

# Βιογραφικό Σημείωμα

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## Γενικά Στοιχεία

Όνοματεπώνυμο : Χρήστος Ματσούκας  
Έτος Γέννησης : 1971  
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## Εκπαίδευση

**1989-1994** Πτυχίο Φυσικής του Αριστοτέλειου Πανεπιστημίου Θεσσαλονίκης  
**1994-2000** Διδακτορικό Δίπλωμα από το τμήμα Πολιτικών Μηχανικών και Μηχανικών Περιβάλλοντος του University of Cincinnati. Τίτλος διατριβής: "Precipitation Estimation and Forecast Using Radar and Rain Gauge Measurements with Artificial Neural Networks"

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## Επαγγελματική Εμπειρία

**9/1995 – 9/1998** Βοηθός ερευνητής στο University of Cincinnati με υποτροφία της NASA στο πρόγραμμα "Earth System Science Fellowship"  
**1/2001 – 7/2001** Υπεύθυνος διδασκαλίας του μαθήματος "Ατμοσφαιρική Ρύπανση" στο Πρόγραμμα Σπουδών Επιλογής "Διαχείριση Αγροτικού Περιβάλλοντος και Φυσικών Πόρων" του Πανεπιστημίου Θεσσαλίας  
**11/2001 – 6/2005** Μεταδιδακτορικός ερευνητής στο Εργαστήριο Περιβαλλοντικών Ερευνών του Ινστιτούτου Ηλεκτρονικής Δομής και Λέιζερ (Ι.Η.Δ.Λ.) του Ιδρύματος Τεχνολογίας και Έρευνας (Ι.Τ.Ε.)  
**9/2002 – 9/2005** Διδάσκων Π.Δ. 407 του τμήματος Φυσικής του Πανεπιστημίου Κρήτης  
**6/2005 – 9/2005** Επισκέπτης επιστήμονας στο Climate Monitoring Satellite Application Facility (CMSAF) της Γερμανικής Μετεωρολογικής Υπηρεσίας (DWD), στο Offenbach, Γερμανία  
**10/2005 – 3/2006** Διδάσκων Π.Δ. 407 του τμήματος Περιβάλλοντος του Πανεπιστημίου Αιγαίου  
**7/2005 – 12/2007** Συνεργαζόμενος ερευνητής στο Εργαστήριο Περιβαλλοντικών Ερευνών του Ινστιτούτου Ηλεκτρονικής Δομής και Λέιζερ (Ι.Η.Δ.Λ.) του Ιδρύματος Τεχνολογίας και Έρευνας (Ι.Τ.Ε.)  
**4/2012 – 6/2012** Επισκέπτης επιστήμονας στο Max Planck Institute for Meteorology, στο Αμβούργο, Γερμανία  
**3/2006 – 7/2019** Επίκουρος Καθηγητής στο Τμήμα Περιβάλλοντος του Πανεπιστημίου Αιγαίου  
**7/2019 – Παρόν** Αναπληρωτής Καθηγητής στο Τμήμα Περιβάλλοντος του Πανεπιστημίου Αιγαίου

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## Ερευνητικά Ενδιαφέροντα

- Μοντελοποίηση της διάδοσης ακτινοβολίας στην ατμόσφαιρα
  - Χωροχρονική περιγραφή βροχοπτώσεων
  - Ισοζύγιο ενέργειας της θάλασσας, αλληλεπίδραση ωκεανού/ατμόσφαιρας
  - Η επίδραση του ανθρώπου στο πλανητικό ενεργειακό ισοζύγιο, κλιματική αλλαγή
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## Δημοσιεύσεις σε περιοδικά με κριτές

1. **C. Matsoukas**, S. Islam, R. Kothari: "Fusion of radar and rain gage measurements for an accurate estimation of rainfall", *J. Geophys. Res.-Atmos.*, 104 (D24), 31437-31450, 1999
2. **C. Matsoukas**, S. Islam, I. Rodriguez-Iturbe: "Detrended fluctuation analysis of rainfall and streamflow time series", *J. Geophys. Res.-Atmos.*, 105 (D23), 29165-29172, 2000
3. K. G. Pavlakis, D. Hatzidimitriou, **C. Matsoukas**, E. Drakakis, N. Hatzianastassiou, I. Vardavas: "Ten-year global distribution of downwelling longwave radiation", *Atmos. Chem. Phys.*, 4: 127-142, 2004
4. N. Hatzianastassiou, **C. Matsoukas**, D. Hatzidimitriou, K. G. Pavlakis, E. Drakakis, and I. Vardavas: "Ten year radiation budget of the Earth: 1984-1993", *Int. J. Climatol.*, 24: 1785-1802, 2004
5. N. Hatzianastassiou, A. Fotiadi, **C. Matsoukas**, E. Drakakis, K. G. Pavlakis, D. Hatzidimitriou, I. Vardavas: "Long-term global distribution of Earth's shortwave radiation budget at the top of the atmosphere", *Atmos. Chem. Phys.*, 4: 1217-1235, 2004
6. D. Hatzidimitriou, I. Vardavas, K. G. Pavlakis, N. Hatzianastassiou, **C. Matsoukas**, E. Drakakis: "On the decadal increase in the tropical mean outgoing longwave radiation for the period 1984-2000", *Atmos. Chem. Phys.*, 4: 1419-1425, 2004
7. A. Fotiadi, N. Hatzianastassiou, **C. Matsoukas**, K. G. Pavlakis, E. Drakakis, D. Hatzidimitriou, I. Vardavas: "Analysis of the decrease in the tropical mean outgoing shortwave radiation at the top of the atmosphere for the period 1984-2000", *Atmos. Chem. Phys.*, 5: 1721-1730, 2005
8. N. Hatzianastassiou, **C. Matsoukas**, A. Fotiadi, K. G. Pavlakis, E. Drakakis, D. Hatzidimitriou, I. Vardavas: "Global distribution of Earth's surface shortwave radiation budget", *Atmos. Chem. Phys.*, 5: 2847-2867, 2005
9. **C. Matsoukas**, A. C. Banks, N. Hatzianastassiou, K. G. Pavlakis, D. Hatzidimitriou, E. Drakakis, P. W. Stackhouse, I. Vardavas: "Seasonal heat budget of the Mediterranean Sea", *J. Geophys. Res.-Oceans*, 110, C12008, doi:10.1029/2004JC002566, 2005
10. A. Fotiadi, N. Hatzianastassiou, P. W. Stackhouse Jr., **C. Matsoukas**, E. Drakakis, K. G. Pavlakis, D. Hatzidimitriou, I. Vardavas: "Spatial and temporal distribution of long-term solar surface radiation budget over Greece", *Q. J. Roy. Meteor. Soc.*, 132, No. 621, 2693-2718, 2006
11. A. Fotiadi, N. Hatzianastassiou, E. Drakakis, **C. Matsoukas**, K. G. Pavlakis, D. Hatzidimitriou, E. Gerasopoulos, N. Mihalopoulos, and I. Vardavas: "Aerosol physical and optical properties in the Eastern Mediterranean Basin, Crete, from Aerosol Robotic Network data", *Atmos. Chem. Phys.*, 6: 5399-5413, 2006
12. N. Hatzianastassiou, **C. Matsoukas**, A. Fotiadi, E. Drakakis, P. W. Stackhouse, P. Koepke, K. G. Pavlakis, D. Hatzidimitriou and I. Vardavas: "Modelling the direct effect of aerosols in the solar near-infrared on a planetary scale", *Atmos. Chem. Phys.*, 7, 3211-3229, 2007

13. K. G. Pavlakis, D. Hatzidimitriou, E. Drakakis, **C. Matsoukas**, A. Fotiadi, N. Hatzianastassiou, and I. Vardavas: "ENSO surface longwave radiation forcing over the tropical Pacific", *Atmos. Chem. Phys.*, 7, 2013-2026, 2007
14. N. Hatzianastassiou, **C. Matsoukas**, E. Drakakis, P. W. Stackhouse, P. Koepke, A. Fotiadi, K. G. Pavlakis, and I. Vardavas: "The direct effect of aerosols on solar radiation based on satellite observations, reanalysis datasets, and spectral aerosol optical properties from Global Aerosol Data Set (GADS)", *Atmos. Chem. Phys.*, 7, 2585-2599, 2007
15. **C. Matsoukas**, A. C. Banks, K. G. Pavlakis, N. Hatzianastassiou, P. W. Stackhouse, I. Vardavas: "Seasonal heat budget of the Red and Black Seas", *J. Geophys. Res.-Oceans*, 112, C10017, doi:10.1029/2006JC003942, 2007
16. K. G. Pavlakis, N. Hatzianastassiou, **C. Matsoukas**, A. Fotiadi, I. Vardavas: "ENSO surface shortwave radiation forcing over the Pacific", *Atmos. Chem. Phys.*, 8, 5565-5577, 2008
17. **C. Matsoukas**, A. C. Banks, K. G. Pavlakis, N. Hatzianastassiou, P. W. Stackhouse Jr., I. Vardavas: "Reply to comment by Kara and Barron on 'Seasonal heat budgets of the Red and Black Seas'", *J. Geophys. Res.-Oceans*, 113, C12009, doi:10.1029/2008JC004917, 2008
18. R. Mueller, **C. Matsoukas**, A. Gratzki, H. D. Behr, R. Hollmann: "The CM-SAF operational scheme for the satellite based retrieval of solar surface irradiance - a LUT based eigenvector hybrid approach", *Remote Sens. Environ.*, 113(5), 1012-1024, doi:10.1016/j.rse.2009.01.012, 2009
19. **C. Matsoukas**, N. Hatzianastassiou, A. Fotiadi, K. G. Pavlakis, I. Vardavas: "The effect of Arctic sea-ice extent on the absorbed (net) solar flux at the surface, based on ISCCP-D2 cloud data for 1983–2007", *Atmos. Chem. Phys.*, 10, 777-787, 2010
20. **C. Matsoukas**, N. Benas, N. Hatzianastassiou, K. G. Pavlakis, M. Kanakidou, I. Vardavas: "Potential evaporation trends over land between 1983–2008: Driven by radiative fluxes or vapour-pressure deficit?", *Atmos. Chem. Phys.*, 11, 7601-7616, 2011
21. N. Benas, N. Hatzianastassiou, **C. Matsoukas**, A. Fotiadi, N. Mihalopoulos, I. Vardavas: "Aerosol shortwave daily radiative effect and forcing based on MODIS Level 2 data in the Eastern Mediterranean (Crete)", *Atmos. Chem. Phys.*, 11, 12647-12662, 2011
22. N. Hatzianastassiou, C. D. Papadimas, **C. Matsoukas**, K. Pavlakis, A. Fotiadi, M. Wild, I. Vardavas: "Recent regional surface solar radiation dimming and brightening patterns: inter-hemispherical asymmetry and a dimming in the Southern Hemisphere", *Atmos. Sci. Lett.*, doi: 10.1002/asl.361, 2012
23. C. D. Papadimas, N. Hatzianastassiou, **C. Matsoukas**, M. Kanakidou, N. Mihalopoulos, I. Vardavas: "The direct effect of aerosols on solar radiation over the broader Mediterranean basin", *Atmos. Chem. Phys.*, 12, 7165-7185, 2012
24. C. A. Randles, S. Kinne, G. Myhre, M. Schulz, P. Stier, J. Fischer, L. Doppler, E. Highwood, C. Ryder, B. Harris, J. Huttunen, Y. Ma, R. T. Pinker, B. Mayer, D. Neubauer, R. Hitzenberger, L. Oreopoulos, D. Lee, G. Pitari, G. Di Genova, J. Quaas, Fred G. Rose, S. Kato, S. T. Rumbold, I. Vardavas, N. Hatzianastassiou, **C. Matsoukas**, H. Yu, F. Zhang, H. Zhang, P. Lu: "Intercomparison of shortwave radiative transfer schemes in global aerosol modeling: results from the AeroCom Radiative Transfer Experiment", *Atmos. Chem. Phys.*, 13, 2347-2379, doi:10.5194/acp-13-2347-2013, 2013
25. V. Pappas, N. Hatzianastassiou, C. Papadimas, **C. Matsoukas**, S. Kinne, I. Vardavas: "Evaluation of spatio-temporal variability of Hamburg Aerosol Climatology against aerosol datasets from MODIS and CALIOP", *Atmos. Chem. Phys.*, 13, 8381-8389, doi:10.5194/acp-13-8381-2013, 2013

26. N. Cleridou, N. Benas, **C. Matsoukas**, B. Croke, I. Vardavas : "Water resources of Cyprus under changing climatic conditions: Modelling approach, validation and limitations", *Environ. Modell. Softw.*, 60, 202-218, 2014
  27. M. Pyrina, N. Hatzianastassiou, **C. Matsoukas**, A. Fotiadi, C. D. Papadimas, K. G. Pavlakis, I. Vardavas: "Cloud effects on the solar and thermal radiation budgets of the Mediterranean basin", *Atmos. Res.*, 152, 14-28, 2015
  28. M. B. Korras-Carraca, N. Hatzianastassiou, **C. Matsoukas**, A. Gkikas, C. D. Papadimas: "The regime of aerosol asymmetry parameter over Europe, the Mediterranean and the Middle East based on MODIS satellite data: evaluation against surface AERONET measurements", *Atmos. Chem. Phys.*, 15, 13113–13132, 2015
  29. E. Triantafyllou, M. Giamarelou, E. Bossioli, P. Zampas, C. Theodosi, **C. Matsoukas**, M. Tombrou, N. Mihalopoulos, G. Biskos : "Particulate pollution transport episodes from Eurasia to a remote region of northeast Mediterranean", *Atmos. Environ.*, 128, 45–52, 2016
  30. A. A. Floutsi, M. B. Korras-Carraca, **C. Matsoukas**, N. Hatzianastassiou, G. Biskos : "Climatology and trends of aerosol optical depth over the Mediterranean basin during the last 12 years (2002–2014) based on Collection 006 MODIS-Aqua data ", *Sci. Total Environ.*, 551-552, 292-303, doi: 10.1016/j.scitotenv.2016.01.192, 2016
  31. A. Lázaro, A. Chroni, T. Tschulin, J. Devalez, **C. Matsoukas**, T. Petanidou : "Electromagnetic radiation of mobile telecommunication antennas affects the abundance and composition of wild pollinators", *J. Insect Conserv.*, doi: 10.1007/s10841-016-9868-8, 2016
  32. V. S. Thomaidi, **C. Matsoukas**, A. S. Stasinakis: "Risk assessment of triclosan released from sewage treatment plants in European rivers using a combination of risk quotient methodology and Monte Carlo simulation", *Sci. Total Environ.*, 603-604, 487-494, doi: 10.1016/j.scitotenv.2017.06.113, 2017
  33. V. K. Stathopoulos, **C. Matsoukas**: "Long-term memory and multifractality of downwelling longwave radiation flux at the Earth's surface", *Clim. Dyn.*, 52(9), 5723-5738, doi: 10.1007/s00382-018-4473-z, 2018
  34. V. Tzallas, N. Hatzianastassiou, N. Benas, J. F. Meirink, **C. Matsoukas**, P. Stackhouse Jr., I. Vardavas: "Evaluation of CLARA-A2 and ISCCP-H Cloud Cover Climate Data Records over Europe with ECA&D Ground-Based Measurements", *Remote Sens.*, 11, 212, doi:10.3390/rs11020212, 2019
  35. M. B. Korras-Carraca, V. Pappas, N. Hatzianastassiou, I. Vardavas, **C. Matsoukas**: "Global vertically resolved aerosol direct radiation effect from three years of CALIOP data using the FORTH radiation transfer model", *Atmos. Res.*, 224C, 138–156, doi: 10.1016/j.atmosres.2019.03.024, 2019
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## Δημοσιεύσεις σε περιοδικά χωρίς κριτές

Z. Hu, S. Islam and **C. Matsoukas**: "Relationships between spin-up time and the time scale of forcing data", *GEWEX News*, Vol. 6, No. 1, 1996

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## Συνέδρια

- 11 – 15 Δεκεμβρίου 1995, *AGU Fall Meeting, San Francisco, California, U.S.A.*
- 1) **C. Matsoukas**, Z. Hu and S. Islam: "On the relationship between spin-up processes and time scale of forcing data for land surface models", *Eos Trans.*, 76(46), Fall Meet. Suppl., p. 92, 1995
- 20 – 24 Μαΐου 1996, *AGU Spring Meeting, Baltimore, Maryland, U.S.A.*
- 2) **C. Matsoukas**, S. Islam and R. Kothari.: "Fusion of raingauge and radar measurements for an accurate estimation of rainfall"
- 2 – 7 Φεβρουαρίου 1997, *77th AMS Annual Meeting and Exhibition, American Meteorological Society, Long Beach, California, U.S.A.*
- 3) **C. Matsoukas**, S. Islam and R. Kothari: "Multisensor fusion of precipitation measurements"
- 29 Ιουνίου – 1 Ιουλίου 1999, *Sixth International Conference on Precipitation: Predictability of Rainfall at the Various Time Scales, Hawaii, U.S.A.*
- 4) **C. Matsoukas**, S. Islam and R. Kothari: "Intercomparison of cokriging and artificial neural network for the multi-sensor estimation of rainfall"
- 25 – 28 Σεπτεμβρίου 2002, *6<sup>th</sup> Hellenic Conference in Meteorology, Climatology and Atmospheric Physics, Ioannina, Greece*
- 5) N. Hatzianastassiou, **C. Matsoukas**, D. Hatzidimitriou, K. Pavlakis, E. Drakakis, I. Vardavas: "Global shortwave radiation budget"
  - 6) K. Pavlakis, D. Hatzidimitriou, N. Hatzianastassiou, E. Drakakis, **C. Matsoukas**, I. Vardavas: "The Earth's longwave radiation budget"
  - 7) **C. Matsoukas**, E. Drakakis, K. Pavlakis, N. Hatzianastassiou, D. Hatzidimitriou, I. Vardavas: "Validation of a radiation transfer model against downward longwave flux GEBA/BSRN measurements"
- 24 – 29 Απριλίου 2005, *European Geosciences Union, General Assembly 2005, Vienna, Austria*
- 8) **C. Matsoukas**, A.C. Banks, N. Hatzianastassiou, I. Vardavas: "The seasonal energy budgets of the Mediterranean and Red Seas"
  - 9) I. Vardavas, **the ESRB team**: "The Earth's radiation budget on a daily 1x1 degree resolution from the ESRB project"
- 2 – 7 Απριλίου 2006, *European Geosciences Union, General Assembly 2006, Vienna, Austria*
- 10) A. Fotiadi, E. Drakakis, N. Hatzianastassiou, **C. Matsoukas**, I. Vardavas "Aerosol properties in the eastern Mediterranean based on the AERONET station at FORTH/Crete"
  - 11) **C. Matsoukas**, K. G. Pavlakis, N. Hatzianastassiou, E. Drakakis, A. Fotiadi, D. Hatzidimitriou, P. W. Stackhouse, I. Vardavas: "Global distribution of 10-year daily mean shortwave and longwave radiation at one degree spatial resolution"
  - 12) N. Hatzianastassiou, **C. Matsoukas**, A. Fotiadi, I. Vardavas: "Modelling the direct effect of aerosols on near-infrared solar radiation on a global scale"

24 – 26 Μαΐου 2006, 8<sup>th</sup> Hellenic Conference in Meteorology, Climatology and Atmospheric Physics, Athens, Greece

- 13) N. Hatzianastassiou, A. Fotiadi, C. Papadimas, **C. Matsoukas**, M. Drakakis, D. Hatzidimitriou, I. Vardavas: “Study of aerosol radiation forcing over the Eastern Mediterranean”
- 14) A. Fotiadi, N. Hatzianastassiou, M. Drakakis, **C. Matsoukas**, K. Pavlakis, D. Hatzidimitriou, N. Mihalopoulos, I. Vardavas: “Study of the aerosol optical properties in Crete (Eastern Mediterranean)”
- 15) **C. Matsoukas**, S. Kazadzis, A. Kazantzidis, N. Hatzianastassiou, I. Vardavas, A. Bais: “Comparison of calculated UV solar irradiance values from FORTH model with spectral measurements and results from LibRadtran model”

15 – 20 Απριλίου 2007, European Geosciences Union, General Assembly 2007, Vienna, Austria

- 16) **C. Matsoukas**, N. Hatzianastassiou, I. Vardavas: “Multiyear global analysis of the aerosol direct radiative effect from satellite TOMS data”
- 17) N. Hatzianastassiou, **C. Matsoukas**, I. Vardavas: “Modelling the direct effect of aerosols on solar radiation based on satellite observations, reanalysis datasets, and spectral aerosol optical properties from Global Aerosol Data Set (GADS)”

28 – 31 Μαΐου 2008, 9<sup>th</sup> Hellenic Conference in Meteorology, Climatology and Atmospheric Physics, Thessaloniki, Greece

- 18) C. D. Papadimas, N. Hatzianastassiou, **C. Matsoukas**, and I. Vardavas: “Aerosol forcing on the solar energy budget over the greater area of Greece for the period 2000 – 2005”
- 19) A. Fotiadi, N. Hatzianastassiou, M. Drakakis, **C. Matsoukas**, K. Pavlakis, C. Papadimas, I. Vardavas: “Study of fine and coarse mode aerosol events from AERONET station data in Crete (Eastern Mediterranean) over the period 2003-2006”

24 – 29 Αυγούστου 2008, European Aerosol Conference (EAC 2008), Thessaloniki, Greece

- 20) A. Fotiadi, N. Hatzianastassiou, N. Benas, **C. Matsoukas**, and I. Vardavas: “Aerosol solar radiative effect during fine and coarse aerosol events in the Eastern Mediterranean (Crete)”

26 – 29 Μαΐου 2009, 8<sup>th</sup> Environmental Conference of the Greek Physicists Union, Heraklion, Crete, Greece

- 21) N. Benas, N. Cleridou, C. Papadimas, A. Fotiadi, K. Pavlakis, **C. Matsoukas**, N. Hatzianastassiou, I. Vardavas: “Energy budget of the solar and terrestrial radiation at the Earth's surface”

13 – 18 Απριλίου 2009, European Geosciences Union, General Assembly 2009, Vienna, Austria

- 22) D. Papadimas, N. Hatzianastassiou, **C. Matsoukas**, and I. Vardavas: “Aerosol direct radiative effect on solar radiation on planetary scale based on 7-year spectral aerosol optical properties from MODIS”

- 23) N. Hatzianastassiou, C. D. Papadimas, **C. Matsoukas**, K. Pavlakis, A. Fotiadi, M. Wild, and I. Vardavas: “ Long-term changes of aerosol optical and radiative properties and their role in global dimming and brightening ”

*6 – 11 Σεπτεμβρίου 2009, European Aerosol Conference (EAC 2009), Karlsruhe, Germany*

- 24) C. Papadimas, N. Hatzianastassiou, **C. Matsoukas**, and I. Vardavas: “Comparison between MODIS and GADS aerosols asymmetry factor on a planetary scale”

*2 – 4 November 2009, International workshop on Atmospheric Composition Changes: Climate-Chemistry Interactions, Lecce, Italy*

- 25) N. Hatzianastassiou, C. Papadimas, **C. Matsoukas**, I. Vardavas: “The direct effect of aerosols on solar radiation in the dawn of the 21th century, its changes and their role for global dimming and brightening”

*2 – 7 Μαΐου 2010, European Geosciences Union, General Assembly 2010, Vienna, Austria*

- 26) C. D. Papadimas, N. Hatzianastassiou, **C. Matsoukas**, I. Vardavas: “Anthropogenic aerosols over southern Europe and their direct effect on solar radiation”

*25 – 28 Μαΐου 2010, 10th International Conference on Meteorology, Climatology and Atmospheric Physics, Patras, Greece*

- 27) V. Pappas, N. Hatzianastassiou, C. Papadimas, **C. Matsoukas**, S. Kinne, I. Vardavas: “Spatial and temporal variability of the vertical distribution of aerosols and its direct effect on solar radiation for the Mediterranean Basin”  
28) C. Papadimas, N. Hatzianastassiou, **C. Matsoukas**, I. Vardavas: “The direct effect of anthropogenic aerosols on solar radiation over the broader Mediterranean Region”

*3 – 8 Απριλίου 2011, European Geosciences Union, General Assembly 2011, Vienna, Austria*

- 29) N. Hatzianastassiou, C. Papadimas, **C. Matsoukas**, A. Fotiadi, K. Pavlakis, M. Wild, I. Vardavas: “Patterns of surface solar radiation dimming and brightening at the turn of 21st century”  
30) C. Papadimas, N. Hatzianastassiou, **C. Matsoukas**, I. Vardavas: “ The effect of clouds on shortwave radiation over the Mediterranean basin based on recent satellite data”

*22 – 27 Απριλίου 2012, European Geosciences Union, General Assembly 2012, Vienna, Austria*

- 31) V. Pappas, N. Hatzianastassiou, **C. Matsoukas**, I. Vardavas: “Vertical distributions of aerosols and clouds over the greater Mediterranean basin using CALIOP observations”  
32) N. Hatzianastassiou, C. D. Papadimas, **C. Matsoukas**, K. Pavlakis, A. Fotiadi, M. Wild, I. Vardavas: “Features and causes of recent surface solar radiation dimming and brightening patterns”

*30 Μαΐου – 1 Ιουνίου 2012, 11th International Conference on Meteorology, Climatology and Atmospheric Physics, Athens, Greece*

- 33) M. Pyrina, C. D. Papadimas, A. Fotiadi, **C. Matsoukas**, N. Hatzianastassiou, I. Vardavas: “Cloud radiative effects on solar radiation over the eastern Mediterranean basin from 1984 to 2007”

*06 – 10 Αυγούστου 2012, International Radiation Symposium 2012, Berlin, Germany*

- 34) N. Hatzianastassiou, T. Kyrtzidis, C. Papadimas, **C. Matsoukas**, M. Wild, I. Vardavas: “Solar dimming and brightening in the second half of 20th century based on ERA-40 Reanalysis Project”

*07-12 Απριλίου 2013, European Geosciences Union, General Assembly 2013, Vienna, Austria*

- 35) V. Pappas, N. Hatzianastassiou, **C. Matsoukas**, I. Vardavas: “Aerosol effect on atmospheric heating rates in the Mediterranean region using vertically resolved satellite aerosol data”  
36) C. Papadimas, A. Gkikas, N. Hatzianastassiou, **C. Matsoukas**, S. Kazadzis, S. Basart, J. Baldasano, I. Vardavas: “Dust radiative effect over Europe, Mediterranean, Sahara and Middle East from a radiative transfer model using BSC-DREAM8b aerosol optical data”

*06-09 Σεπτεμβρίου 2013, Royal Meteorological Society Student Conference, Reading, U.K.*

- 37) M. Korras-Carraca, V. Pappas, **C. Matsoukas**, N. Hatzianastassiou, I. Vardavas: “Aerosol effects on atmospheric heating/cooling rates on global scale using vertically resolved satellite aerosol data”

*27 Απριλίου – 2 Μαΐου 2014, European Geosciences Union, General Assembly 2014, Vienna, Austria*

- 38) M. B. Korras Carraca, V. Pappas, **C. Matsoukas**, N. Hatzianastassiou, I. Vardavas: “Global profiles of the direct aerosol effect using vertically resolved aerosol data”  
39) N. Hatzianastassiou, C. D. Papadimas, A. Gkikas, **C. Matsoukas**, A. M. Sayer, N. C. Hsu, I. Vardavas: “Aerosol radiative effects over global arid and semi-arid regions based on MODIS Deep Blue satellite observations”

*28-31 Μαΐου 2014, 12th International Conference on Meteorology, Climatology and Atmospheric Physics, Heraklion, Greece*

- 40) M. B. Korras-Carraca, V. Pappas, **C. Matsoukas**, N. Hatzianastassiou, I. Vardavas: “Aerosol forcing efficiency from the FORTH radiative transfer model with CALIOP AOD vertical profiles”  
41) N. Benas, **C. Matsoukas**, A. Fotiadi, N. Hatzianastassiou, K. Pavlakis, I. Vardavas: “The aerosol effect on potential evaporation at the Athens main water supply reservoirs”  
42) M. B. Korras-Carraca, V. Pappas, **C. Matsoukas**, N. Hatzianastassiou, I. Vardavas: “Aerosol effect on atmospheric heating rate profiles using vertically resolved satellite aerosol data”



- 43) V. Pappas, N. Hatzianastassiou, **C. Matsoukas**, I. Vardavas: "Sensitivity of the atmospheric heating/cooling rate profile to the vertical distribution of aerosols"
- 44) M. Pyrina, C. D. Papadimas, A. Fotiadi, K. Pavlakis, **C. Matsoukas**, N. Hatzianastassiou, I. Vardavas: "Cloud effects on tropical longwave radiation budget"

*12-17 Απριλίου 2015, European Geosciences Union, General Assembly 2015, Vienna, Austria*

- 45) A. Floutsi, M. Korras-Carraca, **C. Matsoukas**, G. Biskos: "The regime of aerosol optical depth over Central Asia based on MODIS Aqua Deep Blue data"
- 46) M. B. Korras-Carraca, N. Hatzianastassiou, **C. Matsoukas**, A. Gkikas, C. Papadimas, A. Sayer: "The regime of aerosol asymmetry parameter and Angstrom exponent over Europe, Mediterranean and Middle East based on MODIS satellite data. Intercomparison of MODIS-Aqua C051 and C006 retrievals "

*5-7 Ιουνίου 2015, 8th Conference on Environmental Policy and Management, Mytilene, Greece*

- 47) A. A. Floutsi, M. B. Korras-Carraca, **C. Matsoukas**: "Optical depth of particulate matter over the Mediterranean"

*3-5 Σεπτεμβρίου 2015, 14th International Conference on Environmental Science and Technology, CEST2015, Rhodes, Greece*

- 48) E. Triantafyllou, M. Giamarelou, E. Bossioli, P. Zampas, C. Theodosi, **C. Matsoukas**, M. Tombrou, N. Mihalopoulos, G. Biskos: "Long-range transported air pollutants from continental areas to the remote region of the North Aegean Sea "
- 49) A. Lázaro, T. Tschoulin, A. Chroni, J. Devalez, **C. Matsoukas**, T. Petanidou: "Effect of mobile telecommunication antennas on the abundance of wild pollinators"

*6-11 Σεπτεμβρίου 2015, European Aerosol Conference 2015, Milan, Italy*

- 50) A. A. Floutsi, M. B. Korras-Carraca, **C. Matsoukas**, G. Biskos: "Aerosol optical properties and prevailing aerosol type over the Mediterranean"

*17-22 Απριλίου 2016, European Geosciences Union General Assembly, Vienna, Austria*

- 51) A. A. Floutsi, M. B. Korras-Carraca, C. Matsoukas, G. Biskos: "Aerosol optical depth over central north Asia based on MODIS-Aqua data "

*19-21 Σεπτεμβρίου 2016, 13th International Conference on Meteorology, Climatology and Atmospheric Physics, Thessaloniki, Greece*

- 52) M. B. Korras-Carraca, P. E. Charalambidis, **C. Matsoukas**, C. Pilinis, C. Fountoukis, S. N. Pandis, N. Hatzianastassiou, I. Vardavas: "Aerosol radiative effects over Europe from the FORTH radiation transfer model with AtmOptC aerosol optical properties"
- 53) V. Stathopoulos, **C. Matsoukas**: "Long-term memory and multifractality of downwelling longwave flux at stations worldwide"

- 54) T. Laosoglou, N. Hatzianastassiou, N. Benas, A. Fotiadi, **C. Matsoukas**, I. Vardavas: "Study of the total and ultraviolet solar radiation in the alpine region of Ioannina (northwestern Greece)"
- 55) P. Georgakaki, C. D. Papadimas, N. Hatzianastassiou, A. Fotiadi, **C. Matsoukas**, P. W. Stackhouse, M. Kanakidou, I. Vardavas: "High-resolution direct effect of aerosols on solar radiation over the eastern Mediterranean basin"

*23-28 Απριλίου 2017, European Geosciences Union General Assembly, Vienna, Austria*

- 56) A. A. Floutsi, M. B. Korras-Carraca, **C. Matsoukas**, R. Riva, G. Biskos: "Aerosol optical properties over Northwestern European seas"
- 57) E. Ioannidis, C. D. Papadimas, A. Fotiadi, **C. Matsoukas**, N. Hatzianastassiou, M. Wild, I. Vardavas: "Recent global dimming and brightening and its causes from a satellite perspective"
- 58) P. Georgakaki, C. D. Papadimas, N. Hatzianastassiou, A. Fotiadi, **C. Matsoukas**, P. Stackhouse, M. Kanakidou, I.M. Vardavas: "Aerosol direct effect on solar radiation over the eastern Mediterranean Sea based on AVHRR satellite measurements "

*8-13 Απριλίου 2018, European Geosciences Union General Assembly, Vienna, Austria*

- 59) V. Tzallas, N. Hatzianastassiou, N. Benas, J.F. Meirink, **C. Matsoukas**, I. Vardavas: "A 34-year climatology and trends of CM SAF CLARA-A2 global cloud cover and comparison with ISCCP"
- 60) V. Tzallas, N. Hatzianastassiou, N. Benas, J.F. Meirink, **C. Matsoukas**, I. Vardavas, M. Wild: "Radiative fluxes and cloud radiative effect using CM SAF CLARA-A2 global cloud cover and comparison with ISCCP"
- 61) V. Stathopoulos, M. Mazzola, **C. Matsoukas**, K. Eleftheriadis: "Black Carbon measurements at different altitudes and boundary layer estimated by radiosonde, on a high-Arctic site (Ny-Ålesund, Svalbard), during 2011-2012"
- 62) K. Tsioumitas, N. Hatzianastassiou, N. Benas, D. Meloni, G. Pace, A.G. di Sarra, **C. Matsoukas**, I. Vardavas: "A 15-year climatology of the surface irradiance of the Lampedusa Island, using satellitedata of the Modis Level- 2 and Level-3 instrument of Terra satellite and comparison with measurements from algorithm using ground data"

*15-17 Οκτωβρίου 2018, 14th International Conference on Meteorology, Climatology and Atmospheric Physics, Alexandroupolis, Greece*

- 63) V. Tzallas, N. Hatzianastassiou, N. Benas, J.F. Meinrink, **C. Matsoukas**, M. Wild, I. Vardavas: "Global shortwave radiation budget using CM SAF CLARA-A2 global cloud cover data"
- 64) V. Tzallas, N. Hatzianastassiou, N. Benas, J.F. Meirink, **C. Matsoukas**, I. Vardavas, "CM SAF CLARA-A2 global cloud cover climatology and comparison with ISCCP and ECA&D"
- 65) E. Ioannidis, N. Hatzianastassiou, C.D. Papadimas, N. Benas, A. Fotiadi, **C. Matsoukas**, M. Wild, I. Vardavas: "Global downward surface solar radiation tendencies in the first decade of 2000s"
- 66) K. Tsioumitas, N. Hatzianastassiou, N. Benas, S. Dafis, D. Meloni, G. Pace, A. G. di Sarra, **C. Matsoukas**, I. Vardavas: "Modeling 15-year surface solar radiation fluxes in central Mediterranean (Lampedusa island) using MODIS satellite and local cloud optical thickness data"

*7-12 Απριλίου 2019, European Geosciences Union General Assembly, Vienna, Austria*

- 67) M. B. Korras Carraca, V. Pappas, N. Hatzianastassiou, I. Vardavas, C. Matsoukas: "Sensitivity of the aerosol direct radiative effect on the aerosol layer height"
- 68) A. Kakouri, M. B. Korras Carraca, T. Kontos, **C. Matsoukas**, N. Hatzianastassiou, A. A. Floutsi, E. Kostopoulou: "Climatology and trends of aerosol optical depth on global scale using CALIOP vertically resolved data during 2007-2017"
- 69) V. Pappas, N. Hatzianastassiou, C. Papadimas, **C. Matsoukas**, S. Kinne, I. Vardavas: "Direct Radiative Effect of Natural and Anthropogenic Aerosols and their Vertical Profile based on Max-Planck Aerosol Climatology (MACv2)"

*8-12 Απριλίου 2019, Central Asian Dust Conference, Dushanbe, Tajikistan*

- 70) A. A. Floutsi, M. B. Korras Carraca, **C. Matsoukas**, N. Hatzianastassiou, G. Biskos: "The regime of Aerosol Optical Depth and Ångström exponent over Central and South Asia"

*29 Μαΐου – 1 Ιουνίου 2019, 32<sup>nd</sup> International Climatology Conference, Thessaloniki, Greece*

- 71) V. Tzallas, N. Hatzianastassiou, P. Stackhouse, N. Benas, J. F. Meirink, **C. Matsoukas**, I. Vardavas: "Intercomparison of the ISCCP-D2 and ISCCP-H climatological cloud cover data sets and validation against ground based products from ECA&D"

*24 – 25 June 2019, 2<sup>nd</sup> International Climatology ADAPTtoCLIMATE, Heraklion, Greece*

- 72) A. Kakouri, M. B. Korras Carraca, T. Kontos, **C. Matsoukas**, N. Hatzianastassiou, A. A. Floutsi, E. Kostopoulou: "An 11 - year global 3D climatology and trends of aerosol optical depth using satellite data from CALIOP"

*3 – 5 June 2019, 5<sup>th</sup> CM SAF User Workshop, Mainz, Germany*

- 73) V. Tzallas, N. Hatzianastassiou, N. Benas, J. F. Meinrink, **C. Matsoukas**, P. Stackhouse, I. Vardavas: "Intercomparison of CLARA-A2 and ISCCP-H cloud cover data sets and evaluation with ECA&D ground-based measurements over Europe"
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## **Συμμετοχή σε προγράμματα**

- 2001-2004** «European Component of GEWEX Surface Radiation Budget (ESRB)», <http://esrb.iesl.forth.gr>, Ευρωπαϊκή Επιτροπή
- Επιστημονικός Υπεύθυνος: Η. Βαρδαβάς, Ίδρυμα Τεχνολογίας και Έρευνας – Πανεπιστήμιο Κρήτης
- 2004-2006** «Επίδραση των αερολυμάτων στο ενεργειακό και υδρολογικό ισοζύγιο της Ανατολικής Μεσογείου», Πυθαγόρας II
- Επιστημονικός Υπεύθυνος: Η. Βαρδαβάς, Πανεπιστήμιο Κρήτης
- 2005-2006** «Towards sustainable water use on Mediterranean Islands (MEDIS)», <http://www.uni-muenster.de/Umweltforschung/medis>, Ευρωπαϊκή Επιτροπή
- Επιστημονικός Υπεύθυνος: M. Lange, Unversitaet Muenster
- 2005-2006** «Μελέτη και πειραματικός προσδιορισμός του φωτοβολταϊκού δυναμικού στην Κρήτη με ανάπτυξη πολυ-επίπεδης διάταξης φωτοβολταϊκών πλαισίων», Πρόγραμμα ΕΠΕΑΕΚ «Αρχιμήδης»
- Επιστημονικός Υπεύθυνος: Ε. Δρακάκης, Τεχνολογικό Εκπαιδευτικό Ίδρυμα Κρήτης
- 2005-2006** «Επίδραση των αιωρούμενων σωματιδίων στο ενεργειακό ισοζύγιο και τη χημική σύσταση της ατμόσφαιρας της Μεσογείου με τη χρήση δορυφορικών δεδομένων και 3-διαστάσεων ατμοσφαιρικών μοντέλων μεταφοράς και χημείας και ενεργειακού ισοζυγίου», Πρόγραμμα ενίσχυσης του ερευνητικού δυναμικού (ΠΕΝΕΔ)
- Επιστημονική Υπεύθυνη: Μ. Κανακίδου, Πανεπιστήμιο Κρήτης
- 2008-2009** «The water resources of Greece under changing climatic conditions», Ίδρυμα Ι. Λάτση
- Επιστημονικός Υπεύθυνος: Η. Βαρδαβάς, Πανεπιστήμιο Κρήτης
- 2012-2015** «Προσδιορισμός των Πηγών και των Φυσικοχημικών Ιδιοτήτων των Λεπτόκοκκων και Υπερλεπτόκοκκων Αιωρούμενων Σωματιδίων του Ατμοσφαιρικού Αερολύματος που Επηρεάζουν το Κλίμα της Ελλάδας», Πρόγραμμα “Θαλής”
- Επιστημονικός Υπεύθυνος: Χ. Πηλίνης, Πανεπιστήμιο Αιγαίου
- 2018-2021** «Εξοπλισμός Πανεπιστημιακού Εργαστηρίου Ποιότητας Υδάτων και Αέρα και εφαρμογή στις θερμές πηγές Λέσβου με σκοπό την αναβάθμιση των υπηρεσιών και την ραδιολογική προστασία εργαζομένων κι επισκεπτών», Περιφέρεια Βορείου Αιγαίου
- Επιστημονικός Υπεύθυνος: Χ. Ματσούκας, Πανεπιστήμιο Αιγαίου
- 2018-2021** "ΠΑΝελλαδική υποδομή για τη μελέτη της ατμοσφαιρικής σύστασης και κλιματικής Αλλαγής (ΠΑΝΑΚΕΙΑ)", Επιχειρησιακό πρόγραμμα Ανταγωνιστικότητα, Επιχειρηματικότητα, Καινοτομία
- Επιστημονικός Υπεύθυνος: Ν. Μιχαλόπουλος, Πανεπιστήμιο Κρήτης - Εθνικό Αστεροσκοπείο Αθηνών  
Υπεύθυνος υποέργου: Χ. Ματσούκας, Πανεπιστήμιο Αιγαίου

**2019-2021** “Επίδραση κύριων τύπων αερολυμάτων στην ηλιακή ακτινοβολία: υπολογισμοί με χρήση λεπτομερούς φασματικού μοντέλου διάδοσης ακτινοβολίας και δεδομένων αερολυμάτων MERRA-2”, Επιχειρησιακό πρόγραμμα Ανάπτυξη Ανθρώπινου Δυναμικού, Εκπαίδευση και Δια Βίου Μάθηση

Επιστημονικός Υπεύθυνος: Ν. Χατζηαναστασίου, Πανεπιστήμιο Ιωαννίνων

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#### **Κριτής σε περιοδικά**

- Journal of Geophysical Research
- Environmental Modelling and Software
- Stochastic Environmental Research & Risk Assessment
- Geophysical Research Letters
- Indian Journal of Radio and Space Physics
- Remote Sensing of Environment
- Remote Sensing
- Atmospheric Chemistry and Physics
- International Journal of Physical Sciences
- Atmospheric Measurement Techniques

#### **Συντάκτης σε περιοδικά**

- Remote Sensing
-