Curriculum Vitae
Dimitrios Razis

Personal Data

Name:	Dimitrios Razis
Date of Birth:	27-07-1983
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Education

PhD: Department of Mathematics, University of Patras. Thesis Advisor: Prof. Dr. J.-P. van der Weele. Thesis Title: "Nonlinear Waves in Granular Flow" (2020). (*Cum Laude*).

MSc: Applied Physics/Physics of Fluids track, Faculty of Science & Technology, University of Twente, The Netherlands (2010). University of Twente Scholarship. (7.96/10 *Cum Laude*).

BSc: Department of Mechanical Engineering and Aeronautics, Polytechnic School, University of Patras, (2007). In the entrance exams I ranked first in a nationwide scale.

Publications

1. G. Kanellopoulos, **D. Razis** and K. van der Weele, "On the shape and size of granular roll waves", *J. Fluid Mech.* **950**, A27 – 1-28 (2022).
2. **D. Razis**, G. Kanellopoulos, and K. van der Weele, "Continuous hydraulic jumps in laminar channel flow", *J. Fluid Mech.* **915**, A8 – 1-22 (2021).
3. G. Kanellopoulos, **D. Razis** and K. van der Weele, "On the structure of granular jumps: the dynamical systems approach", *J. Fluid Mech.* **912**, A54 – 1-19 (2021).

4. G. Kanellopoulos, **D. Razis**, and K. van der Weele, "The Persian Immortals: A classical case of self-organization", *Am. J. Phys.* **88**, 263-268 (2020).
   Featured on the cover of Am. J. Phys.
5. **D. Razis**, G. Kanellopoulos and K. van der Weele, "A Dynamical Systems view of granular flow: from monoclinal flood waves to roll waves", *J. Fluid Mech.* **869**, 143-181 (2019).
6. **D. Razis**, G. Kanellopoulos and K. van der Weele, "The granular monoclinal wave", *J. Fluid Mech.* **843**, 810-846 (2018).
7. **D. Razis**, A.N. Edwards, J.M.N.T. Gray & Ko van der Weele, "Arrested coarsening of granular roll waves", *Phys. Fluids.* **26**, 123305 (2014). *Listed by Physics of Fluids as a research highlight of 2014.*

Presentations in Conferences and Seminars

► On subjects related to my PhD research field:

1. *"Continuous hydraulic jumps in laminar channel flow"*, 14th European Fluid Mechanics Conference (EFMC14), Athens, Greece, 13-16 September 2022.
2. *"Continuous hydraulic jumps in laminar channel flow"*, 28th Summer School – Conference in Dynamical Systems & Complexity, Chania, Greece, 18-26 July 2022.
3. *"On the structure of granular jumps: The Dynamical Systems approach"*, 27th Summer School – Conference in Dynamical Systems & Complexity, National Centre for Scientific Research "Democritos", Athens, Greece, 19-24 July 2021.
4. *"Monoclinal waves in granular flow: The interplay between nonlinearity and diffusion"*, 6th Dynamics Days Central Asia (online conference), Nur Sultan, Kazakhstan, 2-5 June 2020.
5. *"Nonlinear granular waves: The Dynamical Systems approach"*, 26th Summer School – Conference in Dynamical Systems & Complexity, NTUA, Athens, Greece, 14-20 July 2019.
6. *"The granular monoclinal wave"*, 2nd Conference of Young Researchers in the Branches of Mathematical Science, University of Ioannina, Greece, 1-2 June 2018.
7. *"Arrested coarsening of granular roll waves"*, 7th International Meeting of the Hellenic Society of Rheology (HSR2014), Heraklion, Greece, 7-10 July 2014.
8. *"Arrested coarsening of granular roll waves"*, 4th Ph.D. Summer School – Conference on **"**Mathematical Modeling of Complex Systems", Athens, Greece, 14-25 July 2014.

► On topics of my broader scientific interests:

9. *"Greeks versus Trojans: The Lagrangian points of Jupiter"*, Astronomical Society of Patras, 12/02/2020.
10. *"Feynman's lost lecture: On the motion of planets"*, Astronomical Society of Patras, 06/12/2017.
11. *"Evolutionary Mathematics"*, Seminar on Nonlinear Systems, Department of Mathematics, University of Patras, Greece, 19/11/2015.
12. *"The two-dimensional throw with air resistance: New insights in a classic problem"*, Seminar on Nonlinear Systems, Department of Mathematics, University of Patras, Greece, 24/01/2013.
13. *"Levitation by lubrication: The shapes of drops levitated on an air cushion"*, Seminar on Nonlinear Systems, Department of Mathematics, University of Patras, Greece, 08/03/2012.

Research Interests

Fluid Mechanics, Waves in Fluids, Open Channel Flow, Hydraulic Jumps, Aerodynamics, Nonlinear Dynamical Systems, Control Systems, Mathematical Modelling.

Supervision of Theses

During the past two academic years I was hired from the Department of Physics of the National and Kapodistrian University of Athens, Greece to teach the course “Systems and Control”, both in the undergraduate level (2020 – 2021) and in the postgraduate level (2021 – 2022). In the same period, I supervised two undergraduate Theses:

- “The Logistic Map and the Transition to Chaos” ― Panagiotis Anagnostopoulos (1110201700006), Department of Physics, National and Kapodistrian University of Athens, Greece.
- “The Van der Pol Oscillator and the Relaxation Oscillations” ― Nikolaos Papadopoulos (1110201700125), Department of Physics, National and Kapodistrian University of Athens, Greece.

Teaching and Professional Experience

- 2023: Teaching Instructor of the *undergraduate* course "Unsteady Flows", Department of Civil Engineering, School of Engineering, University of Thessaly. (MIS 5181014).
- 2022: Teaching Instructor of the *graduate* course "Systems and Control", Department of Physics, National and Kapodistrian University of Athens. (MIS 5131398).
- 2021: Teaching Instructor of the *undergraduate* course "Systems and Control", Department of Physics, National and Kapodistrian University of Athens (8^{th} semester). (MIS 5064859).
- 2015 ― 2020: Tutor in Fluid Mechanics. Institute of Higher Education for University Students «Prosimo», Patras, Greece.
- 2014 ― 2019: As a PhD candidate I was the Teaching Assistant in "Vector Calculus – Real Analysis IV", (Mandatory Course, 4^{th} semester) at the Department of Mathematics of the University of Patras. Syllabus: Vector Calculus, Line & Surface Integrals of Scalar and Vector Fields, The Great Theorems of Vector Calculus (Green, Stokes, Gauss), Applications to Natural Sciences.
- 2010: Erasmus Placement, Université Paris-Diderot (Paris VII), Laboratoire Matière et Systèmes Complexes. Project Title: *"The Faraday instability on vibrated drops"*, Supervisor: Prof. Dr. Adrian Daerr.
- 2004: Internship, Hellenic Defense Systems, Department of Research & Development (R&D).