

## **Research Area: Maritime systems and Environmental protection**

The Maritime Systems and Environmental Protection research area investigates novel ideas relevant to the Maritime industry and an extension to the transportation and logistics industries. Emphasis is given to operational efficiency, energy conservation, and the minimization of environmental pollution. Activities range but are not limited to large data analytics, modeling of systems and operations, innovative equipment development, routing systems, satellite utilization, engine management, emissions control systems, sensor tracking systems, and unattended monitoring, to name a few areas. The goal is the development of substantial contributions to the industry, supported by applied research.

## **Research Area Leader: Georgios Kokosalakis, ScD**

Executive Director of the Center of Excellence in Logistics, Shipping and Transportation  
Assistant Professor, Deree, School of Business and Economics, The American College of Greece

Senior Research Associate, Department of Civil Engineering, University of Patras, Greece

Educational Counselor, Massachusetts Institute of Technology, Cambridge, USA

Director, Proteus Marine Ltd

## **Brief Bio**

Dr. Georgios Kokosalakis is the Executive Director of the Center of Excellence in Logistics, Shipping & Transportation, holding an Assistant Professor position at ACG. Dr. Kokosalakis graduated from Massachusetts Institute of Technology holding Doctorate and Master's degrees in Civil and Environmental Engineering along with parallel studies in business administration. A shipowner, manager, and entrepreneur himself with broad experience in the industry, Dr. Kokosalakis has also worked as a consultant for other firms while continuing his work as a researcher and scholar. Interdisciplinary areas always attracted his attention, working professionally and scholarly in areas combining management, operations, engineering, monitoring, energy conservation, and environmental preservation.

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## **Education - Training**

- **Science Doctorate**, in Civil and Environmental Engineering, Massachusetts Institute of Technology, USA, 2006.
- **Master of Science** in Civil and Environmental Engineering, Massachusetts Institute of Technology, USA, 2000.
- **Diploma** in Civil Engineering (5-year degree), Structural Division, National Technical University of Athens, Greece, 1998.
- **Surveyor**, Advanced Technical Survey for Vessel Machinery, Class Systematics, Damages and Repairs, DNV, 2012.
- **Auditor-Inspector**, in International Safety Management (ISM) and International Ship and Port Facility Security (ISPS), Lloyds, 2010.
- **Specialist**, in Geotechnical Instrumentation for Field Measurements, University of Florida, USA, 2007.

- **Safety Officer**, in Health and Safety Training, Metropolitan Transport Authority (MTA) New York, NY, USA, 2006.

### **Research, Teaching And Professional Experience**

- **(2021-Present) Executive Director, Center of Excellence in Logistics, Shipping and Transportation, The American College of Greece**
- **(2021-Present) Assistant Professor, The American College of Greece, Deree, School of Business and Economics, Department of Management and International Business, Athens, Greece**
- **(2020-present) Senior Research Associate, Department of Civil Engineering, University of Patras, Patras, Greece**
- **(2019-2021) Faculty (Adjunct), The American College of Greece, Deree, School of Business and Economics, Department of Management and International Business, Athens, Greece, Teaching Courses in Shipping Operations, Maritime Technical Management, Entrepreneurship and Business Management.**
- **(2018-present) Educational Counselor, Massachusetts Institute of Technology, USA**
- **(2014-present) Director, Proteus Marine Ltd, Athens, Greece, Marine Consultants and Surveyors, Ship Repair Management, Vessel Operation and Management.**
- **(2014-2017) Managing Director, Ship Spares and Repairs Ltd, Athens, Greece, General Ship repairs and spares procurement.**
- **(2011-2014) Technical Director, Great Hellas GP, Piraeus, Greece, Ship engine and machinery repairs.**
- **(2010-2018) Technical Manager-DPA-CSO, Gothmar Shipmanagement Inc, Athens Greece, Operation and Management of a fleet of dry cargo vessels.**
- **(2008-present) Managing Partner, Georgios Kokosalakis and Co LP, Athens, Greece, Consultant Engineer – Private Engineering Projects.**
- **(2008-2016) Vice President, Spin 2 Photovoltaic Systems S.A., Athens, Greece, Construction and Operation of Renewable Energy Power Plants.**
- **(2008-2010) Director of Engineering, Alyssos SA, Athens, Greece, Public Engineering Works.**
- **(2006-2008) Senior Consultant Engineer, Mueser Rutledge Consulting Engineers, NY, NY, USA**
- **(2003-2005) Instructor of Motion Based Design and Active Structural Motion Control, Department of Civil and Environmental Engineering, Massachusetts Institute of Technology, USA.**
- **(2002-2006) Lead Researcher, Cambridge MIT Institute, USA and UK.**
- **(2000-2002) Senior Engineer, Odomichaniki S.A., Athens Greece**
- **(1998-2000) Senior Researcher, Intelligent Engineering Systems Laboratory, Massachusetts Institute of Technology, USA.**
- **(1996-1998) Junior Researcher, Institute of Structural Analysis and Seismic Research, National Technical University of Athens, Greece**

## Publications

- [1] Serafeim, A.V., Kokosalakis G., Deidda R., Karathanasi I. and Langousis A., Probabilistic Estimation of Minimum Night Flow in Water Distribution Networks: Large-scale Application to the City of Patras in Western Greece, Stochastic Environmental Research and Risk Assessment (submitted for publication), 2021
- [2] Kokosalakis G., Triantafyllou A., Merika A., Energy Efficiency, Emissions Control, And Covid-19: The Response of The Second-Hand Containerships Sector, Energy Economics (Accepted for Journal)
- [3] Serafeim, A.V., Kokosalakis G., Deidda R., Karathanasi I. and Langousis A., Practical Estimation of Minimum Night Flow in Water Distribution Networks: Large-scale Application to the City of Patras in Western Greece, EGU General Assembly, 19–30 April 2021
- [4] Kokosalakis A. Merika, X, Merika A., “Environmental regulation on the energy-intensive container ship sector: a restraint or opportunity?”, Marine Policy, Vol. 125, 2021
- [5] Serafeim, A., Karathanasi E., Papageorgakopoulos K., Stergiopoulos D., Deidda R., Kokosalakis G. and Langousis A., “Probabilistic modeling and uncertainty parameterization of real losses in the water distribution network of the city of Patras in western Greece,” (Environmental & Water Resources Institute, (EWRI), ASCE, Milwaukee, WI, USA, 23-26 May 2021.
- [6] Kokosalakis G., Giannopoulou A., Triantafyllou A., “Does Energy Efficiency Impact Container Ships Selling Price?”, International Association of Maritime Economists Conference on Sustainable Development of Shipping and Trade, Hong Kong, 13-20 June 2020
- [7] Serafeim, A., Karathanasi E., Papageorgakopoulos K., Stergiopoulos D., Deidda R., Kokosalakis G. and Langousis A., “A Non-Parametric Statistical Approach for Minimum Night Flow Estimation in Water Distribution Networks” Conference Presentation at the World Water Congress & Exhibition of the International Water Association (IWA), Copenhagen Denmark, 9-14 May 2021 (postponed due to covid-19)
- [8] Kokosalakis G., “Shipping Industry: Challenges and Employment Opportunities,” 18<sup>th</sup> Annual Conference of the Hellenic Finance and Accounting Association, Athens, Greece, 13 – 14 December 2019
- [9] “Acoustic Data Communication for In-Pipe Wireless Sensor Networks,” Doctorate of Science Dissertation, MIT, January 2006.
- [10] Lagaros, N.D., Papadrakakis M., and Kokosalakis G., “Structural Optimization using Evolutionary Algorithms,” Computers and Structures, 80, pp 571-589, 2002
- [11] “Neural Network-Based Active Structural Control,” Master of Science Thesis, MIT, May 2000.
- [12] Papadrakakis, M., Lagaros, N.D., and Kokosalakis, G., “Evolutionary algorithms applied to structural optimization problems,” Chapter 13, in High-Performance Computing for Computational Mechanics, B.H.V Topping & L. Lammer (Eds.), Saxe-Coburg Publications, 1999.

- [13] Papadrakakis, M., Lagaros, N.D. and Kokosalakis, G. "Evolutionary algorithms applied to structural optimization problems," 5<sup>th</sup> Congress on Computational Mechanics, Boulder, CO, August 4-6, 1999.
- [14] "Structural Optimization Using Evolutionary Methods," Diploma Thesis, National Technical University of Athens, Greece, June 1998.

**Grants - Awards - Patents**

- [1] Kokosalakis G., Langousis A., "Detection and Probabilistic Modeling of Extreme Events in Wastewater Treatment Plants," Research Grant awarded by the Athens Water Supply and Sewerage Company (EYDAP S.A.), Greece, 2021.
- [2] Intracom Telecom S.A., Langousis A., Kokosalakis G., "Integrated Platform for Smart Operational Monitoring and Efficient Energy Management of Water Supply Networks," Research Grant awarded by the Center for Renewable Energy Sources and Saving, Greece, 2020.
- [3] Langousis A., Kokosalakis G., "Probabilistic Modeling of Water Losses in Water Distribution Networks: Development of Innovative Tools for Statistical Estimation, Uncertainty Parameterization, and Optimal Sizing of Pressure Management Areas," Research Grant awarded by the Hellenic Foundation for Research and Innovation, Greece, 2019
- [4] Kokosalakis G., Gorlov A.M., Kausel E., Whittle A., "Communications and Power Harvesting System for Wireless Sensor Networks, US Patent 11/643,750
- [5] Kokosalakis G., Kausel E., Whittle A., "Acoustic Data Communication for In-Pipe Wireless Sensor Networks, US Patent 60/752,324
- [6] Kokosalakis G., Gorlov A.M., Kausel E., Whittle A., "Power Harvesting System for In-Pipe Wireless Sensor Networks, US Patent 60/752,322
- [7] Schoettler Fellowship Award 2002-2003, Massachusetts Institute of Technology
- [8] Technical Chamber of Greece, Best Thesis Award Structural Division, 1998
- [9] Exceptional Student Performance Awards, Years 1995, 1996, 1997