

Curriculum Vitae

Andreas G. Papadimitriou

PhD Candidate, Laboratory of Harbour Works, NTUA
Research Associate, Laboratory of Harbour Works, NTUA

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1. PERSONAL INFORMATION

First Name / Surname	Andreas G. Papadimitriou
Date & Place of Birth	17/03/1994, Athens, Greece
Nationality	Greek
Gender	Male
Place of Residence	Zografou 15773, Greece
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2. EDUCATION

PhD Candidate (PhD) (2019-)

School of Civil Engineering, National Technical University of Athens (NTUA hereafter), Greece, Spectral wave propagation in the nearshore incorporating hydrodynamic processes in the swash zone.

Postgraduate Diploma (MSc) (2017-2019)

School of Civil Engineering, NTUA, Greece, Postgraduate Diploma (MSc) in Water Resources Science and Technology, Stream of Coastal Zone Management. (Grade 9.03/10).

MEng Degree in Civil Engineering (2012-2017)

School of Civil Engineering, NTUA, Greece, MEng Degree in Civil Engineering. (Grade 7.33/10).

3. PERSONAL SKILLS

Mother language	: Greek
Other language skills	: English
Programming Language skills	: FORTRAN, C#, Python, JULIA, MATLAB
Numerical Models	: MARIS (Scientia Maris), MIKE 21, FUNWAVE-TVD, open TELEMAC-MASCARET, DELFT-3D, SMS, CELERIS, X-Beach

4. SUMMARY OF ACADEMIC & PROFESSIONAL EXPERIENCE

Andreas G. Papadimitriou is a PhD Candidate and Research Associate of the National Technical University of Athens and a Researcher of Scientia Maris Private Company. He holds a MSc Degree in Coastal Zone Management and a Civil Engineering Diploma. In 2019, he commenced his PhD studies in NTUA focused on sediment transport and coastal morphology. His research interests revolve around computer modelling/simulation of maritime hydrodynamics and coastal engineering processes, wave-induced circulation and sediment transport, upscaling techniques for morphological modelling, oil spill modelling, port engineering and harbour structures design. He has been involved in 3 national research projects and has participated in over 25 papers published in scientific journals or presented in international conferences.

5. RESEARCH PROJECTS

Project Title	Time period	Contracting Authority	Role and tasks
1. ACCU-WAVES: A DECISION SUPPORT TOOL FOR NAVIGATION SAFETY IN PORTS	2018-2022	EUROPEAN UNION & GREEK STATE	NTUA Team Member Ports are vital links in the chain of maritime transportations and have a decisive impact on their quality. Recent reports of marine accidents show that 60% of them are due to the human factor. The majority of accidents could be avoided if appropriate means of support for navigation existed. The tool to be developed will provide reliable data on prevailing sea states in both real-time and 3-day forecasts every 3 hours. The results will support approaching procedures of vessels to port and harbor basins. The application will be based on hydrodynamic models and will derive data from open seas forecasts
2. COAST-UP: CLOUD-BASED MODELS FOR UPGRADING COASTAL RESILIENCE	2020-2022	EUROPEAN UNION & GREEK STATE	Research Team Member The Start-Up Company, Scientia Maris (in Latin <deep knowledge of the sea>), strives to transform scientific knowledge in the maritime field, emerging from Technical Universities, as well as the relevant practical knowledge generated in Engineering Firms, into a commercially exploitable product. The main objective of the Company is the development and distribution of highly accurate and easy-to-use numerical models to the international market, focusing on engineers, state authorities and researchers in, with the ultimate goal to upgrade the coastal communities' resilience against climate change, coastal erosion and flooding.

6. TEACHING ACTIVITIES

Course Title	Time Period	University	Position
1. Numerical Modelling of Coastal Processes	2018-2019	School of Civil Engineering, NTUA, Postgraduate Course	Teaching Assistant
2. Special Topics in Harbour Works	2019-2022	School of Civil Engineering, NTUA	Teaching Assistant
3. Laboratory on Water Resources & Environment	2019-2021	School of Civil Engineering, NTUA	Teaching Assistant
4. Maritime Hydrodynamics	2019-2021	School of Civil Engineering, NTUA, Postgraduate Course	Teaching Assistant
5. Coastal Engineering and Coastal structures	2020-2022	School of Civil Engineering, NTUA	Teaching Assistant
6. Maritime Hydraulics and Port structures	2020-2022	School of Civil Engineering, NTUA	Teaching Assistant

7. LIST OF PUBLICATIONS

A. SCIENTIFIC JOURNALS

1. Chondros, M., Metallinos, A., **Papadimitriou A.** and Tsoukala, V. (2022). Sediment transport equivalent waves for estimating annually-averaged sedimentation and erosion trends in sandy coastal areas. *Journal of Marine Science and Engineering Eng.* (under review).
2. **Papadimitriou A.**, Chondros, M., Metallinos, A. and Tsoukala, V. (2022). Accelerating predictions of morphological bed evolution by combining numerical modelling and Artificial Neural Networks, *Journal of Marine Science and Engineering Eng.* (accepted for publication).
3. Afentoulis, V., **Papadimitriou, A.**, Belibassakis, K. and Tsoukala, V. (2022). A coupled model for sediment transport dynamics and prediction of seabed morphology with application to 1DH /2DH coastal engineering problems, *Oceanologia*.
<https://doi.org/10.1016/j.oceano.2022.03.007>
4. Chondros, M., Metallinos, A., **Papadimitriou, A.**, Memos, C., and Tsoukala, V., (2021). A Coastal Flood Early-Warning System Based on Offshore Sea State Forecasts and Artificial Neural Networks *Journal of Marine Science and Engineering* 9(11), 1272.
<https://doi.org/10.3390/jmse9111272>
5. Metallinos, A., Chondros, M., and **Papadimitriou, A.**, (2021). Simulating Nearshore Wave Processes Utilizing an Enhanced Boussinesq-Type Model. *Modelling* 2(4), 686-705.
<https://doi.org/10.3390/modelling2040037>
6. Chondros, M., Metallinos, A., Memos, C., Karambas Th., and **Papadimitriou A.**, (2021). Concerted nonlinear mild-slope models for enhanced simulations of coastal processes. *Applied Mathematical Modelling*, Vol. 91, pp. 508-529.
<https://doi.org/10.1016/j.apm.2020.08.027>
7. Makris, C., Androulidakis, Y., Karambas, Th., **Papadimitriou, A.**, Metallinos, A., Kontos, Y., Baltikas, V., Chondros, M., Krestenitis, Y., Tsoukala, V., and Memos, C. (2021). Integrated modelling of sea-state forecasts for safe navigation and operational management in ports: Application in the Mediterranean Sea. *Applied Mathematical Modelling*, Vol. 89, pp. 1206-1234. <https://doi.org/10.1016/j.apm.2020.08.015>
8. **Papadimitriou, A.**, Chondros, M., Metallinos, A., Memos, C., and Tsoukala, V. (2020). Simulating wave transmission in the lee of a breakwater in spectral models due to overtopping. *Applied Mathematical Modelling*, Vol. 88, pp. 743-757.
<https://doi.org/10.1016/j.apm.2020.06.061>
9. **Papadimitriou, A.**, Panagopoulos, L., Chondros, M., and Tsoukala, V. (2020). A Wave Input-Reduction Method Incorporating Initiation of Sediment Motion. *Journal of Marine Science and Engineering* 8 (8), 597.
<https://doi.org/10.3390/jmse8080597>
10. **Papadimitriou A.** and Tsoukala V. (2022). Evaluating and enhancing the K-means clustering algorithm for inter-annual morphological bed evolution applications. *Continental Shelf Research*. (under review)

B. CONFERENCE PROCEEDINGS AFTER REVIEW ON THE FULL PAPER

INTERNATIONAL

1. Chondros, M., Metallinos, A., **Papadimitriou A.**, Kalpyri M., Memos, C., and Tsoukala V. (2021). Coastal Inundation Integrated Modelling. CEST2021: 17th International Conference on Environmental Science and Technology, Athens, Greece, 1-4 September 2021.
2. Chondros, M., Malliouri, D., Metallinos, A., **Papadimitriou A.**, Karambas, Th., Makris, C., Baltikas, V., Kontos, Y., Nagkoulis N., Androulidakis, Y., Klonaris, G., Tsoukala, V., and Memos,

- C. (2021). Numerical Modelling of Wave Reflection from Port Structures for Reliable Forecasting of Berth Downtime. CEST2021: 17th International Conference on Environmental Science and Technology, Athens, Greece, 1-4 September 2021.
3. Metallinos, A., **Chondros, M.**, and Papadimitriou A. (2021). An Advanced Boussinesq-Type Model for Wave Propagation in Coastal and Harbour Areas. CEST2021: 17th International Conference on Environmental Science and Technology, Athens, Greece, 1-4 September 2021.
 4. Makris, C., Baltikas, V., Androulidakis, Y., Kontos, Y., Nagkoulis, N., Kazakis, I., Karambas, Th., **Papadimitriou, A.**, Metallinos, A., Chondros, M., Emmanouilidou, M., Malliouri, D., Klonaris, G., Tsoukala, V., Memos, C., Spiliopoulos, G., and Zissis, D. (2021). Integrated modeling of sea-state forecasts for safe navigation near and inside ports: the Accu-Waves platform. 31st International Ocean and Polar Engineering Conference, Rhodes, Greece, June 2021.

C. CONFERENCE PROCEEDINGS AFTER REVIEW ON THE ABSTRACT

International

1. Spiliopoulos, G., Bereta, K., Zissis, D., Memos, C., Makris, Ch., Metallinos, A., Karambas., Th., Chondros, M., Emmanouilidou, M., **Papadimitriou, A.**, Baltikas, V., Kontos, Y., Klonaris, G., Androulidakis, Y. and Tsoukala, V. (2020). A Big Data framework for Modelling and Simulating high-resolution hydrodynamic models in sea harbours. Global Oceans 2020: Singapore – U.S. Gulf Coast, 5-30 Oct. 2020.
2. **Papadimitriou, A.**, Memos, C., Atzampou, P., Chondros, M., Metallinos, A., and Tsoukala, V. (2020). Impact of coastal currents on spectral wave operational models: An application in Accu-Waves. 6th International Association of Hydro-Environmental Engineering & Research (IAHR) Europe Congress, 14-17 September 2020, Warsaw, Poland.
3. Chondros, M., Metallinos, A., **Papadimitriou, A.** and Memos, C. (2019). Advanced numerical models for simulation of nearshore processes, 1st International Conference Design and Management of Port, Coastal, and Offshore Works, 8-11 May 2019, Eugenides Foundation, Athens, Greece.
4. Metallinos, A., Chondros, M., Karambas, Th., Memos, C. and **Papadimitriou A.** (2019). Advanced numerical models for wave disturbance simulation in port basins. 1st International Conference Design and Management of Port, Coastal, and Offshore Works, 8-11 May 2019, Eugenides Foundation, Athens, Greece.
5. **Papadimitriou, A.**, Chondros, M., Metallinos, A., Memos, C. (2019). Simulating wave transmission in the lee side of a breakwater in spectral wave models due to overtopping. 1st International Conference Design and Management of Port, Coastal, and Offshore Works, 8-11 May 2019, Eugenides Foundation, Athens, Greece.
6. Afentoulis V., **Papadimitriou A.**, Tsoukala V., Benoit M. (2019) Numerical approaches for the evaluation of sediment transport on a shallow sloping sea bottom. 1st International Scientific Conference on Design and Management of Harbor, Coastal and Offshore Works. Athens, Greece, 8 to 11 May.
7. Makris, C., Karambas, Th., Baltikas, V., Kontos, Y., Metallinos, A., Chondros, M., **Papadimitriou, A.**, Tsoukala, V., and Memos, C. (2019). WAVE - L: An integrated numerical model for wave propagation forecasting in harbor areas. 1st International Conference Design and Management of Port, Coastal, and Offshore Works, 8-11 May, 2019, Eugenides Foundation, Athens, Greece.
8. Memos C., Makris C., Metallinos A., Karambas T., Zissis D., Chondros M., Spiliopoulos G., Emmanouilidou M., **Papadimitriou A.**, Baltikas V., Kontos Y., Klonaris G., Androulidakis Y. and Tsoukala V. (2019). Accu - Waves: A decision support tool for navigation safety in ports. 1st International Conference Design and Management of Port, Coastal, and Offshore Works, 8-11 May, 2019, Eugenides Foundation, Athens, Greece.

9. **Papadimitriou, A.**, Chondros, M., Metallinos, A., Tsoukala, V. (2022). Accelerating coastal bed evolution predictions utilizing Numerical Modelling and Artificial Neural Networks. Proc. of the 7th International Association of Hydro-Environmental Engineering & Research (IAHR) Europe Congress, 7 - 9 September, Athens, Greece, pp. 159-160.
10. **Papadimitriou, A.** and Tsoukala, V. (2022). Performance evaluation of the K-Means clustering algorithm for the prediction of annual coastal bed evolution. Proc. of the 7th International Association of Hydro-Environmental Engineering & Research (IAHR) Europe Congress, 7 - 9 September, Athens, Greece, pp. 159-160.
11. Tsaimou, C., Kagkelis, G., **Papadimitriou, A.**, Chalastani, V., Sartabakos, P., Chondros, M., Tsoukala, V. (2022). Advanced Multi-Area Approach for Coastal Vulnerability Assessment. Proc. of the 7th International Association of Hydro-Environmental Engineering & Research (IAHR) Europe Congress, 7 - 9 September, Athens, Greece.