Constantinos Menelaou

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G scholar.google.com/citations?user=9TzRkI4AAAAJ

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SHORT RESUMÉ

Sep. 2025-Current

Research Assistant

University College Dublin · Ireland •

Continuation of the PhD work by studying more cases to of boulder transport observed in nature.

2021-Current

PhD Candidate

University College Dublin . Ireland •

PhD in Applied Mathematics using Computational Fluid Dynamics to model wave impact on boulders.

2015-2020

Mechanical Engineering with Integraded Masters

ARISTOTLE UNIVERSITY OF THESSA-LONIKI · Greece

5 Year Degree with integrated masters. Specialisation in Fluid Mechanics, Aerodynamics, and Aircraft Design. Thesis on Hypersonic Waverider Aircroft Design.

DEGREES

PhD in Applied Mathematics 2025

PHD · UCD **☆**

Mechanical Engineer 2020

INTEGRADED MASTERS · AUTH **1**

CERTIFICATES & GRANTS

2022 UCD Drone, Data Processing and Visu-

alization Course

2021 MaREI PhD Funding

CFD-FEA Course (A Hands-on Intro-2021

duction to Engineering Simulations)

2021 English IETLS 2021

Teaching

ICHEC High Performance Computing **UCD Tutor**

UCD Tutor Numerical Algorithms **UCD Tutor** Statistics with Python

UCD Tutor Mathematical Fluid Mechanics I

UCD Tutor **Analytical Mechanics** UCD Tutor PDE for Financial Maths

Programming



Python, C/C++, Bash, Linux, Conda, HPC CUDA, MPI, OpenMP, Rust MATLAB

I have gained experience reading and modifying C++ and CUDA code during my PhD (SPHinXsys and DualSPHysics solvers). Moreover, I am comfortable OpenFOAM, both source code and the solver itself. Furthermore, I am proficient in Python. I have used it for the creation of several tools and packages relevant to my PhD and most of the data analysis. I have also used MATLAB in the past (undergraduate and PhD) whenever Python or other languages were insufficient. Lastly, I am a fan

of Rust which I have used for personal project such as a gym booking

Publications

Prediction of the displacement by waves of large rocks using smoothed-particle hydrodynamics (Submitted).

bot with (useless) features such as GUI and sound effects.

2025 Displacement and deposition of cliff-bottom rocks using Smoothed Particle Hydrodynamics

2024 Wave breaking and transport of clifftop boulders, 18th International SPHERIC Workshop proceed-

2023 Implementation of various-fidelity methods for viscous effects modeling on the design of a waverider, Aerospace Science and Technology, https://doi.org/10.1016/j.ast.2023. 108141.

Conferences

2nd European Fluid Dynamics Conference, 2025, Univer-2025 sity College Dublin, Dublin, Ireland.

2024 Multiphase, Duisburg, Germany.

2024 18th International SPHERIC Workshop, Berlin, Germany.

3rd International Workshop on Waves, Storm Surges, and Coastal Hazards Incorporating the 17th International Waves 2023 Workshop, University of Notre Dame, Notre Dame, Indiana, USA.

2022 National High-Performance Compute and Data Ecosystem Symposium (HiCoDES), Dublin, Ireland.

2022 6th DualSPHysics Workshop, Universitat Politècnica de Catalunya, Barcelona, Spain.