Curriculum Vitae

ATHANASSIOS A. DIMAS

1. GENERAL

Department of Civil Engineering
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2. EDUCATION

Feb. 1988 – Jun. 1991	**Massachusetts Institute of Technology (MIT).** Ph.D. in Ocean Engineering. Thesis: Nonlinear Interaction of Shear Flows with a Free Surface.
Sep. 1985 – Feb. 1988	**Massachusetts Institute of Technology (MIT).** M.Sc. in Ocean Engineering: Coastal and Offshore Structures Design, Marine Hydrodynamics. Thesis: Interaction Between a Two-Dimensional Wake and the Free Surface at Low Froude Numbers.
Sep. 1985 – Feb. 1988	**Massachusetts Institute of Technology (MIT).** M.Sc. in Mechanical Engineering: Computational Fluid Dynamics, Numerical Analysis Methods, Multivariable Control Systems. Thesis: Interaction Between a Two-Dimensional Wake and the Free Surface at Low Froude Numbers.
Sep. 1980 – Jun. 1985	**National Technical University of Athens (NTUA).** Diploma in Naval Architecture and Marine Engineering. Diploma Grade: 8.98/10. Thesis: Numerical Study of Turbulent Flow Field Around a Hydrofoil.

3. EXPERIENCE

Nov. 2015 – Aug. 2020 & Sep. 2024 – present	Chairman, Department of Civil Engineering, University of Patras.
Sep. 2020 – present	Director, Laboratory of Hydraulic Engineering, Dept. of Civil Engineering, University of Patras.
Jul. 2013 – present	Professor, Dept. of Civil Engineering,University of Patras.
Aug. 2008 – Jul. 2013	Associate Professor, Dept. of Civil Engineering, University of Patras.
May 2002 – Aug. 2008	Assistant Professor, Dept. of Civil Engineering, University of Patras.
Sep. 2006 – Sep. 2020	Tutor, Hellenic Open University, Postgraduate Course: Environmental Infrastructure Design.
Mar. 1994 – May 2002	Assistant Professor (adjunct and tenure-track), Dept. of Mechanical Engineering, University of Maryland.
Sep. 1997 – May 2002	Senior Scientist, Krispin Technologies, Inc. and VorCat, Inc.: Computational Fluid Dynamics software development.
Jul. 1991 – Feb. 1994	Postdoctoral Research Associate, Benjamin Levich Institute, The City College of The City University of New York.

Sep. 1985 – Jun. 1991 Research and Teaching Assistant, Dept. of Ocean Engineering, Massachusetts Institute of Technology.

4. RESEARCH – CONSULTING EXPERTISE

A. Interests

- Coastal Engineering, Wave Hydrodynamics, Sediment Transport and Morphodynamics (Numerical Simulation and Physical Modeling).
- Port Climate-Resilient Engineering
- Floating Offshore Wind Turbines
- Hydraulic Engineering.
- Computational and Theoretical Fluid Mechanics.

B. Projects

47 projects while in Greece (36 as project coordinator or principal investigator) and 6 while in the USA (4 as principal investigator) of basic and applied nature.

C. Recent Basic Research Projects

- SEDIMARE: Sediment transport and morphodynamics in marine and coastal waters with engineering solutions.
  Funding: Program MSCA Doctoral Networks 2021, Horizon Europe, European Union
  Budget: €2.6million. Duration: 2023-2027. Participation: Project Coordinator.
- Computational Coastal Engineering: sediment transport and beach morphodynamics.
  Funding: GSRT
  Budget: €170000. Duration: 2017-2019. Participation: Project Coordinator.
- Large scale experiments for an alternative erosion control measure using sand-filled GEOSystems (GEOS).
  Funding: Program Hydralab+, European Union.
  Duration: 2018-2019. Participation: Partner.
- SEDITRANS: Sediment transport in fluvial, estuarine and coastal environment.
  Funding: Program FP7-PEOPLE-2013-ITN, European Union
  Budget: €3.7million. Duration: 2013-2017. Participation: Project Coordinator.
- SEAWIND: Performance based engineering of offshore wind turbines
  Funding: Program Bilateral R&D Cooperation between Greece and China 2012-2014, GSRT and European Union
  Budget: €500000. Duration: 2012-15. Participation: Principal Investigator of Univ. Patras.
- SIMUCOAST: High performance computing for three-dimensional simulation of coastal processes.
  Funding: Program ARISTEIA, GSRT and European Union
  Budget: €175000. Duration: 2012-15. Participation: Project Coordinator.
- Numerical simulation of seabed morphology evolution due to sediment transport induced by wave breaking in the surf zone.
  Funding: Program “Karatheodori” of University of Patras.
  Budget: €33000. Duration: 2011-14. Participation: Project Coordinator.
  Numerical study of steady and unsteady flow in submerged seawater intake pipe.
  Funding: METKA A.E.
  Budget: €16500. Duration: 2011. Participation: Project Coordinator.
- Numerical prediction of waves, currents and environmental transport parameters in the coastal and sea zone of the Old and New Port of Patras.
  Funding: Program PENED of GSRT.
  Budget: €90000. Duration: 2005-2009. Participation: Project Coordinator.

D. Recent Applied Projects

- Specifications for the Design of Harbor and Coastal Works.
  Funding: Ministry of Infrastructure, Transportation and Networks.
  Duration: 2022-2025. Participation: Expert Evaluator.
- Data Analytics Platform for Intelligent Project: Biofouling Management in Marine Aquaculture.
  Funding: EMVIS Consultant Engineers.
  Duration: 2023-2024. Participation: Expert Consultant Engineer.
- Coastal Protection Study Against Erosion Processes Along the Coastline of the Corinthian Gulf.
  Funding: ACTAEA Consulting Engineers.
  Duration: 2022-2023. Participation: Expert Consultant Engineer.
- Planning of interventions and works for reducing the intensity of flooding in critical areas of the Alfeios River basin, including Kladeos River and Erymanthos River, following the forest fires of 2021.
  Funding: Region of Western Greece.
  Duration: 2021-2023. Participation: Project Coordinator.
- Field measurements and data analysis of waves and currents in the coastal areas of Agia Napa, Askos and Larnaka in Cyprus.
  Funding: MARNET Engineering Consultants (https://marnet.gr/)
  Duration: 2020-2023. Participation: Project Coordinator.
- Coastal erosion assessment of the coastline between Rogitika and Tsoukaleika in Western Achaia, Greece, and design of sustainable and mild costal protection works based on the data provided by the European project TRITON.
  Funding: Region of Western Greece.
  Duration: 2020-2022. Participation: Project Coordinator.
- Evaluation of coastal structure failures at the coastal front of the Alimos Municipality.
  Funding: Alimos Municipality.
  Duration: 2019. Participation: Expert Consultant Engineer.
- Assessment of Erosion of the Northern Peloponnese Coasts in the Corinthean Gulf and Organization of their Protection Planning.
  Funding: Hellenic Ministry of Infrastructure, Transportation and Networks.
  Duration: 2016. Participation: Project Coordinator.
- Expert evaluation of the hydraulic design for the training of Diankonaris river.
  Funding: YDRETME Consulting Engineers.
  Duration: 2013-2014. Participation: Expert Evaluator.
- Expert evaluation of the hydraulic design of the training of the Potamoula river.
  Funding: Region of Western Greece.
  Duration: 2013. Participation: Expert Evaluator.
  - Wave disturbance effect in the design of the new marina at Agios Kirykos, Ikaria.
    Funding: Municipality of Ikaria.
    Duration: 2012. Participation: Project Coordinator.
- Flow measurements and visualization in a sea-water intake physical model (Samsun, Turkey).
  Funding: METKA S.A.
  Duration: 2010-2011. Participation: Project Coordinator.
- Study of the effect of the proposed port at Rovies (Euboia, Greece) on wave propagation and sediment transport by numerical simulation.
  Funding: Municipality of Elimnion.
  Duration: 2010-2011. Participation: Project Coordinator.
- Flow measurements and visualization in a sea-water intake physical model (Aliveri, Greece).
  Funding: METKA S.A.
  Duration: 2009-2010. Participation: Project Coordinator.
- Study of the effect of the proposed port at Kiveri (Argolida, Greece) on wave propagation and sediment transport by numerical simulation.
  Funding: Municipality of Lernas.

Duration: 2009-2010. Participation: Project Coordinator.

- Study of the effect of the proposed port at Pentati (Corfu, Greece) on wave propagation and sediment transport by numerical simulation.
  Funding: TOMH A.E.M.E.Y.
  Duration: 2009. Participation: Project Coordinator.
- Study of detached breakwater effectiveness on shore protection at Legraina (Attiki, Greece) by numerical simulation of waves, currents and sediment transport.
  Funding: ECC A.E.
  Duration: 2009. Participation: Project Coordinator.

5. AWARDS

1990 – 1991	Award and Scholarship by the Offshore Mechanics and Polar Engineering Council.
1989	First Prize for Concrete Canoe Design by the American Society of Civil Engineers, New England Section.
1985 – 1991	Graduate Studies Scholarship by the Department of Ocean Engineering, MIT.
1982, 1983, 1984, 1985	Scholarship by the Hellenic State Scholarship Foundation during the 2nd, 3rd, 4th, and 5th academic years at NTUA.
1983, 1984, 1985	Scholarship by the Technical Chamber of Greece during the 3rd, 4th, and 5th academic years at NTUA.

6. PUBLICATIONS

A. Books

1. Karambas, Th., Dimas, A.A., and Loukogeorgaki, E., 2020. *Coastal Engineering and Harbour Works*. Disigma Publications, Thessaloniki, Greece. (in Greek)

B. Patents

1. Dimas, A.A., Lottati, I., Bernard, P.S., Collins, J.P. and Geiger, J.C., 2003. *Apparatus for and Method of Simulating Turbulence*. United States Patent No. 6,512,999.

C. Articles in Refereed Journals

1. Tsoukleri, G.K., and Dimas, A.A., 2026. The VolturnUS-S 15 MW floating offshore wind turbine under wind-wave-yaw misalignment conditions. Maritime Engineering (ICE), accepted.
2. Leftheriotis, G.A., Sybetheros, I., and Dimas, A.A., 2026. Impact of artificial reef configuration on wave dynamics and shoreline protection. Maritime Engineering (ICE), accepted.
3. Tsipas, I.G., Leftheriotis, G.A., and Dimas, A.A., 2026. Mixed-grain sand transport induced by turbulent oscillatory flow over coastal ripples. Maritime Engineering (ICE), accepted.
4. Kolokythas, G.A., Dimas, A. A., 2026. Interaction between the longshore current and the undertow induced by the turbulent flow in the surf zone of oblique spilling breakers. Coasts 6(1), 5. doi.org/10.3390/coasts6010005
5. Bourantas, G.C., Sakellarios, A., Malamos, N., Loukopoulos, V.C., Burganos, V.N., Miller, K., Langousis, A., Fotiadis, D.I., Dimas, A.A., and Calo, V.M., 2025. The discretization-corrected particle strength method for the barotropic vorticity equations. International Journal for Numerical Methods in Fluids, 95, 143-175. doi.org/10.1002/fld.70003
6. Stefanidou, M.K., Bloutsos, A.A., Dimas, A.A., and Yannopoulos, P.C., 2025. Large Eddy Simulation of Annular Plumes. *Journal of Environmental Fluid Mechanics*, 25 (29). doi.org/10.1007/s10652-025-10041-5.
7. Boumpoulis, V., Depountis, N., Dimas, A., and Papatheodorou, G., 2025. Presentation and analysis of the Geotechnical Coastal Vulnerability Index. Validation of its application to coastal

erosion problems. *Scientific Reports*, 15 (1), 1424. doi.org/10.1038/s41598-025-85594-y
8. Leftheriotis, G.A., Sibetheros, I.A., and Dimas, A.A., 2025. Large-eddy simulation of the turbulent oscillatory flow around an artificial reef. *Ocean Engineering*, 318, 120142. doi.org/10.1016/j.oceaneng.2024.120142
9. Bourantas, G.C., Zwick, B.F., Lampropoulos, D.S., Loukopoulos, V.C., Katsanos, K., Dimas, A.A., Burganos, V.N., Wittek, A., and Miller, K., 2024. A multiblock (MIB) finite element method for accurate and efficient blood flow simulation. Journal of Computational Physics 518, 113329. doi.org/10.1016/j.jcp.2024.113329
10. Colangeli, C., Leftheriotis, G., Dimas, A.A., and Brocchini, M., 2024. Ship-forced sediment transport: a new model for the propeller jet flow. Water 16(12), 1647. doi.org/10.3390/w16121647
11. Karvelis, A.C., Dimas, A.A., Gantes, C.J., 2024. Unsteady numerical simulation of two-dimensional airflow over a square cross-section at high Reynolds numbers as a reduced model of wind actions on buildings. Buildings 14, 561. doi.org/10.3390/buildings14030561
12. Fakiris, E., Giannakopoulos, V., Leftheriotis, G., Dimas, A.A., Papatheodorou, G., 2023. Predictive mapping of Mediterranean seagrasses - Exploring the influence of seafloor light and wave energy on their fine-scale spatial variability. Remote Sensing 2943. doi.org/10.3390/rs15112943
13. Depountis, N., Apostolopoulos, D., Boumpoulis, V., Christodoulou, D., Dimas, A., Fakiris, E., Leftheriotis, G., Menegatos, A., Nikolakopoulos, K., Papatheodorou, G., Sabatakakis, N., 2023. Coastal erosion identification and monitoring in the Patras Gulf (Greece) using multi-discipline approaches. *Journal of Marine Science and Engineering*, 11, 654. doi.org/10.3390/jmse11030654
14. Chalmoukis, I.A., Leftheriotis, G.A., and Dimas, A.A., 2023. Large-eddy simulation of wave attenuation and breaking on a beach with coastal vegetation modelled as porous medium, Journal of Marine Science and Engineering, 11, 519. doi.org/10.3390/jmse11030519
15. Bourantas, G.C., Zwick, B.A., Lavier, T.P., Loukopoulos, V.C., Dimas, A.A. Wittek, A., and Miller, K., 2023. An immersed boundary vector potential-vorticity meshless solver of the incompressible Navier-Stokes equations. International Journal for Numerical Methods in Fluids, 95, 143-175. doi.org/10.1002/fld.5146
16. Leftheriotis, G.A., and Dimas, A.A., 2022. Morphodynamics of vortex ripple creation under constant and changing oscillatory flow conditions. *Coastal Engineering*, 177. doi.org/10.1016/j.coastaleng.2022.104198
17. Leftheriotis, G.A., Chalmoukis, I.A., Oyarzun, G., and Dimas, A.A., 2021. A hybrid parallel numerical model for wave-induced free-surface flow. Fluids, 6, 350. doi.org/10.3390/fluids6100350
18. Dimas, A.A., and Chalmoukis, I.A., 2020. An adaptation of the immersed boundary method for turbulent flows over three-dimensional coastal/fluvial beds. *Applied Mathematical Modelling*, 88, 905-915. doi.org/10.1016/j.apm.2020.07.007
19. Chalmoukis, I.A., Dimas, A.A., and Grigoriadis, D.G.E., 2020. Large-eddy simulation of turbulent oscillatory flow over three-dimensional transient vortex ripple geometries in quasi-equilibrium. *Journal of Geophysical Research - Earth Surface*, 125(8). doi.org/10.1029/2019JF005451
20. Frantzis, C., Grigoriadis, D.G.E., and Dimas, A.A., 2020. Numerical study of solitary waves past slotted breakwaters with a single row of vertical piles: Wave processes and flow behavior. Ocean Engineering, 211, 107667.
21. Oyarzun, G., Chalmoukis, I.A., Leftheriotis, G.A., and Dimas, A.A., 2020. A GPU-based algorithm for efficient LES of high Reynolds number flows in heterogeneous CPU/GPU supercomputers. Applied Mathematical Modelling, 85, 141-156.
22. Koutrouveli, Th.I., and Dimas, A.A., 2020. Wave and Hydrodynamic Processes in the Vicinity of a Rubble-Mound, Permeable, Zero-Freeboard Breakwater. Journal of Marine Science and Engineering, 8(3), 206. doi.org/10.3390/jmse8030206
23. Frantzis, C., Grigoriadis, D.G.E., and Dimas, A.A., 2020. An efficient Navier-Stokes based numerical wave tank using fast Poisson solvers and the immersed boundary method. Ocean Engineering, 196, 106832.
24. Galani, K.A., Dimou, I.D., and Dimas, A.A., 2019. Wave height and setup in the sheltered area of a segmented, detached, rubble-mound, zero-freeboard breakwater on a steep beach. Ocean Engineering, 186, 106124.

25. Dimas, A.A., and Koutrouveli, Th.I., 2019. Wave-height dissipation and undertow of spilling breakers over beach of varying slope. Journal of Waterway, Port, Coastal, and Ocean Engineering (ASCE), 145(5), 04019016.
26. Dimas, A.A., and Leftheriotis, G.A., 2019. Mobility parameter and sand grain size effect on sediment transport over vortex ripples in the orbital regime. Journal of Geophysical Research – Earth Surface, 124(1), 2-20.
27. Koutrouveli, Th.I., Dimas, A.A., Fourniotis, N.Th., and Demetracopoulos, A.C., 2019. Groyne spacing role on the effective control of wall shear stress in open-channel flow. Journal of Hydraulic Research, 57(2), 167-182.
28. Fourniotis, N.Th., Vouros, A.P., and Dimas, A.A., 2019. Pier shape effect on backwater rise and drag force in open-channel flow. International Review of Civil Engineering (IRECE), 10(3), 170-175.
29. Metallinos, A.S., Klonaris, G.Th., Memos, C.D., and Dimas, A.A., 2019. Hydrodynamic conditions in a submerged porous breakwater. Ocean Engineering, 172, 712-725.
30. Monsorno, D., Dimas, A.A., and Papalexandris, M.V., 2018. Time-accurate calculation of two-phase granular flows exhibiting compaction, dilatancy and nonlinear rheology. Journal of Computational Physics 372, 799-822.
31. Kolokythas, G.A., Grigoriadis, D.G.E., and Dimas A.A., 2018. Dynamic friction angle/ coefficient in formulas of bed load transport induced by waves over ripples. Journal of Coastal Research, 34(4), 996-1008.
32. Dimas, A.A., and Galani, K.A., 2016. Turbulent flow induced by regular and irregular waves above a steep rock-armored slope. Journal of Waterway, Port, Coastal, and Ocean Engineering (ASCE), 142, 04016004.
33. Kolokythas, G.A., Leftheriotis, G.A., and Dimas, A.A., 2014. Numerical simulation of coastal flow and sediment transport over rippled beds. ERCOFTAC Bulletin 100, 1-9. Editor Vincenzo Armenio.
34. Grigoriadis, D.G.E., Balaras, E., and Dimas, A.A., 2013. Coherent structures in oscillating turbulent boundary layers over a fixed rippled bed. Flow, Turbulence and Combustion 91(3), 565-585.
35. Dimas A.A., and Vouros, A., 2012. Effect of cross-flow velocity at forebay on swirl in pump suction pipe: Hydraulic model of seawater intake at Aliveri power plant in Greece. Journal of Hydraulic Engineering (ASCE) 138, 812-816.
36. Grigoriadis, D.G.E., Dimas, A.A., and Balaras, E., 2012. Large-eddy simulation of wave turbulent boundary layer over rippled bed. Coastal Engineering 60, 174-189.
37. Dimakopoulos, A.S., and Dimas, A.A., 2011. Large-wave simulation of three-dimensional, cross-shore and oblique, spilling breaking on constant slope beach. Coastal Engineering 58, 790-801.
38. Dimas, A.A., and Kolokythas, G.A., 2011. Flow dynamics and forces on ripples induced by viscous wave propagation over rippled bed. Journal of Waterway, Port, Coastal, and Ocean Engineering (ASCE) 137, 64-74.
39. Dimas, A.A., and Dimakopoulos, A.S., 2009. A Surface-Roller Model for the Numerical Simulation of Spilling Wave Breaking Over Constant Slope Beach. Journal of Waterway, Port, Coastal, and Ocean Engineering (ASCE) 135, 235-244.
40. Grigoriadis, D.G.E., Balaras, E., and Dimas, A.A., 2009. Large-Eddy Simulations of Unidirectional Water Flow Over Dunes. Journal of Geophysical Research – Earth Surface 114, F02022.
41. Dimas, A.A., Fourniotis, N.T., Vouros, A., and Demetracopoulos, A.C., 2008. Effect of Bed Dunes on Spatial Development of Open-Channel Flow. Journal of Hydraulic Research (IAHR) 46, 802-813.
42. Dimas, A.A., 2008. Discussion on the Numerical Simulation of Wave-Induced Laminar Boundary Layers. Coastal Engineering 55, 1243-1244.
43. Drosos, G.C., Dimas, A.A., and Karabalis, D.L., 2008. Discrete Models for Seismic Analysis of Liquid Storage Tanks of Arbitrary Shape and Fill Height. Journal of Pressure Vessel Technology 130(041801), 1-12.
44. Dimas, A.A., 2007. Large-Wave Simulation of Microscale Breaking Waves Induced by a Free-Surface Drift Layer. Wave Motion 44, 355-370.

45. Dimas, A.A., Mowili, B.M., and Piomelli, U., 2003. Large-Eddy Simulation of Subcritical Transition in an Attachment-Line Boundary Layer. Computers and Mathematics with Applications 46, 571-589.
46. Dimas, A.A., and Fialkowski, L.T., 2000. Large-Wave Simulation (LWS) of Free-Surface Flows Developing Weak Spilling Breaking Waves. Journal of Computational Physics 159, 172-196.
47. Miller, M.P., Nennstiel, T., Duncan, J.H., Dimas, A.A., and Prostler, S., 1999. Incipient Breaking of Steady Waves in the Presence of Surface Wakes. Journal of Fluid Mechanics 383, 285-305.
48. Dimas, A.A., and Kiger, K.T., 1998. Linear Instability of a Particle-Laden Mixing Layer with a Dynamic Dispersed Phase. Physics of Fluids 10, 2539-2557.
49. Dimas, A.A., 1998. Free-Surface Waves Generation by a Fully-Submerged Wake. Wave Motion 27, 43-54.
50. Duncan, J.H., and Dimas, A.A., 1996. Surface Ripples due to Steady Breaking Waves. Journal of Fluid Mechanics 329, 309-339.
51. Dimas, A.A., and Triantafyllou, G.S., 1995. Baroclinic-Barotropic Instabilities of the Gulf Stream Extension. Journal of Physical Oceanography 25, 825-834.
52. Dimas, A.A., and Triantafyllou, G.S., 1994. Nonlinear Interaction of Shear Flow with a Free Surface. Journal of Fluid Mechanics 260, 211-246.
53. Triantafyllou, G.S., and Dimas, A.A., 1989. Interaction of Two-Dimensional Separated Flows with a Free Surface at Low Froude Numbers. Physics of Fluids A 1, 1813-1821.
54. Tzabiras, G., Dimas, A.A., and Loukakis, T., 1986. A Numerical Method for the Calculation of Incompressible, Steady, Separated Flows around Aerofoils. International Journal for Numerical Methods in Fluids 6, 789-809.

D. Articles in Referred Books

1. Dimas, A.A., and Kolokythas, G.A., 2010. Reynolds Number Effect on Spatial Development of Viscous Flow Induced by Wave Propagation Over Bed Ripples. In Advances in Environmental Fluid Mechanics, Chap. 5, 127-143. Editors: Dragutin T. Mihailovic and Carlo Gualtieri. World Scientific, Singapore.
2. Bernard, P.S., Dimas, A.A., and Lottati, I., 2000. Vortex method analysis of turbulent flows. In Vortex Methods: Selected Papers of the First International Conference on Vortex Methods, 79-91. World Scientific. Editors: Kamemoto, K. and Tsutahara, M.
3. Miller, M.P., Nennstiel, T., Fialkowski, L.T., Prostler, S., Duncan, J.H., and Dimas, A.A., 2000. Incipient Breaking of Steady Waves. In Naval Ship Hydrodynamics, 818-834. The National Academy of Sciences.
4. Bernard, P.S., Dimas, A.A., and Collins, J.P., 1999. Turbulent Flow Modeling Using a Fast Parallel, Vortex Tube and Sheet Method. In Third International Workshop on Vortex Flows and Related Numerical Methods, European Series in Applied and Industrial Mathematics (ESAIM), Vol. 7, 46-55. Editors: Giovannini, A., Cottet, G. H., Gagnon, Y., Ghoniem, A. and Meiburg, E.

E. Articles or Extended Abstracts in Refereed Conference Proceedings

1. Tsipas, I.G., Chalmoukis, I.A., and Dimas, A.A., 2026. Large-eddy simulation of turbulent flow and sediment transport induced by wave propagation and breaking over constant-slope beach. *Proc. 9th IAHR Europe Congress*, Lulea, Sweden.
2. Leftheriotis, G.A., Sybetheros, I., and Dimas, A.A., 2026. Influence of artificial reef layout on wave transformation and coastal protection. *Proc. 9th IAHR Europe Congress*, Lulea, Sweden.
3. Tsipas, I.G., Leftheriotis, G.A., and Dimas, A.A., 2026. Mixed-grain sand transport induced by turbulent oscillatory flow over fixed ripples. *Proc. 39th International Conference on Coastal Engineering (ICCE 2026)*, Galveston, Texas, USA.
4. Leftheriotis, G.A., and Dimas, A.A., 2025. Impact of flow and sediment parameters on the morphodynamic evolution of vortex ripples. *Proc. 3rd International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2025)*, Patras, Greece.
5. Leftheriotis, G.A., Sibetheros, I.A., and Dimas, A.A., 2025. Numerical investigation of wave interaction with porous artificial reef units. *Proc. 3rd International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2025)*, Patras, Greece.

6. Tsipas, I.G., Leftheriotis, G.A., and Dimas, A.A., 2025. Large-eddy simulation of turbulent oscillatory flow and mixed-grain sediment transport over fixed ripples. *Proc. 3rd International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2025)*, Patras, Greece.
7. Tsoukleri, G.K., and Dimas, A.A., 2025. Analysis of the VolturnUS-S 15 MW Offshore Wind Turbine under extreme environmental conditions in Greek seas. *Proc. 3rd International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2025)*, Patras, Greece.
8. Chalmoukis, I.A., Leftheriotis, G.A., and Dimas, A.A., 2024. Comparison between a perched beach and an artificial reef in terms of wave attenuation. *Proc. 38th International Conference on Coastal Engineering (ICCE 2024)*, Rome, Italy.
9. Leftheriotis, G.A., Sibetheros, I., and Dimas, A.A., 2024. LES of the turbulent flow outside and inside an artificial reef on the seabed. *Proc. 34th International Offshore and Polar Engineering Conference (ISOPE 2024)*, Rhodes, Greece.
10. Chalmoukis, I.S., Leftheriotis, G.A., and Dimas, A.A., 2023. LES of Wave Propagation on a Beach with Different Vegetation Characteristics. *Proc. 2nd International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2023)*, Thessaloniki, Greece.
11. Leftheriotis, G.A., Chalmoukis, I.S., and Dimas, A.A., 2023. A Case-Study for the Water Renewal in the Rio Castle Moat in Greece. *Proc. 2nd International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2023)*, Thessaloniki, Greece.
12. Leftheriotis, G.A. and Dimas, A.A., 2023. Effects of Flow and Sediment Parameters on Vortex Ripple Morphodynamics. *Proc. 2nd International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2023)*, Thessaloniki, Greece.
13. Chalmoukis, I.A., Leftheriotis, G.A., and Dimas, A.A., 2022. Numerical simulations of wave breaking over coastal vegetation as a beach protection solution. 7th IAHR Europe Congress, Athens, Greece.
14. Fakiris, E., Leftheriotis, G.A., Dimas, A.A., and Papatheodorou, G., 2022. Seagrass fine-scale distribution linked to wave energy and hydrodynamics in a shallow Mediterranean marine protected area. Proc. VIII International Symposium on Marine Sciences 2022 (ISMS), Las Palmas de Gran Canarias, Spain.
15. Vavouraki, A., Galani, K.A., Lyras, V., and Dimas, A.A., 2021. Experimental study of the dynamic response of a spar-buoy offshore wind turbine under wave attack. *Proc. 31st International Offshore and Polar Engineering Conference (ISOPE 2021)*, Online.
16. Georgountzou, V.E., and Dimas, A.A., 2020. Numerical study of a perched beach system for coastal protection of the Ampelas area in Paros, Greece. *Proc. Protection and Restoration of the Environment XV*, 289-299, Patras, Greece.
17. Biliani, I. and Dimas, A.A., 2019. Experimental investigation of sandbag structures in the swash zone as a mild method of coastal protection. *Proc. 1st International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2019)*, Athens, Greece.
18. Chalmoukis, I.A. and Dimas, A.A., 2019. Flow over three-dimensional bed formations. *Proc. 1st International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2019)*, Athens, Greece.
19. Fotia, M.V. and Dimas, A.A., 2019. Nearshore processes induced by oblique irregular waves in the vicinity of a segmented, detached, zero-freeboard breakwater. *Proc. 1st International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2019)*, Athens, Greece.
20. Galani, K.A. and Dimas, A.A., 2019. Experimental study of the wave generated current field in the vicinity of a segmented, detached rubble -mound, zero-freeboard breakwater. *Proc. 1st International Conference on Design and Management of Port Coastal and Offshore Works (DMPCO 2019)*, Athens, Greece.
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and Offshore Works (DMPCO 2019), Athens, Greece.

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37. Galani, K.A. and Dimas, A.A., 2015. Experimental Study of Flow under 3-D Breaking Waves over a Smooth Beach. *Proc. 36th IAHR World Congress*, Hague, Netherland.
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39. Leftheriotis, G.A. and Dimas, A.A., 2015. Coupled Simulation of Flow, Sediment Transport and Morphology Evolution over Ripples based on the Immersed Boundary Method. *Proc. 36th IAHR World Congress*, Hague, Netherland.
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F. Abstracts in Conferences

1. Petridis, E., Papalexandris, M.V., and Dimas, A.A., 2026. Numerical study of open-channel flow involving deformable and fixed bed dunes. *Proc. 79th Annual Meeting of the APS Division of Fluid Dynamics*, Orlando, Florida.
2. Chalmoukis, I.A., and Dimas, A.A., 2019. Turbulence of oscillatory flow over three-dimensional vortex ripples. *Proc. EGU General Assembly*, Vienna, Austria.
3. Leftheriotis, G.A., and Dimas, A.A., 2019. Sediment transport over moving bed. *Proc. EGU General Assembly*, Vienna, Austria.
4. *Dimas, A.A., Kolokythas, G.A., and Dimakopoulos, A.S., 2011. Large-wave simulation of spilling breaking and undertow current over constant slope beach. *Proc. 64th Annual Meeting of the APS Division of Fluid Dynamics*, Baltimore, Maryland.
5. *Dimas, A.A., 2011. Linear Instability of Suspended Sediment Two-Phase Flow. *Proc. International Conference on the Status and Future of the World's Large Rivers*, Vienna, Austria.
6. *Dimakopoulos, A.S., and Dimas, A.A., 2010. Large-Wave Simulation of Three-Dimensional Flow Induced by Oblique Wave Propagation Over Constant Slope Beach. *Proc. 8th Euromech Fluid Mechanics Conference*, S14-3, Bad Reichenhall, Germany.
7. *Grigoriadis, D.G.E., Dimas, A.A., and Balaras, E., 2010. Oscillating Turbulent Flow Over a Rippled Bottom. *Proc. 8th Euromech Fluid Mechanics Conference*, S6-18, Bad Reichenhall, Germany.
8. *Dimas, A.A., and Fialkowski, L.T., 2000. Large-Wave Simulation (LWS) of Free-Surface Flows. *6th U.S. National Congress on Computational Mechanics*, Dearborn, Michigan.
9. *Dimas, A.A., Lottati, I., and Bernard, P.S., 2000. Parallel Vortex Method Simulation of

Turbulent Flow in a Hydraulic Spool Valve. *53rd Annual Meeting of the APS Division of Fluid Dynamics*, Washington DC.

10. Bernard, P.S., Dimas, A.A., and Lottati, I., 2000. A Vortex Method for Turbulent Flow Simulation, with Applications. *53rd Annual Meeting of the APS Division of Fluid Dynamics*, Washington DC.
11. Bernard, P.S., and Dimas, A.A., 1998. Vortex Method Simulation of High Reynolds Number Prolate Spheroid Flow. *Proc. 51st Annual Meeting of the APS Division of Fluid Dynamics*, Philadelphia, Pennsylvania.
12. Duncan, J.H., Miller, M.P., Dimas, A.A., Nennstiel, T.A., and Prostler, S., 1998. Incipient Breaking of Steady Waves in the Presence of Surface Wakes. *ONR Workshop on Free-Surface and Wall-Bounded Turbulence and Bubbly Flows*, Pasadena, California.
13. *Dimas, A.A., 1997. Shear Flows Free-Surface Signature and Effect on Free-Surface Waves: Theory and Numerical Simulations. *5th Panhellenic Conference on Complexity and Chaotic Dynamics of Nonlinear Systems*, Thessaloniki, Greece.
14. *Dimas, A.A., 1995. Large Wave Simulation of Breaking Waves. *Proc. 48th Annual Meeting of the APS Division of Fluid Dynamics*, Irvine, California.
15. *Dimas, A.A., 1994. Turbulent Wake Shear Flow at Low Froude Numbers. *Proc. 47th Annual Meeting of the APS Division of Fluid Dynamics*, Atlanta, Georgia.
16. Dimas, A.A., and Triantafyllou, G.S., 1994. Free-Surface Wave Breaking Caused by a Subsurface Vorticity Field. *Proc. 12th U.S. National Congress of Applied Mechanics*, Seattle, Washington.
17. *Dimas, A.A., and Triantafyllou, G.S., 1993. Turbulent Shear-Flow/Free-Surface Interaction. *Proc. 46th Annual Meeting of the APS Division of Fluid Dynamics*, Albuquerque, New Mexico.
18. *Dimas, A.A., and Triantafyllou, G.S., 1993. Nonlinear Interaction of Shear Flow with a Free Surface. *Proc. Annual Meeting of the Society for Industrial and Applied Mathematics*, Philadelphia, Pennsylvania.
19. *Dimas, A.A., and Triantafyllou, G.S., 1992. Three-Dimensional, Shear-Flow/Free-Surface Interaction. *Proc. 45th Annual Meeting of the APS Division of Fluid Dynamics*, Tallahassee, Florida.
20. Triantafyllou, G.S., and Dimas, A.A., 1992. Nonlinear Interaction of Shear Flows with a Free Surface. *Proc. XXV ICTAM Symposium*, Haifa, Israel.

7. INVITED LECTURES

- Coastal Erosion – Sustainable Interventions – Nature-based solutions. Lecture in the workshop organized by the press organization «ΑΧΑΙΚΗ ΠΟΛΙΤΕΙΑ» entitled “Coastal Erosion – The interventions we are obliged to do today in order to avoid future damages”. Western Achaia, 29 May 2024.
- Coastal Protection Works against Erosion and Inundation. Lecture in the workshop organized by the press organization «ΑΧΑΙΚΗ ΠΟΛΙΤΕΙΑ» entitled “Climate Change – Coastal Erosion – The Threat for the Environment and the Quality of Life in the Coastal Communities” Patras, 29 March 2023.
- Hydraulic and Hydrologic Engineering: Managing life's most essential element. Lecture during the meeting of the “Steering Committee for Culture, Heritage and Landscape (CDCPP) of the Council of Europe” entitled “Cultural Heritage and Water”. Ancient Olympia, 22 February 2023.
- Large-eddy simulation of nearshore processes based on a two-fluid approach and an immersed boundary method. HR Wallingford, UK, 14 July 2022.
- Ports resilience and adaptation to climate change. University of Patras, World Meteorological Day, 23 March 2022.
- Sediment transport and morphodynamics of vortex ripples under oscillatory flow conditions. Swansea University, May 2019.
- Large-eddy simulation of nearshore processes based on a two-fluid approach and an immersed boundary method. DELTARES Seminar Series, Delft, The Netherlands, 28 August 2018.
- Numerical simulation of turbulent flows and sediment transport.
  Winter School, University of Cyprus, Nicosia, Cyprus, 11-13 February 2015.

- Introductory lecture series on sediment transport in fluvial, estuarine and coastal environment. Winter School, Université Catholique de Louvain, Louvain-la-Neuve, Belgium, 12-15 March 2014.
- Coastal Exploitation and Protection Works: Proper and Wrong Design Practices. Technical Chamber of Greece – Western Greece Regional Meeting on "Coastal Erosion", Patras, 9 April 2011.
- A Proposal for Environmental Management of Patras Port. 2nd PAN-European FORUM "Environmental Status of Southeast Europe Ports: strengths, weaknesses, opportunities and threats", Patras, 21 June 2010.
- Vortex Computational Algorithm for Turbulence. IBM, Watson Research Center, Yorktown Heights, New York, 17 December 1999.
- A Fast, Grid-Free, Vortex Methodology for Turbulent Flow Modelling. NASA Langley Research Center - Computational Fluid Dynamics Group, Langley, Virginia, 23 Nov. 1999.
- Fast, Parallel, Grid-Free, CFD Software for Automotive and Energy Engineering Applications. The Chrysler Corporation Technology Center, Auburn Hills, Michigan, 8 Dec. 1997.
- Large Wave Simulation of Spilling Breaking Waves. Workshop by ONR (Office of Naval Research) on "Free-Surface and Wall-Bounded Turbulence and Turbulent Flows", Pasadena, California, 26 Feb. 1996.
- Free Surface Signature of Turbulent Shear Flows. Department of Mechanical Engineering, University of Maryland in Baltimore County, Baltimore, Maryland, 6 Oct. 1995.
- Spectral Methods in Free Surface Flows. Department of Material and Nuclear Engineering, University of Maryland in College Park, College Park, Maryland, 28 Mar. 1995.
- Nonlinear Interaction of Shear Flow with a Free Surface. Department of Mechanical Engineering, University of Maryland in College Park), College Park, Maryland, Sep. 1993, and Department of Mechanical Engineering, New Jersey Institute of Technology, Newark, New Jersey, Apr. 1993.
- Shear-Flow/Free-Surface Interaction. The Benjamin Levich Institute for Physico-Chemical Hydrodynamics, The City College of CUNY (City University of New York), New York, New York, 5 Nov. 1991.
- Interaction of Wakes of Floating Bodies with the Free Surface. MIT Sea Grant Marine Industry Collegium on "Interaction of Flow-Fields with Cables, Flexible Risers and Tethers", Cambridge, Massachusetts, Apr. 1991.