

CURRICULUM VITAE

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Name: Theophanis V. Karambas
Place of birth: Larissa, Greece
Date of birth: 22 Oct. 1962

Foreign Languages: English, French

UNDERGRADUATE STUDIES

1986: Department of Civil Engineering
Aristotle University of Thessaloniki, Greece

POSTGRADUATE STUDIES

1988: M. Sc. courses , Maritime Civil Engineering,
University of Liverpool, U.K.

1991: Ph. D. Thesis:
Mathematical Description of the Non-Linear Dispersive Wave Propagation in the Coastal Zone, Department of Civil Engineering,
Aristotle University of Thessaloniki, Greece

1994: Postdoctoral research:
Non-Linear Wave Modelling, Hydraulics Research Wallingford, U.K.

PROFESSIONAL OCCUPATION

- Associate Professor of Coastal Engineering, Dept. of Marine Sciences, University of the Aegean
- Research Associate, Aristotle University of Thessaloniki.
- Consultant Civil Engineer, Hydroengineering co.

EDITORIAL BOARDS

Book editor

- ‘Soft Shore Protection’, Kluwer Academic Publishers (together with C. Goudas, G. Katsiaris, V. May)
- Editorial Board of the international journal ‘Coastal Engineering’

Referee for scientific journals and conferences

- COASTAL ENGINEERING (Elsevier).
- JOURNAL OF WATERWAY, PORT, COASTAL & OCEAN ENGINEERING, American Society of Civil Engineering (A.S.C.E.).
- OCEAN ENGINEERING (Elsevier)
- JOURNAL OF HYDRAULICS RESEARCH, International Association of Hydraulic Engineering and Research (I.A.H.R.)
- SEDIMENTARY GEOLOGY (Elsevier)
- MARINE GEOLOGY (Elsevier)
- CONTINENTAL SHELF RESEARCH (Elsevier)
- NATURAL HAZARDS AND EARTH SYSTEM SCIENCES
- JOURNAL OF ENVIRONMENTAL MANAGEMENT (Elsevier)
- ECOLOGICAL ENGINEERING
- INTERNATIONAL JOURNAL OF OFFSHORE AND POLAR ENGINEERING, International Society of Offshore and Polar Engineers (ISOPE)
- JOURNAL OF THE FRANKLIN INSTITUTE, Elsevier
- N. Z. JOURNAL OF MARINE AND FRESHWATER RESEARCH (SIR Publishing).
- ADVANCES IN ENGINEERING SOFTWARE (Elsevier Applied Science).
- NUMERICAL METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS
- JOURNAL OF BIOLOGICAL RESEARCH, Scientific Annals of the School of Biology Aristotle University of Thessaloniki.
- National Coastal, Harbour and Hydraulics Engineering Conferences
- XXX Int. Ass. Hydraulics Eng. Research Congress", Thessaloniki, IAHR
- Protection and Restoration of the Environment VII, Μύκονος, 2004.
- ISOPE-2007 (2007) 17th International Offshore and Polar Engineering Conference, Lisbon, Portugal.
- ISOPE-2008 (2008) 18th International Offshore and Polar Engineering Conference, Vancouver, BC, Canada
- ISOPE-2009 (2009) 19th International Offshore and Polar Engineering Conference, Osaka, Japan.

SELECTED RESEARCH PROJECTS

- Coastal Morphodynamics, MAST I, 1990-1992
- An operational wave model for the Mediterranean Sea for hindcast and forecast applications. Organisation of a data base for regional modelling, MAST I, 1992
- Coastal Morphodynamics, MAST II, 1992-1995
- European Coupled Atmosphere Wave Ocean Model (ECAWOM), MAST II, 1994-1996
- LIP 11D Delta Flume Experiments, Delft, 1995.
- Performance of soft beach systems and nourishment measures for European Coasts" (SAFE), 1996-, (MAST III), XII, E. C.
- "Monolithic submerged coastal structures" (UPC/LIM), Large-Scale Facilities Activity, TMR Programme, Commission of E.C., DG XII, 1997 (Coordinator).
- "TRITON - Transmission and Reflection for Rubble-mound Breakwaters in the

Nearshore Region", (UPC/LIM), Large-Scale Facilities Activity, TMR Programme, Commission of E.C., DG XII, 1998 (Coordinator).

- Environmental Design of Low Crested Coastal Defence Structures, DELOS, 2000-, EU.
- CORI (COastal RIsk), 'Prevention and management of sea originated risks to the coastal zone', INTERREG III B ARCHIMED (Project Manager).
- BEACHMED-e", INTERREG IIIC - ZONE SUD.
- THESEUS ("Innovative technologies for safer European coasts in a changing climate")

PROFESSIONAL and SCIENTIFIC ASSOCIATIONS / INTERNATIONAL COMMITTEES

- Technical Chamber of Greece
- Hellenic Hydrotechnical Association
- Hellenic Network on Coastal Research - HENCORE
- Local Organizing Committee 'Long Waves Symposium', in parallel with XXX IAHR Congress, 2003, Thessaloniki, Greece.

RESEARCH INTERESTS

Numerical Models in Coastal Engineering, Non Linear Wave Theories, Wave Propagation in the Nearshore Area, Wave Breaking and Runup, Sediment Transport in the Surf and Swash Zone, Coastal Morphology, Long Waves, Coastal Structures, Pollutant Dispersion and Diffusion in Coastal Areas.

SELECTED PUBLICATIONS

Chapters in Books

- Karambas Th. V., 2002, "Nonlinear Wave Modeling and Sediment Transport in the Surf and Swash Zone", ADVANCES in COASTAL MODELING, Elsevier Science Publishers.
- Karambas, Th. V. and C. Koutitas, (2002) "Non linear wave and sediment transport model for beach profile evolution: application to soft shore protection methods" Soft shore Protection, Kluwer Academic Publishers B.V. , eds C. Goudas, G. Katsiaris, Th. V. Karambas, V. May.
- Karambas, Th. V., S. Christopoulos and C. Koutitas, (2002) "Shoreline changes induced by a submerged groins system", Soft shore Protection, Kluwer Academic Publishers B.V. , eds C. Goudas, G. Katsiaris, Th. V. Karambas, V. May.

Papers

Journal Publications

- **Karambas** Th. V., Krestenitis Y. and Koutitas C., 1990, "A numerical solution of Boussinesq equations in the inshore zone", Hydrosoft, Vol. 3, No 1, pp 34-37.

- **Karambas** Th. V., Krestenitis Y. and Koutitas C., 1991, "Numerical model on tsunami propagation", *The International Journal of the Tsunami Society*, Vol. 9, No 1, pp 63-71.
- **Karambas** Th. V. and Koutitas C., 1992, "A breaking wave propagation model based on the Boussinesq equations", *Coastal Engineering*, Vol. 18, pp 1-19.
- **Karambas** Th., 1996, "Non-linear wave energy modelling in the surf zone", *Non-linear Processes in Geophysics*, 3, pp 127-134.
- **Karambas** Th. V. and Koutitas C., 1998, "An Improvement method to Stokes non-linear theory", *Journal of Waterway, Port, Coastal and Ocean Engineering*, American Society of Civil Engineers (ASCE), vol. 124, no 1.
- Pechon P., Rivero F., Johnson H., Chesher T., O'Connor B., Tanguy J-M., T. **Karambas**, Mory M., Hamm L., 1997, "Intercomparion of Wave-Driven Current Model", *Coastal Engineering*, 31, 199-215.
- **Karambas** Th. V., (1999) "A unified model for periodic non linear dispersive wave in intermediate and shallow water", *Journal of Coastal Research*, Vol 15, No 1, pp. 128-139.
- **Karambas** Th. V., 1999, "A numerical model for integral properties of periodic non-linear breaking and non-breaking waves, *Journal of Hydrosience and Hydraulic Engineering*, Japan Society of Civil Engineering, Vol. 17, No. 1, pp. 171-185.
- **Karambas** Th. V., 1999, "Mixing in the surf zone: a theoretical approach", *Journal of Marine Environmental Engineering*, vol 5., pp. 159-173.
- **Karambas** Th. V. and C. Koutitas (2002). "Surf and swash zone morphology evolution induced by nonlinear waves.", *Journal of Waterway, Port, Coastal and Ocean Engineering*, American Society of Civil Engineers (ASCE), Vol. 128, no 3.
- **Karambas** Th. V. (2002) "Modeling of sea-level rise effects on cross-shore coastal erosion", *Journal of Marine Environmental Engineering*, vol. 7, pp. 15-24.
- Capobianco M., H. Hanson, M. Larson, H. Steetzel, M. Stive, Y. Chatelus, S. Aarnikhof, Th. V. **Karambas** (2002) "Nourishment design and evaluation: applicability of model concepts", *Coastal Engineering*, vol. 47, no 2, pp. 113-135.
- **Karambas** Th. V. (2003) "Modelling of infiltration-exfiltration effects of cross-shore sediment transport in the swash zone" *Coastal Engineering Journal*, vol 45, no 1, pp. 63-82.
- **Karambas** Th. V. and N. P. Tozer (2003) "Breaking waves in the surf and swash zone", *Journal of Coastal Research*, vol. 19, no 3, pp. 514-528.

- **Karambas** Th. V. (2003) "Modelling of infiltration-exfiltration effects of cross-shore sediment transport in the swash zone" Coastal Engineering Journal.
- **Karambas** Th. V. and N. P. Tozer (2003) "Breaking waves in the surf and swash zone", Journal of Coastal Research.
- Koutandos E.V., Th.V. **Karambas** , C.G. Koutitas (2004). Floating breakwater response to waves action using a Boussinesq model coupled with a 2DV elliptic solver. Journal of Waterway, Port, Coastal and Ocean Engineering, American Society of Civil Engineers (ASCE), Vol. 130, no 5, pp. 243-255.
- **Karambas** Th. V. and E.K. Karathanassi (2004). Boussinesq modeling of Longshore currents and sediment transport. Journal of Waterway, Port, Coastal and Ocean Engineering, American Society of Civil Engineers (ASCE), Vol. 130, no 6, pp. 277-286.
- ***Karambas** Th. V. and C. Koutitas, 2004, 'Boussinesq modeling of set-down in harbors and surf beat induced by short wave groups', Maritime Engineering, ICE, 163-170.
**'Halcrow Price 2005', Institution of Civil Engineers (U.K.)*.
- Memos C. D., Th. V. **Karambas** and I. Avgeris (2005) 'Irregular wave transformation in the nearshore zone: Experimental investigations and comparison with a higher order Boussinesq model' Ocean Engineering, 32, pp. 1465–1485.
- Pehlivanidis G., Th. **Karambas** and M. Gousidou (2005), 'A Computational Model and An Operational Tool For the Optimal Forced Marina Flushing', J. of Marine Env. Engg., Vol. 8, 1, 21-34.
- Koutitas Ch. and Th. V. **Karambas** (2005), A computational approach to design codes for tsunami resisting coastal structures, Special Issue of the ISET Journal on 'Tsunami Seismic Hazard', vol 42, no 4, pp. 137-145.
- Johnson H.K., Th. V. **Karambas**, I. Avgeris, B. Zanuttigh D. Gonzalez-Marco, I. Caceres (2005) 'Modelling of waves and currents around submerged breakwaters', Coastal Engineering, 52, pp. 949– 969.
- **Karambas** (2006), Prediction of sediment transport in the swash zone by using a nonlinear wave model, Continental Shelf Research, 26, pp. 599-609.
- **Karambas** Th. V. and M. Gousidou (2006) 'Modelling wave attenuation by submerged resonators' Maritime Engineering 159, MA2, pp. 45-53.

- Velegrakis AF, M.I. Vousdoukas, A.M. Vagenas, Th. **Karambas**, K. Dimou, Th. Zarkadas, (2008) Field observations of waves generated by passing ships: A note, Coastal Engineering, 54, pp. 369–375.
- **Karambas Th. V.**, C. D. Memos (2009) ‘A Boussinesq model for weakly nonlinear fully dispersive water waves’. Journal of Waterway, Port, Coastal and Ocean Engineering, American Society of Civil Engineers (ASCE), vol. 135, n°5, pp. 187-199.
- Kriezi and **Th. V. Karambas** (2009). ‘Breaking and non breaking wave deformation due to submerged monolithic breakwaters in the nearshore zone’. Maritime Engineering.
- Vousdoukas, M.I., Velegrakis, A.F. and **Karambas, T.V.**, 2009. Morphology and sedimentology of a microtidal, beachrock-infected beach: Vatera Beach, Lesvos, NE Mediterranean. Έγινε δεκτή και θα δημοσιευτεί στο περιοδικό Continental Shelf Research.

Conference Publications

- **Karambas Th. V.**, Koutitas C., 1990, "Mathematical modelling of short waves in surf zone", Water Wave Kinematics, Kluwer Academic Publishers, eds A. Torum and O.T. Gudmestad, pp 351-365.
- **Karambas Th. V.**, Agelidis C., Koutitas C. and Christopoulos S., 1994 "Application of the 2DH advection diffusion equation in the inshore zone" HYDROSOFT '94, Porto Carras, Chalkidiki.
- **Karambas Th. V.**, H. N. Southgate and C. Koutitas, 1995, "A Boussinesq model for inshore zone sediment transport using an energetics approach", Coastal Dynamics '95, Gdansk, 841-849.
- **Karambas Th.** and C. Koutitas, 1996, "A quasi-3D model for morphology- structures interaction in coastal environment" Protection and Restoration of the Environment III, Techn. Univ. of Crete, pp. 65-72.
- **Karambas Th.**, 1996, "Dispersion induced by breaking and non breaking waves" Protection and Restoration of the Environment III, Techn. Univ. of Crete, pp. 57-64.
- **Karambas Th.** and C. Koutitas, 1996, "Non-linear waves over bars and submerged breakwaters" 2nd National Congress on Computational Mechanics, Chania, Greece.
- **Karambas Th.** and Kitou N., 1996, "A numerical model for the wave and current field estimation near coastal structures" 2nd National Congress on Computational Mechanics, Chania, Greece.
- **Karambas Th. V.** and Koutitas, 1996, "Non-linear seismic sea waves induced harbour resonance and loadings on breakwaters", Earthquake resistant engineering structures 96, Thessaloniki, Greece.

- Angelidis K., Th. V. **Karambas** and C. Koutitas, 1996, "Refraction-diffraction wave models in the inshore zone", Hydrosoft 96, Malaysia.
- **Karambas**, Th. V. and E. C. Bowers, 1996, "Representation of partial wave reflection and transmission for rubble mound coastal structures", Hydrosoft 96, Malaysia.
- **Karambas**, Th. V., 1996, "On the pollutant dispersion subjected to nearshore circulation", Proceedings 3rd International Conference on the Environmental Pollution, Sept. 1996, Thessaloniki, Greece pp 65-72.
- Koutitas, C., Th. V. **Karambas** and S. Christopoulos, 1996, A practical tool for the recognition of renewal rates and self cleansing capacity of Mediterranean marina basins", Proceedings 3rd International Conference on the Environmental Pollution, Sept. 1996, Thessaloniki, Greece pp 58-64.
- **Karambas** Th. V. and C. Koutitas, 1996, "Two wave models for harbour layout design", 11th International Harbour Congress, Antwerpen, Belgium, 133-140.
- **Karambas** Th. V. and Koutitas, 1997, "Non-linear Waves Effects on Morphological Changes near Coastal Structures", International Symposium, Engineering Geology and the Environment, IAEG, Athens, 2739-2744.
- **Karambas**, Th. V., P. Prinos and E. E. Kriezis, 1997, "Modelling of hydrodynamic and morphological effects of submerged breakwaters on the nearshore region", Coastal Dynamics 97, ASCE, ed. E.B. Thornton, pp. 764-773.
- Kriezis E. E., Th. V. **Karambas**, C. Koutitas and P. Prinos, 1997, "Interaction of floating breakwaters with the 2D-H hydrodynamic processes in the coastal zone", Coastal Dynamics 97, ASCE, ed. E.B. Thornton, pp. 724-733.
- **Karambas** Th. V., "Non-linear Wave Forces on Large Pile Structures", 1997, Computational Methods and Experimental Measurements, CMEM 97, Computational Mechanics Publications, eds Anagnostopoulos P., Carlomagno G. M., Brebbia C. A., Southampton, UK and Boston USA, pp 561-567.
- Th. V. **Karambas** and E. Kriezis, 1997, "Wave Reflection and Transmission for Submerged Monolithic Breakwaters", Computational Methods and Experimental Measurements, CMEM 97, Computational Mechanics Publications, eds Anagnostopoulos P., Carlomagno G. M., Brebbia C. A., Southampton, UK and Boston USA, pp 544-550.
- Th. V. **Karambas**, 1998, "2DH non-linear dispersive wave modelling and sediment transport in the nearshore zone", International Conference on Coastal Engineering 1998, ASCE, Copenhagen, 2940-2953.
- Th. V. **Karambas** and C. Koutitas, 1998, "On the dispersion process of wind generated flows in coastal waters" Protection and Restoration of the Environment IV, eds K. Katsifarakis et al., pp. 307-314.
- Th. V. **Karambas** and C. Koutitas, 1998, "Modelling of scour by currents and waves around hydraulic structures", 5th National Congress on Mechanics, The Univ. of Ioannina, pp. 330-336.

- **Karambas** Th. V., 1999, "Numerical simulation of linear wave propagation, wave-induced circulation, sediment transport and beach evolution", Coastal Engineering and Marina Developments, WIT Press, Eds C.A. Brebbia and P. Anagnostopoulos, pp. 253-274.
- Kriezi E. E., Th. V. **Karambas**, P. Prinos, Ach. Tilegrafos, X. Gironella, C. Mosso, 1999, "Wave reflection and transmission for submerged and rubble-mound breakwaters in the nearshore zone", Coastal Structures '99, Spain.
- **Karambas**, Th. V. and C. Koutitas, (2000) " Non linear wave and sediment transport model for beach profile evolution: application to soft shore protection methods. "Int. Conf. on Soft shore protection method, Patras, Greece.
- **Karambas**, Th. V., S. Christopoulos and C. Koutitas, (2000) "Shoreline changes induced by a submerged groins system. Int. Conf. on Soft shore protection method", Patras, Greece.
- Kriezi E.E., Th. V. **Karambas**, P. Prinos and C. Koutitas , (2001) "Interaction of floating breakwaters with waves in shallow waters", Int. Conf. IAHR 2001, Beijing, China, 69-76.
- **Karambas**, Th. V., J. M. De la Peña, S. Christopoulos, J. C. Santás, Y. N. Krestenitis (2001) "Malagueta beach case: nourishment characteristics, Field surveys and numerical simulation", Coastal Dynamics 2001, CD'01, Lund, Sweden, 182-191.
- **Karambas**, Th. V., E.E. Kriezi, P. Prinos and C. Koutitas, (2002) "Breaking wave evolution over monolithic submerged breakwaters: an experimental and numerical study", Int. Conference on Coastal Engineering '02 (ICCE '02), ASCE, Cardiff, U.K.
- Koutantos, E., Th. V. **Karambas**, C. Koutitas, P. Prinos, (2002) "Shoreline changes in presence of a floating breakwater used for coastal protection", Protection and Restoration of the Environment VI, Skiathos, Greece, 403-410.
- **Karambas**, Th. V., E. Koutantos and Ch. Koutitas, "Sea-level rise effects on coastal erosion", Protection and restoration of the environment VI, Skiathos, Greece, 397-394.
- Avgeris I., P. Prinos, Th. V. **Karambas** "Effects of porous submerged breakwaters on wave evolution in shallow waters", Int. Conference on Hydroscience, IAHR, Poland.
- E.V. Koutandos, Th.V. **Karambas** , C.G. Koutitas, P.E. Prinos, "Floating Breakwaters Efficiency in Intermediate and Shallow Waters", Int. Conference on Hydroscience, IAHR, Poland.
- **Karambas**, Th. V., E.E. Kriezi, P. Prinos and C. Koutitas, (2002) "Breaking wave evolution over monolithic submerged breakwaters: an experimental and numerical study", Int. Conference on Coastal Engineering '02 (ICCE '02), ASCE, Cardiff, U.K., 1804-1816.
- Th. V. **Karambas** and C. Koutitas (2003) "Boussinesq modeling of set-down in harbours and surf beat induced by short waves groups", Long Wave Symposium, IAHR, COPRI (ASCE), Thessaloniki, 25-36.

- **Karambas** Th. V., E. Koutandos, and E.K. Karathanassi (2003) ‘Boussinesq modeling of the alongshore sediment transport’, Int. Conf. IAHR 2003, Thessaloniki, 323-330.
- **Karambas** Th. V., Avgeris I., Prinos P. (2003) ‘Wave reflection from vertical permeable structures’, Int. Conf. IAHR 2003, Thessaloniki, 401-408.
- Th. V. **Karambas** (2004) ‘Prediction of Sediment Transport in the Swash Zone by using a Nonlinear Wave Model’, ICCE 2004, Lisbon, Portugal.
- Avgeris I., Th. V. **Karambas**, P. Prinos (2004) ‘Boussinesq modeling of wave interaction with porous submerged breakwaters’, ICCE 2004, Lisbon, Portugal.
- Prinos P.E., E.V. Koutandos and Th. V. **Karambas** (2004) ‘Spectral evolution of breaking-non breaking waves in the surf zone’, ICCE 2004, Lisbon, Portugal.
- D. Koutsouvela, Th. V. **Karambas**, I. Avgeris, E. Karathanassi, (2007) ‘Functional design of submerged breakwaters for coastal protection using two wave morphological models’, Coastal Structures ’07.
- **Karambas** Th. V., C. D. Memos (2007) ‘A post-Boussinesq model for weakly nonlinear fully dispersive wave propagation over a bar’, Coastal Structures ’07.
- **Karambas** Th. V., Koutandos, Kampanis, (2007) ALS – A coastal engineering model for wave propagation, wave-structure interaction and bed morphology evolution. 32nd Conference of the IAHR, Venice, July, 1-6, 2007.
- Vousdoukas, M.I., **Karambas**, T.V., Velegrakis, A.F., 2007. Modelling beach profile evolution of beachrock infected beaches, using a Boussinesq model. 32nd Conference of the IAHR, Venice, July, 1-6, 2007.
- **Karambas** Th. V., C. D. Memos (2008) ‘A 2DH post-boussinesq model for weakly nonlinear fully dispersive water waves’, Int. Conf. on Coastal Engineering 2008.
- D. Stagonas, G. Müller, Th. V. **Karambas** (2008). ‘Comparison of wave fields in a numerical and a small scale physical model’, Int. Conf. on Coastal Engineering 2008.