

## Ioannis Nikiforakis, Ph.D.

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LinkedIn: [linkedin.com/in/ioannisnikiforakis](https://www.linkedin.com/in/ioannisnikiforakis) | Portfolio: [ioannikiforakis.github.io](https://ioannikiforakis.github.io)



Mechanical engineer with a strong background in internal combustion engines, wind turbines and energy-efficient buildings. I am experienced in numerically implementing applied thermodynamics, computational fluid dynamics, heat transfer analysis, combustion kinetics, stress-strain analysis and fatigue damage determination. I want to make an impact through novel, meaningful work in a fast-paced environment.

## Experience

- 01/2025 - Present *Visiting Scholar-Stony Brook University*  
Modeling internal combustion engines and wind turbines at Stony Brook University's Advanced Combustion and Energy Systems Lab, under Professor Dimitris Assanis.
- 05/2022-12/2024 *Research Assistant-SUNY Research Foundation*  
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05/2021-08/2021 Worked in projects between Stony Brook University, private corporations, and the US  
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05/2018-12/2020 Government. My research involved the wake investigation of an offshore wind farm and the integration of on-site hydrogen production through PEM electrolyzers (Ørsted). Additionally, I optimized the design of a rotary engine with a pre-chamber (UAV) to improve performance under various loads (LiquidPiston, Inc. and US Air Force). Further work included the hybridization of solid oxide fuel cells with engines and the optimization of those designs under various loads (ARPA-E's INTEGRATE, Czero, Inc.).
- 08/2021-05/2022 *Teaching Assistant-Stony Brook University*  
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01/2021-05/2021 Assisted in Stony Brook University's Mechanical Engineering Undergraduate Program  
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08/2017-05/2018 Courses: MEC 301 Thermodynamics, MEC 305 Heat & Mass Transfer, MEC 325 Manufacturing Processes, MEC 364 Introduction to Fluid Mechanics, MEC 393 Engineering Fluid Mechanics, and MEC 398 Thermodynamics II. I was involved in lectures, recitations, lab work, projects, homework, exams and student support.
- 06/2013-08/2013 *Intern-HARAMIS BROS S.A.*  
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06/2012-08/2012 Interned at a Greek water-pump company, where I was mainly involved in the procurement and sizing of the required equipment according to the customers' needs.

## Education

- Ph.D. in Mechanical Engineering*, Stony Brook University, 2024  
Dissertation: [Understanding the Role of the Internal Combustion Engine for a Hybrid Solid Oxide Fuel Cell Power Generation System](#)
- M.Sc. in Sustainable Energy Technology*, Delft University of Technology, 2017  
Thesis: [Determination of Fatigue Assessment of Monopile-Based Offshore Wind Turbines through Fidelity Quantification](#)
- Diploma in Mechanical Engineering*, National Technical University of Athens, 2014  
Thesis: Net Zero-Energy Buildings: A Full Review

## Skills

Expert in CONVERGE CFD, Tecplot, ANSYS Chemkin, Fluent, SpaceClaim, EnSight, ParaView, Autodesk AutoCAD, Aspen Plus, SolidWorks, Microsoft 365, LaTeX, MATLAB, Python, C/C++, Linux, Bash, Slurm, MPI  
Fluent in English, Greek and French | Conversational in Dutch and Chinese (Mandarin)

## Publications in Refereed Journals, Conference Proceedings and Awards

Lead author in [3 publications](#). Awarded the Gerondelis Foundation Graduate Study Scholarship in 2023 & the Institute for Advanced Computational Science Young Writer's Award in 2024.