

# Dr Vasiliki Katsardi

Department of Civil Engineering • School of Engineering •  
University of Thessaly  
Pedion Areos • GR-383 34 Volos  
tel:+30 24210 7 4167 • Mobile: +306977622352  
E-mail: [vkatsardi@civ.uth.gr](mailto:vkatsardi@civ.uth.gr)

## Curriculum Vitae



December 2014

## PERSONAL INFORMATION

---

Born in 16th November 1978  
Married, Mother of two children

## EDUCATION

---

Oct. 2002 – Jan. 2007

Imperial College, London  
*Department of Civil & Environmental Engineering*

PhD Thesis title: Surface Water Waves in Intermediate and Shallow Water Depths.

Oct. 2001 – Sep. 2002

Democritus University of Thrace  
*Department of Civil Engineering*

- MSc in Hydraulic Engineering
  - Specialisation: Port & Harbour Engineering
- MSc Thesis: Wave Refraction – Application in the area “Mari” in Cyprus. *Grade: 10*

Oct. 1996 – Sep. 2001

Democritus University of Thrace  
*Department of Civil Engineering*

- Grade: **7.82** (Very Good)
- Diploma thesis: Wave Propagation over arbitrary bottom topography – Application in the area of Atherinolakkos in Crete. *Grade: 10*
- Award TCG (Details on issue TCG 2242)

June 1996

Arsakeio Lyceum Psychiko, Athens

- Grade: Excellent, **18 & 8/10** (out of 20)

## PROFESSIONAL EXPERIENCE

---

Σεπ. 2001 – Today  
Synopsis

Civil Engineer

Civil Engineer, wave-mechanics specialist dealing with both off-shore and near-shore projects. Calculations of wave factors, wave forces, beach erosion and project design.

Employers:

ConocoPhillips, Houston, USA,  
Marin, (Maritime Research Institute Netherlands),  
Noble Denton Ltd., London, UK,  
SHELL International Exploration and Production (SIEP), The Netherlands,  
Statoil, Norway  
Woodside Energy Plc., Perth, Australia,

Imperial College, London, UK,  
National Technical University of Athens,  
Democritus University of Thrace,

AΔK Consulting Engineers SA, Athens.

Clearchos G. Routsis, Engineering Company, Athens.

- In detail:
- NTUA
- School of Civil Engineering, Laboratory of Harbour Works
- December 2010 – October 2013  
(35 months part-time)
- Post-doctoral Part-time Research Associate of a 24 month project, funded by NTUA.
- Basic Research Project 2010: “Wave transmission in harbors through flushing culverts, a numerical and experimental study”  
Supervisor: Dr. V. Tsoukala, Senior Lecturer,  
External Participant: Dr. K. Belibassakis, Associate Professor in School of Naval Architecture and Marine Engineering
- Mar. 2011 – Aug. 2011  
(5 months part-time)
- Part-time Research Associate
- Subject: “Wave action amplification, downstream of harbours, due to the presence of breakwaters”  
Supervisor: Professor K. Moutzouris  
Simultaneous participation in a research project the title of which is stated in the Section “Research Projects”
- Aug.2006– Aug. 2007  
( 1 year full-time)
- Imperial College, London  
*Department of Civil & Environmental Engineering*  
*Research Associate - Postdoctoral*
- In charge of a research program funded by the European Union.
  - Simultaneous participation in the research projects the titles of which are stated in Section “Research Projects”.
  - Project title: «Safe Offloading from Floating LNG Platforms»

## ADDITIONAL RESEARCH PROJECTS

---

- 2012  
(3 months) *Model Tests for assessing the wave run-up and the associated fluid loads on structural members located at various heights on the platform Sleipner A GBS. C. Swan & V. Katsardi*  
Employers: Imperial College, London and Statoil, Norway
- 2012  
(Not yet completed) *EU project: “Archimedes III” entitled : “Hydroelastic response of large floating structures and arbitrarily shaped bodies in an environment of varying 3D bathymetry”*  
Member of the research team, Co-ordinators: Assistant Professor F. Kokkinos and Associate Professor K. Belibassakis
- 2011  
(3 months) *Protection and Improvement Study in the coastal area of Ormideia, Cyprus, Phase II: Alternative solutions.*  
Member of the Research team, Head of the project: Prof. K. Moutzouris
- 2010 *CREST: Cooperative Research in Extreme Seas and their Impact, C. Swan, S.*

- Archibald, V. Katsardi, M. Latheef, J. Roos & F. Stevanato*  
 (1 month) Employers: Imperial College, London and Marin (Maritime Research Institute Netherlands)
- 2009 *Predictions of the Nonlinear Water Particle Kinematics Beneath Extreme Waves in a Variety of Water Depths, An International Guide, C. Swan & V. Katsardi*  
 (9 months) Employers: Imperial College, London and SHELL UK Ltd., Aberdeen, Scotland.
- 2008 *Wave Induced Loads on sea bed pipelines - Extension, C. Swan & V. Katsardi*  
 (3 months) Employers: Imperial College, London and Woodside Energy Plc, Perth Australia.
- 2007 *Wave Induced Loads on sea bed pipelines, C. Swan & V. Katsardi*  
 (5 months) Employers: Imperial College, London and Woodside Energy Plc, Perth Australia.
- 2007 *Calculation of the Nonlinear Water Particle Kinematics at the Ekofisk field, C. Swan & V. Katsardi*  
 (3 months) Employers: Imperial College, London; BP Ltd., London and ConocoPhillips, Houston, USA .
- 2007 *Nonlinear Calculations of Extreme Wave Kinematics Appropriate to Load Calculations on a Jack-up in Shallow Water, C. Swan & V. Katsardi*  
 (3 months) Employers: Imperial College, London and Noble Denton Ltd., London.
- 2007 *Safe Offloading from Floating LNG Platforms, C. Swan, M. Peric, V. Katsardi*  
 (1 year) Employer: Imperial College, London. Funded by: E.U.
- 2006 *LoWiSh- Limits on Waves in Shallow Water – Experimental Investigation, C. Swan & V. Katsardi*  
 (2 years) Employers: Imperial College, London and International Association of Oil and Gas Producers (OGP) with a supervision of Shell International E&P Ltd., Hague, The Netherlands.
- 2001 *«The Mari» Port in Cyprus: Computational calculation of the wave conditions in the harbor interior, P.F. Matsoukis, V. Katsardi, Ch. Nomikou & M. Xydas*  
 (2 months) Employers: DUTH & NTUA

## DESIGN PROJECTS

---

- 2009 Participation in the design of ports in Katakolo and also in the modification of programmatical port plan.  
 Employers: AΔK Consulting Engineers SA, Athens
- 2008 Participation in the static calculations of the K2 building of the Ionnina University Hospital referring to its extension.  
 Employers: AΔK Consulting Engineers SA, Athens
- 2008 Participation in the study of port works expansion A' berth SEMPO OLP.  
 Employers: Clearchos G. Routsis A.E., Athens

## PUBLICATIONS

---

### INTERNATIONAL SCIENTIFIC JOURNALS

---

- (1) Tsoukala V.K., Katsardi V., Belibassakis K.A., 2014, *Wave transformation through flushing culverts operating at seawater level in coastal structures*, Ocean Engineering, pp. 211-229.
- (2) Belibassakis, K.A., Tsoukala, V.K., Katsardi V., 2014, Three dimensional wave diffraction in the vicinity of openings in coastal structures, Applied Ocean Research, 45, 40-54.
- (3) Katsardi V., de Lutio L., Swan C., 2013, *An experimental study of large waves in intermediate and shallow water depths. Part I: Wave height and crest height statistics*, Coastal Engineering, 73, 43-57.
- (4) Bateman, W.J.D., Katsardi, V., & Swan, C., 2011, *Realistic descriptions of extreme ocean waves; the application of recent advances in wave modelling*, Applied Ocean Research, Vol.34, 209-224.
- (5) Katsardi V., Swan C., 2010, *On the Description of Large Shallow Water Waves. Part I: Uni-Directional Seas*, Royal Society, Series A, 467, 778-805.

#### Scheduled Publications

- (1) de Lutio L., Katsardi V., Swan C., *An experimental study of large waves in intermediate and shallow water depths. Part II: Breaking Limit*, To be submitted in Coastal Engineering.
- (2) Katsardi V., Swan C., *On the Description of Large Shallow Water Waves. Part II: Directional Seas*, To be submitted in Royal Society, Series A.
- (3) Katsardi V., Swan C., *Extreme Ocean Waves Part II: Predictions of the Nonlinear Water Particle Kinematics in a Variety of Water Depths*, To be submitted in Applied Ocean Research.

### INTERNATIONAL SCIENTIFIC CONFERENCES

---

- (1) Katsardi, V., Tsoukala, V., Moutzouris, K., 2014, *Beach erosion due to the presence of harbours in sandy beaches: the case of Greece in comparison with international observations*, Abstract accepted in the 12th International Conference on Protection and Restoration of the Environment.
- (2) Chondros M., Katsardi V., Tsoukala V.K., Belibassakis K., 2014, *Experimental verification of a new 3D numerical model involving wave transformation through flushing culverts*. Full paper accepted for publication in the 3<sup>rd</sup> IAHR Europe congress, Porto April 2014.
- (3) Belibassakis K.A., Athanassoulis, G.A., Gerostathis Th.P., Katsardi V., 2013, *Transformation of wave conditions in nearshore and coastal areas by a 3D coupled-mode wave model* Intern. Maritime Association Mediterranean Conference, IMAM 2013, La Coruna, Spain
- (4) Katsardi V., Tsoukala V.K., Belibassakis K., 2013, *3D Wave transformation*

*through openings in coastal structures*. Proceedings of the 32nd International Conference on Offshore Mechanics and Arctic Engineering, OMAE2013, Nantes, France.

- (5) Katsardi V., Tsoukala V.K., Belibassakis K., 2013, *Estimation of wave transmission trough flushing culverts in breakwaters*. Proceedings of the 32nd International Conference on Offshore Mechanics and Arctic Engineering, OMAE2013, Nantes, France.
- (6) Katsardi V., Boundris I., Tsoukala V.K., Belibassakis K., 2012, *A numerical study of wave transmission in coastal structures through flushing culverts*, Proceedings of the 22nd International Ocean and Polar Engineering Conference, ISOPE2012, Rhodes, Greece
- (7) Katsardi V., Swan C., 2011, *An experimental study of shallow water wave statistics on mild bed slopes*, Proceedings of the 30<sup>th</sup> International Conference on Offshore Mechanics and Arctic Engineering, OMAE2011, Rotterdam, The Netherlands.
- (8) Katsardi V., Swan C., 2006, *The importance of directionality in evolution of large waves in intermediate and shallow water depths*, Proceedings of the 30<sup>th</sup> International Conference on Coastal Engineering, ICCE2006, San Diego, California, USA
- (9) Katsardi V., Swan C., 2005, *The effect of reduced water depth on the description of extreme waves and the prediction of water particle kinematics*, Proceedings of the 24<sup>th</sup> International Conference on Offshore Mechanics and Arctic Engineering, OMAE2005, Halkidiki, Greece

Note: Reviewer recommended the paper acceptable with honors.

- (10) Katsardi V., Swan C., 2004, *The evolution of large waves in shallow water*, Proceedings of the 29<sup>th</sup> International Conference on Coastal Engineering, ICCE2004, Lisbon, Portugal

#### GREEK SCIENTIFIC CONFERENCES

---

- (1) Katsardi, V., Tsoukala, V., Moutzouris, K., 2011, *Beach erosion due to the presence of harbours in sandy beaches: The diffraction-associated mechanism*, 6<sup>th</sup> Hellenic Conference of Management and Improvement of Coastal Zones, November 2014, Athens. (In Greek).
- (2) Katsardi, V., Tsoukala, V., Moutzouris, K., 2011, *Wave action amplification, downstream of harbours, due to the presence of breakwaters*, 5<sup>th</sup> Hellenic Conference of Management and Improvement of Coastal Zones, November 2011, Athens. (In Greek).
- (3) Katsardi, V., Swan, C., 2010, *Nonlinear Calculations of Extreme Wave Kinematics Appropriate to Load Calculations on a Jack-up in Shallow Water*, 5<sup>th</sup> Hellenic Conference of Harbor Works, November 2010, Athens. (In Greek).
- (4) Matsoukis P. F., Toufexi, X., Katsardi, V., 2002, *Wave propagation over*

sudden changes of bed bathymetry, 3<sup>rd</sup> Hellenic Conference of Port Structures 2002, Athens. (In Greek)

---

REVIEWER IN SCIENTIFIC JOURNALS AND CONFERENCES

---

Royal Society Proceedings Series A

32<sup>nd</sup> International Conference on Offshore Mechanics and Arctic Engineering, OMAE2013

30<sup>th</sup> International Conference on Offshore Mechanics and Arctic Engineering, OMAE2011

---

CITATIONS

---

- 1 Guohai Dong, Hongzhou Chen, Yuxiang Ma, *Parameterization of nonlinear shallow water waves over sloping bottoms*, Coastal Engineering, Volume 94, December 2014, Pages 23-32, ISSN 0378-3839, <http://dx.doi.org/10.1016/j.coastaleng.2014.08.012>.
- 2 Felice Arena, Giovanni Malara, Alessandra Romolo, *On long-term statistics of High waves via the equivalent power storm model*, Probabilistic Engineering Mechanics, <http://dx.doi.org/10.1016/j.probengmech.2014.04.003>
- 3 Shemer, L. and Alperovich, L., *Peregrine breather revisited*, Physics of Fluids, 25, 051701 (2013), DOI: <http://dx.doi.org/10.1063/1.4807055>
- 4 Eva Thorborg Mørk · Lise Lotte Sørensen · Bjarne Jensen · Mikael K. Sejr, 2013, *Air–Sea CO<sub>2</sub> Gas Transfer Velocity in a Shallow Estuary*, Boundary-Layer Meteorology, Page 1, DOI 10.1007/s10546-013-9869-z.
- 5 Xu, Dali, et al. 2012, *On the steady-state fully resonant progressive waves in water of finite depth*. Journal of Fluid Mechanics 1.1: 1-40.
- 6 Thomas A. A. Adcock, Richard H. Gibbs, and Paul H. Taylor *The nonlinear evolution and approximate scaling of directionally spread wave groups on deep water.*, Proc R Soc A 2012 468: 2704-2721.
- 7 Salmon J., Holthuijsen, L.H., 2011, *Re-scaling the Battjes-Janssen model for depth induced wave breaking*, Proceedings of the 12<sup>th</sup> International Workshop on Wave Hindcasting and Forecasting & 3<sup>rd</sup> Coastal Hazard Symposium, Kohala Coast, Hawaii, USA, Available online at <http://www.waveworkshop.org/>
- 8 Adcock T.A.A., Taylor P.H., Yan S., Ma Q.W., Janssen P.A.E.M, 2011, *Did the Draupner wave occur in a crossing sea?*, Proc. Royal Society Series A, Available online from 15<sup>th</sup> June 2011.
- 9 Ewans K., Christou M., 2009-2010, *Limits on Waves in Shallow Water*, Phase II Report.
- 10 Bredmose H., Hunt-Raby A., Jayaratne R., Bullock G.N., 2009, *The ideal flip-through impact: experimental and numerical*

- investigation*, J. Eng. Math, 67(1-2), 115-136.
- 11 Hoyle M.J.R, Smith S.F., Ahilan R.V., Hunt R.J., Marcom M.R., 2009, *Further Work on the Effects of Nonlinear Wave Spreading and its Impact on Current Jack-up Assessment Practice*, Offshore Technology Conference, Houston, Texas, USA.
  - 12 Christou M., 2009, *Fully nonlinear computations of waves and wave-structure interaction*, PhD Thesis.
  - 13 Hague C., 2006, *Fully Nonlinear Computations of Directional Waves, Including Wave Breaking*, PhD Thesis.
  - 14 Hague C.H., Swan C., 2006, *Limiting Waves in Broad-Banded, Directionally Spread Seas*, ISOPE 2006.
  - 15 Hutchison, B., Appolonov, E.M., Guedes Soares, C., Kleiven, G., Prevosto, M., Rahman, T., Rebaudengo Landó, L., Shaw, C., Smith, D., Tomita, H., 2006, Committee I.1, Environment, *Modelling of Environmental Phenomena - Shallow water Waves*, 16<sup>th</sup> International Ship and Offshore Structures Congress, Southampton, UK, PA Frieze, RA Sheno, 5-86
  - 16 Taylor P. H., 2004, *Rogue Waves and wave focusing - speculations on theory, numerical results and observations*, Rogue Waves Workshop.

#### INVITED TALKS

---

- April 2008 «*Surface Water Waves in Intermediate and Shallow Water Depths*» in the School of Naval Architecture and Marine Engineering, NTUA.
- May 2007 «*Non-linear Surface Waves in Shallow and Intermediate Water*» στην Society of Underwater Technology, Group on Environmental Forces (SUTGEF).
- November 2006 «*The importance of directionality in evolution of large waves in intermediate and shallow water depths*» Imperial College, for Ove Gudmestad (Statoil).
- November 2005 «*The effect of reduced water depth on the description of extreme waves and the prediction of water particle kinematics*» Imperial College, for Ove Gudmestad (Statoil).

#### TEACHING EXPERIENCE

---

- July 2014 – Today  
 University of Thessaly  
 Department of Civil Engineering  
 Lecturer
- “Coastal Engineering and Port Works”
  - “Wave Mechanics and Coastal Oceanography”
- Feb. 2014 – July 2014  
 University of Thessaly



- Department of Civil Engineering*
- Adjunct Professor in the undergraduate course
- “Coastal Engineering and Port Works”
- Feb. 2012 – July 2012
- University of Thessaly  
*Department of Civil Engineering*
- Visitor Professor in the postgraduate course: MEng in “Systems Simulation and Design of Civil Engineering”
- Lecturer in «Simulation and management of coastal water systems»
- Adjunct Professor in the undergraduate course
- “Coastal Engineering and Port Works”
    - Creation of Lecture Notes for both modules.
- Nov. 2011 – Jan. 2012
- Democritus University of Thrace  
*Department of Civil Engineering*
- Visitor Professor in the MEng in “Hydraulic Engineering”.
- Co-Lecturer in «Simulation of coastal processes».  
(Contribution: 6 out of 13 lectures)
- National Technical University of Athens  
*School of Civil Engineering*
- Feb. 2012 – Oct. 2013
1. *Research associate*  
Co-supervision of 2 postgraduate theses and 1 undergraduate thesis with Assist. Prof. V. Tsoukala.
- Okt. 2011 – Feb. 2012
2. *Teaching assistant in the postgraduate course* «WATER RESOURCES SCIENCE AND TECHNOLOGY»  
“Marine Hydrodynamics”
- Feb. 2011 – Jul. 2011
3. *Teaching Assistant in the undergraduate course*  
“Costal Engineering”
- Oct. 2007 – Sep. 2013
- Technological Educational Institute of Athens*  
*Department of Civil Works and Infrastructure Technology*
- Adjunct Assistant & Laboratory Professor
- Coastal Engineering (7<sup>th</sup> semester – 3 hours per week) (March 2010 - Today)
  - Dams and Rivers Arrangements (5<sup>th</sup> semester – 3 hours per week) (March 2010 – July 2012)
  - Hydraulics Laboratory (3<sup>rd</sup> semester – 2 hours per week) (May 2010 – July 2010)
  - Port Engineering (7<sup>th</sup> semester – 4 hours per week) (October 2007 – February 2010)
  - Hydrology (5<sup>th</sup> semester – 3 hours per week) (October 2007 – February 2010)
  - Creation of Lecture Notes for all the above modules.
  - Supervision of 10 final-year projects (*8 submitted*) which refer to: Wave Refraction, Nonlinear waves, Harbor design, construction and extension and also investigation of ancient ports which are part of the research program “Limenoscope” started by the

Department of Underwater Antiquities (Ministry of Culture) and the Civil Engineering Department of the National Technical University of Athens.

- Participation in the equipment design of a small coastal engineering tank in the Hydraulic Laboratory.

Oct. 2008 – Feb. 2009

*School of Pedagogical & Technological Education Athens  
Department of Civil & Structural Engineering Educators  
Adjunct Laboratory Professor*

- Hydraulics Laboratory (7<sup>th</sup> semester – 8 hours per week)

Oct. 2006 – Aug.2007

Imperial College, London

*Department of Civil & Environmental Engineering*

*Research Associate*

- Assist in the supervision of a PhD thesis with Prof. Chris Swan. Involving the research program “Safe Off-loading” (For details see Section Professional Experience).

Sep. 2003 – Apr. 2006

*Postgraduate student*

Graduate teaching assistant at the following modules:

- Coastal Engineering (3<sup>rd</sup> year – 1 hour per week)
  - Wave Mechanics (2<sup>nd</sup> year – 1 hour per week)
  - Applied Hydraulics (3<sup>rd</sup> year – 1 hour per week)
  - Open Channel Hydraulics Lab (3<sup>rd</sup> year – 4 hours per month)
  - Supervision of the Fluid Mechanics Design Project. (2<sup>nd</sup> year – 2 working days per academic year)
  - Structural Mechanics (2<sup>nd</sup> year – 1 hour per week)
  - Computer Application in Engineering, Fortran 95 (1<sup>st</sup> year – 2 hours per week)
  - Computer Application in Engineering, Fortran 95 and computer packages (2<sup>nd</sup> year – 2 hours per week)
- Distinction as the most effective graduate teaching assistant for the academic year 2003-2004 by a student’s poll.

Sep. 2004 – Apr. 2006

Member of the prospective undergraduate students committee for the academic years 2005-2006 and 2006-2007.

## IT SKILLS

---

- Programming: Excellent in Fortran, C++, MatLab.
- DHI MIKE 21 Platform, Models: PMS, HD, ST and BW.
- AutoCAD 2D and 3D,
- Excellent in Office Packages, LaTeX,
- Grapher, Surfer.

## LANGUAGES

---

Greek (native), English (fluent), French (very good)

## INTERESTS & ACTIVITIES

---

- Elected as an undergraduate representative at the Civil Engineering Department's council, 1998-1999.
- Elected as a postgraduate representative at the DUTH Dean's council, 2001-2002.
- Member of the Imperial College Greek and Cypriot society, 2002-2007.
- Swimming, Running, Going to the Theatre, Listening to Music.