# Resumé of Dr. Ioannis (John) Prousalidis

He was born in Athens (Greece) in 1968. He graduated from the School of Electrical and Computer Engineering (S-ECE) of the National Technical University of Athens (NTUA) in 1991. In 1997, he received his PhD degree from the Electric Power Division of S-ECE/NTUA. In 2001 he joined the Academic Staff of the School of Naval Architecture and Marine Engineering (S-NAME) as a Lecturer in the scientific field of "Marine Electrical and Electronic Engineering". In 2005 he was appointed Assistant Professor, while, in 2008, he succeeded in attaining the corresponding tenure. In 2012 he was promoted to Associate Professor and in 2018 to Professor.

He is the author of the following two textbooks:

- Fundamental principles of ElectroScience (Publisher I. Sideris, ISBN: 978-960-08-0653-3, *in Greek*)
- Electrotechnical Applications for Naval Architects and Marine Engineers (Publisher: Symmetria-S.Athanassopoulos, ISBN: 978-960-266-361-5, *in Greek*).

He is also co-author of the following two textbooks:

- Ship Energy Systems, Ship Electrical Energy Systems (Publisher: DaVinci, ISBN: 978-960-9732-26-0, along with professor Emeritus Christos Frangopoulos, *in Greek*),
- "Design and Operation of Ship Electric Energy Systems" (Publisher : I.Mar.E.S.T, ISBN: 978-0-9565600-4-9 *in English*, along with Dr Christos Kourtessis).

He is the author or co-author of about 100 papers reviewed in full text (32 in international peer reviewed journals and 68 in the proceedings of international conferences) and 31 papers reviewed in abstract/extended summary. His work has been cited about 200 times by other researchers (according to SCI, Google/Scholar and IEEE/XPlore Citation databases) having **h** index equal to 9(according to ResearchGate). He is a reviewer of IEEE and IET journal papers, a member of the Editorial Board of the IET Journal "Power Systems in Transportation" and of the International Journal of Ocean Systems Management (IJOSM) of Inderscience Publishers. Moreover, he has been the reviewer of papers submitted in the following international conferences: International Power System Transients (IPST) 1995-2001, Applied Power Electronic Conference 2001-2007, Electric Ship Technology Symposium 2009, ICEM 2007,2014, 2016, ESARS 2015. He was the chairman or co-chairman of the following International Conferences or Workshops:

a) on "Electroscience And Technology For Naval Engineering And All-Electric Ship", held in Vouliagmeni (Athens, Greece) in July 2004
b) 1st MARINELIVE Conference on "All Electric Ship Technology", held in Athens (Greece) in 4-5 June 2012.
c) 2nd MARINELIVE Conference on "All Electric Ship Technology", held in Athens (Greece) in 12-13 February 2014.
d) 1st and 2nd MARINELIVE Workshop on "Propulsion Systems" and on "Electric Machines and Power Converters", respectively, held in Athens (Greece) in 11-13 January 2012.

e) 3rd and 4th MARINELIVE Workshop on "Prime Movers" and on "Ship Automation and Control" , respectively, held in Athens (Greece) in 21-23 November 2012.
f) 5th and 6th MARINELIVE Workshop on "Ship Electric Grids" and on "Power Management Systems" , respectively, held in Athens (Greece) in 3-5 June 2013.

In addition, he has successfully co-organized and co-chaired special sessions dedicated to marine electrical issues in ICEM2014, ESARS 2015, ICEM 2016 and ICEM 2018.

He has supervised 50 diploma graduation theses and one PhD thesis which has been successfully defended, while he is the supervisor of another two PhD theses in the field of Ship Electric Energy Systems. His scientific interests in the broad area of marine electrical engineering include ship electric energy systems design and operation, studying power quality phenomena of ship electric grids, electric main and auxiliary propulsion, electric power management and control, marine power electronics, ship electric grid earthing schemes and All Electric Ship. He has participated in 27 funded research projects (in the area of electrical and marine electrical engineering as well as Academic Training, all funded by Hellenic or European Union Authorities), in 10 of which he has been the Coordinator and Project Manager (e.g. MARINELIVE, THALIS-DEFKALION, DC-Ship, ECOMARINE, ELEMED).

Since 2001, he gives the following core courses of S-NAME/NTUA:

- Electroscience
- Electrotechnical Applications and Electric Laboratory for Naval Architects and Marine Engineers
- Ship Energy Systems (along with Associate Professor Lambros Kaiktsis)
- Marine Engineering Laboratory (along with all the members of the Marine Engineering Division)

He also gives the following postgraduate courses of NTUA:

- Electric Power Quality (along with professors Nikos Hatziargyriou and Evangelos Dialynas of S-ECE/NTUA)
- Fast Electromagnetic Transients (along with professor Nikos Hatziargyriou)
- Industrial Electronics (along with Assistant Professor Antonios Antonopoulos)

Dr Prousalidis is a member of the Technical Chamber of Greece, the Hellenic Society of Electrical and Mechanical Engineers, the Institute of Electrical and Electronic Engineers-IEEE and the Institute of Marine Engineering Science and Technology – IMarEST. He is an elected member of the Hellenic Joint Branch of RINA/IMarEST and the Hellenic Regional Coordinator of the Young Members Network (YMN) of IMarEST in Greece. Since 2015 he is a member of the Publication Supervisory Board of the IMarEST Publications being responsible for the attraction of new scientific titles. He is vice chairman of the IEEE-PES Marine Systems Coordinating Committee (MSCC), member of the IEEE WG 45 (dealing with ship electric systems design, of the JWG IEEE/IEC/ISO 28 (dealing with ship to shore electric interconnections) and member of the IEEE Europe Power Committee (EPPC). He speaks and writes fluently Greek (mother tongue), English and French.

**List of selected recent research projects**

1. "Marine Electrical Initiative-MARINELIVE", (*EU Contract 264057/ SP4-Capacities,* funded by the European Commission).
2. «Investigation of Electric Power Quality Phenomena is Ship Electric Energy Systems *(co-funded by the European structural funds and the Hellenic Government within the "THALIS" framework)*
3. "Direct Current in Ship Initiative – DC-Ship" *(co-funded by the European structural funds and the Hellenic Government within the "EXCELLENCE-ARISTEIA" framework)*
4. "Investigation of developed Over-voltages in the interconnection cable between Cyclades and the National Hellenic Grid", *(funded by Independent Transmission System Operator – ADMIE sa).*
5. "Electrifying East Mediterranean Corridor – ELEMED" (*EU Contract EU-0235-PS/CEF-MoS, funded by the Eureopan Commision and the Cohesion Funds*).

**List of selected peer-reviewed journal papers**

1. N.D. Hatziargyriou, J.M. Prousalidis, B.C. Papadias, "*A Generalised Transformer Model Based on the Analysis of its Magnetic Core Circuit*", IEE Proceedings C, Generation Transmission & Distribution, (paper No: 9285C), Vol. 140, No. 4, July 1993, pp. 269-278.
2. Shozo Sekioka, Maria I. Lorentzou, Maria P. Philippakou, and John M. Prousalidis,"*Current-Dependent Grounding Resistance Model Based on Energy Balance of Soil Ionization*", IEEE Transactions On Power Delivery, Vol. 21, No. 1, January 2006, pp. 194-201.
3. J. Prousalidis, E. Xanthopoulos, C. Voutzoulidis, "*On reactive power sharing in ship energy systems with shaft generators*", The Journal of Marine Engineering & Technology (Part A13), IMarEST, London (UK), February 2009, pp 21-38.
4. J. Prousalidis, P. Mouzakis, "J. M. Prousalidis, P.S. Mouzakis, "*Analysis of Electric Power Demands of Podded Propulsors*", The Journal of Marine Engineering & Technology (Part A14)", IMarEST, London (UK), January 2010, pp3-16.
5. J. Prousalidis, "*On investigating the influence of Zero sequence impedance in ship ungrounded electric networks*", The Journal of Marine Engineering & Technology (Part A14)", IMarEST, London (UK), September 2010, pp3-16
6. J. Prousalidis: "*The necessity of reactive power balance in ship electric energy systems*", IMarEST Journal of Marine Engineering and Technology, Vol. 10, January 2011, pp. 37-47.
7. G. J. Tsekouras, F. D. Kanellos, John M. Prousalidis, "*Simplified method for the assessment of ship electric power systems operation cost reduction from energy storage and renewable energy sources integration*", IET Electrical Systems in Transportation (Available on E-first Articles). doi: 10.1049/iet-est.2013.0011
8. F. D. Kanellos, J. Prousalidis, G. J. Tsekouras, "*Control system for fuel consumption minimization–gas emission limitation of full electric propulsion ship power systems*",

Proc. of the Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment, Vol. 228(1) 17–28, 2014.

9. E. Sofras, J.Prousalidis, "*Developing a new methodology for evaluating Diesel-electric propulsion*", IMarEST Journal of Marine Engineering and Technology, Vol. 13, No 3, September 2014, pp. 37-47 (2015 Best paper Denny Medal Award).
10. C. Patsios, M. Beniakar, A. Kladas, and J. Prousalidis, "*A simple and efficient parametric design approach for marine electrical machine*", *International Journal on Materials Science Forum*, vol.792, pp. 367-372, 2014 (DOI:10.4028/www.scientific.net/MSF.792.367).
11. J. Prousalidis, E. Sofras,*"Re-establishing the ship generator selection criteria to comply with high ship efficiency concepts,* Proceedings of the Institute of Mechanical Engineering (IMechE), Part M: Journal of Engineering for the Maritime Environment 230(4), Oct. 2016, pp. 592-599 (DOI: 10.1177/1475090215613535).
12. J. Prousalidis, *"On improving the earthing quality in ship electric energy systems",* IMarEST Journal of Marine Engineering and Technology, published online on 04 July 2018, (DOI: 10.1080/20464177.2018.1493024).
13. J. Prousalidis, "*Analysis of Unbalanced Fault Operating Conditions of Ship Electric Networks via Millman's theorem",* IMarEST Journal of Marine Engineering and Technology, published online in 2021, (DOI:10.1080/20464177.2021.1978193)

**List of selected peer-reviewed conference papers**

1. P.G. Boliaris, J.M. Prousalidis, N.D. Hatziargyriou, B.C. Papadias, "*Simulation of Long Transmission Lines Energization for Black Start Studies*", Proceedings of MELECON '93 Conference, Antalya (Turkey), 12-14 April 1994, pp. 1093-1096.
2. J.M. Prousalidis, N.D. Hatziargyriou, B.C. Papadias, "*On studying Ship Electric Propulsion Motor Driving Schemes*"**,** Proceedings of 4th International Conference on Electromagnetic Transients, IPST '01, Rio de Janeiro (Brazil), June 24-28, 2001, pp. 87-93.
3. G. Diamantis, J. Prousalidis, "*Simulation of a DTC Ship Propulsion Scheme*", Proceedings of International Conference on Power Electric Machine and Drives (PEMD2004), 31 march – 2 april 2004, Edinburg (2004).
4. J. Prousalidis, E. Styvaktakis, E. Sofras**,** I.K. Hatzilau, D. Muthumuni "*Voltage dips in ship systems*", Proceedings of 2007 IEEE Electric Ship Technologies Symposium (ESTS07), Anaheim (USA), July 2007.
5. J. Prousalidis, C. Patsios, F. Kanellos, A. Sarigiannidis, N. Tsekouras, G. Antonopoulos, "*Exploiting shaft generators to improve ship efficiency*" Proceedings of Electrical Systems in AirCraft Railway and Ships Propulsion-ESARS 2012, 16-18 October 2012, Bologna (Italy).
6. J. Prousalidis, L. Kaiktsis, F. Kanellos, G. Antonopoulos, C. Patsios, A. Greig, "*New Green-Ship Challenges Faced by the All-Electric Platform*", Proceedings of Transport Research Arena 2014 (TRA 2014), Paris (France), 14-17 April 2014
7. J. Prousalidis, G. Antonopoulos, C. Patsios, A. Greig, R. Bucknall, "*Green shipping in Emission Controlled Areas: Combining Smart Grids and Cold Ironing*", *Proceedings*

*of 21st International Conference on Electrical Machines (ICEM 2014), September 2-5, 2014, Berlin (Germany), paper No GD-006513, pp. 2293-2299*

8. S. Dallas, J. Prousalidis, T. Kourmpelis, "*Direct Current Technology As A Means Towards Increased Vessel Efficiency*"**,** Proceedings of 9th International Conference on High-Performance Marine Vehicles, HIPER 2014, paper No 31, 3-5 December 2014, Athens (Greece).
9. P. Mertikas, S.E. Dallas, D. Spathis, T. Kourmpelis, I.P. Georgakopoulos, J.M. Prousalidis, D.V. Lyridis, L. Nakos, P. Mitrou, V. Georgiou, "Furthering the electricity to ships and ports: the ELEMED project", Proceedings of the 2018 International Conference on Electrical Machines (ICEM 2018), paper No AF-005810, 3-8 Sept 2018, Alexandroupolis (Greece).
10. J. Prousalidis, F. Kanellos, D. Lyridis, S. Dallas, D. Spathis, V. Georgiou, P. Mitrou, "Optimizing the operation of port energy systems", Proceedings of 20th International Conference on Environment and Electrical Engineering (IEEE-EEEIC2019), paper No 5901753, 11-14 June 2019, Genoa (Italy).

11. Z. Soghomonian, J. Prousalidis, F. Kanellos, S. Dallas, D. Spathis, T. Kourmpelis, G. Tsekouras "*The Role of Efficiency of Electric Machinery On Green Shipping*", paper No LD-003999, Proceedings of International Conference on Electrical Machines- ICEM 2016, 5-7 September 2016, Lausanne (Switzerland).
12. A.Sarigiannidis, A. Kladas, A. Mountaneas, M. Benakiar, G.Politis, I. Pallis, E. Tatakis, S. Dallas, I. Prousalidis, "*Design of surface PM motors for POD application utilizing a 3D Hydrodynamic Model*", paper No LD-005614, Proceedings of International Conference on Electrical Machines-ICEM 2016, 5-7 September 2016, Lausanne (Switzerland).