

# Christina Kalogeri

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## Title of Primary Employment

Researcher

## Professional Experience

- 2008 – Present: Atmospheric Modeling and Weather Forecasting Group (AM&WFG)

## Education

- PhD, University of Athens, Department of Physics, 2017  
Thesis title: Offshore wind and wave energy resource characterization:  
An integrated approach for combined exploitation
- MSc., University of Athens, Department of Physics, Environmental Physics, 2010
- BSc., University of Athens, Department of Physics, 2008

## Foreign Languages

- English (Certificate of Proficiency, Michigan)
- Greek

## Fields of Scientific Activities

- Atmospheric Modeling and Weather Forecasting
- Air Pollution Modeling
- Wave Modeling and Marine Meteorology
- Offshore Wind and Wave Energy Resource Assessment
- Statistical Processing of Wind and Wave Parameters

## Technical Skills – Atmospheric Applications

- Operating Systems: Unix, Linux, Windows
- Programming: Fortran, Shell scripting
- Atmospheric Models: SKIRON, RAMS, WRF
- Wave Models: WAM, SWAN
- Data Visualization Programs: NCL, REVU
- Statistical analysis Programs: MATLAB, R
- Data Handling: HDF, GRIB, NETCDF

## Participation in Projects

- **CIMME:** Climate Change and Impacts in the Eastern Mediterranean and Middle East, funded by the Cyprus Institute (CyI), 2009-2011.
- **ANEMOS.plus:** A European Specific Targeted Research Project Funded by EU (FP6). Priority 6.1-Sustainable Energy Systems.
- **WASSF:** Development of a Weather Analysis and Sea State Forecast system for Saudi Arabia, funded by Saudi Aramco (2010-until present).
- **MARINA Platform:** Marine Renewable Integrated Application Platform, funded by EU (FP7), 2011-2013. (<http://www.marina-platform.info/>)
- **E-Wave** (Integrated high resolution system for monitoring and quantifying the wave energy potential in the EEZ of Cyprus). The project funded by the Research Promotion Foundation of Cyprus 2012. <http://www.oceanography.ucy.ac.cy/ewave/>
- **ARCHIMEDES III:** A Research program (EPEAEK) on the development of New Numerical and computational methods of the solution of differential equations with applications in environmental issues, financed by the European Union and Greek Ministry of Education 2012-2014. (<http://users.teiath.gr/ifamelis/archimedes/index.html>)
- **MOSEP:** Monitoring the Wind and Sea Wave Energy Potential” (MOSEP) has as main target the development of an integrated, high resolution system for quantifying and monitoring the energy potential from wind and sea waves in the region of Eastern Mediterranean Sea with special emphasis to the Greece sea area. - The project funded by the General Secretariat for Research and Technology of Greece and is hosted by the Hellenic Naval Academy and the Oceanography Center of Cyprus. 2013-2014 (<http://www.oceanography.ucy.ac.cy/mosep/oceanography-center-university-of-cyprus/>)
- **IRPWIND** (Integrated Research Programme on Wind Energy) funded by EU (FP7) 2017 – present ([http://cordis.europa.eu/project/rcn/111468\\_en.html](http://cordis.europa.eu/project/rcn/111468_en.html))
- **QMD:** Meteorological modelling in the context of the NWP and HPC Project of Qatar Civil Aviation Authority, Meteorology. The project funded by the Civil Aviation authority of Qatar.
- **SAUDI ARABIA CLIMATIC DATABASE:** The AM&WFG developed a 30-year meteorological and dust climatological database of high spatial and temporal resolution. It includes several meteorological and dust parameters useful for several engineering applications in Saudi Arabia and nearby countries.
- **ENI marine forecasts:** Weather forecasting for 18 locations around the earth. This forecasting system is set up and runs operationally for the ENI oil Company of Italy.
- **GAMEP:** Operational setup and support of the sea wave forecasting system developed for the General Authority of Environmental Predictions of Saudi Arabia.

## Publications in Peer Reviewed Journals

- Oikonomou, C.L.G., Gradowski, M., **Kalogeri, C.**, Sarmiento, A.J.N.A. On defining storm intervals: Extreme wave analysis using extremal index inferencing of the run length parameter (2020) *Ocean Engineering*, 217, art. no. 107988.
- Buscemi, A., Lo Brano, V., Chiaruzzi, C., Ciulla, G., **Kalogeri, C.** A validated energy model of a solar dish-Stirling system considering the cleanliness of mirrors (2020) *Applied Energy*, 260.
- **Kalogeri C**, Lekas TI, Kallos G. Assessing the availability of seaplane operations in the Aegean Sea. *Aeron Aero Open Access J.* 2019,3(2):76-82.

- Patlakas, P., Stathopoulos, C., Flocas, H., **Kalogeri, C.**, Kallos, G. Regional Climatic Features of the Arabian Peninsula. *Atmosphere* 2019, 10, 220.
- **Kalogeri, C.**, Galanis, G., Spyrou, C., Diamantis, D., Baladima, F., Koukoula, M., Kallos, G. Assessing the European offshore wind and wave energy resource for combined exploitation (2017) *Renewable Energy*, 101, pp. 244-264.
- Emmanouil, G., Galanis, G., **Kalogeri, C.**, Zodiatis, G., Kallos, G. 10-year high resolution study of wind, sea waves and wave energy assessment in the Greek offshore areas (2016) *Renewable Energy*, 90, pp. 399-419.
- Cradden, L., **Kalogeri, C.**, Barrios, I.M., Galanis, G., Ingram, D., Kallos, G. Multi-criteria site selection for offshore renewable energy platforms (2016) *Renewable Energy*, 87, pp. 791-806.
- Zodiatis, G., Galanis, G., Kallos, G., Nikolaidis, A., **Kalogeri, C.**, Liakatas, A., Stylianou, S. The impact of sea surface currents in wave power potential modeling (2015) *Ocean Dynamics*, 65 (11), pp. 1547-1565.
- Larsén, X.G., **Kalogeri, C.**, Galanis, G., Kallos, G. A statistical methodology for the estimation of extreme wave conditions for offshore renewable applications (2015) *Renewable Energy*, 80, pp. 205-218.
- Edwards, E.C., Cradden, L.C., Ingram, D.M., **Kalogeri, C.** Verification within wave resource assessments. Part 1: Statistical analysis (2014) *International Journal of Marine Energy*, 8, pp. 50-69.
- Edwards, E.C., Cradden, L.C., Ingram, D.M., **Kalogeri, C.** Verification within wave resource assessments. Part 2: Systematic trends in the fit of spectral values (2014) *International Journal of Marine Energy*, 8, pp. 70-83.
- Kallos, G., Solomos, S., Kushta, J., Mitsakou, C., Spyrou, C., Bartsotas, N., **Kalogeri, C.** Natural and anthropogenic aerosols in the Eastern Mediterranean and Middle East: Possible impacts (2014) *Science of the Total Environment*, 488-489 (1), pp. 389-397.
- Zodiatis, G., Galanis, G., Nikolaidis, A., **Kalogeri, C.**, Hayes, D., Georgiou, G.C., Chu, P.C., Kallos, G. Wave energy potential in the Eastern Mediterranean Levantine Basin. An integrated 10-year study (2014) *Renewable Energy*, 69, pp. 311-323.
- Spyrou, C., Kallos, G., Mitsakou, C., Athanasiadis, P., **Kalogeri, C.**, Iacono, M.J. Modeling the radiative effects of desert dust on weather and regional climate (2013) *Atmospheric Chemistry and Physics*, 13 (11), pp. 5489-5504.

## Conference Proceedings

- **Kalogeri C.**, Rizou D. and Kallos G. “Use of advanced numerical models and statistical tools to identify the different spatio-temporal characteristics of offshore wind and wave energy resource”. International Conference on Computational Science, Faro, Portugal, 12-14 June 2019.
- **Kalogeri C.**, Rizou D. and Kallos G. Identifying the different spatio-temporal characteristics of offshore wind and wave energy resource for delivering a more stable power output onto the electric grid”, EGU General Assembly 2018, Vienna, Austria, 7-12 April, 2019.
- Oikonomou C., Gradowski M. and **Kalogeri C.** “Location dependence of extreme wave analysis using runs de-clustering via extremal index estimation”. RENEW 2018, Lisbon, Portugal 8-10 October 2018.
- Patlakas P., Stathopoulos C., **Kalogeri C.**, Flocas H., Bartsotas N., Al Qahtani J., and Alexiou I., “Dust Climatology for the Arabian Peninsula”. EGU General Assembly 2018, Vienna, Austria, 8-13 April, 2018.
- Patlakas, P., Galanis, G., Péray, M., Filipot, J.F., **Kalogeri, C.**, Spyrou, C., Diamantis, D. and Kallos, G. “An Integrated Methodology on the Suitability of Offshore Sites for Wind Farm Development”. EGU General Assembly 2016, Vienna, Austria, 17-22 April, 2016.

- Kallos, G., Galanis, G., **Kalogeri, C.**, Patlakas, P., Stathopoulos, C. and Liakatas, A. “The European offshore wind and wave energy resource analysis – Combined exploitation - Analysis of extremes”. Brazilian Symposium on Water Waves, Federal University of Rio de Janeiro, Brazil, 14-16 March, 2016
- George Emmanouil, George Galanis, George kallos, George Zodiatis, **Christina Kalogeri**, Wind-Wave energy potential over Greek Seas, offshore EWEA 2015, Copenhagen, Denmark, 10-12 March 2015.
- Kallos G, Galanis G., **Kalogeri C.**, Barranger N., Patlakas P. Advanced atmospheric modeling for engineering applications, International Symposium on Computational Wind Engineering, CWE 2014, Hamburg, Germany, 8-12 June 2014.
- **Christina Kalogeri**, George Galanis and George Kallos, Forecasting maximum wave height at selected sites based on high resolution hindcast modeling and local adaptation techniques, EGU General Assembly 2014, Vienna, Austria, 27 – 2May 2014.
- George Galanis, Ioannis Famelis and **Christina Kalogeri**: Optimization of Numerical Weather/Wave Prediction Models based on Information Geometry and Computational Techniques, ICCMSE 2014, Athens, Greece, 4–7 April 2014.
- George Kallos, George Galanis, Christos Stathopoulos, **Christina Kalogeri** and Nicolas Barranger, Operational wind power forecasting systems based on physical and statistical models, EWEA 2014, Barcelona, 10-13 March 2014.
- Emmanouil, G. Galanis, G.; Zodiatis, G. **Kalogeri, C.**, Estimation and Monitoring of Wind-Wave energy potential over the Greek seas, American Geophysical Union, Fall Meeting 2013, San Francisco 9-13 December 2013.
- Mihaela Mircea, Gino Briganti, Antonella Malaguti, Sandro Finardi , Camillo Silibello, Christos Spyrou, **Christina Kalogeri**, George Kallos and Gabriele Zanin : Modelling of Saharan dust transport to the Southern Italy, 7th International Workshop on Sand/Duststorms and Associated Dustfall, Frascati (Rome), Italy, 2-4 December 2013.
- George Galanis, George Emmanouil, **Christina Kalogeri** and George Kallos, Mathematical and physical models for the estimation of wind-wave power potential in the Eastern Mediterranean Sea, IAMG 2013, Madrid, 2-6 September 2013.
- Jumaan Al Qahtani, Elyas Alaa, George Kallos, George Galanis, Sarantis Sofianos, Christina Mitsakou, Christos Spyrou, **Christina Kalogeri**, Nikolaos Bartsotas, John Athanaselis, Vassilios Vervatis, Stavros Solomos, Panagiotis Axaopoulos, Daniel W. Beard, Ioannis Alexiou, An integrated weather and sea-state forecasting system for the Arabian Peninsula (WASSF), International Technical Meeting of Air Pollution Modelling and its Application (ITM) 2013, Miami, Florida 26-30 August 2013.
- George Galanis, Ioannis Famelis, **Christina Kalogeri** and George Kallos, Numerical and Geometric Optimization Techniques for Environmental Prediction Systems, SIAM Conference on Mathematical and Computational Issues in the Geosciences, Padova, Italy, 2013.
- George Zodiatis, George Galanis, **Christina Kalogeri**, Andreas Nikolaidis, Dan Hayes, George Georgiou, Peter C. Chu, and George Kallos, Monitor and Forecasting the wave energy potential in the eastern Mediterranean sea, International Conference “Fluxes and Structures in Fluids”, Saint Petersburg, Russia, June 2013.
- George Kallos, George Galanis, **Christina Kalogeri** and Xiaoli Guo Larsen, Novel Atmospheric and Sea State Modeling in Ocean Energy Applications, EGU General Assembly 2013, Vienna, Austria, 7 – 12April 2013.
- George Kallos, George Galanis, Christos Spyrou, Christina Mitsakou, Stavros Solomos, Nikolaos Bartsotas, **Christina Kalogeri**, Ioannis Athanaselis, Sarantis Sofianos, Vassilios Vervatis, Panagiotis Axaopoulos,

- Alexandros Papapostolou, Jumaan Al Qahtani, Elyas Alaa, Ioannis Alexiou, and Daniel Beard, An integrated weather and sea-state forecasting system for the Arabian Peninsula (WASSF), Vienna, Austria, 7 – 12 April 2013.
- George Zodiatis, George Galanis, George Emmanouil, George Emmanouil, Dan Hayes, Andreas Nikolaidis, Georgios Georgiou, **Christina Kalogeri**, and George Kallos, Estimation and Monitoring of Wind/Wave energy potential in the Eastern Mediterranean Sea, Vienna, Austria, 7 – 12 April 2013.
  - G. Kallos, S. Solomos, J. Kushta, C. Spyrou, **C. Kalogeri**, 2012: Natural And Anthropogenic Aerosols in the Mediterranean Region and Middle East: Patterns and Impacts, Air Quality Management at Urban, Regional and Global Scales 4th International Symposium and IUAPPA Regional Conference, 10 – 13 September 2012, Istanbul Technical University, Istanbul – Turkey.
  - Lucy Cradden, **Christina Kalogeri**, Christos Spyrou, Alexandros Adam, Christos Stathopoulos, George Galanis, Sarantis Sofianos, David Ingram, George Kallos, Alexandros Papapostolou, Panagiotis Axaopoulos, A combined resource atlas for marine energy, 4th International Conference on Ocean Energy, 2012, Dublin, Ireland.
  - George Kallos, **Christina Kalogeri**, Alexandros Adam, George Galanis, Evaluation of High Resolution Wave Simulations with SAR-Observations and Estimation of the Wave Power Potential Spatiotemporal Distribution, SEASAR 2012, The 4th International Workshop on Advances in SAR Oceanography, 18-22 June 2012, Tromso, Norway.
  - Galanis G., Zodiatis G., Hayes D., Nikolaidis A., Georgiou G., Stylianou S., Kallos G., **Kalogeri C.**, Chu P.C., Charalambous A., Savvidou K., Michaelides S. : Numerical wave modeling and wave energy estimation, 11th International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP 2012, Athens, Greece, 30 May – 1 June 2012.
  - Spyrou C., Kallos G., Mitsakou C., Athanasiadis P. & **Kalogeri C.**, 2012: The Effects of Naturally Produced Particles on Radiative Transfer, 11th International Conference on Meteorology, Climatology and Atmospheric Physics, COMECAP 2012, Athens, Greece, 30 May – 1 June 2012.
  - G. Kallos, G. Galanis, C. Spyrou, **C. Kalogeri**, A. Adam, and P. Athanasiadis, 2012: Offshore Energy Mapping for Northeast Atlantic and Mediterranean: MARINA PLATFORM project, EGU General Assembly 2012, Vienna, Austria, 22 – 27 April 2012.
  - G. Galanis, G. Zodiatis, D. Hayes, A. Nikolaidis, **C. Kalogeri**, A. Adam, G. Kallos and G. Georgiou, 2012: Near Shore Wave modeling and applications to wave energy estimation, EGU General Assembly 2012, Vienna, Austria, 22 – 27 April 2012.
  - C. Spyrou, G. Kallos, C. Mitsakou and **C. Kalogeri**, 2011: Radiative effects of desert dust on weather and climate, 6th International Workshop On Sand/Duststorms And Associated Dustfall, 7-9 September 2011, Athens, Greece.
  - Kallos G., P. J. Athanasiadis, G. Galanis, C. Mitsakou, S. Sofianos, G. A. Athanassoulis, C. Spyrou, and **C. Kalogeri** 2011: Energy resource mapping in the framework of the MARINA PLATFORM project, EGU General Assembly 2011, Vienna, Austria, 3-8 April, 2011.
  - C. Spyrou, C. Mitsakou, P. Athanasiadis, G. Kallos, and **C. Kalogeri**, 2011: Study of the radiative effects of desert dust on weather and climate, EGU General Assembly 2011, Vienna, Austria, 3-8 April, 2011.
  - G. Kallos, S. Solomos, J. Kushta, C. Spyrou, **C. Kalogeri**, C. Mitsakou, 2010: Modeling Aerosol-Radiation-Cloud And Precipitation Processes, The 6th Specialty Conference And Exhibition On Environmental Progress In The Petroleum & Petrochemical Industries, Environ Arabia 2010, 18-21 April 2010.

- Kallos, G., C. Spyrou, C. Mitsakou, G. Vlastou and **C. Kalogeri**, 2008: The new surface and radiative transfer parameterization in the SKIRON/Dust modelling System, Eos Trans. AGU, 89(53), Fall Meet. Suppl., Abstract A43A-0268. 15 - 19 December, San Francisco.