

Stavros Gaitanaros

Assistant Professor, Department of Civil Engineering
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Research Interests

Mechanics and Computational Modeling of Cellular Materials, Structural Stability, Impact Dynamics and Energy Absorption, Structural DNA Nanotechnology

Education

- Ph.D. Engineering Mechanics**, University of Texas at Austin 2014
Advisor: S. Kyriakides
Dissertation: “On the quasi-static and dynamic crushing of random foams”
- M.Sc. Mechanical Engineering** University of Thessaly 2007
Advisor: C. Papadimitriou
Dissertation: “Crack identification in structures using optimal sensor locations”
- Diploma Mechanical Engineering** University of Thessaly 2005
Advisor: C. Papadimitriou
Dissertation: “Dynamic system analysis and identification”

Professional Experience

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|---|---|-------------------|
| Johns Hopkins University
Department of Civil Engineering | Assistant Professor | 08/2015 - present |
| Massachusetts Institute of Technology
Department of Biological Engineering
Laboratory for Computational Biology and Biophysics | Postdoctoral Associate | 05/2014 - 07/2015 |
| University of Texas at Austin
Center for Mechanics of Solids, Structures and Materials | Research Assistant | 09/2007 - 09/2012 |
| University of Thessaly
System Dynamics Laboratory | Research Assistant | 2004 - 2007 |
| IMAS S.A. | Mechanical Engineering Summer Intern | 08/2003 & 08/2004 |

Honors – Awards

- 3rd place award in Best Student Paper contest, ASME-AMD, IMECE 2012
- “Highly Commended”, Student Paper Competition, SES 50th Annual Technical Meeting
- Max L. Williams Endowed Graduate Fellowship in Mechanics of Solids, Structures, and Materials, The University of Texas at Austin
- Hellenic Professional Society of Texas Scholarship
- Haythornthwaite Foundation Travel Award
- Professional Development Award, The University of Texas at Austin
- University Preemptive Fellowship, The University of Texas at Austin
- Deligiorgi Foundation Scholarship, University of Thessaly

Professional Service and Activities

Reviewer: International Journal of Solids and Structures, Nature Scientific Reports
Journal of Aerospace Engineering, Materials Performance and Characterization

Member: American Society of Mechanical Engineers (ASME), American Physical Society (APS),
Engineering Mechanics Institute (EMI), Society of Engineering Science (SES)

Teaching Experience

Johns Hopkins University

EN 560.604 Solid Mechanics for Structures (graduate) Fall 2015

University of Texas at Austin

Assistant Instructor Fall 2012 - Spring 2014

EM 319 Mechanics of Solids (lower undergraduate)

Teaching Assistant Fall 2007 - Spring 2012

EM 306 Statics (lower undergraduate), EM 319 Mechanics of Solids (lower undergraduate),

EM 311 Dynamics (lower undergraduate), ASE 324 Structural Analysis (upper undergraduate)

Selected Journal Publications

1. **Gaitanaros S.**, Kyriakides S., Kraynik A.M. (2012) “On the crushing response of random open-cell foams”, *International Journal of Solids and Structures* **49**, 2733-2743.
2. Barnes A.T., Ravi-Chandar K., Kyriakides S., **Gaitanaros S.** (2014) “Dynamic crushing of aluminum foams Part I - Experiments”, *International Journal of Solids and Structures* **51**, 1631-1645.
3. **Gaitanaros S.**, Kyriakides S. (2014) “Dynamic crushing of aluminum foams Part II - Analysis”, *International Journal of Solids and Structures* **51**, 1646-1661.
4. **Gaitanaros S.**, Kyriakides S. (2015) “On the effect of relative density on the crushing and energy absorption of open cell foams under impact”, *International Journal of Impact Engineering* **82**, 3-13.
5. Wang P., **Gaitanaros S.**, Lee S., Bathe M., Shih W.M., Ke Y. “Programming self-assembly of two-dimensional DNA origami lattices and plasmonic metamaterials” (2016)

Presentations (* invited)

2015 * Johns Hopkins University, Department of Civil Engineering

2015 * Drexel University, Department of Mechanical Engineering and Mechanics

2014 * 17th US National Congress on Theoretical & Applied Mechanics

2013 Society of Engineering Science 50th & ASME-AMD Annual Summer Meeting, Providence, RI

2013 IUTAM Symposium on Materials and Interfaces under High Strain Rate and Large Deformation, Metz, France

2013 International Mechanical Engineering Conference & Exposition, ASME, San Diego, CA

2012 International Mechanical Engineering Conference & Exposition, ASME, Houston, TX

2012 8th European Solid Mechanics Conference, Graz, Austria