

Panagiotis Koutsogiannakis



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EDUCATION

University of Trento, Trento, Italy

- Doctoral Student at the Faculty of Civil, Environmental and Mechanical Engineering
• Research subject:
Novel micro-structured meta-materials with advanced friction properties
• Supervisors: Prof. Davide Bigoni, Prof. Francesco Dal Corso
• Focus: Meta-Materials, Structural Mechanics, Seismic Engineering, Mathematical Modeling.
- Marie-Curie Research Fellow

Nov 2019 – Dec 2022

National Technical University of Athens, Athens, Greece

- M.Sc. in Naval Architecture and Marine Engineering
• Final grade: 8.34 / 10
• Diploma thesis subject:
Acceleration of BEM using CUDA/GPU programming with application to marine renewable energy extraction
Supervisor: K. A. Belibassakis, Professor, Lab. of Ship and Marine Hydrodynamics, School of Naval Architecture and Marine Engineering, NTUA.

Dec 2013 – Feb 2019

RESEARCH EXPERIENCE

University of Trento, Italy

- Research Fellow, Faculty of Civil, Environmental and Mechanical Engineering
• Supervisor: Prof. Francesco Dal Corso
• Focus: Structural mechanics, Mechanics of solids, Mathematical modeling.
- Research Fellow, Faculty of Civil, Environmental and Mechanical Engineering
• Project: INSPIRE, Innovative Ground Interface Concepts for Structure Protection
• Supervisors: Prof. Davide Bigoni and Prof. Francesco Dal Corso
• Focus: Meta-materials, Structural mechanics, Seismic engineering, Mathematical modeling.

Jan 2023 – Now

Nov 2019 – Dec 2022

PUBLICATIONS

JOURNALS

- [4] P. Koutsogiannakis, D. Misseroni, D. Bigoni, and F. Dal Corso, “Stabilization against gravity and self-tuning of an elastic variable-length rod through an oscillating sliding sleeve,” *Journal of the Mechanics and Physics of Solids*, Oct 2023.
- [3] P. Koutsogiannakis, D. Bigoni, and F. Dal Corso, “Double restabilization and design of force-displacement response of the extensible elastica with movable constraints,” *European Journal of Mechanics - A/Solids*, Jul 2022.
- [2] P.E. Koutsogiannakis, E.S. Filippas, and K.A. Belibassakis, “A Study of Multi-Component Oscillating-Foil Hydrokinetic Turbines with a GPU-Accelerated Boundary Element Method,” *Journal of Marine Science and Engineering*, vol. 7, no. 12, pp. 424, Nov 2019.
- [1] G.A. Athanassoulis, C.P. Mavroeidis, P.E. Koutsogiannakis and Ch.E. Papoutsellis, “A numerical study of the run-up and the force exerted on a vertical wall by a solitary wave propagating over two tandem trenches,” *Journal of Ocean Engineering and Marine Energy*, pp. 1–21, Nov 2019.

CONFERENCES

- [7] P. Koutsogiannakis, F. Dal Corso, and D. Bigoni, “Dynamics and instability of flexible structures with sliding constraints,” in *INSPIRE Final Conference*, Athens, Greece, May 2023.
- [6] P. Koutsogiannakis, F. Dal Corso, and D. Bigoni, “Bifurcation of the extensible elastica constrained by a curved profile,” in *Proceedings of the 13th HSTAM International Congress on Mechanics*, Patras, Greece, Aug 2022.

- [5] P. Koutsogiannakis, F. Dal Corso, and D. Bigoni, “Bifurcation analysis of a soft rod constrained by a curved profile,” in *Proceedings of the 11th European Solid Mechanics Conference*, Galway, Ireland, Jul 2022.
- [4] P. Koutsogiannakis, F. Dal Corso, and D. Bigoni, “A novel bifurcating force-limiting elastic structure,” in *Proceedings of the 25th International Congress of Theoretical and Applied Mechanics*, Milan, Italy, Aug 2021.
- [3] F. Dal Corso, P. Koutsogiannakis, D. Misseroni, T. Papathanasiou, and D. Bigoni, “Oscillating configurational constraints and nonlinear dynamics of extremely deformable structures,” in *Proceedings of the 25th International Congress of Theoretical and Applied Mechanics*, Milan, Italy, Aug 2021.
- [2] F. Dal Corso, P. Koutsogiannakis, D. Misseroni, T. Papathanasiou, and D. Bigoni, “Elastica and oscillatory configurational forces,” in *APM2021 - XLIX International Conference “Advanced Problems in Mechanics”*, Saint Petersburg, Russia, Jun 2021.
- [1] P.E. Koutsogiannakis, E.S. Filippas, and K.A. Belibassakis, “A GPU-accelerated method for the hydrodynamic analysis of a biomimetic flapping-foil device for marine energy extraction,” in *Proceedings of the 13th European Wave and Tidal Energy Conference*, Napoli, Italy, Sep 2019.

INVITED TALKS

- [1] P. Koutsogiannakis, D. Misseroni, D. Bigoni, and F. Dal Corso, “Dynamics of elastic rod constrained by an oscillating sliding sleeve,” in *School of Applied Mathematics and Physical Sciences, National Technical University of Athens, Athens, Greece, May 2023*.

PEER REVIEW

- Mechanics research communications Jan 2023-
- Marie Skłodowska-Curie Actions, Research Fellowship, University of Trento 2019 – 2022

AWARDS & SCHOLARSHIPS

CAMPUS ACTIVITIES

- Oceanos NTUA**, National Technical University of Athens Sep 2018 – Oct 2019
- Responsible for the propulsion system design
 - Design of electric boat propulsion system
 - Optimization of the propulsion system
 - Production of propeller with additive manufacturing techniques
 - Participation in Monaco Solar & Energy Boat Challenge 2019

OTHER WORK EXPERIENCE

- DNV-GL**, Piraeus, Greece Jun 2018 – Aug 2018
- Intern, Department of Research and Development, Research & Development Division
 - Prediction of fuel consumption of ships using machine learning techniques.
 - Interfacing of simulation packages using the FMI standard.

LANGUAGES

- Greek: Native language.
- English: Proficient (TOEFL 110/120).
- French: Intermediate (Delf B2).
- Italian: Basic.

SKILLS

Scientific topics: Structural mechanics, Mechanics and physics of solids, Computational mechanics, Finite Element Methods, Boundary element methods, Fluid mechanics, Lifting flows, Marine engineering.
Programming Languages: MATLAB, C/C++, CUDA, C#, Fortran, Python, R, Java.
Typesetting Languages: Latex, Markdown, Html.

INTERESTS

Digital photography, astronomy, travelling.

Panagiotis Koutsogiannakis, 13–10–2023