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Publications and Presentations 2008-2017

Book Chapter

1. F. Akasheh, “Dislocation Dynamics”, Chapter Four in Integrated Computational Materials Engineering (ICME) for Metals: Using Multiscale Modeling to Invigorate Engineering Design with Science, authored/edited by Mark F. Horstemeyer, John Wiley & Sons, Inc., NJ, 2012
2. F. Akasheh and H. M. Zbib, “Multiscale modeling and simulation of deformation in nanoscale metallic multilayered composites”, book chapter, *Multiscale Modeling and Simulation of Composite Materials and Structures*, edited by Young Kwon, David Allen, and Ramesh Talreja, Springer, 2008.

Journal Papers

1. Ioannis N. Masterakos, Firas E. Akasheh, and Hussein M. Zbib, “Treating internal surfaces and interfaces in discrete dislocation dynamics”, *J. Mech. Behav. Mater.* 20, p. 13-20, 2011.
2. H. M. Zbib, C. Overman, F. Akasheh, and David Bahr, “Analysis of plastic deformation in nanoscale metallic multilayers with coherent and incoherent interfaces”, *International Journal of Plasticity*, v 27, n 10, p 1618-1639, October 2011

Proceedings paper (peer-reviewed)

1. F. Akasheh, M. R. Karim, and S. Shao, “Dislocation structure of Cu/Ni (100) semi-coherent Interface and its role in lattice dislocation nucleation, TMS 144th Annual Meeting and Exhibition Supplemental Proceedings, Nanocomposites III, p.145, 2015.
2. Ramachandran, M, Siddique, Z., Okudan Kremer, G.E., and Akasheh, F., 2015, “Bridging Learning Gap Through Peer-to-Peer Information Exchange in a Flat Environment”, Proceedings of the ASME 2015 IDETC, August 2-5, 2015, Boston MA, DETC2015-47379.
3. Siddique, Z., Akasheh, F., and Okudan Kremer, G.E., 2014, “A Flat Learning Environment - Learning To Solve Ill-Structured Problems” 121st ASEE Annual Conference and Exposition, June 15-18, 2014, Indianapolis, IN, Paper ID #10505
4. Siddique, Z., Okudan Kremer, G.E., and Akasheh, F., 2014, “Modeling a flat learning environment as a social network to understand effects of peer-to-peer information exchange on learning”, Proceedings of the ASME 2014 IDETC, DETC2014-34321, Buffalo, NY.

5. Firas Akasheh, Kenneth D. Dawson, and Jonathan Rocha, "Comprehensive approach to teaching dynamics of planar mechanisms based on modern learning theories", Proceedings of the 120th Annual Conference and Exposition, Atlanta, GA, June 23-26, 2013, Paper ID# 7321.
6. Z. Siddique, F. Akasheh, and G. E Kremer, "Enhancing Peer-Learning Using Smart Devices", Proceedings of the 120th ASEE Annual Conference and Exposition, 2013, Paper ID 6142.
7. F. Akasheh, R. Echempati, and A. L. Sala, "Assessment of student learning through homework intervention method", 2012 ASEE Annual Conference and Exposition, AC 2012-3610.
8. Siddique, Z., Saha, M. C., Akasheh, F., Arif, S., and Barua, B., "Scenario-based learning environment to support peer-learning", Proceedings of the ASME 2012 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, DETC2012-70698.
9. Brown, A. O., Jensen, D. D., Rencis, J. J., Wood, K. L., Watson, K. A., Chen, C., Labay, V. A., Orabi, I. I., Akasheh, F. E., Wood, J. J., Hackett, R. K., Jackson, K. S., Liu, J., Schimpf, P. H., Pham, A., Zimowski, K., Taylor, K., "Improving student learning using finite element learning modules, an update in research findings", 2012 ASEE Annual Conference and Exposition, AC 2012-3981
10. Z. Siddique, G. E. Kremer, and F. Akasheh, "Peer Learning Using Smart Devices: A Report on Work-in-Progress", Proceedings of the ASME 2012 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, DETC2013-12383.
11. F. Akasheh and D. Davis, "Undergraduate homework assignments that achieve desired learning outcomes", 2011 ASEE Annual Conference and Exposition, AC 2011-565.
12. M. Saha, Z. Siddique, F. Akasheh, B. Barus, C. Heisser, and S. Arif, "Interactive Scenario Based Teaching of Metal Casting Process", 2011 ASEE Annual Conference and Exposition, AC 2011-937
13. Siddique, Z., Saha, M. C., Barua, B., and Akasheh, F., 2010, "Learning Casting Through Interactively Creating a Scenario", Proceedings of the ASME 2010 International Design Engineering Technical Conferences & Computers and Information in Engineering Conference, DETC2010-28593.
14. Saha, M. C., Siddique, Z., Barua, B., and Akasheh, F., 2010, "Create your Scenario Interactively (CSI) – A Teaching Module for Manufacturing Processes", 2010 ASEE Annual Conference & Exposition, AC 2010-638.

15. F. Akasheh, HM Zbib, S. Akarapu, C. Overman, and D. Bahr, "Multiscale modeling of dislocation mechanisms in nanoscale multilayered composites", Mater. Res. Soc. Symp. Proc. Vol. 1130, W13-01, 2009.

Presentation at conferences

1. F. Akasheh, Mohammad R. Reza¹, Shuai Shao, Richard Glaze, Shakila Taylor, Jeremiah Tyson, "Dislocation Structure of Cu/Ni (100) semi-Coherent Interface and its Role in Lattice Dislocation Nucleation", TMS 2015, 144th Annual Meeting and Exhibition, March 15-19, Orlando, Florida, USA
2. M. R. Karim, A. Stukowski, and F. Akasheh, "On the strength and dislocation mechanisms in semi-coherent nanoscale metallic laminates", Oral Presentation at MRS Fall 2013 Meeting, December 2-6, Boston, MA, USA.
3. F. Akasheh, K. D. Dawson, and J. Rocha, "Comprehensive approach to teaching dynamics of planar mechanisms based on modern learning theories", Poster Presentation at ASEE 2013, 120th Annual Conference and Exposition, Atlanta, GA, June 23-26, 2013, Paper ID# 7321.
4. Z. Siddique, F. Akasheh, and G. E Kremer, "Enhancing Peer-Learning Using Smart Devices", Poster Presentation at , ASEE 2013, 120th Annual Conference and Exposition, Atlanta, GA, June 23-26, 2013, Paper ID 6142.
5. F. Akasheh and Bin Li, "Atomistics analysis of dislocation structure and mechanisms in semi-coherent nanoscale epitaxial laminates", Oral Presentation at TMS 2013, 142nd Annual Meeting and Exhibition, March 3-7, San Antonio, Texas, USA
6. F. Akasheh, A. Biddle, W.S. Shepard Jr., and B.B.B. Zhang, "Beam Structure as an Acoustic Wave Sensor: a Study of the Effect of Sensor Design on its Sensitivity to Noise" Oral Presentation at Comsol User Conference, Boston, 2010.
7. M. Saha, Z. Siddique, and F. Akasheh, "Create your scenario interactively (CSI)- A teaching module for manufacturing processes", 2010 ASEE Annual Conference and Exposition, June 20-24, Louisville, KY.
8. F. Akasheh, C. Overman, HM Zbib, and D. Bahr, "Analysis of the mechanical behavior and dislocation mechanisms in trimetallic nanolaminates", Oral Presentation at MRS Fall Meeting, Nov 30-Dec 4, 2009, Boston, MA, USA.

