Haim Waisman

Education

Ph.D. in Civil Engineering (Computational Mechanics) Jan 2002-Dec 2005
Rensselaer Polytechnic Institute, Troy, NY
M.Sc. in Aerospace Engineering (Structures), Oct 1999-Dec 2001
Technion-Israel Institute of Technology, Haifa, Israel
B.Sc. in Aerospace Engineering, Oct 1995-Jun 1999
Technion-Israel Institute of Technology, Haifa, Israel

Academic Experience

Associate Professor Jul 2013-present
Department of Civil Engineering and Engineering Mechanics, Columbia University, NY
Assistant Professor Jul 2008-Jun 2013
Department of Civil Engineering and Engineering Mechanics, Columbia University, NY
Postdoctoral Research Fellow Sep 2006-Oct 2007
Mechanical Engineering Department, Northwestern University, Evanston, IL
Postdoctoral Research Fellow Nov 2005-Aug 2006
Scientic Computation Research Center (SCOREC), Rensselaer Polytechnic Institute, Troy, NY
Summer Student Internship Program summer of 2002, 2003, 2004
Computer Science Research Institute (CSRI), Sandia National Labs, Livermore, CA

Non-academic Experience

Senior Research Scientist, Oct 2007-May 2008
Global Engineering and Materials Inc., Columbia, MD

Certifications or Professional Registrations

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Current Membership in Professional Organizations

Member of the American Association of Civil Engineers (ASCE)
Member of the American Association of Mechanical Engineers (ASME)
Member of the United States and International Associations for Computational Mechanics (USACM), (IACM)

Honors and Awards

EMI Leonardo da Vinci Award, the ASCE-Engineering Mechanics Institutee, Aug 2014.
DOE-Early Career Award, Department of Energy, Advanced Scientific Computing Research (ASCR) program, May 2012.
Finalist, The 18th Robert J. Melosh medal competition, Duke University, NC, Apr 2018
Best Paper Award, 10th Copper Mountain Conference on Iterative Methods, Copper Mountain, CO, Apr 2006
Best Paper Award, 12th Copper Mountain Conference on Multigrid Methods, Copper Mountain, CO, Apr 2005

Gutwirth Fellowship Award, Technion-Israel Institute of Technology, 2000-2001

Service Activities (within and outside of the institution)

Department representative to Committee on Instruction (COI) at the SEAS, 2012-2016.
Member of the department Graduate Committee (2009-present).
Deparmental faculty search committees (2010, 2013, 2016).
Associate Editor, ASCE-Journal of Engineering Mechanics, Jan 2017-present
Chair of the technical committee, the 13th World Congree on Computational Mechanics, NYC, Jul 2018.
Elected chair of the Computational Mechanics committee at the ASCE-Engineering Mechanics Institute (EMI), Sep 2017-present
Selected to serve on a Technical Thrust Area for Manufacturing and Materials Processing at the United States Association for Computational Mechanics (2016-present)
Scientific exhinitor, Science Expo at the School at Columbia (K-8), Feb 2014, Feb 2016, Apr 2018

Important Publications and Presentations from the Past Five Years

- M. Mobasher, L. Berger-Vergiat and H. Waisman, Non-local formulation for transport and damage in porous media, Computer Methods in Applied Mechanics and Engineering, 324: 654-688, 2017.
- M. Arriaga and H. Waisman, Combined stability analysis of phase-field dynamic fracture and shear band localization, International Journal of Plasticity, 96:81-119, 2017.
-Y. Wang and H. Waisman, Material dependent crack-tip enrichment functions in XFEM for modeling interfacial cracks in bimaterials, International Journal for Numerical Methods in Engineering, 12(11):1495-1518, 2017.
- L. Berger-Vergiat and H. Waisman, Domain Decomposition based preconditioners for monolithic solution of Shearbands, Computer Methods in Applied Mechanics and Engineering, 318:33-60, 2017.
- J. Wu, C. McAuliffe, H. Waisman and G. Deodatis, Stochastic analysis of polymer composites rupture at large deformations modeled by a phase field method, Computer Methods in Applied Mechanics and Engineering, 312:596-634, 2016.
- J. Londono, L. Berger-Vergiat and H. Waisman, A Prony-series type viscoelastic solid coupled with a continuum damage law for polar ice modeling, Mechanics of Materials 98(81-97), 2016.
- B. Sun, H. Waisman, Optimization of Carbon Black Polymer Composite Microstructure for Rupture Resistance, Journal of Applied Mechanics 84(2), 021005 (2016).
- M. Mobasher, R. Duddu, J. Bassis and H. Waisman, Modeling hydraulic fracture of glaciers using continuum damage mechanics, Journal of Glaciology 62(234), 794-804 (2016).
- K. James and H. Waisman, Layout design of a bi-stable cardiovascular stent using topology optimization, Computer Methods in Applied Mechanics and Engineering 305, 869-890 (2016).
-Y. Wang and H. Waisman, From diffuse damage to sharp cohesive cracks: a coupled XFEM framework for failure analysis of quasi-brittle materials, Computer Methods in Applied Mechanics and Engineering, 299, 57-89 (2016).

Recent Professional Development Activities

Chair of the Technical Committee 13th World Congress of Computational Mechanics (WCCM), to be held in New York City, Jul 2018.
Co-Chair of the Workshop for High-Fidelity Simulation Based Virtual Testing of Composite Materials and Structures, Coral Gables, FL, Apr 2016.