stephen A. Boppart, Hyunjoon Kong. Tailoring Hydrogel Adhesion to Polydimethylsiloxane Substrates Using Polysaccharide Glue. *Angewandte Chemie International Edition*, Volume 52, Issue 27, pages 6949–6952, July 1, 2013.
81. Xin T., and T. A. Saif, "Remarkable Surface Adhesion Change of Colon Cancer Cells throughout in vitro Metastasis," *International Journal of Applied Mechanics*, 5(3), 1350025, 2013, DOI: 10.1142/S1758825113500257.

2014

82. M. Yakut Ali and M Taher A Saif, Substrate Stiffness Mediated Metastasis Like Phenotype of Colon Cancer Cells is Independent of Cell to Gel Adhesion. *Cellular and Molecular Bioengineering* (15 July, 2014) DOI: 10.1007/s12195-014-0345-8
83. Ahmed, W. and T. A. Saif. Active transport of vesicles in neurons is modulated by mechanical tension. *Scientific Reports* 4, Article number: 4481 doi:10.1038/srep04481, 27 March 2014.
84. Xin Tang, Alireza Tofangchi, Sandeep V. Anand, and Taher A. Saif. A Novel Cell Traction Force Microscopy to Study Multi-cellular System. *Plos Computational Biology*, 10(6), e1003631, June 5, 2014, DOI: 10.1371/journal.pcbi.1003631
85. Xin Tang, Theresa B. Kuhlenschmidt, Qian Li, Shahjahan Ali, Stephane Lezmi, Hong Chen, Taher A. Saif, Mark S. Kuhlenschmidt. A Mechanically-Induced Colon Cancer Cell Population Shows Increased Metastatic Potential. *Molecular Cancer* 2014 (May 29), **13**:131, doi:10.1186/1476-4598-13-131.
86. Brian J. Williams, Sandeep V. Anand, Jagannathan Rajagopalan and M. Taher A. Saif. A self-propelled biohybrid swimmer at low Reynolds number. *Nature Communications*, 5, Article number 3081, Jan 17, 2014, doi:10.1038/ncomms4081.
87. Samantha Knoll, M. Y. Ali and Taher Saif. A Novel Method for Localizing Reporter Fluorescent Beads Near the Cell Culture Surface for Traction Force Microscopy. *Journal of Visualized Experiments*, Date Published: 9/16/2014, Issue 91; **doi:** 10.3791/51873

88. Caroline Cvetkovic, Ritu Raman, Vincent Chan, Brian J. Williams, Madeline Tolish, Piyush Bajaj, Mahmut Selman Sakar, H. Harry Asada, M. Taher A. Saif, and Rashid Bashir. Three-dimensionally printed biological machines powered by skeletal muscle. *Proceedings of the National Academy of Sciences* July 15, 2014 111 (28) 10125-10130, doi/10.1073/pnas.1401577111.
89. M. Yakut Ali , Chih-Yuan Chuang, and M. Taher A. Saif. Reprogramming cellular phenotype by soft collagen gels. *Soft Matter*. 2014 Nov 28;10(44):8829-37. doi: 10.1039/c4sm01602e.

2015

90. Ali, M. Yakut, Anand, S. V., Tangella, K., Ramkumar, D., and Saif, M. Taher A. Isolation of Primary Human Colon Tumor Cells from Surgical Tissues and Culturing them Directly on Soft Elastic Substrates for Traction Cytometry. *Journal of Visualized Experiments,* 2015 Jun 4;(100):e52532. doi: 10.3791/52532.
91. Sandeep Anand, M Yakut Ali and M Taher A Saif. Cell culture on microfabricated one-dimensional polymeric structures for bio-actuator and bio-bot applications. *Lab Chip*, 2015, Advance Article, published online 17 Feb 2015, **DOI:** 10.1039/C4LC01471E
92. Samantha Knoll, Wylie Ahmed, and Taher Saif. Contractile dynamics change before morphological cues during fluorescence illumination. *Scientific Reports* 5, Article number: 18513 (2015). doi:10.1038/srep18513
93. Slater, Bernard J, Fan, Anthony Y., Stebbings, Kevin A, Saif, M Taher A and Llano, Daniel A. Modification of a Colliculo-thalamocortical Mouse Brain Slice, Incorporating 3-D printing of Chamber Components and Multi-scale Optical Imaging. *Journal of Visualized Experiments* (103), e53067, doi:10.3791/53067 (2015)
94. Mohamed Elhebeary and M Taher A Saif. A Micromechanical Bending Stage for Studying Mechanical Properties of Materials Using Nanoindenter. *J. Appl. Mech* 82(12), 121004 (2015) doi: 10.1115/1.4031334.
95. Anthony Fan, Kevin Stebbings, Daniel Llano, and Taher Saif Stretch Induced Hyperexcitibility of Mice Callosal Pathway, *Front Cell Neurosci.* 2015 Aug 5;9:292. doi:10.3389/fncel.2015.00292. eCollection 2015, PMID:26300729
96. Junmin Lee, Amr A. Abdeen, Xin Tang, Taher A. Saif, and Kristopher A. Kilian. Geometric guidance of integrin mediated traction stress during stem cell differentiation. *Biomaterials*, Volume 69, November 2015, Pages 174–183.
97. Mayandi Sivaguru, Glenn Fried, Barghav S. Sivaguru, Vignesh A. Sivaguru, Xiaochen Lu, Kyung Hwa Choi, M Taher A Saif, Brian Lin and Sakthivel Sadayappan. Cardiac muscle organization revealed in 3-D by imaging whole-mount mouse hearts using two-photon fluorescence and confocal microscopy. *BioTechniques*, Vol. 59, No. 5, November 2015, pp. 295–308.
98. Sandeep V. Anand and M. Taher A. Saif. Emergent dynamics of cardiomyocyte clusters on deformable polymeric substrates. *Extreme Mechanics Letters*, doi:10.1016/j.eml.2015.09.008 (2015).

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51. Haque, M. A. and M. T. A. Saif, “Work-Hardening and Fracture in Nano-Scale Freestanding Thin Films,” Proceedings of the 2003 ASME International Mechanical Engineering Congress, Washington, DC, November 15-21, 2003.
52. Haque, M. A. and M. T. A. Saif, “Temperature and Native Oxide Effects on Mechanical Properties of Nanoscale Thin films,” Proceedings of the 2003 ASME International Mechanical Engineering Congress, Washington, DC, November 15-21, 2003.
53. Haque, M. A., M. T. A. Saif, and Jong Han, “Anelasticity in Nano Grained Thin Metal Films,” Proceedings of the 2003 ASME International Mechanical Engineering Congress, Washington, DC, November 15-21, 2003.
54. Haque, M. A., M. T. A. Saif, and Jong Han, “Anelasticity in Nano Grained Thin Metal Films,” Proceedings of the 2003 Materials Research Society Fall Meeting, Boston, MA, December 1-5, 2003.
55. Yang, S. and T. Saif, “Mechanical Response of Single Living Cells by Bio-mems Sensors,” Proceedings of the 17th IEEE International Conference on Micro Electro Mechanical Systems, MEMS 2004, Maastricht, The Netherlands, January 25-29, 2004.
56. Alaca, E., H. Sehitoglu, and T. Saif, “Fabrication of Directed Nano Wire Networks Through Self-assembly,” Proceedings of the 17th IEEE International Conference on Micro Electro Mechanical Systems, MEMS 2004, Maastricht, The Netherlands, January 25-29, 2004.
57. Haque, A., J. Han, and T. Saif, “In-situ Tensile Testing of Nano-scale Metallic Specimens in SEM and TEM,” Proceedings of the American Physical Society Meeting, Montreal, Canada, March 21-26, 2004.
58. Haque, A. and T. Saif, “Strain Gradient Effect in Nanoscale Aluminum Films,” Gradient Plasticity Theory and Applications, Patras, Greece, May 31-June 4, 2004, (invited talk).
59. Haque, A. and T. Saif, “Mechanical Behavior of Nano Grained Metals,” Proceedings of the 21st International Congress of Theoretical and Applied Mechanics, Warsaw, Poland, August 15-21, 2004.

60. Saif, T., “Is There a Critical Size in Nano Grained Metals for Ductile to Brittle Transition?” Proceedings of the ASME Nanotechnology Institute 3rd Annual Integrated Nanosystem: Design, Synthesis and Applications Conference, Pasadena, CA, September 22-24, 2004 (keynote lecture).
61. Haque, A., J. Han, and T. Saif, “Mechanical Behavior of Nano-Grained Thin Metal Films,” Proceedings of the Materials Science and Technology 2004 Conference and Exhibition, New Orleans, LA, September 26-29, 2004 (invited talk).
62. Mani, S. and M. T. A. Saif, “Stress Assisted Controlled Fabrication of Nano Channels and their Flow Characteristics,” Proceedings of IMECE 2004 ASME International Mechanical Engineering Congress and R&D Expo., Anaheim, CA, November 13-16, 2004.
63. Mani, S. and T. Saif, “Diffusion Based Model Characterizing the Stress State of Thin Film on a Substrate During Thermal Treatment,” Proceedings of the 2004 ASME International Mechanical Engineering Congress and R&D Expo, Anaheim, CA, November 13-16, 2004 (technical presentation only).
64. Meinhart, M., M. T. A. Saif, N. Miller, and M. Sulfridge, “Mechanisms of Stiction During Dry Fabrication of MEMS,” Proceedings of the 2004 ASME International Mechanical Engineering Congress and R&D Expo, Anaheim, CA, November 13-16, 2004.
65. Han, J. and M. T. A. Saif, “Activation Energy Measurement in Thin Gold Films by MEMS-based Tensile Testing Device,” Proceedings of IMECE04, 2004 ASME International Mechanical Engineering Congress and R&D Expo, Anaheim, CA, November 13-16, 2004.
66. Hattar, K., J. Gregg, J. Han, T. Saif, and I. M. Robertson, “In-situ TEM Observations of Grain Growth in Nanograined Thin Films,” Proceedings of the 2004 Materials Research Society Fall Meeting, Boston, MA, December 1-5, 2004.
67. Haque, M. A., J. Han, and M. T. A. Saif, “Anelasticity in Nano Grained Thin Metal Films,” Proceedings of the 2004 Materials Research Society Fall Meeting, Boston, MA, December 1-5, 2004 (invited).
68. Yang, S. and M. T. A. Saif, “Force Response of Single Living Fibroblasts Under Large Deformations Studied by MEMS Sensors,“ Proceedings of the 2005 Summer Bioengineering Conference, Vail Cascade Resort and Spa, June 22-26, 2005.
69. Mani, S. and M. T. A. Saif, “Characterization of Self Assembled Nickel Nanowires,” Proceedings of the 10th International Symposium on Advanced Physical Fields, Nano-Fabrication and Nano-Characterization of Nanomaterials, Tsukuba, Japan, 359-364, March 7-10, 2005.
70. Mani, S. and M. T. A. Taif, “Effect of Annealing on the Conductivity of Electroless Deposited Ni Nanowires and Films,” In Digest of IEEE Nanoscale Device and System Integration Conference, Houston, TX, 29, April 2005.
71. Yang, S. and M. T. A. Saif, “Microinstruments for Single Cellular Studies,” Technical Digest for the Ninth International Conference on Miniaturized Systems for Chemistry and Life Sciences (TAS 2005), Boston, MA, 900-902, October 9-13, 2005.
72. Mani, S. and M. T. A. Saif, “Effect of Nanostructure on Electron Transport in Electroless Deposited Ni Nanowires,” Proceedings of the ASME International Mechanical Engineering Congress and Exposition, Orlando, FL, November 2005.
73. Yang, S. and T. Saif, “MEMS Based Sensors for the Study of Indentation Response of Single Cells,” Proceedings of the 19th IEEE International Conference on Micro Electro Mechanical Systems, Istanbul, Turkey, 20-23, January 22, 2006.
74. Mani, S., J. Han, G. Richter, T. Saif, and E. Artzt, “ DNA-Templated Free-Standing Nanowires with Controllable Dimensions for In-situ TEM Analysis,” Proceedings of IEEE Nano 2006, CD-ROM, Cincinnati, OH, July 16-20, 2006.
75. Mani, S., J. Han, and T. Saif, ”Fabrication of Aluminum Oxide Nanotubes Using Nanotemplates,” Proceedings of the International Conference on Nanoscience and Technology ICN&T 2006, Basel, Switzerland, CD-ROM, July 30-August 4, 2006.
76. Yang, S., and M. Taher A. Saif, “Mechanical Behavior of Single Living Fibroblasts by Micro Force Sensors,” Proceedings of the Third International Conference on Multiscale Material Modeling (MMM 2006), Freiburg, Germany, 654-656, September 18-22, 2006.
77. Han, J., J. Rajagopalan, and M. T. A. Saif, ”MEMS-Based Testing Stage to Study Electrical and Mechanical Properties of Nanocrystalline Metal Films,” Proceedings of the SPIE MEMS/MOEMS Components and Their Applications Conference, Jan Jose, CA, Jan. 22-24, 2007. (Invited paper)
78. Rajagopalan, J., and M. T. A. Saif, “MEMS for Investigating Mechanical Behavior of Nanoscale Metal Films,“ Proceedings of the 6th International Workshop on Micro-Nano Electronics and Photonics, Islamabad,

Pakistan, Apr 9-13, 2007. Organized by Centre for Science & Technology of Non-Aligned and Other Developing Countries (NAM S&T Centre), New Delhi, and COMSATS Institute of Science and Technology, Islamabad, Pakistan.

79. Yang, S., S. Siechen, J. Sung, A. Chiba, and T. Saif, "Learning by Tension," ASME Applied Mechanics and Materials Conference, Austin, TX, June 2007.
80. Yang, S., S. Siechen, J. Sung, A. Chiba, and T. Saif, "Learning by Tension," 2007 Summer Bioengineering Conference, Keystone Resort & Conference Center, Keystone, CO, June 20 - 24, 2007.
81. Rajagopalan, J., J. H. Han, and M. T. A. Saif, "Thermally Activated Plastic Strain Recovery in Freestanding Nanocrystalline Aluminum Thin Films," ASME Applied Mechanics and Materials Conference, Austin, TX, June 2007.
82. Rajagopalan, J., J. H. Han, and M. T. A. Saif, "Time Dependent Plastic Deformation Recovery in Freestanding Nanocrystalline Metal Films," ASME IMECE 2007, Seattle, WA, November 2007.
83. Yang, S., S. Siechen, J. Sung, A. Chiba, and T. Saif, "MEMS Based Sensors to Explore the Role Of Tension in Axons for Neuro-transmission," Proceedings of the 21st IEEE International Conference on Micro Electro Mechanical Systems, Tucson, Arizona, USA, 308-310, January 13-17, 2008.
84. Rajagopalan, J., J. H. Han, and M. T. A. Saif, "Inhomogeniety and Size of Microstructure - A New Paradigm in Understanding Deformation Mechanism of Nano Crystalline Metals," Hael Mughrabi Symposium, Proceedings of the 2008 TMS (The Minerals, Metals & Materials Society) Meeting, New Orleans, 201-206, March 9-13, 2008.
85. Rajagopalan, J., and M. T. A. Saif, "Thickness and Grain Size Effects on Plastic Behavior of Nanoscale Metal Films," MRS Spring 2008 Conference, San Francisco, CA, March 24-28, 2008.
86. Rajagopalan, J., and M. T. A. Saif, "Time Dependent Plastic Deformation Recovery in Freestanding Nanocrystalline Metal Films," Mechanics of Time-Dependant Materials Conference of 2008 (MTDM 2008), Monterey, California, March 30-April 4, 2008.
87. Rajagopalan, J., J. H. Han and M. T. A. Saif, "Bauschinger Effect in Unpassivated Freestanding Metal Films," MRS Fall 2008 Conference, Boston, December 1-5, 2008.
88. Tang, X., T. Cappa, T. B. Kuhlenschmidt, M. S. Kuhlenschmidt, and T. A. Saif, "Measuring the Surface Adhesion of Cancer Cells: A Novel Way to Characterize and Understand Cancer Metastasis," SES 2008 Meeting, Urbana-Champaign, October 12-15, 2008
89. Yang, S., S. Siechen, A. Tofangchi, J. Sung, A. Chiba, and T. Saif, "A Viscoelastic Model of Axons in Drosophila Embryonic System," SES 2008 Meeting, Urbana-Champaign, October 12-15, 2008
90. Rajagopalan, J., J. H. Han and M. T. A. Saif, "Bauschinger Effect in Unpassivated Freestanding Metal Thin Films," SES 2008 Meeting, Urbana-Champaign, October 12-15, 2008.
91. Rajagopalan, J., J. H. Han, and M. T. A. Saif, "Plastic Strain Recovery in Freestanding Nanocrystalline Metal Films," SES 2008 Meeting, Urbana-Champaign, October 12-15, 2008.
92. Yang, S., S. Siechen, J. Sung, A. Chiba, and T. Saif, "Mechanics of Memory and Learning (Lecture session)," 22nd International Congress of Theoretical and Applied Mechanics (ICTAM2008), Adelaide, Australia, August 24-30, 2008.
93. Rajagopalan, J., C. Rentenberger, H. P. Karnthaler, G. Dehm, and M. T. A. Saif, "In situ TEM Study of Bauschinger Effect in Unpassivated Freestanding Metal Films," MRS Spring 2009 Conference, San Francisco, April 13-17, 2009.
94. Rajagopalan, J. and M. T. A. Saif, "Effect of Size and Heterogeneity of Microstructure on Nanocrystalline Plasticity," Plasticity 2009 Conference, St. Thomas, January 3-8, 2009.
95. Kang, W., J. Han, and T. Saif, "A MEMS based Tensile Stage and a Microscale Specimen with Self-aligning Mechanisms for Uniaxial Tensile Testing," The 2009 Joint ASCE-ASME-SES Conference on Mechanics and Materials, Blacksburg, VA, June 24-27, 2009.
96. Ahmed, W., R. Kemkemer, and T. Saif, "A Study of Myoblast Mechanosensing - An Undergraduate Research Experience," Reston, VA, Poster presented at NSF EEC Awardees Conference, February 2009.
97. Ahmed, W., and T. Saif, "In-vivo Live Imaging of Motor Neurons in Drosophila Embryos under Applied Mechanical Strain," Poster presented at Biomedical Engineering Society Conference, Pittsburgh, PA, October 2009.
98. Tang, X., T. Cappa, T. B. Kuhlenschmidt, M. S. Kuhlenschmidt, and T. A. Saif, "Characterizing Both Specific and Non-specific Surface Adhesion of Cancer Cells to Understand Cancer Metastasis," BMES 2009 Annual Fall Scientific Meeting, Pittsburgh, PA, October 7-10, 2009.

99. Tang, X., P. Bajaj, R. Bashir, and T. A. Saif. "Influence of Substrate Stiffness on the Beating Characteristics of Embryonic Chicken Cardiac Myocytes," 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, Florida, November 13-19, 2009.
100. Rajagopalan, J. and M. T. A. Saif, “Microstructural Heterogeneity and the Mechanical Behavior of Nanoscale Aluminum Films,” 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, Florida, November 13-19, 2009.
101. Tang, X., T. Cappa, T. B. Kuhlenschmidt, M. S. Kuhlenschmidt, and T. A. Saif. "A Novel Way to Characterize the Non-specific Surface Adhesion of Cancer Cells and Understand Cancer Metastasis," 2009 ASME International Mechanical Engineering Congress & Exposition, Lake Buena Vista, Florida, November 13-19, 2009.
102. Rajagopalan, J., A. Tofangchi, and T. Saif, "Highly Linear, Ultra Sensitive Bio-Mems Force Sensors With Large Force Measurement Range," Proceedings of the 23rd IEEE International Conference on Micro Electro Mechanical Systems (MEMS 2010), Hong Kong, January 24 - 28, 2010.
103. Seichen, S., S. Yang, A. Chiba and T. Saif, "Mechanical Tension In Neurons Is Essential For Neurotransmission In Vivo," Proceedings of ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology NEMB2010, Houston, TX, February 7-10, 2010.
104. Tang,X., A. T. Cappa, T. B. Kuhlenschmidt, M. S. Kuhlenschmidt, and T. A. Saif, "Surface Adhesion Study of Colon Cancer Cells," Proceedings of the ASME 2010 First Global Congress on NanoEngineering for Medicine and Biology, Houston, Texas, Feb 7-10, 2010.
105. Rajagopalan, J., A. Tofangchi, and M. T. A. Saif, "The Role of Mechanical Tension in Neurons," MRS Proceedings Volume 1274, Biological Materials and Structures in Physiologically Extreme Conditions and Disease, 2010 MRS Spring Meeting, San Francisco, California, April 5-9, 2010.
106. Kang, W. and T. Saif, "A Novel In Situ Uniaxial Testing Methodology for Mechano-Electrical Measurements of Micro/Nano-Scale Specimens," The 2010 MRS Spring Meeting, San Francisco, CA, April 5-9, 2010.
107. Rajagopalan, J., C. Rentenberger, H.-P. Karnthaler, G. Dehm, and M. T. A. Saif, "Role of Microstructural Heterogeneity in Nano Grained Metals Revealed by Quantitative TEM Study," Symposium on Mechanics of Crystalline Nanostructures, 16th US National Congress on Theoretical and Applied Mechanics (USNCTAM), Pennsylvania State University, June 27-July 2, 2010.
108. Rajagopalan, J. and M. T. A. Saif, "Coupled Effect of Size and Heterogeneity on Metal Plasticity,” 16th US National Congress on Theoretical and Applied Mechanics (USNCTAM), Pennsylvania State University, June 27-July 2, 2010.
109. Tang, X., T. Kuhlenschmidt, M. Kuhlenschmidt, and T. Saif. "Elasticity of Microenvironment and Cancer Metastasis," 16th US National Congress on Theoretical and Applied Mechanics (USNCTAM), Pennsylvania State University, June 27-July 2, 2010.
110. Siechen, S., S. Yang, A. Chiba, and T. Saif, "Neuronal Mechanics of Memory and Learning," 16th US National Congress on Theoretical and Applied Mechanics (USNCTAM), Pennsylvania State University, June 27-July 2, 2010.
111. Saif, T., "Emergent Neuro-muscular Synapse Require Mechanical Tensile Force for Synaptic Plasticity," 6th World Congress of Biomechanics (WCB 2010), Singapore, August 1-6 2010.
112. Wylie Ahmed and Taher Saif, "In situ high resolution optical imaging of cells and tissues on a stretchable substrate", 6th World Congress of Biomechanics (WCB 2010), 1 - 6 August 2010, Singapore.
113. Ahmed, W., T. Li, A. Chiba, and T. A. Saif, "The Mechanical Sensitivity of Neurotransmitter Accumulation at in Vivo Synapses," Society for Neuroscience Conference, San Diego, CA, November 2010.
114. Ahmed, W., S. Rubakin, J. Sweedler, and T. A. Saif, "Compressive Force Disrupts Vesicle Dynamics in Neuronal Growth Cone," Society for Neuroscience Conference, November 2010, San Diego, CA.
115. Rajagopalan, J., A. Tofangchi, M. T. A. Saif, "Mechanical Behavior of Neurons in Live Drosophila Embryos," Biomedical Engineering Society Meeting, Austin, TX, October 6-9, 2010.
116. Ahmed, W., T. Li, S. Rubakhin, A. Chiba, J. Sweedler, and T. A. Saif. ”The Mechanical Sensitivity of Vesicle Dynamics of In-vitro and In-vivo Neurons,” Nanotechnology Technical Proceedings, 2011.
117. Kang, W. and T. Saif, "A SiC MEMS Apparatus for In Situ Thermo-Mechanical Tests at Micro/Nanoscale," ASME 2011 International Mechanical Engineering Congress and Exposition, Denver, CO, November 2011.
118. Ahmed, W., T. Li, S. Rubakhin, A. Chiba, J. Sweedler, and T. A. Saif, ”Mechanical Tension Modulates Local and Global Vesicle Dynamics,” Society for Neuroscience Conference, Washington DC, November 12-16, 2011.

119. Ahmed, W., T. Li, S. Rubakhin, A. Chiba, J. Sweedler, and T. A. Saif, ”Mechanical Stimulation Modulates Local and Global Vesicle Dynamics,” Biomedical Engineering Society Conference, Hartford, CT, October 12-15, 2011.
120. Ahmed, W., T. Li, S. Rubakhin, A. Chiba, J. Sweedler, and T. A. Saif, ”The Mechanical Sensitivity of Vesicle Dynamics of In-vitro and In-vivo Neurons,” Nanotech 2011 Conference, Boston, MA, June 13-16, 2011.
121. Ahmed, W., S. Rubakhin, T. Li, A. Chiba, J. Sweedler, and T. A. Saif, ”Mechanical Stimulation Perturbs Vesicle Dynamics in In-vitro and In-vivo Neurons,” ASME Applied Mechanics and Materials Conference, Chicago, IL, May 30-June 1, 2011.
122. Tang, X., T. B. Kuhlenschmidt, J. Zhou, P. Bell, F. Wang, M. S. Kuhlenschmidt, and T. A. Saif, “Discovery of an Intracellular-Force-Regulated Metastasis-like Phenotype in HCT-8 Cells,” Biophysical
123. Society Meeting, Baltimore, Maryland, March 2011.
124. Tang, X., M. Y. Ali, and T. Saif, “Micro-patterning on Hydro-gels to Reveal the Effect of Confinement on Cell Proliferation,” ASME McMAt, Chicago, IL, May 30-June 1, 2011.
125. Tang, X., S. Anand, and T, Saif, “Mechanical Communications between Neighboring Fibroblasts on Flexible Hydro-gels,” ASME McMAt, Chicago, IL, May 30-June 1, 2011.
126. Li, T., F. Carrero-Martínez, S. Siechen, J. Sun, W. Ahmed, T. A. Saif, A. Chiba. "Mechanical Force Initiates the Neuromuscular Synapse," Drosophila Research Conference, San Diego, CA, March 30-Apr 3, 2011.
127. Ahmed, W., T. Li, S. Rubakhin, A. Chiba, J. Sweedler, T. A. Saif. "The Mechanical Sensitivity of Vesicle Dynamics of In-vitro and In-vivo Neurons," Technical Proceedings of the 2011 NSTI Nanotechnology Conference and Expo, NSTI-Nanotech 2011 3, pp. 436-439, 2011.
128. Xin, T., T. B. Kuhlenschmidt, J. Zhou, P. Bell, F. Wang, M. S. Kuhlenschmidt, and T. A. Saif, "Discovery of an Intracellular-force-regulated Metastasis-like Phenotype in HCT-8 Cells," Gordon Conference, Cell Contact and Adhesion Section, Vermont, June 19-24, 2011.
129. Tang, X., T.a B. Kuhlenschmidt, M. S. Kuhlenschmidt, and T. A. Saif, "Cancer Cell Force Evolves Throughout the in Vitro Cancer Metastasis," BMES, Hartford, CN, Oct 12-15, 2011.
130. Tang, X., M. Y. Ali, and T. Saif, "ECM Micro-patterning on Hydro-gels to Study the Effect of Confinement on Cancer Metastasis," BMES, Hartford, CN, Oct 12-15, 2011.
131. Tang, X., P. Bajaj, R. Bashir, and T. Saif, "Mechanical Interactions between Cardiac Cells and Its Implication on Myocardiac Infarction," ASME McMAt, Chicago, IL. May30 - June 1, 2011.
132. Tang, X., P. Bajaj, R. Bashir, and T. Saif, "Mechanical Interactions between Cardiac Cells and Its Implication on Myocardiac Infarction," ASME IMECE, Denver, CO. Nov 12-17, 2011.
133. Tang, X., M. Y. Ali, and T. Saif, "ECM Micro-patterning on Hydro-gels to Study the Effect of Confinement on Cancer Metastasis," ASME IMECE, Denver, CO, Nov 12-17, 2011.
134. Tang, X., S. Anand, and T. Saif, "Mechanical Communications between Neighboring Fibroblasts on Flexible Hydro-gels," ASME IMECE, Denver, CO, Nov 12-17, 2011.
135. Ahmed, W. and T. A. Saif, ”Tension modulates vesicle dynamics in neurons,” BMES-SPRBM Inaugural Conference on Cellular and Molecular Bioengineering, Jan 4, 2012, San Juan, Puerto Rico.
136. Saif, T. and W. Kang, "Size Dependent Brittle to Ductile Transition (BDT) Temperature in Single Crystal Silicon," The 2013 MRS Spring Meeting, April 2013, San Francisco, CA (Invited Talk).
137. Tang, X. & T. A. Saif, "Loss of Cell Adhesion in Colon Cancer Cells during in vitro Metastasis Measured by Bio-MEMS Force Sensor," ASME Summer Bioengineering Conference, Fajardo, Puerto Rico, June 20-23, 2012.
138. Tang, X., P. Bajaj, R. Bashir, and T.A. Saif, "Mechanical Communication between Cardiac Cell Leads to Synchrony in Beating," ASME Summer Bioengineering Conference, Fajardo, Puerto Rico, June 20-23, 2012.
139. Ahmed, W., A. Tofangchi, and T. A. Saif, ”Vesicle transport in in vivo neurons in response to mechanical stretch," ASME International Mechanical Engineering Congress, Nov 15-21, 2012, Houston, TX.
140. Tang, X., & T. A. Saif, "Remarkable Surface Adhesion Change of Colon Cancer Cells throughout in Vitro Metastasis," ASME 2012 International Mechanical Engineering Congress and Exposition, November 2012, Houston, TX.
141. Saif T. and W. Kang, "In Situ Study of Size and Temperature Dependent Brittle-to-Ductile Transition in Single Crystal Silicon," ASME 2012 International Mechanical Engineering Congress and Exposition, November 2012, Houston, TX.
142. Ahmed, W., B. Williams, A. Silver, and T. A. Saif. ”Vesicle dynamics in neurons under tension: Exploration via experiments and modeling," Physics of Cells - From Soft to Living Matter, Sept 5, 2012, Hyeres, France.

143. Ali, M. Y. and T. Saif, “On the metastasis like phenotype of HCT-8 cells on E-cadherin coated soft substrates,” Biomedical Engineering Society (BMES) Annual Meeting, Oct 24-27, 2012, Atlanta, Georgia, USA.
144. Sandeep A., R. Jagannathan, and T.Saif, "Cardiomyocyte Powered Swimming Biohybrid Microrobots," BMES 2012 Annual meeting (Oral presentation), Atlanta, October 24-27, 2012.
145. Knoll, S. G. and T. Saif,"Investigation of Nanoscale Cell-Induced Substrate Deformation," Oral Presentation at Biomedical Engineering Society (BMES) Conference, Atlanta GA, October, 2012.
146. Ahmed, W., B. Williams, A. Silver, and T. A. Saif, ”Mechanical strain affects local dynamics of vesicles in neurons,” Biomedical Engineering Society Conference, Oct 25, 2012, Atlanta, GA.
147. Saif, T., B. Williams, and E. deSousa, "A swimming biobot from emergent synchrony among cardiac cells due to long-range force interaction," Biomedical Engineering Society Conference, Oct 25, 2012, Atlanta, GA.
148. Brian Williams, Sandeep Anand and Taher Saif. A living artificial swimmer from soft flagella and cardiac cells. Society of Engineering Science 50th Annual Technical Meeting and ASME-AMD Annual Summer Meeting, July 28 - 31, 2013, Brown University, 2013.
149. Wylie Ahmed, Alireza Tofangchi, Taher Saif. Neuromechanics of neuronal transport. Society of Engineering Science 50th Annual Technical Meeting and ASME-AMD Annual Summer Meeting, July 28 - 31, 2013, Brown University, 2013.
150. Xin Tang, Theresa Kuhlenschmidt, Qian Li, Hong Chen, Mark Kuhlenschmidt and Taher Saif, Genetic Pathway Analysis for Mechanics-induced Colon Cancer Metastasis. Oral presentation, BMES 2013 Annual Meeting, Sept 25-28, 2013, Seattle, WA.
151. Xin Tang, Vivian Jung, Jessica Hsu, Linna Guan, Taher Saif. Alteration of migration pattern for Mechanics-induced colon cancer Metastasis. Poster presentation. BMES 2013 Annual Meeting, Sept 25-28, 2013, Seattle, WA.
152. Muhammad Yakut Ali, Sara Pedron, Christopher Nemeh, Brendan Harley and Taher Saif. Substrate stiffness modulates cell volume in 2D, but not in 3D. Oral presentation, BMES 2013 Annual Meeting, Sept 25-28, 2013, Seattle, WA.
153. Samantha Knoll, Wylie Ahmed and Taher Saif. Active Nanoscale Fluctuations in Cellular Mechanosensing. Oral presentation, BMES 2013 Annual Meeting, Sept 25-28, 2013, Seattle, WA.
154. Brian Williams, Sandeep Anand and Taher Saif. Engineered Microscale Flagellar Motion Powered by Cardiomyocytes. Oral presentation, BMES 2013 Annual Meeting, Sept 25-28, 2013, Seattle, WA.
155. Wylie Ahmed and Taher Saif. Active transport of vesicles in neurons is modulated by mechanical tension. Poster presentation. BMES 2013 Annual Meeting, Sept 25-28, 2013, Seattle, WA.
156. Alireza Tofangchi, Jagannathan Rajagopalan and Taher Saif. Origin of tension in neurons. ASME Annual Congress and Exposition, Nov 17-21, 2013, San Diego, CA.
157. Brian Williams, Sandeep Anand, Jagannathan Rajagopalan and Taher Saif. A microfabricated, biohybrid, soft robotics flagellar swimmer. IEEE MEMS 2014, San Francisco, CA, Jan 26-30, 2014 (oral presentation).
158. M. Yakut Ali, K. Tangella, D. Ramkumar and M. T. A. Saif. Biophysical and Biomechanical Signature of Primary Human Colon Cancer Cells. ASME 2014 3rd Global Congress on NanoEngineering for Medicine and Biology, Feb. 2-5, 2014 in San Francisco, CA (poster, student award received).
159. Brian Williams and Taher Saif. A swimming biological machine from primary cardiomyocytes. ASME 2014 3rd Global Congress on NanoEngineering for Medicine and Biology, Feb. 2-5, 2014 in San Francisco, CA.
160. Wylie Ahmed and Taher Saif. Axonal force and transport in Aplysia neurons. 2014 3rd Global Congress on NanoEngineering for Medicine and Biology, Feb. 2-5, 2014 in San Francisco, CA.
161. Taher Saif. From Synchrony to Swimming, American Association for the Advancement of Science (AAAS) (Invited talk) Annual Meeting, Feb 13-17, Chicago, 2014.
162. Williams, B.; Anand, S; Rajagopalan, J; Saif, M. T. A. “A biohybrid, low Reynolds number, soft robotics flagellar swimmer.” 17th National Congress of Theoretical and Applied Mechanics. E. Lansing, MI, June 15-20, 2014.
163. Brian Williams and Taher Saif, “Mechanical Coupling of Cardiomyocytes on PDMS Film Enables Synchronization”. World Congress of Biomechanics, Boston, MA, July 6-11, 2014.
164. Brian Williams, Sandeep Anand, Jagannathan Rajagopalan, Taher Saif, “Soft Platforms To Measure Cellular Forces In Vivo”, World Congress of Biomechanics, Boston, MA, July 6-11, 2014.
165. Brian Williams, Sandeep Anand and Taher Saif, “Emergence of a Flagellar Swimmer From Cardiomyocytes And Fibroblasts”, World Congress of Biomechanics, Boston, MA, July 6-11, 2014.
166. Knoll, S; Saif, M. T. A. Fluctuations in Cellular Forces: Noise or Signal? Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Aug 26-30, 2014.

167. Elhebeary, M and Saif, M.T.A. “A Novel Bending Device for Testing Mechanical Properties of Nanoscale Single Crystal Silicon”, Gordon Research Conference (GRC) on “Thin Film & Small Scale Mechanical Behavior”, Waltham, MA, July 13-18.
168. Samantha Knoll and Taher Saif, “Time varying cell forces – a new paradigm in cellular mechanotransduction”, Society of Engineering Science Annual Technical Meeting, Oct 1-3, Purdue University, 2014.
169. Brian Williams and Taher Saif, “Long range cell-cell interactions through substrate strain fields”, Society of Engineering Science Annual Technical Meeting, Oct 1-3, Purdue University, 2014.
170. Taher Saif, “Ductility of nano scale Si samples“,Society of Engineering Science Annual Technical Meeting, Oct 1-3, Purdue University, 2014, (Keynote lecture).
171. Samantha Knoll and Taher Saif, “Cell-induced Nanoscale Displacements Reveal Localized, Autonomous Forces Exerted By Fibroblasts“ 2014 Biomedical Engineering Society Annual Meeting, 22–25 October 2014, San Antonio, United States.
172. M Yakut Ali and Taher Saif, “Contractility as a biophysical marker of cancer metastasis for primary human colon cancer cells“ 2014 Biomedical Engineering Society Annual Meeting, 22–25 October 2014, San Antonio, United States.
173. Yung Fan and Taher Saif, “Stretch Induced Effects on Callosal Pathway Flavoprotein Autofluoresence“ 2014 Biomedical Engineering Society Annual Meeting, 22–25 October 2014, San Antonio, United States.
174. Brian Williams, Sandeep Anand and Taher Saif, “Autonomous living machines: a new frontier of engineering”, Proceedings of the 2014 American Association of Bangladeshi Engineers and Architects Biennial Convention, Saturday, November 15, Los Angeles, California.
175. Wonmo Kang, Mohamed Elhbeary and Taher Saif. “Brittle to Ductile Transition in Single Crystal Silicon at Sub-Micro Meter Scale”, Materials Research Society Spring meeting, San Francisco, CA, April 6-10, 2015.
176. Brian Williams, Sandeep Anand and Taher Saif. “On the Mechanics of an Engineered Living 1D Swimmer at Low Reynolds Number from Cardiomyocytes”, Materials Research Society Spring meeting, San Francisco, CA, April 6-10, 2015.
177. Mohamed ElHeabery and M T A Saif. A Novel Bending Stage for Testing Mechanical Properties of Nanoscale Single Crystal Silicon. Materials Research Society Spring meeting, San Francisco, CA, April 6-10, 2015.
178. Samantha Knoll and Taher Saif. Turning on cells with light. ASME 2015 4th Global Congress on NanoEngineering for Medicine and Biology,19 - 22 April 2015 / U.S.A, Minneapolis, MN.
179. B. Williams, S. Anand, J Ragjogopalan, M T A Saif. Biohybrid swimming at low Reynolds number. Summer Biomechanics, Bioengineering and Biotransport Conference, Snowbird, Utah, June 17-20, 2015.
180. Samantha Knoll, W Ahmed and M T A Saif. Time Evolution of Photodamage in Fibroblasts as a Measure of Cell Contractility. 2015 BMES Annual Meeting, 7–10 October, 2015, Tampa, Florida.
181. Kyung Choi, Yakut Ali and M Taher A Saif. Cell traction as a potential biophysical marker for cancer prognosis, ASME 2015 Applied Mechanics and Materials Conference, McMAT2015, Seattle, June 29-July 1, 2015.
182. Samantha Knoll and Taher Saif. Effect of light on cell-substrate force interaction. ASME 2015 Applied Mechanics and Materials Conference, McMAT2015, Seattle, June 29-July 1, 2015.
183. B. Williams and M T A Saif. Strain mediated contractile coupling of cardiomyocytes. Society of Engineering Science, 52nd Annual Technical Meeting, Texas A&M University, October 26–28, 2015.
184. M Elhebeary and M T A Saif, "A Novel in Situ Bending Test in the micro/nano-Scale" TMS 2016 145th Annual Meeting & Exhibition February 14 – 18, 2016, Nashville, TN, USA
185. Anthony Fan, A. Tofangchi, and T. Saif. "Mechanism of axonal contractility in embryonic Drosophila motor neurons in vivo." In: Biophysical Society Annual Meeting. Los Angeles, CA. Feb 27-March 2, 2016.
186. Mohamed ElHebeary and M Taher A Saif. A novel In-situ bending test in the micro/nano-scale at room temp and high temp. 2016 Materials Research Society Meeting and Exhibit, Phoenix, AZ, March 28-Apr 1, 2016.
187. M Elhebeary and M T A Saif. “A Pull-to-Bend Testing Technique for Single Crystal Silicon,” MRS 2016 Spring meeting, March 28–April 1, 2016, Phoenix, AZ, USA
188. M Elhebeary and M T A Saif. “In-situ thermomechanical testing of materials”, Midwest Experimental Mechanics Student Conference, April 9-10, 2016, University of Illinois Urbana-Champaign, IL, USA
189. M Elhebeary and M T A Saif. “Mechanical characterization of materials at micro/nanoscale under bending”, 24th International Congress of Theoretical and Applied Mechanics, August 21-26 2016, Montreal, Canada.
190. Anthony Fan, A. Tofangchi, and T. Saif. "In vivo Diametric Regulation of Single Axons in Drosophila." BMES Annual Meeting. Minneapolis, MN. Oct 5-8, 2016.
191. Anthony Fan, A. Tofangchi, and T. Saif. Origin of axonal tension through the study of single axon contraction

in vivo. BMES Annual Meeting. Minneapolis, MN. Oct 5-8, 2016.

192. Anthony Fan, A. Tofangchi and T. Saif. "Modulation of synaptic vesicles clustering by axonal tension." Midwest Drosophila Conference, November 12-13, 2016 Allerton Park and Retreat Center, IL.
193. M Elhebeary and M T A Saif. "Thermo-mechanical characterization of materials at micro/nanoscale under bending", 2017 IEEE 30th Int. Conf. Micro Electro Mech. Syst. (IEEE, 2017), January 22-26, **2017** -- Las Vegas, USA.
194. Fan, A., A. Tofangchi, and T. Saif. Modulation of synaptic vesicles clustering by axonal tension. In: BPS Annual Meeting. February 11-15, **2017**, New Orleans, Louisiana
195. M Elhebeary, Tristan Harzer, Stefan Hieke, Gerhard Dehm and M T A Saif. Exploring the brittle-to-ductile transition of silicon at the microscale *in-situ* under bending. 2017 MRS Spring Meeting (CM5), Phoenix, Arizona, April 17-22, 2017.
196. Onur Aydin and M Taher A Saif. Phase transition in living biomaterials, Society of Engineering Science 2017 Technical Meeting & ASME-AMD Joint Conference, 7/25/2017 - 7/28/2017, Northeastern University, Boston, MA, USA.
197. M Taher A Saif The Role of Nano Scale Forces on Neuro Muscular Junction. Society of Engineering Science 2017 Technical Meeting & ASME-AMD Joint Conference, 7/25/2017 - 7/28/2017, Northeastern University, Boston, MA, USA.
198. Fan, A., A. Tofangchi, M. Kandel, G. Popescu, and T. Saif. In vivo axons of motor neurons exhibit circumferential contractility. In: BMES Annual Meeting. Phoenix, AZ., Oct 11-14, 2017.
199. Fan, A., A. Tofangchi, and T. Saif. Intrinsic axonal tension mediates neurotransmitter vesicle clustering at the presynaptic terminal in vivo. In: BMES Annual Meeting. Phoenix, AZ., Oct 11-14, 2017.
200. Fan, A., A. Tofangchi, and T. Saif. Selective partial perfusion of in vivo single axons using a simple microfluidic device. In: BMES Annual Meeting. Phoenix, AZ., Oct 11-14, 2017.
201. Onur Aydin, M Elhebeary, G. Pagan-Diaz, R Bashir and MTA Saif. Recapitulating Emergence of Neuromuscular Junctions in a Physiologically Relevant Co-Culture Platform. Biomedical Engineering Society 2017 Annual Meeting, Phoenix AZ, USA, October 11-14, 2017.
202. Mohamed Elhebeary & Taher Saif. Brittle to ductile transition in single crystal silicon at small scale. ASME IMECE, Tampa, FL, Nov 4-9, 2017.
203. Onur Aydin, Umnia Doha and M Taher A Saif. Biohybrid active soft matter for engineered living systems, ASME IMECE, Tampa, FL, Nov 4-9, 2017.
204. M Elhebeary, M T A Saif, "Thermo-Mechanical Behavior of Single Crystal Silicon—*In Situ* Experiments and Molecular Dynamics Simulations", MRS 2017 Fall meeting, Nov 26-Dec 1, 2017, Boston, MA, USA
205. Onur Aydin and MTA Saif, Phase transition in living biomaterials. Mechanics of Biomaterials and Tissues. Waikoloa, Hawaii, Dec 10-14, 2017.
206. Anthony Fan, Alireza Tofangchi and MTA Saif, Motor neurons in embryonic Drosophila actively maintain tension in axons which mediates neurotransmitter vesicle clustering at the presynaptic terminal. 8th World Congress of Biomechanics 2018, Dublin, Ireland, July 8-12, 2018.
207. Onur Aydin and MTA Saif, Emergence of neuro-muscular junction and neural network in a novel co-culture platform. 8th World Congress of Biomechanics 2018, Dublin, Ireland, July 8-12, 2018.
208. M Elhebeary, M T A Saif, "A Novel Technique of Self-assembling and Characterizing 3D Soft Tissues on Microfabricated Sensor Platform", Biomedical Engineering Society (BMES) Annual Meeting, October 17-20, 2018, Atlanta, GA, USA.
209. Bashar Emon. Increased Activin Secretion in Response to Increased Force Leads to Rise in Cancer Cell Migration"- Poster presentation, Biomedical Engineering Society (BMES) Annual Meeting, October 17-20, 2018, Atlanta, GA, USA.
210. Onur Aydin, Austin P. Passaro, Mohamed Elhebeary, Gelson J. Pagan-Diaz, Anthony Fan, Sittinon Nuethong, Rashid Bashir, Steven L. Stice, and M. Taher Saif. Functional Outcomes of Neuron-Muscle Crosstalk in Early In-Vitro Development. Biomedical Engineering Society (BMES) Annual Meeting, October 17-20, 2018, Atlanta, GA, USA
211. Z Li, Y Seo, O Aydin, RD Kamm, H Kong, MTA Saif, A biohybrid valveless pump-bot powered by skeletal muscles (Oral Presentation), Biomedical Engineering Society (BMES) Annual Meeting, Atlanta, GA, Oct 17-20, 2018.
212. M Elhebeary, M T A Saif, "A Novel Technique for *In Situ* Characterization of 3D Tissues Using MEMS ", MRS 2018 Fall meeting, Nov 25-30, 2018, Boston, MA, USA.

2019

213. Mohamed Elhebeary and Saif, M.T.A, "A Novel MEMS Stage for In Situ Thermomechanical Testing of Materials under Bending", TMS 2019, March 10-14, 2019, San Antonio, Texas.
214. Bashar Emon and Taher Saif. Ultra-resolution sensor for quantification of single/multi-cellular traction dynamics in three dimensional biopolymers"- invited platform presentation at Midwest Tumor Microenvironment Meeting at the University of Notre Dame, IN, May 20-22, 2019.
215. Bashar Emon and Taher Saif. Nano-resolution Sensor for of Single/multi-cellular Traction Dynamics in 3D Biopolymers"- invited for an oral presentation in Biomedical Engineering Society (BMES) Annual Meeting in Philadelphia, PA, October 16-19, 2019.
216. Md Saddam Hossain Joy, Duncan L. Nall, Anthony Fan, Paul R. Selvin and Taher Saif. Drosophila NMJ has a F-actin Architecture at the Pre-Synaptic Terminal - (oral presentation) in Biomedical Engineering Society (BMES) Annual Meeting in Philadelphia, PA, October 16-19, 2019.
217. Z Li, Y Seo, RD Kamm, H Kong and MTA Saif. Biohybrid pumping machines powered by engineered skeletal muscle (Oral Presentation), Biomedical Engineering Society (BMES), Annual Meeting in Philadelphia, PA, October 16-19, 2019.
218. Bashar Emon & Taher Saif, "Nano-resolution Sensor for of Single/multi-cellular Traction Dynamics in 3D Biopolymers"- (oral presentation), Biomedical Engineering Society (BMES) Annual Meeting in Philadelphia, PA, October 16-19, 2019.
219. Anthony Fan, Alireza Tofangchi, Taher Saif. "Force pathway to synaptic clustering in embryonic Drosophila neuro-muscular junctions". (oral presentation), Biomedical Engineering Society (BMES) Annual Meeting in Philadelphia, PA, October 16-19, 2019.
220. Onur Aydin, Xiaotian Zhang, Gelson J. Pagan-Diaz, Mattia Gazzola, Rashid Bashir, and M. Taher A. Saif. Neuromuscular Development on Free-Standing Compliant Scaffold for Embodied Biohybrid Systems– (oral presentation) in Biomedical Engineering Society (BMES) 2019 Annual Meeting in Philadelphia, PA, Oct 16-19, 2019.

2020

221. Onur Aydin, Bashar Emon and M Taher A Saif. Efficacy of Home Cloth Mask in Blocking High Velocity Droplets During Cough And Sneeze – A Mechanistic Study. 2020 BMES Annual Meeting (virtual), Oct 14-17, 2020.
222. Zhengwei Li, William C Ballance, Shrey Patel, Roger D. Kamm, Hyunjoon Kong, M. Taher A. Saif. Adaptive Biohybrid Pump-bots with Flow Loop Feedback. 2020 BMES Annual Meeting (virtual), Oct 14-17, 2020.
223. Md Saddam Hossain Joy, Duncan L. Nall, Anthony Fan, Paul R. Selvin and Taher Saif. Preliminary evidence of F-actin architecture at the Presynaptic terminal of Drosophila NMJ - in Biomedical Engineering Society (BMES) Annual Meeting (virtual), October 14-17, 2020.
224. Onur Aydin, Jennie C. Gardner, Justin S. Rhodes, and M. Taher A. Saif. Improved Survival of In Vitro 3D Muscle Tissues by Incorporating Engineered Perimysium. 2020 BMES Annual Meeting (virtual), Oct 14-17, 2020.

2021

225. Yue Wang, Zhengwei Li, Mohamed Elhebeary, René Hensel, Eduard Arzt and M Taher A. Suction cups in liquid at microscale. 25th International Congress of Theoretical and Applied Mechanics, Aug 22-27, 2021 (virtual).

2022

226. Umnia Doha and M Taher A Saif. Emergent biohybrid active materials for living robotics. American Physical Society Meeting, March 14-18, 2022, Chicago.
227. Yue Wang, Zhengwei Li ,Mohamed Elhebeary ,René Hensel ,Eduard Arzt ,M Taher Saif. Bio-inspired soft suction cups under-water. US National Congress of Theoretical and Applied Mechanics, (June 21), Austin, Texas, June 19-24, 2022.
228. Umnia Doha and M Taher A Saif. Emergence of order from randomness in multi-cellular systems through long range cell-cell interactions. US National Congress of Theoretical and Applied Mechanics, (June 21), Austin, Texas, June 19-24, 2022.
229. Umnia Doha and M Taher A Saif. Living functional materials. 16th International Symposium on Functionally Gradient Materials, Hartford, Connecticut, Aug 8-10, 2022.
230. Joy, M. S. H., Emon, B., & Saif, M. T. A. "A novel 3D platform reveals the evolution of neuronal tissue force

during in-vitro synaptogenesis"- oral presentation in Biomedical Engineering Society (BMES) Annual Meeting in San Antonio, TX, October 12-15, 2022.

231. William Drennan and M T A Saif. Frequency Distributions of Mechanically Coupled Cardiac Tissues. Cellular and Molecular Biomechanics Track, Mechanobiology track, Biomedical Engineering Society (BMES) Annual Meeting in San Antonio, TX, October 12-15, 2022 (oral presentation).
232. Bashar Emon and M T A Saif. Cancer cell-stromal fibroblast crosstalk in 3D tumor models on a novel biomechanical sensor promotes matrix stiffening, YAP activation and invasion. Tumor microenvironment I. Biomedical Engineering Society (BMES) Annual Meeting in San Antonio, TX, October 12-15, 2022 (oral presentation).
233. Umnia Doha and M T A Saif. "Emergent active biohybrid materials", US National Congress of Theoretical and Applied Mechanics (USNCTAM), June 2022 (oral presentation).

2023

234. M. S. H. Joy, Emon, B., & Saif, M. T. A. "Firing rate of in-vitro hippocampal neuronal network depends on the mechanical tension"- accepted for an oral presentation in Biomedical Engineering Society (BMES) Annual Meeting in Seattle, WA, October 11-14, 2023.
235. Umnia Doha and M T A Saif. Disorder to order transition in multiple cellular living systems. Society of Engineering Science Annual Meeting, Minneapolis, Minnesota, Oct 9-11, 2023.

Students' Awards:

Onur Aydin. ASME Bioengineering Division PhD Student Paper Competition at the World Congress of Biomechanics 2018, Dublin, Ireland, July 8-12, 2018. 2nd place

Mohamed Elhebeary. MRS Silver award**.** MRS 2018 Fall meeting, Boston, MA

Invited Lectures

1. "A Micro Loading Machine," Cornell University, Theoretical and Applied Mechanics, Ithaca, NY, February 8, 1995.
2. "A Milli-Newton Micro Loading Device," Johns Hopkins University, Department of Mechanical Engineering, Baltimore, MD, August 3, 1995.
3. "Micron-Scale Structures – A New Dimension for 21st Century Structural Engineering," Bangladesh University of Engineering and Technology, Department of Civil Engineering, Dhaka, Bangladesh, December 18, 1995.
4. "Micro-Instruments for Materials Characterization," Materials Research Society 1996 Spring Meeting, San Francisco Marriott, CA, April 10, 1996.
5. "A Voyage Through the World of Micromachines – A Technology for the 21st Century," Cornell Alumni Reunion, June 7, 1996.
6. "Reliability Studies of Torsional Single Crystal Silicon Beams for Rigid Micromirrors," IEEE/LEOS 1996 Summer Topical Meeting, Keystone, CO, August 5-9, 1996.
7. "MEMS Micro Instruments for Sub-Micron Materials Characterization," Texas Instruments, Dallas, TX, November 21, 1997.
8. "Micro Actuators for Non-Invasive Study of Single Living Cells," Kodak Research and Development, Rochester, NY, June 10, 1998.
9. "Tunable Bi-Stable MEMS Device for High-Performance Switches," DARPA MEMS Program Workshop (Advisory Meeting): MEMS for Mechanical Computation and Information Processing, La Jolla, CA, February 22-23, 1999.
10. "Micro Instrumentation for Material Studies at Nano Scale," 36th Annual Technical Meeting, Society of Engineering Science, University of Texas at Austin, Austin, TX, October 25-27, 1999, Book of Abstract, WB2-4, (invited talk).

11. “A Tunable, Bi-Stable, Low Power MEMS Sensor,” International Conference on Smart Materials, Structures, and Systems, Indian Institute of Science, Bangalore, India, July 7-10, 1999.
12. “Micro Instrumentation for Material Studies at Nano Scale,” Workshop on Nanomechanics of Surfaces and Interfaces, University of Texas at Austin, Oct. 25-27, 1999. Organizer: Huajian Gao, Division of Mechanics and Computation, Department of Mechanical Engineering, Stanford University, Stanford, CA.
13. “Micro Instruments for Nano-Scale Materials Studies and Digital Sensing,” Technical University of Dresden, Institute fur Halbleiter- und Mikrosystemtechnik, Dresden, Germany, June 30, 1999.
14. “Interaction between Small Floating Bodies,” Departments of Mechanical Engineering and Materials Science, University of California at Santa Barbara, Santa Barbara, CA, May 2000.
15. “Micromachines – A Technology for the 21st Century,” Department of Mechanical Engineering, University of Malaya, Kualalumpur, Malasia, June 2000.
16. “Micromachines – A Technology for the 21st Century,” Bangladesh University of Engineering and Technology, Dhaka, Bangladesh, July 2000.
17. “Interaction Between Small Thin Floating Solids,” Department of Theoretical and Applied Mechanics, UIUC, Urbana, IL, September 2000.
18. “Microinstrumentation for Studies of Single Cells,” New York Center for Advanced Thin Film Technology, State University of New York at Albany, Albany, NY, October 2000.
19. “Fabrication Issues of MEMS,” NSF Workshop on Manufacturing of Micro-Electro-Mechanical Systems, DoubleTree Club Hotel, Orlando Florida, November 2000.
20. “Bi-Stable MEMS for Optomechanical Computing in Harsh Environments,” Department of Theoretical and Applied Mechanics, Cornell University, Ithaca, NY, November 2000.
21. “MEMS - An Overview,” Bangladesh University of Engineering and Technology, Dhaka, Bangladesh, August 1, 2001.
22. “Interaction between Small Floating Bodies,” Bangladesh University of Engineering and Technology, Dhaka, Bangladesh, August 13, 2001.
23. “A Bi-stable MEMS for Optomechanical Logic Elements,” Microelectronics Seminar, UIUC, September 5, 2001.
24. “Actuation of MEMS by Light,” University of Washington, Seattle, WA, October 11, 2001.
25. “Novel Instrumentation for Studying Plasticity at Nano Scale,” International Conference on Plasticity, Aruba, January 3-8, 2002.
26. “Capillary Interaction Between a Small Thin Solid Plate and a Liquid,” Fundamental Issues of Microsystems, Modeling and Simulation of Microsystems, San Juan, Puerto Rico, April 22-25, 2002.
27. “Capillary Interaction between Solid Plates Forming Menisci on the Surface of a Liquid,” Northwestern University, Evanston, IL, April 5, 2002.
28. “Novel Instruments for Studying Mechanical Properties at Nano Scale,” Cornell University, Mechanical and Aerospace Engineering, Ithica, NY, May 16, 2002.
29. “Uniaxial Tensile Experiments on Nanoscale Metal Films,” Society for Experimental Conference, Milwaukee, WI, June 10-12, 2002.
30. “Modeling and Experiment on a Bi-stable MEMS Actuated by Radiation Pressure,” 14th U.S. National Congress of Applied Mechanics, Virginia Tech., June 23-28, 2002.
31. “Experimental Results on Free Standing Nanoscale Al Films,” 14th U.S. National Congress of Applied Mechanics, Virginia Tech., June 23-28, 2002.
32. “Elastic Response of Aluminum at Submircrometer Scale,” ASME International Mechanical Engineering Congress and Exposition, New Orleans, LA, November 17-22, 2002.
33. “Force Response of Single Living Cells Due to Localized Deformation,” ASME International Mechanical Engineering Congress and Exposition, New Orleans, LA, November 17-22, 2002.
34. “Stress Assisted Self-Assembly of Nano-Wires and Channels,” Division of Engineering and Applied Sciences, Harvard University, December 2, 2002.
35. “Study of Nanoscale Materials and Single Biological Cells Using MEMS Sensors,” Mechanical Engineering Department, National University of Singapore, December 30, 2002.
36. “Novel Instrumentation for Studying Plasticity at Nano-Scale,” Department of Aerospace Engineering and Engineering Mechanics, The University of Texas, Austin, TX, February 25, 2003.
37. “Novel Instrumentation for Studying Plasticity at Nano Scale,” Department of Mechanical Engineering, Texas A&M University, College Station, TX, February 26, 2003.

38. “Characterization of Nickel Nanowires Formed by Stress Assisted Self Assembly,” Joint Applied Mechanics/Materials ASME Summer Meeting, Scottsdale, AZ, June 17-20, 2003.
39. “Functionalized BioMEMS Sensors for Studying Force Response of Single Living Cells,” 2003 Summer Bioengineering Conference, Key Biscayne, FL, June 25-29, 2003.
40. “Guided Self Assembly of Nano Channels and Wires,” NSF/MEXT U.S. Japan Young Scientists Symposium on Nanoscience and Nanotechnology, MIT, Cambridge, MA, September 25, 2003.
41. “Guided Self Assembly of Nano Wires and Channels,” Center for Nanoscale Science and Technology Seminar, University of Illinois at Urbana-Champaign, IL, October 1, 2003.
42. “Novel Instruments for Studying Mechanical Properties at Nano-Scale,” Mechanical Engineering Department, Johns Hopkins University, Baltimore, MD, October 9, 2003.
43. “Deformation Mechanism of Nano Grained Free Standing Thin Aluminum Films,” 2003 ASME International Mechanical Engineering Congress, Applied Mechanics Division, Washington, DC, November 15-21, 2003.
44. “Materials Behavior at Nanoscale,” International Conference on Materials for Advanced Technologies, Singapore, December 7-12, 2003 (trip cancelled due to SARS threat).
45. “Mechanical Behavior of Nano Grained Metals,” Materials Science Seminar, University of Illinois at Urbana-Champaign, IL, March 8, 2004.
46. “Interaction Between Floating Bodies,” TAM Seminar, University of Illinois at Urbana-Champaign, IL, March 11, 2004.
47. “Is Smaller Always Stronger?” Mechanical Engineering Department, Stanford University, Stanford, CA, March 31, 2004.
48. “MEMS for Probing Single Cells,” Forum on Nanotechnology Growth Opportunities for the Biotech and Medical Devices Sectors, organized by ASME Nanotechnology Institute, Irvine, CA, April 15-16, 2004.
49. “Strain Gradient Effect in Nanoscale Aluminum Films,” Gradient Plasticity Theory and Applications, Patras, Greece, May 31-June 4, 2004.
50. “Micro-Instrumentation for Nano-Scale Materials Behavior under Uniaxial Tension,” 2004 Gordon Research Conference on Thin Film and Small Scale Mechanical Behavior, Colby College, Waterville, ME, July 18-23, 2004.
51. “Is There a Critical Size in Nano Grained Metals for Ductile to Brittle Transition?” Keynote Lecture, ASME Nanotechnology Institute, 3rd annual Integrated Nanosystems: Design, Synthesis and Applications Conference, Pasadena, CA, September 22-24, 2004.
52. “Mechanical Behavior of Nano-Grained Thin Metal Films,” Materials Science and Technology 2004 Conference and Exhibition, New Orleans, LA, September 26-29, 2004.
53. “Thin Plates Floating on a Liquid-Air Interface: Theory and Experiment,” Mechanical Engineering Department, Indiana University Purdue University at Indianapolis, October 7, 2004.
54. “Anelasticity in Nano Grained Thin Metal Films,” 2004 Materials Research Society Fall Meeting, Boston, MA, December 1-5, 2004.
55. “Mechanical Behavior of Nano-grained Thin Metal Films,” University of Michigan, Ann Arbor, MI, February 25, 2005.
56. “Self Assembled Nano Wires and Channels,” Nano-characterization and Nanofabrication Using Advanced Physical Fields, Guest Lecture, 10th International Symposium on Advanced Physical Fields, Tsukuba, Japan, March 7-10, 2005.
57. “Micro Instrumentation for Studying Mechanical Properties of Free-standing Films,” TMS Annual Meeting, San Francisco, CA, February 14-18, 2005.
58. “Thin Plates on Liquid/Air Interfaces: Theory and Experiment,” Brown University, Providence, RI, April 11, 2005.
59. “Self Assembly of Nanowires and Their Characterization,” Center for Nanoscale Science and Technology, UIUC, May 5-6, 2005.
60. “Mechanical Behavior of Nano-Grained Thin Metal Films,” Massachusetts Institute of Technology, June 1, 2005.
61. Invited panelist at the Discovery Platforms™ Workshop, Sandia National Laboratory, Albuquerque, NM, July 26, 2005.
62. “MEMS- A New Paradigm in Research Labs: From Biology to Materials Science,” National University of Singapore, July 26, 2005.

63. “Exploring Mechanical Response of Metals and Single Living Cells at Nano Scale Using Novel Micro Instruments,” Max Planck Institute Colloquium, Stuttgart, Germany, November 7, 2005.
64. “Exploring Mechanical Response of Metals and Single Living Cells at Nano Scale Using Novel Micro Instruments,” Department of Materials, Swiss Federal Institute of Technology, Zurich (ETH), November 23, 2005.
65. “Exploring Mechanical Response of Metals and Single Living Cells at Nano Scale Using Novel Micro Instruments,” Erich Schmid Institute of Materials Science, Austrian Academy of Sciences and Department Material Physics, University of Leoben, December 13, 2005.
66. “Mechanical Behavior of Sing Cells: A Nontoxic Approach towards Disease Detection,” International Conference on Microtechnologies in Medicine and Biology (MMB2006), Okinawa, Japan, May 9-12, 2006.
67. “Mechanical Response of Single Living Cells Under Controlled Stretch and Indentation Using Functionalized Micro Force Sensors,” International Conference on Microtechnologies in Medicine and Biology (MMB2006), Okinawa, Japan, May 9-12, 2006.
68. “Microinstruments for Studying Metals and Single Cells at Submicron Scale,” University of Tokyo, Institute of Industrial Science, Tokyo, Japan, May 15, 2006.
69. “In-situ Studies of Deformation and Failure in Nano Grained Metal Films using Micro Instruments,” IUTAM Symposium on Plasticity at the Micron Scale, Denmark, May 21-25, 2006.
70. “Mechanical Behavior of Nano Grained Metals,” 16th European Conference on Fracture, Alexandropoulos, Greece, July 2-7, 2006.
71. “Failure Mechanism in Columnar Nano Crystalline Thin Metal Films,” Keynote Lecture, 12th International Symposium on Plasticity, Halifax, Nova Scotia, Canada, July 17-22, 2006.
72. “Mechanical Behavior of Single Living Fibroblasts by Micro Force Sensors,” Third International Conference on Multiscale Material Modeling (MMM2006), Freiburg, Germany, September 18-22, 2006.
73. “Mechanical Behavior of Single Living Cells Under Stretch and Compression Using Micro Force Sensors,” Third International Conference on Multiscale Materials Modeling, Freiburg, Germany, September 18-22, 2006.
74. “Mechanical Behavior of Nano Grained Metals-Smaller is Stronger, Even Smaller May Be Softer,” California Institute of Technology (GALCIT Colloquium), Pasadena, CA, November 24, 2006.
75. “A Voyage through the World of Small,” California Polytechnic State University (Mechanical Engineering), San Luis Obispo, CA, November 27, 2006.
76. “MEMS-A New Paradigm in Research Labs: From Materials Science to Biology,” NSF Sponsored US-Tunisia Workshop: Research and Educational Advances in Design and Fabrication of Micro-Electro-Mechanical Systems, Hammamet, Tunisia, December 14-16, 2006.
77. “A Voyage through the World of Small,” Keynote Lecture, 6th International Workshop on Micro-Nano Electronics and Photonics, Islamabad, Pakistan, April 9-13, 2007.
78. “MEMS-A New Paradigm in Research Labs: From Materials Science to Biology,” Keynote Lecture, 6th International Workshop on Micro-Nano Electronics and Photonics, Islamabad, Pakistan, April 9-13, 2007.
79. “MEMS Based Sensors for Force Response Studies of Single Cells,” National University of Singapore, 2007 GEM4 (Global Enterprise for Micro-Mechanics and Molecular Medicine) Summer School, Singapore June 25 – July 6, 2007.
80. “Mechanical Behavior of Nano Grained Metals - Smaller is Stronger, Even Smaller May Be Softer,” International Conference on Smart Materials and NanoTech (SMN2007), Harbin Institute of Technology, Harbin, China, July 2, 2007.
81. “Interplay Between Size and In-homogeneity of Microstructure in Nano Grained Metals – A New Paradigm in Understanding Their Mechanical Property,” Institute for Materials Research, Shenyang, China, July 5, 2007.
82. “On The Role of Inhomogeniety of Microstructure in Determining Deformation Mechanism of Nano Grained Metals,” Tsinghua University, Department of Engineering Mechanics, July 12, 2007.
83. “Learning by Tension,” Purdue University, Electrical and Computer Engineering, July 17, 2007.
84. “Inhomogeniety and Size of Microstructure - A New Paradigm in Understanding Deformation Mechanism of Nano Crystalline Metals,” Brown University, Division of Engineering, September 24, 2007.
85. “Cellular Mechano-sensitivity – A New Paradigm in the Understanding of Learning and Memory,” Stanford University, “Frontiers in Interdisciplinary Biosciences” Lecture, November 15, 2007.
86. “Seeing the Unseen Using Small Sensors: Two Examples from the World of Small,” Pennsylvania State University, November 27, 2007.

87. “Cellular Mechano-sensitivity – A New Paradigm in Understanding Learning and Memory,” Max Planck Institute, Stuttgart, Germany, January 31, 2008.
88. “Mechanics of Memory,” Bangladesh University of Engineering and Technology, Dhaka, Bangladesh, February 6, 2008.
89. “Cellular Mechano-sensitivity – A New Paradigm in the Understanding of Learning and Memory,” BRAC University, Dhaka, Bangladesh, February 7, 2008.
90. “Mechanics of Learning and Memory,” Michigan Technological University, Mechanical Engineering-Engineering Mechanics, February 14, 2008.
91. “MEMS for Materials Studies: From Nano to Micro Scale,” SEMATEC, Austin, TX, March 18, 2008.
92. “Mechanics of Memory,” University of California at Los Angeles, April 2, 2008.
93. “Role of Micro-structural Heterogeneity in Determining Mechanical Properties of Nano-scale Metals,” ICHMM-2008: International Conference on Heterogeneous Materials Mechanics, Huangshan, China, June 3-8, 2008.
94. “MEMS Sensors for Studying Cell Mechanosensitivity,” Caltech, GEM4 Summer School, July 21-25, 2008.
95. “Memory under Tension,” Hong Kong University of Science and Technology, August 28, 2008.
96. “Interfaces and Heterogeneities - The Critical Players in the Field of Nanomechanics,” Nanomech 9, Germany, Sept 9-11, 2008.
97. “Cellular Mechano-sensitivity for Implantable Devices,“ Interuniversity Microelectronics Centre (IMEC), Leuven, Belgium, September 25-26, 2008.
98. “Memory under Tension,” University of Pennsylvania, October 28, 2008.
99. “Unusual Mechanical Behaviors of Nanocrystalline Metals- Effect of Size and Heterogeneity of Microstructure,” Materials Research Society Fall Meeting, Boston, MA, December 1-5, 2008.
100. “Nanomechanics of Memory and Learning,” Weizmann Institute of Science and Technion, Israel Institute of Technology, Workshop on Nano-Bio Systems, December 17-18, 2008.
101. “Effect of Size and Heterogeneity of Microstructure on Nanocrystalline Plasticity,” Keynote lecture, International Symposium on Plasticity, St Thomas, US Virgin Islands, January 2009.
102. “Nanomechanics of Memory and Learning,” University of Washington, February 3, 2009.
103. "Mechanics of Memory," Arizona State University, April 10, 2009.
104. "A MEMS Force Sensor and The Tale of Two Accidental Encounters," GEM4 2009 Summer School on "Cell and Molecular Mechanics in Biomedicine with a focus on Enabling Technologies,” University of Illinois at Urbana-Champaign, June 8-19, 2009.
105. "Microstructural Size and Heterogeneity: The Two Key Players at The Nano Scale," 2nd International Conference on Smart Materials and Nanotechnology in Engineering, Weihai, China, July 8-11, 2009.
106. "Microstructural Size and Heterogeneity: The Two Key Players at The Nano Scale," Purdue University, August 7, 2009.
107. "Mechanical Tension in Neurons is Essential for Neurotransmission," Boston University, October 20, 2009.
108. "Mechanics Link to Memory and Learning: Lessons from Fruit Flies," Montana State University, Feb 5, 2010.
109. "Synaptic Terminal Tension: Lessons from Fruit Flies," Texas Tech University at Lubbock, March 5, 2010.
110. "Mechanics Link to Memory and Learning: Lessons from Fruit Flies," University of Texas at Austin, Feb 9, 2010.
111. "Mechanics Link to Memory and Learning: Lessons from Fruit Flies," University of California, Berkeley, April 5, 2010.
112. "The Role of Mechanical Tension in Neurons," Materials Research Society Meeting, San Francisco, California, April 6, 2010.
113. "Seeing The Unseen Using Small Sensors: Two Examples From The World of Small," Keynote Lecture, The Seventh International Symposium on Mechatronics and Its Application, American University of Sharjah, Sharjah, United Arab Emirates, April 20, 2010.
114. "Seeing The Unseen Using Small Sensors: Two Examples From The World of Small," Khalifa University of Science, Technology and Research (KUSTAR), Abu Dhabi, United Arab Emirates, April 21, 2010.
115. "Mechanisms of Plasticity in Nanograined Metals," International Workshop on Materials Behavior at Micro and Nano- Scale, Xi'an Jiaotong University, Xi'an, China, June 8-11, 2010.
116. "Neuronal Mechanics of Memory and Learning," Keynote Lecture,16th US National Congress of Theoretical and Applied Mechanics, Pennsylvania State University in University Park, PA, June 27-July 2, 2010.

117. "Cancer Metastasis and Elasticity of Micro-environment," Keynote Lecture, 16th US National Congress of Theoretical and Applied Mechanics, Pennsylvania State University in University Park, PA, June 27-July 2, 2010.
118. "Feeling the Cell Force," GEM4 Summer School, July 26-31, National University of Singapore, Singapore, July 30, 2010.
119. "Emergent Neuro-muscular Synapse Require Mechanical Tensile Force for Synaptic Plasticity," World Congress on Biomechanics, Aug 1-6, 2010, Singapore, Aug 3, 2010.
120. "A Novel Stage for in situ Imaging of Cells and Tissues under Mechanical Stimulation," World Congress on Biomechanics, Aug 1-6, 2010, Singapore, Aug 6.
121. "Synaptic Tension: Force Connection to Memory and Learning," Bioengineering Seminar Series, University of Illinois at Urbana-Champaign, Sept 16, 2010.
122. "Synaptic Tension : force connection to memory and learning," KAUST (King Abdullah University of Science and Technology), Saudi Arabia, October 1, 2010.
123. "Neuron as a Mechanical Material," Keynote Lecture, ASME International Mechanical Engineering Congress and Exposition, Nov 12-18, Vancouver, British Columbia, Canada. Nov 16, 2010. (trip cancelled due to medical emergency)
124. "Micro Machines for Nanoscale Materials Studies," Faculty of Physics, University of Vienna, Nov 2010. (trip cancelled due to medical emergency)
125. "Mechanics of Nanostructured Metals: Effect of Size," Faculty of Physics, University of Vienna, Nov 2010. (trip cancelled due to medical emergency)
126. "Mechanics of Nanostructured Metals: Effect of Microstructural Heterogeneity," Faculty of Physics, University of Vienna, January 2011. (trip cancelled due to medical emergency)
127. "Micro Machines for Biological Studies: Mechanics of Memory and Learning," Faculty of Physics, University of Vienna, January 2011. (trip cancelled due to medical emergency)
128. "Mechanisms of Plasticity in Nanograined Metals," Plasticity 2011, Puerto Vallarta, Mexico, January 3-8, 2011. (trip cancelled due to medical emergency)
129. "Synaptic Tension: Force Connection to Memory and Learning," Michigan State University, February 23, 2011.
130. "Mechanisms of Plasticity in Nanograined Metals: Role of Microstructural Heterogeniety - Part I," Department of Physics, University of Vienna, May 25, 2011.
131. "Mechanisms of Plasticity in Nanograined Metals: Role of Microstructural Heterogeniety - Part II," Department of Physics, University of Vienna, June 6, 2011.
132. "Mechanical Force Determines Neuronal Growth and Synaptic Function," Max Planck Institute, Stuttgart, Germany, June 10, 2011.
133. "Mechanical Interactions between Cardiac Cells and Its Implication on Myocardiac Infarction," ASME 2011 Applied Mechanics and Materials Conference, Chicago, IL, May 30-June 1, 2011.
134. "Mechanical Force Determines Neuronal Growth and Synaptic Function," Max Planck Institute, Stuttgart, Germany, June 10, 2011.
135. "Guidance Cues for Emergent Biological Machines," Georgia Institute of Technology, GEM4 Summer School, June 28, 2011.
136. "A Few Basics of Mechanics in Light of Cell Biology," University of Illiois at Urbana-Champaign, Workshop on Mechanobiology, July 26, 2011.
137. "Mechanisms of Plasticity in Nanograined Metals," University of Houston, Mechanical Engineering Dept., October 6, 2011.
138. "Microplasticity in Nanograined Metals: Role of Microstructural Heterogeniety," Society of Engineering Science Meeting, Northwestern University, October 12-14, 2011.
139. "Cancer Cell Adhesion during Metastatic Progression," Society of Engineering Science Meeting, Northwestern University, October 12-14, 2011.
140. "Microplasticity in Nanograined Metals," Université Catholique de Louvain Louvain School of Engineering October 17, 2011.
141. "Neuromechanics of Memory and Learning," Northwestern University, October 24, 2011.
142. "A MEMS Stage For Testing Nano To Micro Scale Samples," Materials Research Society, 2011 Fall Meeting, Boston, MA, Nov 28.
143. "Mechanical Tension in Axons and Synaptic Vesicle Clustering," Weizmann Institute, Clore Center for Biological Physics, Minisymposium on Biological Machines: Physics and Bioengineering, Feb 28, 2012.

144. "Emergence of Synchrony in Living Materials through Force Interaction," University of Illinois at Urbana-Champaign, Agricultural Engineering Seminar, February 24, 2012.
145. "Emergence of Synchrony in Living Materials through Force Interaction," University of Maryland Institute for Systems Research, Feb 28, 2012.
146. "Emergence of Synchrony in Living Materials through Force Interaction," Keynote talk, 2012 TMS annual meeting, Orlando, Florida, March 12, 2012.
147. "Emergence of Synchrony in Living Materials through Force Interaction," Khalifa University of Science, Technology and Research, March 22, 2012.
148. "Elasticity of microenvironment and cancer metastasis", NSF IGERT Workshop, Washington, DC, May 30, 2012.
149. "Emergence of synchrony in living systems," Technical University of Munich, Physics Seminar July 24, 2012.
150. Keynote talk: "A micro scale swimming biobot powered by synchronous beating of cardiac cells," 6th ASME Micro- and Nano-Systems Conference, Aug 13, 2012.
151. "Mechanobiology in neuronal development," Massachusetts Institute of Technology, GEM4 Summer Workshop, July 19, 2012.
152. "Mechanobiology in neuronal development", University of Illinois at Urbana-Champaign, BioSensing and BioActuation Summer Institute, Aug 3, 2012.
153. "Emergence of synchrony in cardiac cells through mechanical communication," 23rd International Congress of Theoretical and Applied Mechanics, Beijing, Aug 23, 2012 (trip canceled due to family reasons).
154. "Emergence of synchrony in complex living systems through force interaction," Physics of Cells - PhysCell2012 Workshop, Hyères, France, Sept 7, 2012.
155. "A swimming biobot from emergent synchrony among cardiac cells due to long-range force interaction," Biomedical Engineering Society Conference, Oct 25, 2012, Atlanta, GA.
156. "A Micro Scale Swimming Biobot Powered by Synchronous Beating of Cardiac Cells," University of Texas at Arlington, Distinguished Lecture Series in Nano & Micro Systems, November 6, 2012.
157. “Substrate and ECM elasticity mediate metastasis like phenotype in vitro in human colon cancer cells," BMES Cellular and Molecular Bioengineering special interest group's inaugural meeting, Hawaiian Big Island of Kona, January 2-5, 2013.
158. "Substrate and ECM elasticity mediate metastasis like phenotype in vitro in human colon cancer cells," Keynote talk, ASME 2013 2nd Global Congress on NanoEngineering for Medicine and Biology, February 4-6, 2013 – Boston, MA.
159. "Synchrony to swimming at low Reynolds number," Bringham Young University, Mathematics Department, February 28, 2013.
160. "Size Dependent Brittle to Ductile Transition (BDT) Temperature in Single Crystal Silicon," Keynote talk, MRS Spring Meeting, April 2013, San Francisco, CA.
161. “A living artificial swimmer from soft flagella and cardiac cells”, Society of Engineering Science 50th Annual Technical Meeting, July 18-31, 2013, Brown University.
162. “Mechanobiology in neuronal development”, GEM4 Summer School, Aug 31, 2013, University of Illinois at Urbana-Champaign.
163. “Synchrony in cardiac cells due to long-range force interactions”, University of Connecticut, Mechanical Eng Dept Seminar, Oct 4, 2013.
164. “Role of mechanical forces in health and disease”, International Center for Theoretical Physics, Trieste, Italy, October 18, 2013.
165. “Metastasis on a dish”, Max Planck Institute, Mainze, Germany**,** October 17, 2013.
166. Taher Saif. A swimming biological machine from primary cardiomyocytes. Bio Interest Group Seminar, UIUC, Feb 10, 2014.
167. “From Synchrony to Swimming”, American Association for the Advancement of Science (AAAS) (Invited talk) Annual Meeting, Feb 13-17, Chicago, 2014.
168. “Mechanical micro environment and cancer metastasis”, Nutritional Sciences Seminar, March 12, 2014, UIUC.
169. “Micro-instruments for nano-mechanical studies of materials”. Solid Mechanics For Nanoscientists, Workshop, March 16-21, 2014, Autrans, France.
170. “Role of mechanics in development and disease”. Solid Mechanics For Nanoscientists, Workshop, March 16-21, 2014, Autrans, France.
171. “An Engineered Living Flagellum”, Mechanical Engineering Seminar, Texas A&M University, April 9, 2014.

172. “Biohybrid Manufacturing”, Illinois-Tsinghua Nanotechnology Symposium/CNST 12th Annual Nanotechnology Workshop, April 16, 2014, UIUC.
173. “An Engineered Living Flagellum”, Mechanical Engineering Seminar, Virginia Tech, April 18, 2014.
174. “Soft Platforms To Measure Cellular Forces In Vivo”, Keynote lecture, July 11, World Congress of Biomechanics, Boston, MA, July 6-11, 2014.
175. “Emergence of a Flagellar Swimmer From Cardiomyocytes And Fibroblasts”, Invited talk, July 9, World Congress of Biomechanics, Boston, MA, July 6-11, 2014.
176. “Fluctuations in cellular forces: noise or signal?” Mini symposium on Nano-biomechanics, IEEE conference on Engineering in Medicine and Biology Conference, Aug 27, 2014, Chicago.
177. “Bio-hybrid flagellar swimmer - a new paradigm for engineered life”, Micro-Nano Robotic Swarms for Biomedical Applications, IROS Workshop, September 14 2014, Chicago.
178. “Nanotechnology for health and energy”, Nanotechnology for Development of Advanced Applications: Solar and Energy Devices, September 22-24, 2014, Gazi University, Ankara, Turkey.
179. “Synchrony to swimming”, Sept 24, 2014, Koc University, Istanbul, Turkey.
180. “From synchrony to swimming through long range cell-cell interactions”, Mechanical Engineering, University of Pennsylvania, Oct 21, 2014.
181. “Ductility of nano scale Si samples“, Keynote lecture, Society of Engineering Science Annual Technical Meeting, Oct 1-3, Purdue University, 2014.
182. “Axonal transport is modulated by axonal tension”, Nov 5, 2014, Axonal transport and Neuronal Mechanics Meeting, Nov 3-7, 2014, Mathematical Biosciences Institute, Ohio State University.
183. “Autonomous living machines: a new frontier of engineering”, 2014 American Association of Bangladeshi Engineers and Architects Biennial Convention, Saturday, November 15, 2014, Los Angeles, California.
184. “From synchrony to swimming through long range cell-cell interactions”, EMBS Micro and Nanotechnology in Medicine Conference: Translating Medicine from bench to the bedside, 8-12 December, 2014, Turtle Bay Resort, Ohahu, Hawaii.
185. “Small size and microstructural heterogeneity of materials offer both high strength and ductility”, Keynote talk, Plasticity 2015, Montego Bay, Jamaica, January 4-9, 2015.
186. “Role of tissue mechanical micro environment in health and disease”, Bioengineering Department Seminar, University of Iowa, March 6, 2015.
187. “From synchrony to swimming through long range cell-cell interactions”, Distinguished seminar series, Mechanical Engineering, University of Colorado, March 13, 2015.
188. Brittle to Ductile Transition in Single Crystal Silicon at Sub-Micro Meter Scale. 2015 MRS Spring Meeting & Exhibit, April 6-10, 2015San Francisco, California (invited talk).
189. Neuromechanics. GEM4 workshop, Carnegie Mellon University, June 25,2015.
190. Mechanics and Mechanobiology. 2015 BioNanotechnology Summer Institute- Cancer nanotechnology and Cell Mechanics, July 27-Aug 7, 2015, University of Illinois at Urbana-Champaign.
191. From synchrony to swimming through long range cell-cell interactions – an example of engineered life. Mechanical Engineering Seminar, Purdue University, Nov 12, 2015.
192. Small size may offer both strength and ductility to material samples – even if they are macroscopically brittle. Keynote lecture, 2015 International Mechanical Engineering Congress & Exposition (IMECE), Houston, TX, Nov 13-19, 2015
193. Lessons learned from nano scale specimens tested by MEMS based apparatus. Invited talk at the 2015 MRS Fall Meeting & Exhibit, November 29-December 4, 2015 Boston, Massachusetts.
194. Living engineered materials and systems – a new paradigm for manufacturing. Keynote talk at the 1st IUT International Conference on Materials and Manufacturing Engineering (ICMME 2015), 25 – 27 December, 2015, Dhaka, Bangladesh.
195. Nanotechnology in health and disease. Military Institute of Science and Technology, Dec. 27, 2015, Dhaka, Bangladesh.
196. Memory under tension. (Keynote talk) NanoEngineering for Medicine and Biology Conference, Houston, Texas, February 21 - 24, 2016.
197. Emerging transformation in Engineering Science and Education. Plenary talk, North South University, Dhaka, Bangladesh, March 9, 2016. Trip cancelled due to family emergency.
198. Neuronal tension – a new paradigm for understanding memory and learning. Invited talk, March 31, 2016 Materials Research Society Meeting and Exhibit, Phoenix, AZ, March 28-Apr 1, 2016.

199. From synchrony to swimming – an engineered living machine. Johns Hopkins University, Mechanical Eng Dept Seminar. Apr 21, 2016.
200. Neuronal tension – a new paradigm for understanding memory and learning. Department of Engineering Physics, University of Wisconsin, Madison, April 26, 2016
201. Engineered living flagellum. Stem Cell and Regenerative Medicine Center, University of Wisconsin, Madison, April 26, 2016.
202. Emergent functions in cell clusters – examples from biological machines to tumor microenvironment. *KIST-UIUC-EBICS Global Research Symposium on* Human-mimetic Bio Systems and Devices. May 11, 2016.
203. Plenary lecture: From synchrony to swimming using cardiomyocytes – physiological relevance to living machines. June 15-17, 2016, *Research, Innovation and Leadership at the Crossroads of Science, Engineering and Medicine,* IMDEA Materials Institute, Getafe, Madrid, Spain.
204. Autonomous biohybrid swimmer. EBICS Workshop on Engineering Living Systems, Q Center, Illinois, August 3-4, 2016.
205. Plenary lecture: Size dependence of poly and single crystalline materials – a mechanistic view. 2nd Midwest Workshop on Mechanics of Materials and Structures, McCormic School of Engineering, Northwestern University, August 15, 2016.
206. Neuronal tension – a new paradigm for understandingmemory and learning. Heraeus Seminar on Neuronal Mechanics, Physikzentrum Bad Honnef, Germany, August 17 to 19, 2016.
207. Engineered living machine. American Association of Bangladeshi Engineers and Architects Biennial Convention, COBO Center, Detroit, Michigan, Aug 20, 2016.
208. Keynote lecture: Soft neurons actively maintain strong tension for synaptic functions. ICTAM 2016, Montreal, Canada, Aug 21-25, 2016.
209. Engineered living machines. Ringberg Workshop: Biomedical Micro/Nanosystems Engineering, Max Planck Schloss Ringberg, September 25 - 28, 2016
210. Relaxing cells by light (M T A Saif and Samantha Knoll and M T A Saif). Society of Engineering Science 53rd Annual Technical Meeting, Oct 2-5, 2016, University of Maryland, College Park, MD.
211. Mechanical tension a universal mechanism for matrix remodeling by cells (M. Taher A. Saif, Kyung Hwa Choi, Onur Aydin), Society of Engineering Science 53rd Annual Technical Meeting, Oct 2-5, 2016, University of Maryland, College Park, MD.
212. Living micromachines (Keynote talk). AVS 63rd International Symposium and Exhibition, Music City Center, Nov 6-11, 2016, Nashville, Tennessee.
213. Intelligent biomaterials and machines: a new paradigm. Seventh Persh Workshop on The Interface Between Materials and Biology, Institute for Defense Analysis, Alexandria, Virginia, 7 – 9 February, 2017.
214. Engineered Living Micro Swimmers. AAAS Annual Meeting, Boston, MA, Feb 16-20, 2017.
215. Emergent biological machines from self-assembled tissues undergoing phase transitions 2017 MRS Spring Meeting (NM10), Phoenix, Arizona, April 17-21, 2017
216. The role of forces on neuro muscular junction- a unique interface between neuron and muscle tissue. Society of Engineering Science 2017 Technical Meeting & ASME-AMD Joint Conference, 7/25/2017 - 7/28/2017, Northeastern University, Boston, MA, USA.
217. Living Micromachines, Department of Engineering Mechanics, Zhejiang Univ., Hangzhou Campus, China, Sept 18, 2017.
218. Living Micromachines, Mechanical Engineering, University of Michigan, Sept 26, 2017.
219. Biohybrid active soft matter for engineered living systems. University of Florida Soft Matter Symposium, Oct 17-19, 2017.
220. Living soft materials. ASME IMECE, Tampa, FL, Nov 4-9, 2017
221. Living machines. North-South University, Nov. 21, 2017
222. Living machines. Bangladesh University of Engineering and Technology, Nov. 22, 2017
223. Living Micromachines. Mechanical Engineering, Washington University, St Louis, Nov 30, 2017.
224. Living Micromachines, Northwestern University, Dec 7, 2017.
225. Onur Aydin and MTA Saif, Phase transition in living biomaterials. Mechanics of Biomaterials and Tissues. Waikoloa, Hawaii, Dec 10-14, 2017.
226. Living machines. Midwest SEM (Society of Engineering Mechanics) student conference, Purdue University, March 10, 2018.

227. Contractile force in neurons mediate neurotransmitter accumulation at the synapse. 177th XiHu Forum: Advances in Biomechanics and Biomedical Engineering, March 16-18, 2018, Dept of Engineering Mechanics, Zhejiang University, Hangzhou, China.
228. A few lessons learned from small scale specimens tested by MEMS based apparatus. Departmental Seminar, Department of Materials Science and Engineering, College of Engineering, Seoul National University, March 23, 2018, South Korea.
229. Living soft matter. Materials Research Society Spring Meeting, April 2-6, 2018, Phoenix, Arizona.
230. Living Micromachines. Mechanical Engineering, Stanford University, May 24, 2018.
231. Living Micromachines. Leibniz Institute for New Materials, Saarbrucken, Germany, July 6, 2018.
232. Neuronal tension mediates neuro-transmitter vesicle clustering at the presynaptic terminal of in vivo neurons. Keynote lecture, Society of Engineering Science, October 10-12, 2018, Madrid, Spain.
233. Tensional pathway to synaptic clustering. Dept. of Chemical & Biomolecular Engineering, University of Notre Dame, Indiana, Nov 6, 2018.
234. Living machines. Applied Mechanics Koiter Lecture, International Mechanical Engineering Congress and Exposition, Nov 9-15, 2018, Pittsburg, PA.
235. Science and engineering research in US – role of Universities, Government, National labs. Bangladesh Academy of Sciences and University of Asia Pacific, Dec 19, 2018, Dhaka, Bangladesh.
236. Science and engineering research in US – role of Universities, Government, National labs. National Science and Technology Building, Ministry of Science and Technology, Dec 20, 2018, Dhaka, Bangladesh.
237. Biophysics of cancer tumor. Head, Neck and Throat Cancer workshop, Dec 21, 2018, Sonargoan Hotel, Dhaka, Bangladesh.
238. Emergent living machines. Plenary lecture, International Conference on Electrical and Computer Engineering (ICECE 2018), Bangladesh, Dec 22, 2018.
239. Emergence of hierarchy and functions from cell clusters *in vitro*. Materials Research Society Spring Meeting, April 22-26, 2019, Phoenix, Arizona.
240. Neuro-muscular junction: an active bio-interface. Gordon Research Conference on Nano-Mechanical Interfaces, Aug 11-16, 2019, Hong Kong University of Science and Technology, Hong Kong (meeting cancelled due to civil unrest during August 2019).
241. Neuronal tension – a new paradigm for understanding memory and learning. Biophysics seminar, University of Saarland, Saarbrucken, Germany, Sept 2, 2019.
242. Force pathway to synaptic clustering at the neuro-muscular junctions of embryonic flies. ETH Zurich, Sept 13, 2019.
243. Lessons learned from nano scale specimens tested by MEMS based apparatus. Max Planck Institute, Dusseldorf, Sept 25, 2019.
244. Living Micromachines. Keynote lecture at the 2nd World Summit on Advances in Science, Engineering and Technology, Indiana University-Purdue University, October 3-4, 2019, Indianapolis.
245. Emergent living machines. Distinguished lecture, School of Aerospace and Mechanics, Tsinghua University, Oct 9, 2019.
246. Engineered living machines. MIT-Tsinghua International Workshop on Engineering and Manufacture of Living Systems. Oct 9-11, Wenjin Hotel, Bejing, 2019.
247. Tensional pathway to neuronal function. Keynote lecture, Annual Conference of the Society of Engineering Science, St Louis, Oct 13-15, 2019.
248. Living Machines. Mechanical Engineering Seminar, Texas A&M University, October 16, 2019
249. Living machines. Mechanical Engineering Seminar, Khalifa University of Science and Technology, Abu Dhabi, UAE. Oct 27, 2019.
250. Emergent living machines. Mechanical Engineering, EPFL, Lausane, Switzerland, Oct 31, 2019.
251. Emergent living machines. 2019 CCBM Workshop on Emerging Themes in Cellular and Biomolecular Machines, November 8-9, 2019, University of California, Merced and Yosemite National Park/Yosemite Valley Lodge.
252. Force pathway to synaptic clustering at the neuro-muscular junctions of embryonic flies. Max Planck Institute for Medical Research, Heidelberg, Germany, Nov 4, 2019
253. Emergent living machines. Max Planck Institute, Stuttgart, Germany, Nov 5, 2019

254. Keynote lecture: Force pathway to synaptic clustering at the neuro-muscular junctions of embryonic flies. NanoBio&Med2019 International Conference, Barcelona, Spain, Institute for Bioengineering of Catalonia, Barcelona, Spain, Nov 19-21, 2019.
255. Emergent living machines. IBEC (Institute for Bioengineering of Catalonia) Lecture, Nov 22, 2019.
256. Emergent living machines. Faculty of Physics, Ludwig-Maximilians-University, Munich, Germany, Dec 10, 2019.
257. An in vitro 3D neuro muscular platform reveals crosstalk between neural networks and muscles. Biophysical Society Meeting (Bioengineering Subgroup meeting, 2/15/20), February 15-19, San Diego, California, 2020.
258. COVID 19: can home-made masks help? Edward M Kennedy Center, May 11, 2020 (by zoom).
259. COVID 19: can home-made masks help? Science for Humanity Series, UC Merced, May 28, 2020 (zoom).
260. 3D in vitro neuro muscular platform offers design guides for intelligent biohybrid robots. International Conference on Manipulation, Automation and Robotics at Small Scales (MARSS), July 19-23, 2020, Toronto, Canada (cancelled due to COVID).
261. Living robotics. EML (Extreme Mechanics Letters) Webinar series, Organized by Prof Zhigang Suo, Harvard University. Aug 5, 2020 (zoom).
262. Emergent Living Robotics. Departmental seminar (via zoom), Sibley School of Mechanical and Aerospace Engineering, Cornell University, Sept 8, 2020.
263. Emergent Living Robotics. Departmental seminar (via zoom), Department of Mechanical & Aerospace Engineering, Rutgers University, Sept 23, 2020.
264. Emergent living robotics. Plenary lecture, Society of Engineering Science Meeting 2020, Engineering Science Medal Symposium, Oct 1, 2020 (zoom).
265. Miniature neuro-machinery with large potentials. Miniature Brain Machinery lecture, UIUC, Oct 21, 2020.
266. Invited lecture at the 2021 Materials Research Society Spring Meeting (virtual), "Low-temperature time-dependent ductility in single crystal silicon at micro scale", Apr 20, 2021.
267. Biohybrid robotics – opportunities and challenges. 2021, NSF Workshop on Multi-Cellular Engineered Living Systems, June 1-3, 2021 (virtual), organized by MIT.
268. Biohybrid robotics – Opportunities and Challenges. Agricultural and Biological Engineering Dept Seminar, UIUC, Feb 25, 2022.
269. Bio-inspired soft suction cups under-water. US National Congress of Theoretical and Applied Mechanics, (June 21), Austin, Texas, June 19-24, 2022.
270. Architected biomaterials manufactured by living cells. IUTAM Symposium - Multiscale architecting of microstructures of solids, Institute of Mechanics, Beijing, from 26-28 June 2022 in hybrid format.
271. Small living machines: lessons learnt and future potentials. 9th World Congress of Biomechanics 2022 Taipei, 10-14 July, 2022. Presentation via zoom.
272. Biohybrid robots – a few lessons learned, a few challenges to overcome. Manipulation, Automation and Robotics at Small Scales (MARSS 22), July 25-28, 2022, University of Toronto, Canada
273. Biohybrid robots that emerge, are autonomous, and may learn. Manipulation, Automation and Robotics at Small Scales (MARSS 22), July 25-28, 2022, University of Toronto, Canada.
274. Disorder-to-order Transition in Multi-cellular Systems. 8th Asian Pacific Congress on Computational Mechanics, Yokama, Japan, July 31-Aug 5, 2022 (virtual).
275. Under-water Suction Cups – How Octopus Uses Water as a Glue . 16th International Symposium on Functionally Gradient Materials, Hartford, Connecticut, Aug 8-10, 2022. Symposium in honor of Prof Glaucio Paulino's induction to the National Academy of Engineering during 2021.
276. Multi-cellular biohybrid robots - a few lessons learned, a few challenges to overcome. IGB Faculty Spotlight Lecture, 8/23/22.
277. Disorder to order transition in living cells. CellPhys 22, Organized by Weismann Institute, Ein Gedi, Israel, Sept 11-17, 2022.
278. Order from Chaos in living cells, Mechanics of Engineered Nanomaterials for Energy and Environmental Applications Webinar series, MIT. Sept 30, 2022
279. Water as a glue – the art of attachment underwater. INM-UCSB Workshop on Designed Materials and Microstructures, Loma Pelona Center, UCSB, Santa Barbara, California, October 5-7, 2022.
280. Engineering Cognitive Biological Machinery. TERMIS-AP (Tissue Engineering and Regenerative Medicine International Society – Asia Pacific Chapter), Jeju, South Korea, October 5-8, 2022. Jeju, South Korea.

281. Cells in 3D matrix: Order from randomness (Keynote lecture), Society of Engineering Science Annual Technical Meeting, Texas A&M, College Station, TX, Oct 16-19, 2022.
282. Cell Force at the Core of Health and Disease (Keynote lecture), Society of Engineering Science Annual Technical Meeting, Texas A&M, College Station, TX, Oct 16-19, 2022.
283. Water as a glue. Drucker symposium in honor of Horacio Espinosa, International Mechanical Engineering Congress & Exposition, 2022, Greater Columbus Convention Center, Columbus, OH, Oct 30-Nov 3, 2022.
284. Emergent biohybrid machines. Bioengineering Department Seminar, Nov 30, 2022.
285. Living machines and materials. Mechanical Engineering Seminar, Korea Institute of Science and Technology (KAIST), Feb 23, 2023.
286. Living machines and materials. Materi
als Science Seminar, Seoul National University (SNU), Feb 24, 2023.
287. Phase transition in multicellular systems. Workshop on --- JN symposium, Texas A&M University and Convention Center, Aug 9-11, 2023.
288. Disorder to order transition in multicellular systems through dynamic nonlinear elastic interactions. Euromech Colloquium 638, Cellular Mechanobiology and Morphogenesis, 21– 24 August 2023, Sirmione, Lake of Garda, Italy.
289. Art of attachment on rough surfaces under water - lessons from octopus. Eringen Medal Symposium, Society of Engineering Science Annual Meeting, Minneapolis, Minnesota, Oct 9-11, 2023.
290. Keynote lecture: Exercise and mental health – an unexplored biomechanics link. Society of Engineering Science Annual Meeting, Minneapolis, Minnesota, Oct 9-11, 2023.
291. Keynote lecture: An In vitro model of neuro-muscular junction. Biomedical Engineering Society Meeting, Oct 11-14, Seattle, WA.
292. Plenary lecture (Materials Division): Living machines and materials. ASME International Mechanical Engineering Congress and Exposition (IMECE) 2023, Oct 24-Nov 3, New Orleans.
293. Mechanical Engineering Seminar: Emergent biohybrid machines and Materials. Arizona State University, Nov 17, 2013.
294. Invited lecture in Gordon meeting on robotics: Intelligent emergent living robots. Jan-14-2024 - Jan-19-2024, Four Points Sheraton / Holiday Inn Express, Ventura, California, United States.
295. Mechanical Engineering Seminar, Stanford University: Living machines. Feb 8, 2004.
296. Mechanical and Civil Engineering seminar, Northwestern University: Living machines and materials. Feb 15, 2024.

Patents

1. Saif, M. T. A., and N. C. MacDonald, “Microelectromechanical Integrated Micro Loading Device,” U.S. Patent No. 5,786,621, July 28, 1998
2. Saif, M. T. A., T. Huang, and N. C. MacDonald, “Micromotion Amplifier,” U.S. Patent No. 5,862,003, Jan. 19, 1999
3. Saif, M. T. A., and N. C. MacDonald, “Micromotion Amplification Based Sensors,” U.S. Patent No. 6,183,097 B1, Feb. 6, 2001
4. Haque, A. and M. T. A. Saif, “Tensile Testing of Submicron Scale Freestanding Specimens in SEM and TEM,” U.S. Patent No. 6,817,255 B2, Nov. 16, 2004
5. Han, J., M. T. A. Saif, and M. D. Uchic, "Apparatus and Method for Material Testing of Microscale and Nanoscale Samples," US Patent no: 7,752,916 B2, July 13, 2010.
6. Jagannathan Rajagopalan and M Taher A Saif, “High Aspect Ratio Polymer Elongate And One-Dimensional Microstructure Fabrication”, US 2014/0127508, May 8, 2014.

Improvement Activities

Teaching College - Faculty Development Program, 1997-98
Engineering Faculty Leadership Program, 2011-12.

Conferences Organized or Chaired

- Co-Chair, MEMS Session, MEMS 2000, International Mechanical Engineering Congress and Exposition, Orlando, FL, Nov. 2000
- International Advisory Committee, International Millennium Conference on Housing and Hazards for the Rural Community: Village Infrastructure to Cope with the Environment, Bangladesh University of Engineering and Technology, Dhaka, Bangladesh, Nov. 24-25, 2000; also at Exter, United Kingdom, Dec. 4-5, 2000
- Chair of Session, MEMS Applications, International Mechanical Engineering Congress and Exposition, New York, NY, Nov. 2001
- Served as one of four organizers of the Materials Symposium of the 2003 ASME International Congress and Exposition, Washington, D.C., Nov. 15-21, 2003
- Organizer, NanoFabrication Hands on Training, UIUC, Nov. 2004
- Organizer, MEMS Education Workshop (sponsored by NSF and NASA), Miami, FL, Jan. 2005
- International Advisory Board, International Conference on MEMS and Nanotechnology: Current Challenges and Future Needs, Kaula Lumpur, Malaysia, March 14-15, 2006
- Scientific Committee Member, Third International Conference on Advances in Mechanical Engineering and Mechanics, Hammamet, Tunisia, Dec. 17-19, 2006
- International Scientific Committee, International MEMS Conference, Singapore, May 9-12, 2006
- Mechanics and Nano- and Biosystems Symposium, Society of Engineering Science 43rd Technical Meeting, Pennsylvania State University, PA, August 13-16, 2006
- Member of the IEEE SENSORS Conference Technical Program Committee, 2010-
- Member, Scientific Advisory Board, Singapore-MIT Alliance for Research and Technology (SMART) Center, Infectious Disease Inter-disciplinary Research Group, 2010-date
- Member of UIUC panel evaluating the academic engineering program of Jubail Industrial & University Colleges of the Royal Commission, Jubail, Saudi Arabia, 2011
- Served in the organizing committee of the ASME 2011 Applied Mechanics and Materials Conference, May 30-June 1, 2011, Chicago, IL.
- Co-organizer of the session, Mechanics in Biology and Medicine, at the ASME 2011 Applied Mechanics and Materials Conference, May 30-June 1, 2011, Chicago, IL.
- Co-organizers of the ASME Annual Congress, 2011 (Applied Mechanics Division), Nov 2011.
- Co-organizer of the NSF Workshop on Micro, Nano, Bio Systems: Building on the past and planning for the future, Arlington, VA. March 30-31, 2012.
- Served in the Mechanics in Biology and Medicine Committee under Applied Mechanics Division, ASME, 2012, 13.
- Session organizer at IMECE 2013: Mechanics in Biology and Medicine session until last IMECE.
- Steering committee member of the ASME Global Congress on Nanoengineering for Medicine and Biology, San Francisco, CA, Feb 2-4, 2014.
- Cell-matrix mechanobiology, current state and future direction, Oct 26-28, 2015, University of Illinois.
- Member, International Advisory Committee for the International Conference on Materials and Manufacturing Engineering to be held at Dhaka, Bangladesh, 25-27 December, 2015
- Track Chair, Cancer Technologies, BMES Annual Meeting, Minneapolis, MN, October 5-8, 2016
- Session: Nano-Phenomena in Living Systems, Society of Engineering Science, Northeastern University, Boston, July 25-28, 2017.
- Track Chair, Applied Mechanics Division, ASME, International Mechanical Engineering Congress and Exposition 2020, Oregon, Portland, USA (Virtual due to COVID)

Major Workshops Organized or Co-organized

• Center for Cellular Mechanics Symposium on Cell Mechanics, October 19, 2006, UIUC

• A hands-on summer school on cell mechano-sensitivity for engineers and biologists, July 30 - Aug 3, 2007, Deer Pavilion, UIUC.
• 2009 GEM4 (Global Enterprise for Micro-Mechanics and Molecular Medicine) Hands-on Summer School - University of Illinois at Urbana-Champaign: Cellular and Molecular Mechanics with a focus on Enabling Technologies, UIUC, Feb 2009.
• 2013 GEM4 BioNanotechnology Summer Institute: Cancer Nanotechnology and Cellular Mechanics, July 29th to Friday August 9th, 2013, UIUC;
• Cell-Matrix Mechanobiology – Current state and future directions, Oct 26-28, 2015, UIUC
• Actively participated/co-organized GEM4 summer schools: Cancer, June 25-July 6, 2007, National University of Singapore; Cardiovascular systems, July 25-28, 2008, Caltech; Developmental biology, July 17-28, 2012, MIT.

Graduate Thesis Research Advising

M.S. Thesis Students

Student Name	Year Graduated	Thesis Title	Placement
C. R. Sager (Zayd Leseman)	2000	Adhesion Studies of a Single Living Cell Using MEMS Sensors	Professor, University of New Mexico
Mark Meinhart	2004	Fatigue in MEMS due	Ford
Deepti Tewari	2005	Internal Friction of Resonant Micro Beams	PhD Student, MIT

Ph.D. Thesis Students

Student Name	Year Graduated	Thesis Title	Placement
Md. Amanul Haque	2002	Materials Behavior at Nano Scale Using MEMS Based Micro Instruments	Professor, Penn State University
E. Alaca (H. Sehitoglu, co-advisor)	2003	Fabrication of Directed Nanowire Networks Through Stress-Guided Self-Assembly	Professor, KOC University, Istanbul, Turkey
M. Sulfridge	2003	Optical Actuation of MEMS Devices	Micron
Sathyanarayanan Mani	2006	Transport in Nano Wires	LAM Research
Jong Han	2007	Dissipation Mechanisms in Nano Grained Materials	Dow Corning
Shengyuan Yang	2007	Mechanotransduction in Single Cells	Assistant Professor, Florida Institute of Technology
Jaganathan Rajagopal	2009	Mechanism of Internal Friction of Nano Grained Metals	Assistant Professor, Arizona State University
Wonmo Kang	2012	Mechanics of Microscale Materials	Naval Research Lab
Wylie Ahmed	2012	Role of Tension in Synaptic Development	California State University, Fullerton, CA
Xin Tang	2013	Cancer Cell Adhesion	Assistant Professor, U of Florida
Alireza Tofangchi	2015	Mechanics of Memory and learning	University of Louisville, KY

Student Name	Year Graduated	Thesis Title	Placement
Sandeep Anand	2015	Emerging behavior of cellular clusters: neuro muscular junction	Intel Corp
Muhammad Yakut Ali	2015	Emerging behavior of cellular clusters: axonal guidance	Intel Corp
Samantha Knoll	2016	Local dynamics in living cells	Monsanto
Brian Williams	2016	Force mediated cell growth Biological machines	Lam Research
Anthony Fan	2018	A tensed pathway to vesicle clustering	Dow Corning
Mohamed Elhebeary	2019	Mechanical behavior of nano scale single crystal silicon	Intel Corporation
Onur Aydin	2021	Biological machines with neuromuscular junction	Post doc, IGB, UIUC
Md Abul Bashar Emon	2023	Towards understanding the role of cellular force in cancer progression	Post doc in Saif lab, UIUC
Umnia Doha	2023	Emergence of collective behavior and phase transition in multicellular systems through long range mechanical interaction	Post doc, IGB, UIUC
Md Saddam Hussain Joy	2024 (estimated)	Neuro-mechanics	
William Drennan	2025 (estimated)	In vitro exercise platform	
Ki Yun Lee	2024 (estimated)	Exercise effect on hippocampal neurons	
Abdallah Aly	2027 (estimated)	Liquid suction cups	

Post-doctoral Associates and Visiting Scientists

Name	Title	Country of Origin	Permanent Employer	Years
Onur Aydin	Post Doc	Turkey		2021-
Zhengwei Li	Post doc	China		2016-2020
Alireza Tofangchi	Post Doc	Iran		2016-17
Emerson de Sousa	Post Doc	Brazil		2009-12
Jagannathan Rajagopalan	Post Doc	India	Arizona State University	2009-11
Ibrahim Khan	Visiting Scholar	Pakistan	COMSATS	2009-10
Shabana Afsar	Visiting Scholar	Pakistan	COMSATS	2010
Ji Ma	Post Doc	China		2012-13

International Doctoral committees **Final Exam Date**

Outside UIUC

Doctoral Candidate

Michael Coulombier (Université catholique de Louvain, Belgium) Oct/2011

Waqas Waheed, Mechanical Engineering, Khalifa University, Abu Dhabi Oct 27, 2019

Rafael Mestre Castillo, Physics, University of Barcelona, Spain Nov 26, 2020

Sina Zarepakzad, Mechanical Engineering, Koc University, Turkey Feb 23, 2024

Grants, contracts and gifts

For Research

Years (Inclusive)	Brief Title or Description	Source of Funds	Total Funding	Funds Allocated to Saif	#PI's and lead PI if not Saif
97 to 00	Integrated Mesoscopic Cooler Circuits / M. L. Philpott, M. A. Shannon (M. T. A. Saif is a faculty associate.)	DARPA	$3,991,118	$213,101	2/M. L. Philpott
98 to 99	Noninvasive Analysis and Manipulation of Single Cells Using MEMS Actuators / Co-PI: M. Wheeler (Animal Sci.)	NSF	$65,000	$30,000	3/L. Allen (M&SE)
98 to 03	NSF Faculty Early Development (CAREER) Award: Interface and Reliability Studies of MEMS and Microelectronics Using New MEMS Instruments	NSF	$230,000	$230,000	1
98 to 99	Fatigue Mechanisms in Thermal Actuators	Kodak	$20,000	$20,000	1
98 to 99	NSF Faculty Early Development (CAREER) Award: Interface and Reliability Studies of MEMS and Microelectronics Using New MEMS Instruments	NSF (Matching Fund)	$20,000	$20,000	1
99 to 00	NSF Faculty Early Development (CAREER) Award: Interface and Reliability Studies of MEMS and Microelectronics Using New MEMS Instruments	NSF (Matching Fund)	$20,000	$20,000	1
99 to 00	Study of Single Living Cells and Materials at Micron to Submicron Scale Using MEMS Instruments	Campus Research Board	$25,000	$25,000	1
00 to 03	Bi-Stable MEMS for Non-volatile Information Storage and Opto-mechanical Computing in Harsh Environments / Co-PI: N. R. Miller	NSF	$336,000	$168,000	2
01 to 04	Biomems Based Micro Instrumentation for In-Situ	NSF	$239,907	$239,907	1

Years (Inclusive)	Brief Title or Description	Source of Funds	Total Funding	Funds Allocated to Saif	#PI's and lead PI if not Saif
	Quantitative Investigations of Adhesion, Structural Mechanics				
02 to 03	Self Assembled Nano Wires / Co PI: H. Sehitoglu	NSF SGER	$80,000	$40,000	2
02 to 05	In-Situ TEM and SEM Studies of Fundamental Deformation and Failure Processes of Nano-Grained FCC Metals Using MEMS Stages / I. M. Robertson (MSE)	NSF	$405,000	$202,500	2 /I. M. Robertson
03	Self Assembled Nano-Wires	M&IE Gauthier Program for Exploratory Studies	$25,000	$25,000	1
03 to 06	Effect of Grain Boundary and Size on Electro-Thermo-Mechanical Properties and internal Friction of Nano Grained Thin Metal Films	NSF	$356,000	$356,000	1
05 to 06	Novel Test Methodology for High Temperature Micro-and Nano-Tensile Testing	AFOSR	$69,307	$69,307	1
05 to 06	Soybean Disease Biotechnology Center III – Development of Nanoelectromechanical Systems (NEMS) for the Study of Gaeumannomyces graminins Infection and Pathogenesis	Agr Engr/UIUC	$10,625	$10,625	2 / Wilkinson
05 to 06	Soybean Disease Biotechnology Center III	OVCR/Agr Engr	$30,000	$20,000	2 / Wilkinson
05 to 06	Effect of Grain Boundary and Size on Electro-Thermo-Mechanical Properties and Internal Friction of Nano Grained Thin Metal Films Using MEMS Devices	NSF	$29,000	$29,000	1
05 to 08	Thermo Mechanical Studies of Cells with Nano Probes on A Si Substrate	NSF	$225,000	$225,000	1
07 to 08	Thermo Mechanical Studies of Cells with Nano Probes on a Si	NSF REU Supplement	$12,000	$12,000	1
07 to 09	Thermo Mechanical Studies of Cells with Nano Probes on a Si Substrate	NSF IREE	$26,750	$26,750	1
07 to 10	A Nanomechanical Approach to Understanding Metastasis through Cell Adhesion Measurement	NSF	$300,000	$197,200	2
07 to 10	Interplay between In-homogeneity and Size Scale of Microstructure - A New Paradigm in the Mechanistic Exploration of Nano Grained Metal Deformation	NSF CMMI	$335,000	$335,000	1

Years (Inclusive)	Brief Title or Description	Source of Funds	Total Funding	Funds Allocated to Saif	#PI's and lead PI if not Saif
08	Towards a Neuro-mechanical Synapse	UIUC Campus Research Board	$11,586	$11,586	1
08 to 11	Towards a Neuro-mechanical Memory Element	NSF	$330,000	$330,000	2
08 to 11	Understanding Force-induced Learning and Memory	NSF CMMI	$320,000	$320,000	1
08 to 12	Does Mechanical Force Initiate, Enhance and Repair Neural Connectivity	NIH RO1	$800,000	$200,000	4
09 to 12	Mechanical Control of Cell Growth and Differentiation	NIH R01 supplement	$159,333	$159,333	1
10 to 13	Regulation of Cancer Cell Metastasis by Mechanical Force	NSF	$360,000	$230,000	2
10 to 15	NSF IGERT: Training the Next Generation of Researchers in Cellular & Molecular Mechanics and Bionanotechnology	NSF IGERT	$3,200,000	$400,000	5/Rashid Bashir
08 to 12	Micro and Nano-mediated 3D Cardiac Tissue Engineering	ARMY	$2,546,000	1 Post Doc Salary $40k/year	5/Rashid Bashir
10 to 15	NIH Midwest Cancer Nanotechnology Training Center (M-CNTC)	NIH Training Grant	$216,0000	$187,825	7/Rashid Bashir
11 to 14	Exploring Size Dependent Brittle-to-Ductile Transition in Single Crystal Silicon Using High Temperature MEMS	NSF ECCS	$360,000	$360,000	1
12-13	Metastasis on a dish	IN3, UIUC	$100,000	$100,000	2
12-13	Understanding force induced memory and learning, NSF CMMI 08-00870	NSF REU	$12,000	$12,000	1
13-18	Exploring the impact of mechanical force on synaptic functions using novel approaches	NSF	$390,000	$360,000	2
10 to 20	Emergent Behaviors of Integrated Cellular Systems	NSF STC	$50,000,000	$1,600,000	30/Roger Kamm of MIT

Years (Inclusive)	Brief Title or Description	Source of Funds	Total Funding	Funds Allocated to Saif	#PI's and lead PI if not Saif
16 to 20	Effect of Small Size, Stress Localization And Stress Gradient On The Strength Of Silicon	NSF CMMI	$355,688	$355,688	1
17 to 20	Exploring Cell-Cell Gap as a Critical Parameter in Biological Phase Changes	NSF CMMI	$297,204	$297,204	1
18 to 20	Exploring Cell-Cell Gap as a Critical Parameter in Biological Phase Changes	NSF CMMI (REU)	$15000	$15000	1
18 to 20	Effect of Small Size, Stress Localization And Stress Gradient On The Strength Of Silicon	NSF CMMI (REU)	$15000	$15000	1
18-20	A Novel Sensor for 3D Biomimetic Tumor Tissues	Mayo Clinic	$15000	$15000	1
18-22	An integrated approach towards computational design, fabrication and understanding of bio-hybrid soft architectures capable of adaptive behavior	NSF EFRI	$2,000000	$366637	5
19-21	In vitro platform for exploring muscle-neuron interactions	NIH NINDS	$396872	$150000	2
19-20	A 3D in vitro biomimetic tumor microenvironment integrated with a micro sensor platform for high throughput biophysical, genomic and radiation studies	Illinois Cancer Center	$25000	$25000	3
19-22	Force pathway to synaptic vesicle clustering in embryonic fruit fly neuro muscular junctions	NSF BMMB	$737193	$400000	3
19-22	An ultra-sensitive micro sensor for biophysical studies of single cells cultured in 3D extracellular matrix	NSF ECCS	$404976	$404976	1
19-22	REU Supplement: An ultra-sensitive micro sensor for biophysical studies of single cells cultured in 3D extracellular matrix	NSF ECCS	$16,000	$16,000	1

Years (Inclusive)	Brief Title or Description	Source of Funds	Total Funding	Funds Allocated to Saif	#PI's and lead PI if not Saif
21-23	FORce control of Cancer tumor µEnvironment (FORCE)	Illinois Cancer Center	$200K	$200K	2
22-24	Engineering Mechanical and Chemical Gradients to Control Cancer Cell Metastasis	Illinois Cancer Center	$200K	$100K	2/Murphy
22-22	Addition of Live Confocal Imaging Modality to an Existing Inverted Biological Microscope	GCOE Instrument Grant	$90K	$90K	3/Saif
22-29	Mind in vitro – Computing with living neurons	NSF CISE	$15M	$800K	15/Gazzola
10/1/23 -9/30/25	Design of an Extracellular Vesicle Approach to Protect Human Health in Space	Translational Research Institute for Space Health (TRISH)	$1.1M	$111K	6/Boppart
07/1/23 -06/30/24	Redox Dynamics in Instrumented NMJ: Function and Inflammation	Chan-Zuckerberg Biohub Chicago	$500,000	$100K	6/Bashir

For Instruction

Years (Inclusive)	Brief Title or Description	Source of Funds	Total Funding	Funds Allocated to this prof	#PI's and lead PI if not this prof
98 to 02	MEMS Video Instructional Unit	NSF (REU)	$30,000	$30,000	1
99 to 01	MEMS Instructional Laboratory / M. A. Shannon (PI), M. L. Philpott (Alternate PI), I. Adesida, L. H. Allen, N. R. Aluru, D. J. Beebe, J. J. Coleman, C. Liu, and L. M. Phinney	Intel and College of Engineering, UIUC	$150,000	0	10/M. A. Shannon
07 to 08	A Hands-on Summer School on Cell Mechanics for Engineers and Biologists	NSF	$30,685	$30,685	1
08 to 13	Gem4 Summer School on Cellular and Molecular Mechanics	NSF	577,271	0	2/Hsia

Service

To the Mechanical Science and Engineering Department

Engineering Open House Committee, 1997-1998
Seminar Committee, 1997-03; Chair, 1999-2003, 2009-11
MMS Laboratory Transition Committee, 2001-date
MMS Laboratory Oversight Committee, 2002-date
Advisory Committee, 2003-date; Chair, 2004-2005, 2007-2008
Graduate Policy Committee, 2003-2005
Graduate Admissions Committee, 2003-2005
Graduate Admissions Committee, 2007-date
Graduate Programs Committee, 2007-2008
Ad Hoc Committee on the Future of Mechanics, 2007-2009
Faculty Recruiting Committee, 2007-2010, 2011-
Ad Hoc Committee on Nanocourse Development, 2008
Ad Hoc Committee on Undergraduate Course Design, 2008
MechSe Faculty Advisory committee, 2009-11
MechSe Named Appointment Committee, 2010-2012.
MechSE Head Search Committee, 2014-15
Chair, Seminar Committee, 2015
Associate Head for Graduate Programs and Research, 2015-2020
Promotions and Tenure Committee, 2011-2022
Faculty search Committee, 2014-present
Chair, Seminar Committee, 2022-present
Member, Named Appointment Committee, 2023 -

To the College of Engineering, UIUC

Micro Nanotechnology Laboratory Building Committee, 2002-2004
Nanotechnology Seminar Committee, 2002-date
Innovation Leadership Advisory Board (ILAB)
Search Committee for MNTL Director, 2007
Director, Center for Cellular Mechanics
MechSE Head Search Committee, 2008-2009
Committee on Endowed Appointments, College of Engineering (2011-12)
MechSE Head Search Committee, 2014-15
Faculty Recruiting Committee for the Grainger Engineering Breakthrough Initiative, 2012-present

To the University

Steering Committee Member and UIUC Representative, GEM 4 (Global Enterprise for Micro Mechanics and Molecular Medicine)
Executive Committee Member, NSF Science and Technology Center (EBICS), 2010-date
Faculty advisory committee to the Vice Chancellor for Research, 2011-13
Dean Search Committee, College of Veterinary Medi cine, 2012
Faculty Advisory Committee, UIUC, 2020-22

To Federal Agencies

Review panelist, NSF PFET Electrical and Communications Systems (ECS), Nanoscale Science and Engineering Initiative, Washington, D.C., Feb. 2001
Served as a Member of the Committee of Visitors (COV), ECS, NSF, Sept. 9-10, 2002
Review panelist for NSF's CAREER Panel, Electrical and Communications Systems (ECS), 1997, Nov. 1998, Nov. 1999, Nov. 2000, Nov. 2001, Oct. 20-21, 2003, Nov. 8-9, 2004

NSF ECS (Electrical and Communications Systems) Review Panelist, 1997, March 1998, June 1998, Feb. 2001, Jan. 2002
NSF MRI Panel, May 2003
NSF NER Panel, March 2004
Invited Panelist, Discovery Platforms workshop, Sandia National Laboratory, Albuquerque, New Mexico, June 29-30, 2005
Review Panelist, Microscopic Imaging Study Section, National Institute of Health, July 7-8, 2005
Invited Panelist, Integrating and Leveraging the Physical Sciences to Open a New Frontier in Oncology, National Cancer Initiative, Arlington, VA, February 26-28, 2008
NSF CAREER review panel, Nov 2009
NSF panelist, ECCS, CMMI and Bio divisions 2009-present

Reviewer service

Book review:

Introduction of Design, Manufacture and Packaging of Microsystems, Mc-Graw Hill Higher Education, June 1999

Fundamentals of Machine Elements, Hamrock et al, Second Edition, Mc-Graw Hill Higher Education, 2003

Journal Reviewer:

Proceedings of the National Academy of Sciences, USA
Nature Materials
Nature Physics
Nature Communications
Biophysical Journal
International Journal of Solids and Structures
Journal of Micro-Electro-Mechanical Systems
Journal of Engineering Materials
Journal of Materials Research
Review of Scientific Instruments
Journal of Thin Solid Films
Journal of Fluid Mechanics
Journal of Applied Mechanics
Journal of the Mechanics and Physics of Solids