

Curriculum Vitae

Nikolaos Vasios

About / Contact Information



Harvard University

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Education

Harvard University, John A. Paulson School of Engineering and Applied Sciences

📍 Cambridge, MA, USA

Ph.D. Candidate in Engineering Sciences

📅 2015 – Present

Concentration: Materials Science and Mechanical Engineering

Advisor: Prof. Katia Bertoldi

Harvard University, John A. Paulson School of Engineering and Applied Sciences

📍 Cambridge, MA, USA

M.Sc. in Materials Science & Mechanical Engineering

📅 2015-2017

University of Thessaly, School of Engineering, Department of Mechanical Engineering

📍 Volos, Greece

Diploma in Mechanical Engineering

📅 2010 – 2015

5 yr curriculum (US Equivalent: B.Sc. + M.Sc.)

GPA: 8.77/10, (*Honors*)

Concentration: Computational Solid and Continuum Mechanics

Thesis Advisor: Prof. Nikolaos Aravas

Thesis: Crystal Plasticity [pdf]

Academic Research & Employment

Mechatronics Institute, CE.R.T.H.

📍 Volos, Greece

Engineering Intern

📅 July – August 2014

On the effect of initial crystal lattice orientation to the macroscopic plastic behavior of metal single crystals subjected to uni-axial deformation

CE.R.T.H.

📍 Volos, Greece

Research Assistant

📅 April – June 2014

Supervisor: Dr. L.A.Spyrou, Researcher Lecturer, CE.R.T.H./I.RE.TE.TH.

CompETe EU FP7-SME-2013 (Composites Evaluation in aircraft industry through Triplex-IR imaging system) funded by the European Union's Seventh Framework Program managed by REA. (2013 - 2015) *Finite element thermal modelling and investigation of defects in CFRP composite panels*

Mechatronics Institute, CE.R.T.H.

📍 Volos, Greece

Engineering Intern

📅 July – August 2013

Assessment and evaluation of crack-like flaws in pressure vessels and reactors in accordance with API Fitness for Service and British standards

Teaching

Applied Mathematics 201 (Professor B. Thomases) - Teaching Fellow Physical Mathematics I

📍 Harvard University
📅 Fall 2017

Introduction to methods for developing accurate approximate solutions for problems in the sciences that cannot be solved exactly, and integration with numerical methods and solutions. Topics include: dimensional analysis, algebraic equations, complex analysis, perturbation theory, matched asymptotic expansions, approximate solution of integrals.

Engineering Sciences 128 (Professor K. Bertoldi) - Teaching Fellow Computational Solid and Structural Mechanics

📍 Harvard University
📅 Spring 2017

An introduction to the finite element method and its applications to problems in the fields of structural and solid mechanics. Static and dynamic analysis of discrete and continuum systems in 1,2 and 3 dimensions.

Scholarships and Awards

Certificate of Excellence and Distinction in Teaching for the course ES128

Derek Bok Center for Teaching and Learning

📅 2017

📍 Harvard University

Budiansky-Chen Graduate Fellowship in Applied Mechanics

John A. Paulson School of Engineering & Applied Sciences

📅 2015-2016

📍 Harvard University

Offered Research Fellowships from California Institute of Technology, University of Pennsylvania and University of Illinois at Urbana Champaign

📅 2015

Mentoring

Z. Qin - Visiting Bachelor's Student - University (CN)

Numerical Simulations and Experiments towards the design of multistable soft actuators

📅 2017-2018

D. Sachs - Visiting Master's Student - ETH Zurich, Zurich, (SW)

Numerical analysis and Experiments on the propagation of pneumatic waves in soft robotic systems

📅 2017-2018

S. Soifer - Visiting High School Student - New York (USA)

Fabrication, Experiments and Data Processing of Soft Pneumatic Bending Actuators

📅 2017

Conferences

IMECE ASME International Mechanical Engineering Congress & Exposition

Complex Output from a Single Input, Vasios N, Gross A.J., Overvelde J.T.B., Bertoldi K.

📍 Tampa Convention Center, Tampa FL, USA

📅 November 3-9 2017

54th SES Annual Technical Meeting, Society of Engineering Science

Complex Output from a Single Input, Vasios N, Gross A.J., Overvelde J.T.B., Bertoldi K.

📍 Northeastern University, Boston MA, USA

📅 July 25-28 2017

8th GRACM International Congress on on Computational Mechanics (*Attended*)

📍 Volos, Greece

📅 July 2015

5th Pan Hellenic Conference on Metallic Materials (*Attended*)

📍 Volos, Greece

📅 November 21-23 2013

Publications

[2] **Vasios, N.**, Gross, A.J., Soifer, S., Overvelde, J.T.B, Bertoldi, K., (2017). Complex Output from a Single Input, *In Preparation*

[1] Boatti, E., **Vasios, N.**, Bertoldi, K., (2017). Origami Metamaterials for Tunable Thermal Expansion, *Advanced Materials*, (29), 26, doi, url

Research Interests

Computational Mechanics, The Finite Element Method, Applied Mathematics, Continuum Mechanics, Solid and Fluid Mechanics, Constitutive Modeling, Stochastic Optimization, Inverse Problems

Skills

Languages: GREEK: Mother Tongue, ENGLISH: Fluent
Coding Experience: Python, Matlab, Fortran 77/90/95, Mathematica
Finite Element Analysis: Abaqus Standard/Explicit, Abaqus Python Scripting
 Abaqus with User Subroutines, Abaqus CAE
CAD/Graphics: Solidworks, AutoCAD, Adobe Illustrator, Adobe Photoshop
Typesetting/Productivity: L^AT_EX 2_ε, Microsoft Office

Leadership / Membership / Volunteering

Graduate Student Council (GSC) - Mechanical Engineering Representative

📍 Cambridge, MA, USA
 📅 2016-2017

[NEW.Mech 2016 Conference at Harvard University](#) - Host

📍 Cambridge, MA, USA
 📅 October 2016

Fund Raising running contest supporting [Floga](#)

📍 Volos, Greece

Floga is an association of parents of children with neoplastic disease

📅 December 2013

Other Interests

Member of the local swimming team YMCA since 1996. Participation in many swimming competitions on yearly basis, qualifying for the National Age Groups Championship (2004-2010) and for the Open National Championship (2009). Main events: 400m I.M., 800m freestyle, 1500m freestyle. 5th place in the National Swimming Championship (2009 and 2010).