

## **Curriculum Vitae of Dr. Kostas Eleftheratos**

### **Associate Professor of Atmospheric Physics with Applications to Climatology**

**Department of Geology and Geoenvironment**

**National and Kapodistrian University of Athens**

#### **Personal details**

Address: Laboratory of Climatology and Atmospheric Environment  
Section of Geography and Climatology  
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Date of birth: 14 December 1976

Place of birth: Athens, Greece

Military service: May 2007 – February 2008

Family status: Married, one child.

#### **Education**

1995 – 2000 Undergraduate studies, Department of Environment, University of the Aegean (degree: Very well, 7.56).

2000 – 2002 Postgraduate studies in Environmental Physics, Department of Physics, Aristotle University of Thessaloniki (degree: Excellent, 9.28).

2003 – 2007 PhD diploma, Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA (degree: Excellent).

#### **Doctoral dissertation**

"Natural and anthropogenic variations of cirrus cloud cover and their effects on the atmospheric environment", Doctoral dissertation, supervision Professor-Academician Dr. Christos Zerefos, Department of Geology and Geoenvironment, NKUA, Athens, Greece, 130 p., 2007 (in Greek).

#### **Postdoctoral research**

Center for Environmental Effects on Health of the Biomedical Research Foundation of the Academy of Athens (BRFAA) in the subject area of "Measurements of ozone and ultraviolet solar radiation with a Brewer spectrophotometer" (September 2008 – December 2011).

## **Foreign languages and Computer skills**

- FIRST CERTIFICATE IN ENGLISH of the University of Cambridge
- CERTIFICAT DE LA LANGUE FRANCAIS from the French Institute of Greece
- MsDos, Windows, Microsoft Office (Word, Excel, Powerpoint), Grapher, Surfer, Origin, FORTRAN, R-project, Python, GrADS, Statistica, Basic, Adobe Photoshop, CorelDraw.

## **Professional experience**

2001 – 2002	Scientific Collaborator, Laboratory of Atmospheric Physics, Department of Physics, Aristotle University of Thessaloniki, Greece.
2002 – 2011	Scientific Collaborator, Laboratory of Climatology and Atmospheric Environment, Department of Geology and Geoenvironment, NKUA, Greece.
2003 – today	Responsible for the operation, maintenance and publication of the total ozone column and ultraviolet solar radiation measurements from the Brewer MKIV spectrophotometer that operates at the Biomedical Research Foundation of the Academy of Athens, Greece.
2008	Scientific Collaborator, National Observatory of Athens, Greece.
2010 – today	Scientific Collaborator, Research Centre for Atmospheric Physics and Climatology, Academy of Athens, Greece.
2012 – 2016	Lecturer of Atmospheric Physics, Department of Geology and Geoenvironment, NKUA, Greece.
2012 – today	Affiliated Investigator, Center for Environmental Effects on Health, Biomedical Research Foundation of the Academy of Athens, Greece.
2016 – 2022	Assistant Professor of Atmospheric Physics with applications to Climatology, Department of Geology and Geoenvironment, NKUA, Greece.
2022 – today	Associate Professor of Atmospheric Physics with applications to Climatology, Department of Geology and Geoenvironment, NKUA, Greece.

## **Research interests**

- Changes in the composition of the atmosphere on short and long time and space scales (clouds, greenhouse gases, aerosols, ozone, solar irradiance)
- Study of natural climatic oscillations
- Atmospheric effects from aircraft emissions
- Atmospheric pollution
- Changes in climatic parameters
- Environmental effects on health

## **Participation in competitive research projects**

### Coordination of research projects

1. "Atmospheric parameters affecting spectral solar irradiance and solar energy (**ASPIRE**)", Category I proposal (project number 300), Scientific Area: Environment & Energy, Hellenic Foundation for Research and Innovation (H.F.R.I.) under the "1st Call for H.F.R.I. Research

Projects to Support Faculty Members & Researchers and Procure High-Value Research Equipment”, Coordination K. Eleftheratos, NKUA, Greece, 2020–2023.

Participation in international research projects

1. EC FP5 Project “Liquid hydrogen fuelled aircraft - system analysis (**CRYOPLANE**)”, Grant agreement ID: G4RD-CT-2000-00192, Coordination H. G. Klug, Airbus Deutschland GmbH, Germany, 2000–2002.
2. EC FP5 Project “A European aerosol research lidar network to establish an aerosol climatology (**EARLINET**)”, Grant agreement ID: EVR1-CT-1999-40003, Coordination Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. 2000–2003.
3. EC FP5 Project “European database for UV climatology and evaluation (**EDUCE**)”, Grant agreement ID: EVK2-CT-1999-00028, Coordination Universitaet Hannover, Germany, 2000–2003.
4. EC FP5 Project “Aircraft emissions: Contributions of various climate compounds to changes in composition and radiative forcing – tradeoffs to reduce atmospheric impact (**TRADEOFF**)”, Grant agreement ID: EVK2-CT-1999-00030, Coordination I. Isaksen, UiO, Norway, 2000–2003.
5. EC FP5 Project “Solar influences on climate and the environment (**SOLICE**)”, Grant agreement ID: EVK2-CT-1999-00001, Coordination Imperial College of Science, Technology and Medicine, UK, 2000–2004.
6. EC FP5 Project “GOME assimilated and validated ozone and nitrogen dioxide fields for scientific users and for model validation (**GOA**)”, Grant agreement ID: EVK2-CT-2000-00062, Coordination Royal Netherlands Meteorological Institute, The Netherlands, 2001–2003.
7. EC FP5 Project “Quantitative understanding of ozone losses by bipolar investigations (**QUOBI**)”, Grant agreement ID: EVK2-CT-2001-00129, Coordination Alfred Wegener Institute, Helmholtz Centre for Polar and Marine Research, Germany, 2002–2004.
8. EC FP5 Project “Chemical and dynamical influences on decadal ozone changes (**CANDIDOZ**)”, Grant agreement ID: EVK2-CT-2001-00133, Coordination E. Kyrö, Finnish Meteorological Institute, Finland, 2002–2005.
9. **COST Action 723** “Data Exploitation and Modeling for the Upper Troposphere and Lower Stratosphere”, Coordination W. Lahoz, University of Reading, UK, 2002–2006.
10. EC FP6 Integrated Project “Stratosphere-Climate Links with Emphasis on the UTLS (**SCOUT-O3**)”, Grant agreement ID: 505390, Coordination N. Harris, The Chancellor, Masters and Scholars of the University of Cambridge, UK, 2004–2009.
11. EC FP6 integrated Project “Global and regional Earth-system Monitoring using Satellite and in-situ data (**GEMS**)”, Coordination T. Hollingsworth and A. Simmons, ECMWF, UK, 2005–2009.
12. EC FP6 Integrated Project “Quantifying the Climate Impact of Global and European Transport Systems (**QUANTIFY**)”, Coordination R. Sausen, DLR-IPA, Germany, 2005–2010.
13. EC FP6 Network of Excellence “Environmental Compatible Air Transport System (**ECATS**)”, Coordination S. Matthes, DLR-IPA, Germany, 2005–2010.
14. EC FP6 Project “Air Quality Monitoring and Forecasting in China (**AMFIC**)”, Coordination R. van der A, KNMI, The Netherlands, 2007–2009.

15. EC FP6 Integrated Project "Global Earth Observation and Monitoring (**GEOMON**)", Coordination P. Ciais, CEA, France, 2007–2011.
16. EC FP7 Collaborative Project "Monitoring Atmospheric Composition and Climate (**MACC**)", Coordination A. Simmons, ECMWF, UK, 2009–2011.
17. EC FP7 Project "Data repositories and Computational Infrastructure for Environmental and Climate Studies in the Eastern Mediterranean (**DARECLIMED**)", Coordination M. Lange, Cyl, Cyprus, 2011–2013.
18. **Cost Action ES1207** "A European Brewer Network", Member of the Management Committee, Coordination J. Rimmer, University of Manchester, UK, 2013–2017.
19. EUMETSAT Project "Satellite Application Facility for Atmospheric Composition and UV Radiation (**O3M SAF**)", Coordination S. Hassinen, FMI, Finland, 2013–2017.
20. EU Horizon 2020 Research and Innovation Programme "Coordinating and IntegRating state-of-the-art Earth Observation Activities in the regions of North Africa, Middle East, and Balkans and Developing Links with GEO related initiatives towards GEOSS (**GEO-CRADLE**)", Coordination H. Kontoes, National Observatory of Athens, Greece, 2016–2018.
21. EUMETSAT Project "Satellite Application Facility on Atmospheric Composition Monitoring (**AC SAF**)", Coordination S. Hassinen, FMI, Finland, 2017–today.
22. EU Horizon 2020 "Smart URBan Solutions for air quality, disasters and city growth (**SMURBS**)", ERA-PLANET Programme "The European Network for Observing Our Changing Planet", Coordination E. Gerasopoulos, National Observatory of Athens, Greece, 2017–2020.
23. **LIFE-IP AdaptInGR** – Boosting the implementation of adaptation policy across Greece Project reference: LIFE17 IPC/GR/000006, funding: EU, Coordination C. Zerefos, Academy of Athens, Greece, 2019–2027.
24. EURAMET EPM project "Impact of increased cosmic rays, UV radiation and fragility of ozone shield on the biosphere and our health (**BIOSPHERE**)", funded by the European Partnership on Metrology, co-financed from the European Union's Horizon Research and Innovation Programme and by the Participating States, Coordination Physikalisch-Technische Bundesanstalt, German National Metrology Institute, Germany, 2022–2025.

#### Participation in national research projects

1. "National network for the measurement of ultraviolet solar radiation (**UVNET**)", Project of GSRT, Coordination A. Bais, Aristotle University of Thessaloniki, Greece, 2003–2006.
2. "Natural variations of cirrus clouds on global scale", Project of UoA-SARG **KAPODISTRIAS**, Coordination C. Zerefos, NKUA, Greece, 2004–2005.
3. "Mapping of total ozone for the Northern Hemisphere in real time within the framework of the Global Atmosphere Watch", Project of GSRT, Coordination D. Balis, Aristotle University of Thessaloniki, Greece, 2005–2007.
4. "Study of the mechanisms of transport and origin of suspended particles and ozone in the Athens Basin using modern optical methods and laser techniques", Project **PYTHAGORAS II** Greek Ministry of Education in the framework of EPEAEK II, Coordination, A. Papagiannis, National Technical University of Athens, 2005–2008.
5. "Natural and anthropogenic variations of cirrus cloud cover and their effects on the atmospheric environment", Project of GSRT **PENED 2003**, Coordination C. Zerefos, NKUA, Greece, 2005–2008.

6. "Using dynamic downscaling methods for the study of extreme weather phenomena in Greece", Greek Ministry of Education in the framework of EPEAEK II with funding from community and national resources, Coordination C. Zerefos, NKUA, Greece, 2005–2009.
7. "Natural variations of cirrus clouds on global scale", Project of UoA-SARG **KAPODISTRIAS**, Coordination C. Zerefos, NKUA, Greece, 2006–2007.
8. "Natural variations of cirrus clouds on global scale", Project of UoA-SARG **KAPODISTRIAS**, Coordination C. Zerefos, NKUA, Greece, 2008–2009.
9. "Measurements of ozone and ultraviolet solar radiation", Project of the Biomedical Research Foundation of the Academy of Athens, C. Zerefos, Greece, 2008–2011.
10. "The environmental, economic and social impacts of climate change in Greece", Project of the Interdisciplinary Committee on Climate Change Impact Assessment (CCISC) of the Bank of Greece, C. Zerefos, Greece, 2010–2011.
11. "Long Term Temperature Changes and Stratospheric Ozone", Project of the Mariolopoulos-Kanaginis Foundation for Environmental Studies, Coordination C. Zerefos, Greece, 2011.
12. "National Network for Solar Energy (**helionet**)", Project of GSRT, Coordination A. Bais, Aristotle University of Thessaloniki, Greece, 2011–2013.
13. "Climate change impacts on the touristic development of sensitive areas in Greece. Pilot study: Messinia – Area of integrated tourist development (**XENIOS**)", Project of GSRT, Coordination C. Zerefos, NKUA, Greece, 2011–2013.
14. "Research for the effect of European volcanoes (Iceland and S. Italy) on aviation", Project of the Mariolopoulos-Kanaginis Foundation for Environmental Studies, Coordination C. Zerefos, Greece, 2015.
15. "Study of climatic trends as measured from ground and satellite observations and as calculated from numerical models", Project of the Academy of Athens, Coordination C. Zerefos, Academy of Athens, Greece, 2015–2016.
16. "Environmental advantages of Greece in the field of tourists' euphoria", Project of the Greek Tourism Confederation (SETE), C. Zerefos, Biomedical Research Foundation of the Academy of Athens, 2016.
17. "Panhellenic infrastructure for atmospheric composition and climate change (**PANACEA**)", Ministry of Economy and Development (Operational Programme Competitiveness, Entrepreneurship and Innovation – EPAnEK 2014-2020), Coordination N. Mihalopoulos, University of Crete, Greece, 2018–2022.
18. "National Research Network for Climate Change and its Impacts (**CLIMPACT**)", Flagship Initiative, General Secretariat for Research and Innovation, Coordination N. Mihalopoulos, National Observatory of Athens, Greece, 2020–2022.
19. "Bioclimatic urban design services for the sustainability and resilience of the urban environment in the context of climate change (**BIOASTY**)", Action: Research and Innovation Synergies in the Region of Attica, Operational Program "Attica 2014 - 2020" Invitation Code ATT123, Coordination P. Nastos, National and Kapodistrian University of Athens, Greece, 2022–2024.

### **Fellowships and research expeditions**

1. Short-term scientific mission entitled "Upper-Tropospheric Humidity: Climatology and Trends", COST Action 723, DLR-IPA, Oberpfaffenhofen, Germany, 4–15 October 2004.

2. Attendance of the QUANTIFY Summer School on Transport, Ozone, and Climate Change, Acropol Hotel, Athens, Greece, 10–26 September 2007.
3. Research stay at the Department of Geosciences of the University of Oslo with objective to compare total ozone from Oslo CTM model with ground-based and satellite data, funded by the University of Oslo (Prof. Ivar Isaksen), Oslo, Norway, December 2008.
4. DAAD fellowship at the Department of Earth System Modelling of DLR-IPA with subject: "30 Years of HIRS data on upper tropospheric humidity: Are there trends in ice supersaturation?", DLR-Institute of Atmospheric Physics, Oberpfaffenhofen, Germany, 3 June – 2 August 2013.
5. Research stay at the Department of Earth System Modelling of DLR-IPA with objective to evaluate HIRS satellite data in co-operation with Dr. Gierens, funded by DLR, Oberpfaffenhofen, Germany, 3 July – 6 August 2015.
6. DAAD fellowship at the Department of Earth System Modelling of DLR-IPA with subject: "Upper tropospheric humidity and cirrus clouds in the past 35 years", DLR-Institute of Atmospheric Physics, Oberpfaffenhofen, Germany, 1 November 2018 – 31 January 2019.

### **Scientific distinctions**

1. Editorial Board Member, *Oxygen*, <https://www.mdpi.com/journal/oxygen/editors> (September 2020 – today).
2. Topic Editor, *Aerospace*, [https://www.mdpi.com/journal/aerospace/topic\\_editors](https://www.mdpi.com/journal/aerospace/topic_editors) (December 2020 – today).
3. Topic Editor, *International Journal of Environmental Research and Public Health*, [https://www.mdpi.com/journal/ijerph/topic\\_editors](https://www.mdpi.com/journal/ijerph/topic_editors) (December 2020 – today).
4. Section Editor for 'Climatology', *Atmosphere*, <https://www.mdpi.com/journal/atmosphere/editors> (February 2021 – today).
5. Guest Editor, *Atmosphere*, Special Issue "[Changes in the Composition of the Atmosphere](#)" (closed 31 August 2021).
6. Guest Editor, *Aerospace*, Special Issue "[Aircraft Emissions and Climate Impact](#)" (closed 30 September 2022).
7. Guest Editor, *Oxygen*, Special Issue "[Variability and Change of Oxygen Compounds in the Atmosphere](#)" (closed 31 July 2022).
8. Guest Editor, *International Journal of Environmental Research and Public Health*, Special Issue "[Atmospheric Change and Impact on Health](#)" (closed 28 February 2022).
9. Guest Editor, *Atmosphere*, Special Issue "[Global Change and Health Impact](#)", Joint Special Issue with *International Journal of Environmental Research and Public Health* (closed 31 October 2023).

### **Invited talks**

#### In English

1. **Eleftheratos, K.**: Long-term observations of high clouds and potential aviation impacts, ECATS Autumn School on Global Aviation Impact and Green Flight, Invitation by Prof. David Lee, La-Londe-Des-Maures, South France, 19–23 October 2009.

2. **Eleftheratos, K.**, Gierens, K., and Shi, L.: Towards an upper tropospheric humidity dataset from 30 years of inter-calibrated HIRS satellite data, Seminar at the Department of Earth System Modelling of DLR-IPA, Invitation by Dr. Klaus Gierens, DLR-Institute for Atmospheric Physics, Oberpfaffenhofen, Germany, 31 July 2013.
3. **Eleftheratos, K.**, and Gierens, K.: Variability and trends in upper tropospheric humidity, Seminar at the Department of Earth System Modelling of DLR-IPA, Invitation by Dr. Klaus Gierens, DLR-Institute for Atmospheric Physics, Oberpfaffenhofen, Germany, 15 July 2015.
4. **Eleftheratos, K.**: Certainties and uncertainties in long-term ozone variability, DLR-IPA Institute Seminar, Invitation by Dr. Klaus Gierens and Prof. Markus Rapp, DLR-Institute for Atmospheric Physics, Oberpfaffenhofen, Germany, 10 December 2018.
5. Weber M., Schüller L., and **Eleftheratos K.**: The role of Dobsons and Brewers in satellite ground-truthing: Will that change in the future?, Commemorative event celebrating 20 Years WMO Regional Dobson Calibration Centre Europe / Middle East, Invitation by Dr. Ulf Köhler and Dr. Wolfgang Steinbrecht, Meteorological Observatory Hohenpeissenberg, 2 October 2019.
6. **Eleftheratos, K.**: Presentation of the projected climate changes till 2100 under different emission scenarios. Special focus in South-East Asia and India, AdaptNET ERASMUS+ programme, Workshop 3 "Climate Change and Agriculture", Invitation by Dr. John Kapsomenakis, Navarino Environmental Observatory (NEO), Costa Navarino, Messenia, 3–8 February 2020, <https://adaptnet.hua.gr/events-adaptnet/event-details/4-workshop-3.html>.
7. **Eleftheratos, K.**, Kouklaki, D., Fountoulakis, I., Raptis, I.-P., Founda, D., Kazadzis, S., Psiloglou, B., Amiridis, V., Marinou, E., and Zerefos, C.: Impact of Extreme Wildfires of August 2021 on Air Quality and Solar Irradiance in Greece, International Radiation Symposium 2022 (IRS 2022), abstract ID 214, Session 10 (Climate Change in the Mediterranean and Radiative Impacts of a Changing Environment), Thessaloniki, Greece, 4–8 July 2022, selected by the session's conveners as Invited Talk.

#### In Greek

8. **Ελευθεράτος, Κ.**: «Επιπτώσεις των διεθνών αεροπορικών πτήσεων στο φαινόμενο του Θερμοκηπίου», Προσκεκλημένη ομιλία στην Επιστημονική ημερίδα του Ελληνικού Ινστιτούτου Αεροναυτικής & Αστροναυτικής (ΕΛ.ΙΝ.Α.ΑΣ) με θέμα «Αεροπορικές Πτήσεις & Ατμοσφαιρικοί Ρύποι, Ζήτημα Περιβαλλοντικής Προστασίας», Εθνικό Ίδρυμα Ερευνών, Αθήνα, 12 Νοεμβρίου 2008.
9. **Ελευθεράτος, Κ.**: «Επιπτώσεις της διεθνούς αεροπλοΐας στο κλίμα», Προσκεκλημένη ομιλία στην ημερίδα της Ένωσης Ελλήνων Φυσικών και του Μαριολοπουλείου-Καναγκινείου Ιδρύματος Επιστημών Περιβάλλοντος με θέμα «Κλιματική Κρίση: Μπροστά στην Κλιματική Κατάρρευση», Συνεδριακό Κέντρο Περιστερίου, 23 Οκτωβρίου 2023.
10. **Ελευθεράτος, Κ.**: «Διεθνής Αεροπλοΐα και Κλιματική Αλλαγή», Προσκεκλημένη ομιλία στη μαθητική συνάντηση της Ένωσης Ελλήνων Φυσικών «Η Φυσική Μαγεύει», Πανεπιστήμιο Δυτικής Αττικής, 7-9 Δεκεμβρίου 2023.

#### **Participation in conference organisation**

1. Colloquium entitled "Environment and Health", Foundation for Biomedical Research of the Academy of Athens, Athens, Greece, 22 October 2003.
2. Colloquium entitled "Monitoring of Global Change in high latitudes", organised by the National IGBP Committee of the Academy of Athens and the Mariolopoulos-Kanaginis Foundation for the Environmental Sciences, National Hellenic Research Foundation, Athens, Greece, 30 March 2004.
3. 20th Quadrennial Ozone Symposium, QOS2004, Kos, Greece, 1–8 June 2004.
4. Workshop on Implementation of IGACO-Ozone, Anavyssos, Greece, 15–17 May 2006.
5. Colloquium entitled "Climate Change", organised by the National IGBP Committee of the Academy of Athens and the Mariolopoulos-Kanaginis Foundation for the Environmental Sciences, Foundation for Biomedical Research of the Academy of Athens, Athens, Greece, 15 June 2006.
6. QUANTIFY Summer School on Transport, Ozone, and Climate Change, Acropol Hotel, Athens, Greece, 10–26 September 2007.
7. Symposium on the occasion of the 20th anniversary of the Montreal Protocol entitled "Ozone depletion: from its discovery to Envisat and Aura", Athens, Greece, 23–26 September 2007.

#### **Reviewer in scientific journals**

- Aerospace
- Air Quality, Atmosphere & Health
- Annales Geophysicae
- Atmosphere
- Atmospheric Chemistry and Physics
- Atmospheric Measurement Techniques
- Earth and Planetary Science
- Energies
- Environment, Development and Sustainability
- Environmental Research Letters
- Frontiers in Environmental Science
- Geophysical Research Letters
- International Journal of Climatology
- International Journal of Environmental Research and Public Health
- International Journal of Remote Sensing
- Journal of Applied Meteorology and Climatology
- Journal of Atmospheric and Solar-Terrestrial Physics
- Journal of the Atmospheric Sciences
- Journal of Geophysical Research: Atmospheres
- Nature Geoscience
- Remote Sensing
- Science of the Total Environment
- Theoretical and Applied Climatology

#### **Evaluator of research proposals for national and international organisations**

- National Geographic Society (2017)
  - National Science Center, Poland (2020, 2021)
  - Hellenic Foundation for Research and Innovation, Greece (2021)
  - General Secretariat of Research and Innovation, Greece (2022)
  - Research Council (TRC) of the Sultanate of Oman (2022, 2023)

## Member

- Member of the Hellenic Meteorological Society (since 2012)
  - Management Committee Member of Cost Action ES1207 "A European Brewer Network" (2013-2017)

Teaching at the Department of Geology and Geoenvironment, NKUA

## Undergraduate programme

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|--------------|--|
| 2007 – 2008  | Co-teaching of the courses "Applied Climatology" and "Atmospheric Physics".  |
| 2009         | Co-teaching of the course "Renewable Energy Sources".  |
| 2010 – 2014  | Full teaching of the courses "Atmospheric Physics" and "Atmospheric Pollution".<br>Co-teaching of the laboratory exercises of the courses "Atmospheric Physics", "Applied Climatology" and "Renewable Energy Sources". |
| 2014 – 2016  | Co-teaching of the laboratory exercises of the course "Renewable Energy Sources: Solar and Wind Energy – Geothermal Energy".   |
| 2014 – 2019  | Co-teaching (theory and laboratory exercises) of the course "Applied Climatology – Atmospheric Pollution – Paleoclimatology".  |
| 2015 – today | Co-teaching of the laboratory exercises of the course "Climatology – Climate Change".  |
| 2016 – today | Full teaching of the laboratory exercises of the course «Renewable Energy Sources: Solar and Wind Energy – Geothermal Energy».   |
| 2021 – today | Full teaching (theory and laboratory exercises) of the course «Atmospheric Pollution». Co-teaching of the laboratory exercises of the course «Applied Climatology».  |

Postgraduate specialization programme entitled "Earth Sciences and the Environment" – Started in academic year 2018-2019

- 2018 – today Responsible teacher of the course “Methods of Applied Research in Geosciences – Methods of Environmental Data Analysis”.  
2018 – today Co-teaching of the course “Geosystems”.

Postgraduate specialization programme entitled "Geography and Environment" – Closed in academic year 2017-2018

- 2014 – 2015 Co-teaching of the course "Atmospheric, Geomorphological and Oceanographic Processes in the Geoenvironment".  
2014 – 2018 Co-teaching of the course "Methods of Analysis of Geographical and Environmental Data – Field Exercises".

- 2015 – 2018 Co-teaching of the course "Methods of Applied Research in Geosciences".  
2016 – 2018 Co-teaching of the courses "Field Exercises – Cartography" and "Impact and Adaptation to Climate Change".

### **Supervision of undergraduate theses**

#### Completed

1. Undergraduate thesis of Panagiotis Varotsos entitled "Study of total ozone column variations over Athens by a Brewer spectrophotometer", Department of Geology and Geoenvironment, NKUA, 20 p., 2015 (in English).
2. Undergraduate thesis of Maria-Nikoletta Papoutsi entitled «Environmental impact study and maintenance of a photovoltaic plant at the location "Seli or Exo Latsidi", real estate district of Sitano, Municipality of Sitia, Prefecture of Lasithi», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 111 p., 2017 (in Greek).
3. Undergraduate thesis of Charilaos Benetatos entitled «Effects of the 11-year solar cycle on upper tropospheric humidity», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 81 p., 2018 (in Greek).
4. Undergraduate thesis of Ilektra-loulia Kosmudi entitled «Study of the relationships between upper tropospheric humidity changes and tropopause changes in the northern mid-latitudes», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 55 p., 2020 (in Greek).
5. Undergraduate thesis of Paraskevi Filandra entitled "Precipitation Analysis and ERA Reanalysis Precipitation Evaluation in the Island of Crete", Department of Geology and Geoenvironment, NKUA, Athens, 97 p., 2020 (in English).
6. Undergraduate thesis of Grigoris Maniatis and Paraskevas Skiadopoulos entitled «Long-term evolution of pollutant emissions from activities in Greece from 1990 to 2019», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 87 p., 2022 (in Greek).
7. Undergraduate thesis of Andriana Kontolatou entitled «Long-term evolution of methane emissions in Greece and the Mediterranean», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 51 p., 2023 (in Greek).
8. Undergraduate thesis of Dafne Pallikari and Konstantina Mitropoulou, entitled «Analysis of air pollution measurements in Athens, Greece», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 109 p., 2023 (in Greek).
9. Undergraduate thesis of Nikolaos Chrysis entitled «Climate change and tourism in the Peloponnese, Greece», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 2024 (in Greek).
10. Undergraduate thesis of Serafeim Pallikaris entitled «Analysis of particulate matter measurements in Athens, Greece», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 2024 (in Greek).

#### In preparation

11. Undergraduate thesis of Konstantinos Roumeliotis entitled «Study of the spatio-temporal changes of the optical depth of cirrus clouds», Section of Geography and Climatology,

- Department of Geology and Geoenvironment, NKUA, Athens (2020, in preparation in Greek).
12. Undergraduate thesis of Afrodite Ioannou entitled «A study of the three-dimensional horizontal wind field on a global scale», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 2020 (in preparation in Greek).
  13. Undergraduate thesis of Effrosyni Gourgioti entitled «Changes in lower tropospheric ozone from GOME-2 satellite data», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 2021 (in preparation in Greek).
  14. Undergraduate thesis of Maria-Nikoleta Aitnidou and Pagona Kalogianni entitled «Investigating the impact of the Covid-19 pandemic on high clouds in Europe due to the 2020 air traffic shutdown», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 2021 (in preparation in Greek).
  15. Undergraduate thesis of Antigone Benovia entitled «Climate change and monuments in Greece», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 2022 (in preparation in Greek).
  16. Undergraduate thesis of Eleni Tzatha entitled «Climate variability and extremes», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 2022 (in preparation in Greek).
  17. Undergraduate thesis of Christina Aiginitou entitled «Climatic changes in the Arctic», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 2023 (in preparation in Greek).
  18. Undergraduate thesis of Paraskevi Asprou entitled «Climatic changes in the tropics», Section of Geography and Climatology, Department of Geology and Geoenvironment, NKUA, Athens, 2023 (in preparation in Greek).

### **Co-supervision of undergraduate theses**

1. Undergraduate thesis of Ifigenia Gavriel and Panagiotis Zoris entitled "Study of environmental parameters in the greater area of Athens" [Μελέτη περιβαλλοντικών παραμέτρων στο λεκανοπέδιο της Αττικής], supervisor Professor-Academician C. Zerefos, co-supervision K. Eleftheratos, 88 p., 2007 (in Greek).
2. Undergraduate thesis of Dafni Sifnioti entitled "Total sulfur dioxide ( $\text{SO}_2$ ) column in the greater area of Athens" [Συνολικός φόρτος διοξειδίου του Θείου ( $\text{SO}_2$ ) στο λεκανοπέδιο της Αττικής], supervisor Professor-Academician C. Zerefos, co-supervision K. Eleftheratos, 81 p., 2007 (in Greek).

### **Postgraduate theses**

#### 3-member examination committees

1. «Evaluation of satellite estimates of solar energy using ground-based measurements», MSc thesis of Nikolaos Papadimitriou, 3-member examination committee: A. Kazantzidis (supervisor), S. Kazadzis, K. Eleftheratos, Postgraduate programme on Applied Meteorology and Environmental Physics, Department of Physics, University of Patras, presented on 20-7-2023.

2. «Assessment of micro bioclimatic conditions on the Island of Nisyros and the impact of Climate Change: In situ measurements and modelling», MSc thesis of Angelos Siozos, 3-member examination committee: P. Nastos (supervisor), K. Eleftheratos, H. Drinia, Postgraduate programme on Earth Sciences and the Environment, Department of Geology and Geoenvironment, NKUA, 2023 (in preparation).

## **Doctoral theses**

### Supervision

1. «Changes in upper tropospheric humidity and their impact on cirrus clouds», Doctoral thesis of Charilaos Benetatos, 3-member examination committee: K. Eleftheratos (supervisor), P. Nastos, K. Gierens (DLR-IPA), Department of Geology and Geoenvironment, NKUA (start date 16-11-2020).
2. «Long-term forecasting of solar energy production exploiting remote sensing, numerical weather prediction, and machine learning techniques», Doctoral thesis of Alexandros Zagkos, 3-member examination committee: K. Eleftheratos (supervisor), P. Kosmopoulos (NOA), S. Kazadzis (PMOD/WRC), Department of Geology and Geoenvironment, NKUA (start date 30-3-2021). The doctoral candidate was deleted from the Department's doctoral candidate registers at his request (deletion 11-30-2021).
3. «Impact of atmospheric hazards on aviation; Developing detection and early warning systems according to the needs of relevant stakeholders», Doctoral thesis of Olympia Vasardani, 3-member examination committee: K. Eleftheratos (supervisor), V. Amiridis (NOA), S. Solomos (Academy of Athens), Department of Geology and Geoenvironment, NKUA (start date 7-2-2022).
4. «Applications of solar radiation measurements in remote sensing of atmospheric composition and solar energy», Doctoral thesis of Dimitra Kouklaki, 3-member examination committee: K. Eleftheratos (supervisor), V. Amiridis (NOA), S. Kazadzis (PMOD/WRC), Department of Geology and Geoenvironment, NKUA (start date 18-3-2022).

### 7-member examination committees

1. «Investigation of atmospheric ozone with remote sensing spectroscopy», Doctoral thesis of Konstantinos Fragkos, 7-member examination committee: Alkiviadis Bais (supervisor), C. Meleti, K. Tourpali, D. Melas, D. Balis, P. Zanis, K. Eleftheratos, Department of Physics, Aristotle University of Thessaloniki, <http://hdl.handle.net/10442/hedi/35363>, 154 p., 2015 (in English).
2. «Long term trends of the spectral solar UV radiation», Doctoral thesis of Ilias Fountoulakis, 7-member examination committee: Alkiviadis Bais (supervisor), K. Tourpali, C. Meleti, D. Melas, D. Balis, A. Kazantzidis, K. Eleftheratos, Department of Physics, Aristotle University of Thessaloniki, <http://hdl.handle.net/10442/hedi/39755>, 196 p., 2016 (in English).
3. «Biometeorological perspectives and environmental impacts on cardiorespiratory mortality over Europe. Present and future trends», Doctoral thesis of Lida Dimitriadou, 7-member examination committee: P. Nastos (supervisor), E. Vassilakis, K. Eleftheratos, M. Hatzaki, E. Gerasopoulos, P. Kalabokas, Th. Pittaras, presented on 8-4-2022, Department of Geology and Geoenvironment, NKUA, 2022 (in English).

4. «The contribution of electromobility, based on renewable energy sources, to the optimization of the quality of the atmospheric environment and bioclimatic conditions. Modeling the impacts on the urban environment, policies and actions», Doctoral thesis of Georgios Spyropoulos, 7-member examination committee: P. Nastos (supervisor), K. Chalvatzis, K. Moustiris, E. Vassilakis, K. Eleftheratos, M. Hatzaki, D. Zafeirakis, presented on 24-6-2022, Department of Geology and Geoenvironment, NKUA, 2022 (in Greek).
5. «Spatial and temporal variability of air pollution and health effects in the wider area of Volos. Methodological and empirical approach», Doctoral thesis of Georgios Proias, 7-member examination committee: P. Nastos (supervisor), K. Moustiris, K. Eleftheratos, M. Hatzaki, A. Godelitsas, I. Tsilos, D. Zafeirakis, presented on 24-3-2023, Department of Geology and Geoenvironment, NKUA, 2023 (in Greek).
6. «Seasonal assessment of climate conditions favoring drought using downscaling models for different climate change scenarios», Doctoral thesis of Konstantina Politi, 7-member examination committee: P. Nastos (supervisor), N. Dalezios, D. Vlachogianni, A. Sfetsos, M. Hatzaki, K. Eleftheratos, E. Vassilakis, presented on 16-6-2023, Department of Geology and Geoenvironment, NKUA, 2023 (in Greek).
7. «Solar radiation/energy forecasting and measurement applications: the role of clouds and aerosols», Doctoral thesis of Kyriakoula Papachristopoulou, 7-member examination committee: M. Hatzaki (supervisor), S. Kazadzis, P. Nastos, A. Bais, P. Blanc, K. Eleftheratos, G. Sotiropoulou, presented on 18-9-2023, Department of Geology and Geoenvironment, NKUA, 2023 (in English).
8. «Remote sensing of ozone and other atmospheric species with a ground-based Differential Optical Absorption Spectroscopy systems» Doctoral thesis of Fani Gkertsis, 7-member examination committee: A. Bais (supervisor), D. Balis, C. Meleti, D. Melas, K. Tourpali, A. Kazantzidis, K. Eleftheratos, presented on 23-10-2023, Department of Physics, Aristotle University of Thessaloniki, 196 p., 2023 (in Greek).

#### A. Journal publications

- A1. Zerefos, C. S., **Eleftheratos, K.**, Balis, D. S., Zanis, P., Tselioudis, G., and Meleti, C.: Evidence of impact of aviation on cirrus cloud formation, *Atmospheric Chemistry and Physics*, 3, 1633–1644, 2003.
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## B. Book chapters, scientific reports and newsletters

### In English

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## E. Other announcements

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- E3. **Eleftheratos, K.**: Total ozone measurements and UV forecast over Athens, QUANTIFY Summer School on Transport, Ozone and Climate Change, Acropol Hotel, Athens, Greece, 10–26 September 2007.
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- E7. **Eleftheratos, K.**, Benetatos C., and Zerefos, C. S.: Status of MKF evaluation activities (O3), EUMETSAT Atmospheric Composition Satellite Application Facility (AC SAF) CDOP-3 project team meeting (online meeting), 13 April 2021.
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### In Greek

- E10. Ζερεφός, Χ., και **Ελευθεράτος, Κ.**: Εργαστήριο Ατμοσφαιρικού Περιβάλλοντος του Κέντρου Περιβαλλοντικής Υγιεινής του Ιδρύματος Ιατροβιολογικών Ερευνών της Ακαδημίας Αθηνών, Τριμηνιαίο Δελτίο του Ιδρύματος Ιατροβιολογικών Ερευνών της

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