

Biographical Sketch: Shaoping Xiao

The University of Iowa
Department of Mechanical Engineering
Center for Computer-Aided Design
3131 Seamans Center, Iowa city, IA 52242
Work: (319)335-6009, FAX: (319) 335-5669
e-mail: shaoping-xiao@uiowa.edu
<http://www.engineering.uiowa.edu/~sxiao>

Professional Preparation

University of Science and Technology of China	Mechanical and Mechanics Engineering	BS 1995
University of Science and Technology of China	Mechanical and Mechanics Engineering	MS 1998
Northwestern University	Mechanical Engineering	PhD 2002
Northwestern University	Mechanical Engineering	Post Doctorate 2003

Appointments

Assistant Professor	Department of Mechanical and Industrial Engineering, The University of Iowa	2003-2008
Associate Professor	Department of Mechanical Engineering, The University of Iowa	2008-present

Significant Publications

- [1] Ghaffari, Mir Ali, Zhang, Y., Xiao, S. P. "Multiscale modeling and simulation of rolling contact fatigue", *International Journal of Fatigue*, Vol 108, 9-17, 2018
- [2] Ghaffari, Mir Ali, Xiao, S. P. "Smoothed Particle Hydrodynamics with Stress Points and Centroid Voronoi Tessellation (CVT) Topology Optimization", *International Journal of Computational Methods*, Vol 13(6), 1650031, 2016.
- [3] Ghaffari, Mir Ali, Pahl, E., Xiao, S. P. "Three Dimensional Fatigue Crack Initiation and Propagation Analysis of a Gear Tooth Under Various Load Conditions and Fatigue Life Extension with Boron/Epoxy Patches", *Engineering Fracture Mechanics*, Vol 135, 126-146, 2015
- [4] Wei, X. P., Xiao, S. P., Ni, J., "Ice melting speeds at various scales", *Advanced Science Letters*, Vol 17(1), 172-178, 2012
- [5] Ren, B., Qian, J., Zeng, A. K., Xiao, S., and Li, S., "Recent Developments on Thermo-Mechanical Simulations of Ductile Failure by Meshfree Method", *CMES: Computer Modeling in Engineering & Sciences*, Vol 71(3), 253-278, 2011
- [6] Wei, X. P., Xiao, S. P. and Ni, J., "Studies of ice melting using molecular dynamics", *Molecular Simulation*, Vol 36, 823-830, 2010
- [7] Xiao, S. P., Andersen, D. R. and Yang, W. X., "Design and analysis of nanotube-based memory cells", *Nanoscale Research Letters*, Vol 3, 415-420, 2008

- [8] Xiao, S. P., Ni, J. and Wang, S. W., "The bridging domain multiscale method and its high performance computing implementation", *Journal of Nanoscience and Nanotechnology*, Vol. 5, 1220-1229, 2008
- [9] Xiao, S. P. and Hou, W. Y., "Studies of nanotube-based resonant oscillators through multiscale modeling and simulation", *Physical Review B*, Vol 75, 125414, 2007
- [10] Xiao, S. P. and Yang, W. X., "A temperature-related homogenization technique and its implementation in the meshfree particle method for nanoscale simulations", *International Journal for Numerical Methods in Engineering*, Vol 69, 2099-2125, 2007
- [11] Xiao, S. P. and Hou, W. Y., "Fracture of vacancy-defected carbon nanotubes and their embedded composites", *Physical Review B*, Vol. 73, 115406, 2006
- [12] Xiao, S. P. and Belytschko, T., "A bridging domain method for coupling continua with molecular dynamics", *Computer Methods in Applied Mechanics and Engineering*, Vol. 193 (17-20), 1645-1669, 2004
- [13] Belytschko, T, Xiao, S. P., Schatz, G. C., Ruoff, R. S., "Atomistic simulations of nanotube fracture", *Physical Review B*, Vol. 65(23), 235430, 2002

Synergistic Activities

- [1] Member, ASME, USACM, IACM, ASEE
- [2] Reviewer, NSF & other proposals (10), Journal & Conference publications (250), books (2)
- [3] Nanotech Review Committee, (2007-)
- [4] Editorial Board of Dataset Papers in Nanotechnology (2012-)
- [5] Editorial Board of the Journal of Applied Mechanical Engineering (2012-)
- [6] Editorial Board of International Journal of Innovative Studies in Science and Engineering Technology (2015-)
- [7] Editorial Board of International Journal of Mechanical Systems Engineering Technology (2015-)

Collaborators and Other Affiliations

[1] Past Advisors

Xiaojun Wang (Undergraduate and Master advisor, Professor, University of Science and Technology of China)

Ted Belytschko (PhD and Postdoctoral advisor, Professor, Northwestern University)

[2] Students

Wenyi Hou, PhD student, The University of Iowa (graduated in 2006)

Weixuan Yang, PhD student, The University of Iowa (graduated in 2007)

Maciej Rysz, MS student, The University of Iowa (graduated in 2009)

Micheal Lee, undergraduate student, The University of Iowa (graduated in 2009)

Xiupeng Wei, MS student, The University of Iowa (graduated in 2010)

Jing Qian, Postdoc, The University of Iowa (2010)

Cory Nelsen, MS student, The University of Iowa (graduating in 2013)

Ali Ghaffari, PhD student, The University of Iowa (graduating in 2016)

Siamak Attarian, PhD Student, The University of Iowa (2017-)

Others

Chemical Physics Letters most cited paper 2003-2007 award, 2007

Best subcontractor of NextGen Aeronautics, 2006

ASME Certificate of Appreciation, ASME, 2005

Second Old Gold summer fellowship, University of Iowa, 2005

Best paper award of 116th annual meeting, The Iowa Academy of Science, 2004

Old Gold summer fellowship, University of Iowa, 2004

NSF summer institute fellowship, Northwestern University, 2003, 2004, 2006