



STEFANOS PYRIALAKOS

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PROFILE

Mainly interested in a spectrum of Computational Mechanics topics revolving around material modeling and investigation. Specifically, the area of my research involves the modeling of complex composite materials by employing sophisticated finite element techniques, the uncertainty quantification and Bayesian parameter identification of these materials and, also, the development of surrogate models via machine learning approaches. Although in the early stages of my PhD, I have published a research paper in a high impact scientific journal and participated in several conference proceedings. Additionally, I am a member of the MGroup research team where I have the opportunity to develop, in a team environment, a multi-purpose finite element software (<https://github.com/mgroupntua/>) focused on state-of-the-art numerical topics around engineering applications.

EDUCATION

Ph.D. Candidate in Computational Mechanics National Technical University of Athens School of Civil Engineering Laboratory of Structural Analysis & Antiseismic Research	<i>Apr. 2020 - present</i>
M.Sc in Computational Mechanics National Technical University of Athens Laboratory of Structural Analysis & Antiseismic Research	<i>Oct. 2018 - Feb. 2020</i> 9.18/10.0
Diploma in Civil Engineering Aristotle University of Thessaloniki School of Civil Engineering Department of Structural Engineering	<i>Sep. 2011 - Sep. 2017</i> 7.65/10.0
Certificate of graduation - High School 1st High School, Triandria, Thessaloniki	<i>Sep. 2008 - Sep. 2011</i> 18.7/20.0

TECHNICAL SKILLS & OTHERS

Programming Languages	C#
Scientific Software	MATLAB, Abaqus, Ansys, Sap2000
Other Software	LaTeX, Microsoft Office - ECDL Core
Languages	Greek, English-Proficiency of Michigan (C2) German-Goethe Zertifikat (B1)
Military Service	completed

PUBLICATIONS IN SCIENTIFIC JOURNALS

1. **Pyrialakos S.**, Kalogeris I., Sotiropoulos G., Papadopoulos V., *A neural network-aided Bayesian identification framework for multiscale modeling of nanocomposites*, Computer Methods in Applied Mechanics and Engineering, vol. 384, 2021

PAPERS IN CONFERENCE PROCEEDINGS

1. Kalogeris I., **Pyrialakos S.**, Bakalakos S., Kokkinos O., Papadopoulos V., *Machine learning-assisted stochastic optimization of structures comprised of nano-reinforced concrete*, International Congress on Computational Mechanics organized by the Greek Association of Computational Mechanics (10th GRACM), Virtual Congress, 5-7 July 2021
2. **Pyrialakos S.**, Kalogeris I., Sotiropoulos G., Papadopoulos V., *Bayesian Inference on Multiscale Models of Carbon-Reinforced Polymers accelerated by Deep Neural Networks*, 4th International Conference on Uncertainty Quantification in Computational Sciences and Engineering (UNCE-COMP 2021), Virtual Congress, 28-30 June 2021
3. **Pyrialakos S.**, Kalogeris I., Sotiropoulos G., Papadopoulos V., *Bayesian Inference on Multiscale Models of Carbon-Reinforced Polymers accelerated by Deep Neural Networks*, Engineering Mechanics Institute Conference (EMI), Virtual Congress, 25-28 May 2021
4. **Pyrialakos S.**, Kalogeris I., Papadopoulos V., *A Bayesian identification framework for multiscale analysis of nanocomposites*, 14th World Conference on Computational Mechanics (WCCM XIV) and 8th European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2020), joint Virtual Congress, 11-15 January 2021

TEACHING EXPERIENCE

- Teaching assistant in National Technical University of Athens (NTUA), Department of Civil Engineering
Course: **Stochastic methods** (undergraduate course)
- Teaching assistant in National Technical University of Athens (NTUA), Department of Civil Engineering
Course: **Non-linear finite elements** (graduate course)

PARTICIPATION IN RESEARCH PROJECTS

Software-as-a-service for industry-grade digital twins in the cloud (MTwin), European Regional Development Fund and Greek national Funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call Research>Create-Innovate, Budget: 320.000 Euros, duration 2 years (2021-2023)

Data driven computational mechanics at exascale (DCoMEX), under the call H2020-JTIEuroHPC-2019-1, Budget: 3.000.000 Euros, duration 3 years (2021-2024)

An open architecture to equip next generation HPC applications with exascale capabilities (REGALE), under the call H2020-JTIEuroHPC-2019-1, Budget: 8.309.000 Euros, duration 3 years (2021-2024)

WORKING EXPERIENCE

Software Developer
Next Generation Computational Engineering (NComp)

Jul. 2020 - present

MEMBERSHIPS

- Member of the Technical Chamber of Greece

Jul. 2020-present