

## **i. Curriculum Vitae of Prof. Dr. –Ing. Spyros A. Mavrakos (<http://users.ntua.gr/mavrakos>)**

### **A. Personal Data**

Date of Birth : 28/11/1952  
Marital Status : Married, two children  
Nationality : Greek  
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### **B. Education**

11/1976–2/1981 : Dr. – Ing. Degree in Ocean Engineering, RWTH – Aachen, Mechanical Engineering Department, Division of Marine Science and Technology  
9/1971–9/1976 : Diploma in Naval Architecture and Marine Engineering, National Technical University of Athens (NTUA), School of Naval Architecture and Marine Engineering, University (NAME)

### **C. Professional History**

10/1996 - : Professor of Floating Structures, Director of the Laboratory for Floating Structures and Mooring Systems (2005-), NTUA-NAME, Greece.  
07/1991 - 09/1996 : Associate Professor of Floating Structures, NTUA-NAME, Greece.  
06/1987 - 06/1991 : Assistant Professor of Floating Structures, NTUA-NAME, Greece  
04/1987 - 05/1987 : Lecturer of Floating Structures, NTUA-NAME, Greece  
01/1982 - 02/1983 : Military Service in the Greek Navy  
11/1976 - 02/1982 : Research Engineer, RWTH – Aachen, Department of Ocean Engineering, School of Mechanical Engineering, Aachen, Germany

### **D. Research Accomplishments**

- Linear and non-linear body-wave-current hydrodynamic interaction problems for single or multiple interacting large volume floating structures (analyses methods and computer software development)
- Static and dynamic analysis of mooring systems for shallow- and deep-water applications
- Hydrodynamic analysis and efficiency's evaluation of single or interacting wave energy converters (heaving devices, floating OWCs , etc.)
- Coupled hydromechanic analysis of moored floating structures in frequency- and time-domain (application to floating wind turbine analysis, multi-purpose floating structures for offshore wind and wave energy exploitation, floating marinas, breakwaters, etc.)
- Kinematics and design of underwater glitters for oceanographic applications
- Wave propagation into harbours and motion response analysis of berthed ships
- Sloshing of liquids in partially filled vertical bodies of revolution

### **E. Professional Society Memberships**

- German Association of Mechanical Engineers (VDI)
- European Association of Ocean Energy (EU-OEA)
- International Society of Offshore and Polar Engineers (ISOPE)
- Society of Naval Architects and Marine Engineers (SNAME)
- Technical Chamber of Greece (TEE)
- Greek Association of Naval Architects
- Hellenic Institute of Marine Technology

### **F. University Professional Services**

- Director of the Laboratory for Floating Structures and Mooring Systems, NTUA, (2005- )
- Director of the Post-Graduate Program on Marine Science and Technology, NTUA, (1998 -)
- Chairman of the School of Naval Architecture and Marine Engineering, NTUA, (1999-2001)
- Head of the Marine Structures Division, School of Naval Architecture and Marine Engineering, NTUA (2003 – 2007)
- Member, Research Committee, National Technical University of Athens (2009 - )
- Member, Board of Directors of the Technological Park of Lavrion S.A. (2009 - )
- Deputy Head, Council for Post-Graduate Education, NTUA (2003 – 2006); member (1997 -)

### **G. Professional Scientific Accomplishments – Awards** (in descending chronological order)

- Appointed by Science Foundation Ireland to participate in the proposals' review of Irish "Research Infrastructure Call 2012" (19/6/2012 -)
- Member of the Committee established by the Greek Ministry for Energy and Climate Change for Consultation on the Proposal for a EU Regulation of the European Parliament and the Council on safety of offshore oil and gas prospecting, exploration and production Activities (Dec. 2011-)
- Appointed EU reviewer of FP7 Research Projects to the benefit of SMEs (12/5/2011 – 31/1/2012)
- Appointed by the Irish Science Foundation for a Programme Progress Site Review at the Hydraulic and Maritime Research Centre, University College Cork (6/4/2011 – 15/7/2011)
- Chairman of the 26<sup>th</sup> International Workshop on Water Waves and Floating Bodies (IWWWFB2011), 17-20 April 2011, Athens, Greece
- Chairman of the 24<sup>th</sup> International Conference on Offshore Mechanics and Arctic Engineering (OMAE2005, 12 – 17 June 2005, Chalkidiki, Greece)
- Chairman of the 10<sup>th</sup> International Conference of the Maritime Association of the Mediterranean (IMAM 2002, May 2002, Rethymnon, Crete)
- Member of the Technical Scientific Committee of the 7<sup>th</sup>, 8<sup>th</sup> and 9<sup>th</sup> European Wave and Tidal Energy Conferences (EWTEC), Sept. 2007, Porto, Portugal; Sept. 2009, Uppsala, Sweden; Sept. 2011, Southampton, U.K.
- Member of the technical program committee of the Offshore Mechanics and Arctic Engineering Conferences (OMAE2006, OMAE2007, OMAE2008 and OMAE2009)
- Visiting Professor, Technical University of Berlin, Germany, Institute of Ocean Engineering, Division of Naval Architecture and Ocean Engineering, Aug. 2010 – Oct. 2010 (on sabbatical leave)
- Member, Editorial Board "Journal of Marine Structures", 2007 –
- Member, International Ship and Offshore Structures Congress (ISSC): Committee V.7 - Slender Marine Structures (1988-1994), Committee I.2 – Loads (1994-2000, 2003-2009), Committee V.5 on Floating Production Systems (2000-2003), Committee V.4 – Ocean Wave & Wind Energy Utilization (2009-)
- Visiting Assoc. Professor at the Ocean Engineering Department of the Massachusetts Institute of Technology (MIT), Feb. 1992 – Aug. 1992 (on sabbatical leave)
- Visiting Researcher, Division of Ocean Engineering, RWTH - Aachen, July – August 1985.
- Reviewer for international scientific journals, conferences, funded projects' proposals.

### **H. Teaching and Instructing**

- Graduate Courses: *Design of Offshore Structure, Structural Vibrations of Ship's Hull, Special Topics of Offshore Structures Design, Moorings for Floating Structures, Dynamics of Marine Structures*
- Post – Graduate Courses: *Environmental Conditions and Sea Loads on Marine Structures, Hydromechanic Analysis and Optimal Mooring Design of Moored Floating Structures, Seminars on recent Developments in Marine and Underwater Technology, Non-Conventional Harbor Works*
- Supervising of PhD Theses: Three completed (Chatjigeorgiou, 1997; Bourma, P., 2010; Mazarakos, Th., 2010), one on-going (Konispoliatis, D, 2009-)

### **I. Publications**

- Author or Co-author of more than 120 scientific publications in peer reviewed international journals (29), proceedings of international conferences (84), books and / or chapter in books (15).
- Author of 11 University textbooks, of 11 publications in National workshops and 71 technical reports for funded research projects
- Editor of the proceedings of the 26<sup>th</sup> International Workshop of Water Waves and Floating Bodies (IWWWFB2011), of the 24<sup>th</sup> International Conference on Offshore Mechanics and Arctic Engineering (OMAE2005) and the 10<sup>th</sup> International Conference of the Maritime Association of the Mediterranean (IMAM 2002)

### **K. Participation in funded research projects**

Participation in 48 funded research projects either as coordinator and scientific responsible (in 38 programs) or as principal investigator (in 10 programs), sponsored by the Greek General Secretariat for Research and Technology, The Ministry for Education, Long-life learning and Religions, the EU, Public and private institutions. A list of the relevant ones carried out in the last 10 years is provided separately (see chapter III below).

## L. Computer Software Development

Developer of extensive scientific computer software (16 Computer codes), validated through experiments for the solution: (a) of linear and non-linear hydrodynamic interaction problems between surface waves and large volume marine structures of arbitrary or special geometry (vertical bodies of revolution), (b) the static and dynamic analysis and the design of mooring lines, (c) the coupled motion response analysis of moored floating marine structures, (d) the sloshing of liquids in partially filled vertical bodies of revolution (representative computer codes: DIFFRAC-R, HAMVAB, HAQ, FLOATSYS, TIMESYS, SLOSH).

### ii. List of Most Significant Publications

#### A. In Journal and in peer reviewed conference proceedings

1. Mazarakos, T. P., Mavrakos, S.A. "Wave-Current interaction on a vertical truncated cylinder floating in finite depth waters", *Journal of Engineering for the Maritime Environment*, (accepted for publication).
2. Tzabiras, G., Katsaounis, G.M., Papakonstantinou, V., Mavrakos, S.A.: "Viscous Flow Calculations around transverse sections of a floating LNG storage terminal in heave and roll motions", Proceedings, *22nd International Offshore (Ocean) and Polar Engineering Conference (ISOPE 2012)*, June 17-22, 2012, Rhodes, Greece
3. Katifeoglou, S.A., Chatjigeorgiou, I.K., Mavrakos, S.A.: "Effects of fully developed turbulent internal flow on marine risers' dynamics", Proceedings, *22nd International Offshore (Ocean) and Polar Engineering Conference (ISOPE 2012)*, 17-22 Rhodes, 2012, Greece.
4. Chatjigeorgiou, I.K., Mavrakos, S.A., Mazarakos, T.P.: "Exciting wave forces on submerged prolate spheroidal bodies in infinite water depth", Proceedings, *11th International Conference on the Stability of Ships and Ocean Vehicles (STAB2012)*, 23-28 September, 2012, Athens, Greece (accepted).
5. Mavrakos, S.A., Konispoliatis, D. N.: "Hydrodynamic Analysis of a vertical axisymmetric oscillating water column device floating in finite depth water", Proceedings, *31st International Conference Ocean, Offshore and Arctic Engineering (OMAE2012)*, July 1-6, 2012, Rio de Janeiro, Brazil (accepted).
6. Mavrakos, S.A., Chatjigeorgiou, I.K.: "Hydrodynamic exciting forces on immersed prolate spheroids", Proceedings, *27th International Workshop on Water Waves and Floating Bodies (IWWWFB2012)*, April 22 - 25, 2012, Copenhagen, Denmark.
7. Chatjigeorgiou, I.K., Mavrakos, S.A. "The analytic form of Green's function in elliptic coordinates for the hydrodynamic diffraction by an elliptical cylinder", 2012, *Journal of Engineering Mathematics*, **72**(1), p. 87 – 105, <http://dx.doi.org/10.1007/s10665-011-9464-6>
8. Fonseca, N., Pessoa, J., Mavrakos, S.A., Le Boullec, M. "Experimental and numerical investigation of the slowly varying wave exciting drift forces on a restrained body in bi-chromatic waves", *Ocean Engineering*, **38**, 2011, p. 2000-2014, <http://dx.doi.org/10.1016/j.oceaneng.2011.09.017>.
9. Mavrakos, S.A., Katsaounis, G.M., Kladas, A., Kimoulakis, N.: "Numerical and experimental investigation of performance of heaving WEC's coupled with DC generators", Proc., *9th European Wave and Tidal Energy Conference*, 5-9 September 2011, Southampton, U.K.
10. Mavrakos, S.A., Konispoliatis, D.: "Hydrodynamics of a floating oscillating water column device", Proceedings, *14th Congress of the International Maritime Association of the Mediterranean (IMAM2011)*, September 13-16, 2011, Genoa, Italy.
11. Clauss, G.F., Mavrakos, S.A., Sprenger, F., Testa, D.: "Hydrodynamic Considerations for FLNG Concepts", Proceedings, *30th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2011)*, Paper No: OMAE2011-50132, Rotterdam, The Netherlands, 19 - 24 June 2011
12. Mavrakos, S.A., Mazarakos, Th., Konispoliatis, D., "First- and second-order hydrodynamic effects and wave run-up on a four cylinder configuration at small forward speed", Proceedings, *9th HSTAM International Congress on Mechanics*, 2010, 12-14 July, Limassol, Cyprus.
13. Mavrakos, S.A., Katsaounis, G., "Effects of floater's Hydrodynamics on the performance of tightly moored wave energy converters", *Journal IET Renewable Power Generation*, **4**(6), 2010, 531 – 544, <http://dx.doi.org/10.1049/iet-rpg.2009.0191>
14. Chatjigeorgiou, I.K., Mavrakos, S.A. "An analytical approach for the solution of the hydrodynamic diffraction by arrays of elliptical cylinders", *Applied Ocean Research*, **32**, 2010, 242 - 251.
15. Mavrakos, S.A., Chatjigeorgiou, I.K. "Second-order hydrodynamic effects on an arrangement of two concentric truncated vertical cylinders", *Marine Structures*, **22**(3), 2009, 545–575, [doi:10.1016/j.marstruc.2008.12.003](http://dx.doi.org/10.1016/j.marstruc.2008.12.003)
16. Mavrakos, S.A., Katsaounis, G. Apostolides, M., "Effect of floaters' geometry on the performance characteristics of tightly moored wave energy converters", Proceedings, *28th International Conference on Ocean, Offshore and Arctic Engineering (OMAE2009)*, Paper No: OMAE2009-80133, 2009, Honolulu, Hawaii, 31 May – 5 June, USA, pp. 1145-1152.

17. Mavrakos, S.A., Katsaounis, G.M., Chatjigeorgiou, I.K., “Performance characteristics of tightly moored piston-like wave energy converter under first- and second-order wave loads”, Proceedings, *27<sup>th</sup> Offshore Mechanics and Arctic Engineering Symposium (OMAE 2008)*, 2008, Estoril, Portugal, pp. 783-792.
18. Mavrakos, S.A., Chatjigeorgiou, I.K., Mazarakos, T., Thanos, I. “Second – order wave drift damping in hydrodynamically interacting large bodies”, Proceedings, *International Conference of Offshore and Polar Engineering (ISOPE 2007)*, 2007, Lisbon, Portugal, pp. 2142-2149.
19. Chatjigeorgiou, I.K., Mavrakos, S.A. “Second-order sum-frequency wave diffraction by a truncated surface-piercing cylinder in bi-chromatic waves”, *Journal of Marine Science and Technology*, **12**(4), 2007, 218 – 231, <http://dx.doi.org/10.1007/s00773-007-0252-y>
20. Chatjigeorgiou, I. K., Mavrakos, S.A. “Semi-Analytical Formulation of the Second – Order Wave Diffraction by a Truncated – Compound Surface – Piercing Cylinder”, *Journal of Ship Technology Research (Schiffstechnik)*, **53**, 2006, 26 – 38.
21. Mavrakos, S.A., Chatjigeorgiou, I.K. “Second – Order Diffraction by a Bottom – Seated Compound Cylinder”, *J. Fluids and Structures*, **22**(3), 2006, <http://dx.doi.org/10.1016/j.jfluidstructs.2005.12.001>
22. Mavrakos, S.A., Chatjigeorgiou, I.K. and Lentziou, D. “Wave Run-up and Second-order Wave Forces on a Truncated Circular Cylinder due to Monochromatic Waves”, Proceedings, *24<sup>th</sup> Int. Conf Offshore Mechanics and Arctic Engineering (OMAE 2005)*, Paper 67104, pp. 231-238, Halkidiki, Greece, 2005.
23. Chatjigeorgiou, I.K., Mavrakos, S.A., “Coupling Instabilities for Marine Slender Structures with Applications to Elastic Risers and Cables”, *Journal of Ship Technology Research, Schiffstechnik*, 2005, **52**(1), 2 – 13.
24. Mavrakos, S.A. “Hydrodynamic characteristics of two concentric surface – piecing floating circular cylinders”, Proceedings, *11<sup>th</sup> International Maritime Association of the Mediterranean Conference, (IMAM 2005)*, Lisboa, Portugal.
25. Chatjigeorgiou, I.K. and Mavrakos, S.A. “Nonlinear resonances of parametrically excited risers- numerical and analytic investigation for  $\Omega=2\omega_1$ ”, *Journal of Computers and Structures*, 2005, **83**(8-9), 560 – 573, <http://dx.doi.org/10.1016/j.compstruc.2004.11.009>
26. Mavrakos, S.A. “Hydrodynamic coefficients in heave of two concentric surface-piercing truncated circular cylinders”, *Applied Ocean Research*, **26** (3-4), 2004, 84-97, [doi:10.1016/j.apor.2005.03.002](http://dx.doi.org/10.1016/j.apor.2005.03.002)
27. Mavrakos, S.A., Katsaounis, G., Nielsen, K., Lemonis, G. “Numerical Performance Investigation of an Array of Heaving Wave Power Converters in Front of a Vertical Breakwater”, Proc., *International Conference of Offshore and Polar Engineering (ISOPE 2004)*, 2004, Toulon, France, 238-245.
28. Chatjigeorgiou, I.K., Mavrakos, S.A., “Bounded and Un-bounded Coupled Transverse Response of Parametrically Excited Vertical Marine Risers and Tensioned Cable Legs for Marine Applications”, *Applied Ocean Research*, 2002, **24**(6), pp. 341-354, [http://dx.doi.org/10.1016/S0141-1187\(03\)00017-8](http://dx.doi.org/10.1016/S0141-1187(03)00017-8)
29. Chatjigeorgiou, I.K., Mavrakos, S.A., “Dynamic Behavior of a Marine Cable Under Snap-Loading Conditions”, *Journal of Ship Technology Research, Schiffstechnik*, **48**, 2001, pp.171-180.
30. Brown, D.T., Mavrakos, S.A., “Comparative Study on Mooring Line Dynamic Loading”, *Marine Structures*, **12** (3), 1999, 131-151, [http://dx.doi.org/10.1016/S0951-8339\(99\)00011-8](http://dx.doi.org/10.1016/S0951-8339(99)00011-8)
31. Chatjigeorgiou, I.K., Mavrakos, S.A., “Comparison of Numerical Methods for Predicting the Dynamic Behavior of Mooring Lines”, Proceedings, *9th International Symposium on Offshore and Polar Engineering (ISOPE'99)*, Brest, France, 1999, Vol. II, 332-339.
32. Mavrakos, S.A., Chatjigeorgiou, J., “Dynamic behavior of deep water mooring lines with submerged buoys”, *Computers and Structures*, **64** (1 – 4), 1997, 819 – 835.
33. Mavrakos, S.A., “Hydrodynamic characteristics of floating toroidal bodies”, *Ocean Engineering*, **24**(4), 1997, 381-399.
34. Mavrakos, S.A., Kalofonos, A., “Power absorption by arrays of interacting vertical axisymmetric wave-energy devices”, *Journal of Offshore Mechanics and Arctic Engineering*, **119**, 1997, 244 – 251.
35. Mavrakos, S.A., McIver, P., “Comparison of Methods for computing hydrodynamic characteristics of arrays of wave power devices”, *Applied Ocean Research*, **19**, 1997, 283-291.
36. Grigoropoulos, Gr., Mavrakos, S.A., Loukakis, T., “On the wave breaking efficiency of an array of floating vertical cylinders”, Proceedings, *6th International Symposium on Offshore and Polar Engineering (ISOPE'96)*, Los Angeles, 1996, Vol. III, 587-594.
37. Mavrakos, S.A., Papazoglou, V.J., Triantafyllou, M.S., Chatjigeorgiou, J., “Deep Water Mooring Dynamics”, *Marine Structures*, **9**, 1996, 181-209, [http://dx.doi.org/10.1016/0951-8339\(94\)00019-O](http://dx.doi.org/10.1016/0951-8339(94)00019-O)
38. Grosenbauch, M.A., Mavrakos, S.A., “Design of oceanographic surface moorings for harsh-weather environments”, *Transactions S.N.A.M.E.*, **103**, 1995, 395-423.
39. Mavrakos, S.A., “Mean drift loads on multiple vertical axisymmetric bodies in regular waves”, Proceedings, *5th International Offshore and Polar Engineering Conference (ISOPE'95)*, The Hage, The Netherlands, 1995, Vol. 3, 547-555.

40. Mavrakos, S.A., Chatjigeorgiou, J. and Papazoglou, V.J., "Use of Buoys for Dynamic Tension Reduction in Deep Water Mooring Applications", Proceedings, *7<sup>th</sup> International Conference on the Behavior of Offshore Structures (BOSS'94)*, Pergamon, Boston, July 1994, Vol. 2, 417-426.
41. Mavrakos, S.A., "Hydrodynamic characteristics for groups of interacting axisymmetric bodies submerged near the sea surface or the sea bed", Proceedings, 3rd International Offshore and Polar Engineering Conference (ISOPE'93), Singapore, June 1993.
42. Mavrakos, S.A., Peponis, V., "Sum- and difference frequency loads on axisymmetric bodies restrained in irregular waves", Proceedings, *2nd International Offshore and Polar Engineering Conference (ISOPE'92)*, San Francisco, U.S.A., June 1992, Vol. III, 546-553.
43. Mavrakos, S.A., "Hydrodynamic coefficients for groups of interacting vertical axisymmetric bodies", *Ocean Engineering*, **18**(5), 1991, 485-515.
44. Mavrakos, S.A., Papazoglou, V.J., Triantafyllou, M.S. and Brando, P., "Experimental and Numerical Study on the Effect of Buoys on Deep Water Mooring Dynamics", Proceedings, *1st International Offshore and Polar Engineering Conference (ISOPE'91)*, Edinburgh, U.K., 1991, Vol. II, 243-251.
45. Papazoglou, V.J., Mavrakos, S.A. and Triantafyllou, M., "Nonlinear Cable Response and Model Testing in Water", *Journal of Sound and Vibration*, **140**(1), 1990, 103-115.
46. Mavrakos, S.A., "Hydrodynamic Coefficients for a thick-walled bottomless cylindrical body floating in water of finite depth", *Ocean Engineering*, 1988, **15**(3), 213-229.
47. Mavrakos, S.A., "The vertical drift force and pitch moment on axisymmetric bodies in regular waves", *Applied Ocean Research*, 1988, **10**(4), 207-218.
48. Mavrakos, S.A., Koumoutsakos, P., "Hydrodynamic interaction among vertical axisymmetric bodies restrained in waves", *Applied Ocean Research*, **9**(3), 1987, 128-140.
49. Kokkinowrachos, K., Mavrakos, S.A., Asorakos, S., "Behavior of vertical bodies of revolution in waves", *Ocean Engineering*, **13**(6), 1986, 505-538.
50. Mavrakos, S.A., "Wave loads on a stationary floating bottomless cylindrical body with finite wall thickness", *Applied Ocean Research*, **7**(4), 1985, 213-224.
51. Kokkinowrachos, K., Bardis, L., Mavrakos, S.A., "Drift forces on one and two-body structures in waves", Proceedings, 3rd International Conference on the Behavior of Offshore Structures (BOSS'82), Hemisphere Publishing Co., New York, 1982, Vol. 1, 467-489.

## **B. Invited Talks – Invited contributions to chapters in books – Editorial Work**

1. Mavrakos, S.A., Chatjigeorgiou, I.K. (Editors): Proceedings of the 26th International Workshop of Water Waves and Floating Bodies (IWWWFB 2011), Athens, 2011, Greece
2. Mavrakos, S.A., Chatjigeorgiou, I.K. "Second-order wave induced loads on vertical bodies of revolution", Invited participation to the CENTEC Anniversary Book, Editor: Carlos Soares, 2011 (in print)
3. Chatjigeorgiou, I.K., Mavrakos, S.A., "The 3D nonlinear dynamics of catenary slender structures for marine applications", IN-TECH Publisher, Vienna, Austria, ISBN 978-953-7619-61-9, Editor: Todd Evans
4. Mavrakos, S.A., "Computation of wave – induced loads in multi – body interactions, body – wave – current interactions and cables, risers and moored structures", Chapters 2.1.3, 2.1.4 and 4.1 in Loads' Technical Committee Report, Proceedings, *20th International Ship and Offshore Structures Congress (ISSC'09)*, Seoul, Korea. 2009.
5. Mavrakos, S.A., "Computational Methods for Fixed and Floating Structures and Mooring and Cable Systems", Chapters 3.1 and 3.2 in Loads' Technical Committee Report, Proceedings, *19th International Ship and Offshore Structures Congress (ISSC'06)*, Southampton, U.K. 2006.
6. Mavrakos, S.A., "Recent development in the mooring lines analysis methods", Chapter 5.6 in Floating Production Systems Committee's Report, Proceedings, *15th International Ship and Offshore Structures Congress (ISSC'03)*, San Diego, U.S.A., 2003.
7. Mavrakos, S.A., Bernitsas, M. (Eds): Proceedings of the 24th International Conference on Offshore Mechanics and Arctic Engineering (OMAE2005), Halkidiki, June 2005, Greece.
8. Mavrakos, S.A., Spyrou, K. (Eds): Proceedings of the 10th International Congress of the Maritime Association of the Mediterranean, I.M.A.M. 2002.
9. Mavrakos, S.A., "Wave loads on large-volume offshore structures", Proceedings, *14th International Ship and Offshore Structures Congress (ISSC'97)*, Nagasaki, Japan, 2000, Vol. 1.
10. Mavrakos, S.A., "Wave loads on large-volume offshore structures", Proceedings, *13th International Ship and Offshore Structures Congress (ISSC'97)*, Trondheim, Norway, 1997, Vol. 1, 313-324.
11. Mavrakos, S.A., "Global structural analysis models for mooring lines", Proceedings, *12th International Ship and Offshore Structures Congress (ISSC'94)*, St. John's, Canada, 1994, Vol. 2, 313-324.

12. Mavrakos, S.A., “Mooring lines”, Proceedings, 11th International Ship and Offshore Structures Congress (ISSC’91), Wuxi, China, 1991, Vol. 2, 292-296.
13. Mavrakos, S.A.: “Installations for the marine resources exploitation” (in Greek), Greek Educational Encyclopedia, Technology and Computer Sciences, Publishing Company “Ekdotiki Athinon”, Athens, Vol. 19 (9), 140 – 142.
14. Mavrakos, S.A.: “Floating Infrastructures” (in Greek), Greek Educational Encyclopedia, Technology and Computer Sciences, Publishing Company “Ekdotiki Athinon”, Athens.
15. Kokkinowrachos, K., Asorakos, S., Mavrakos, S. A., “Belastungen und Bewegungen grossvolumiger Seebauwerke durch Wellen”, West-deutscher Verlag, Opladen, Germany, 1980, ISBN 3-531-02905-3.

### iii. List of the Research Projects in the last 10 years

#	Title	Source of Funding	Role in the Research Team	Starting date	Ending Date
1	Multi-purpose floating structures for offshore wind and wave energy sources exploitation (POSEIDON)”,	General Secretariat for Research and Technology, Program ARISTEIA 2011	Coordinator and Scientific responsible	To be started 1/1/2013	Dec. 2015
2	Motion Response Analysis (RAO’s) of the special purpose vehicle ASTREA and the special purpose barge ATALANTI	KREOUSSA Shipping Company Ltd.	Coordinator, Scientific responsible	15/1/2012	31/3/2012
3	Setting-up of a National Program for the exploitation of the offshore wind energy sources in the Aegean Sea	General Secretariat for Research and Technology, Program SYNERGASIA 2009	Scientific responsible for the part of the research to be conducted in NTUA	To be started in 6/2012	Sept. 2014
4	Dynamic response of floating offshore wind turbines under random waves and wind action	EU funded project within Integrated Infrastructure initiative HYDRALAB IV	Scientific responsible for the part of the research to be conducted in NTUA	To be started in June 2012	May 2013
5	Hydrodynamic analysis of floating oscillating water column wave energy devices for offshore applications	Greek Ministry for Education, Long-life learning and Religions (Heraclitus II)	Coordinator, Scientific responsible	1/9/2010	31/8/2013
6	Hydrodynamic and environmental load analysis of the a cable – laying vehicle	KREOUSSA Shipping Company Ltd.	Coordinator, Scientific responsible	1/1/2009	30/6/2009
7	Design of an autonomous underwater oceanographic monitoring vehicle maneuverable by	General Secretariat for Research and Technology (PENED 2003)	Coordinator, Scientific responsible	1/1/2006	30/6/2009

	changing buoyancy				
8	Parametric evaluation of the flow field and the collision energy on the side walls of the Corinth channel during the towing procedure of large cruisers	CORINTH CHANNEL S.A.	Coordinator, Scientific Responsible	1/12/2005	30/9/2006
9	Gas Import Floating Terminal – GIFT (Specific Targeted Research Program)	EU, General Directorate for Transport	Scientific Responsible for the part of the project conducted in NTUA	1/2/2005	31/3/2007
10	Hydrodynamic and Hydroelastic Analysis of moored floating or constrained vertical axisymmetric bodies for applications as wave energy converters	Greek Ministry for Education and Religions	Coordinator, Scientific Responsible	1/3/2004	31/12/2007
11	Co-ordinated Action on Ocean Energy	EU, General Directorate for Energy	Scientific Responsible for the part of the project conducted in the NTUA	1/10/2004	31/12/2007
12	LABBUOY: Economically Efficient Floating Device for Wave Power Conversion into Electricity. Phase I: Mathematical and Physical Modeling	EU, General Directorate for Energy	Scientific Responsible for the part of the project conducted in the NTUA	1/1/2002	31/10/2003
13	Development and Construction of a Prototype Electricity generation plant from sea waves	ATHENA S.A., Construction Company in the framework of Greek Gen. Secretariat for Research and Technology PAVET program	Scientific Responsible for the part of the project conducted in the NTUA	1/12/2001	31/7/2004
14	Updating of the Post – Graduate Program in “Marine Technology and Science” in the School of Naval Architecture and Marine Engineering	Greek Ministry for Education and Religions	Coordinator, Scientific Responsible	1/9/2001	31/12/2003
15	Thematic Network on Floating Structures Technology – FLOATECH	EU, General Directorate for Transport	Scientific Responsible for the part of the project conducted in the NTUA	1/7/2001	31/10/2005

16	Development of Rules and Regulations for the Design, Construction and Certification of Marinas and Floating Recreational Structures	Hellenic Register of Shipping in the framework of Greek Gen. Secretariat for Research and Technology PAVET program	Scientific Responsible for the part of the project conducted in the NTUA	7/4/2000	7/4/2002
17	Preliminary design of a floating offshore structure for the deployment of the instrumentation for the neutrino monitoring Laboratory NESTOR	NESTOR Laboratory	Coordinator, Scientific Responsible	1/1/2000	31/12/2001