

# Maria Gavrouzou

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## Education:

2012-2017: Undergraduate Degree in Physics, University of Ioannina.

Graduation degree: 7.08 “Very Good”.

2017-2019: MSc degree in Atmospheric Sciences and Environment, University of Ioannina, Physics Department, Laboratory of Meteorology.

Graduation degree: 9.03, “Excellent”.

2019- : PhD Student University of Ioannina, Physics Department, Laboratory of Meteorology

## Distinctions:

**Ranked first in graduating class of the University of Ioannina Department of Physics, February 2017**

**Won the “Early Career Scientists’ Travel Support” award of European Geoscience Assembly (EGU) conference, 2020**

**Received Hellenic Foundation for Research and Innovation (H.F.R.I) for PhD candidates, 2021**

## Dissertations:

“Impact of aerosols on the atmospheric lapse rates (temperature inversions) over the Mediterranean basin”, BSc Diploma Thesis, 91 pp., Department of Physics, University of Ioannina, 2016, Supervisor: Nikolaos Hatzianastassiou (Associate Professor)

“A global dust climatology based on contemporary satellite observations”, postgraduate Diploma Thesis, Laboratory of Meteorology, Department of Physics, University of Ioannina, Supervisor: Nikolaos Hatzianastassiou (Associate Professor).

## Working Experience:

2016: **METEOANALYSIS, Ioannina, Greece (01/07/2015-31/08/2015)**

Placement:

- Bibliographic research and gathering of information on new weather forecasting methods and tools
- Climate studies for the broader Greek area and the globe
- Editing and post of scientific articles on geonews.gr website
- Working with a 3D microclimate model

**2019: ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development), Rome, Italy, (01/03/2019-31/07/2019)**

Placement:

- Analysis of long-term data of surface downwelling and upwelling shortwave and longwave irradiance at Lampedusa island, in central Mediterranean
- Development of a cloud cover retrieval method suitable for the Mediterranean atmospheric conditions based on continuous measurements of diffuse irradiances at different wavelengths

Other research activities:

- Assistant in the laboratories of the undergraduate course “Atmospheric Physics”, Physics Department, University of Ioannina, Greece, spring semester of academic year 2017-2018
- Weather forecasting for Ioannina and Epirus, Laboratory of Meteorology, Physics Department, University of Ioannina, academic year 2018-2019
- Climate monitoring for Ioannina, Laboratory of Meteorology, Physics Department, University of Ioannina, academic year 2017-2018
- Fieldwork, network of meteorological stations of the Laboratory of Meteorology of the University of Ioannina, 2017-2018
- Participation in Winter 2020 PANACEA campaign (PANACEA 2020), simultaneous measurements of aerosol characterization and their health relevant properties performed in or near six big urban centers of Greece (focusing on the city of Ioannina) and the regional background station of Finokalia in Crete.
- Co-supervision (with Nikolaos Hatzianastassiou, Associate Professor) Nikolaos Vogiatzis, “Investigation of aerosol optical properties’ change during volcanic eruptions using MODIS satellite data”, BSc Diploma Thesis, Department of Physics, University of Ioannina, 2020.

Foreign Languages:

English: Level C1

Italian: Level A1

Other Skills:

- C++ Programming Language (Basic knowledge)

- IDL Programming Language
- Python Programming Language
- Wordpress

Publications:

*Publications in international ISI journals with peer review*

1. Hatzianastassiou N., Kalaitzi N., **Gavrouzou M.**, Gkikas A., Mihalopoulos N., A climatological satellite assessment of carbonaceous aerosols on a global scale, MDPI Atmosphere, **2019**, 10, 671; doi:10.3390/atmos10110671
2. Nikolaos Hatzianastassiou, Eleftherios Ioannidis, **Maria Gavrouzou**, Marios-Bruno Korras-Carraca, Christos D. Papadimas, Christos Matsoukas, Nikolaos Benas, Angeliki Fotiadi, Martin Wild and Ilias Vardavas, Global Dimming and Brightening Features during the First Decade of the 21st Century, MDPI Atmosphere, **2020**, 11, 308; doi:10.3390/atmos11030308
3. **Maria Gavrouzou**, Nikolaos Hatzianastassiou, Antonis Gkikas, Nikos Mihalopoulos, A Global Climatology of Dust Aerosols Based on Satellite Data: Spatial, Seasonal and Inter-Annual Patterns over the Period 2005–2019, MDPI Remote Sensing, **2021**, 13, 359, doi: 10.3390/rs13030359
4. **Maria Gavrouzou**, Nikolaos Hatzianastassiou, Antonis Gkikas, Nikos Mihalopoulos, A Climatological Assessment of Intense Desert Dust Episodes over the Broader Mediterranean Basin Based on Satellite Data, MDPI Remote Sensing, **2021**, 13, 2895, <https://doi.org/10.3390/rs13152895>
5. Papanikolaou, Christina-Anna, Alexandros Papayannis, Maria Mylonaki, Romanos Foskinis, Panagiotis Kokkalis, Eleni Liakakou, Iasonas Stavroulas, Ourania Soupiona, Nikolaos Hatzianastassiou, **Maria Gavrouzou**, Eleni Kralli, and Dimitra Anagnou. Vertical Profiling of Fresh Biomass Burning Aerosol Optical Properties over the Greek Urban City of Ioannina, during the PANACEA Winter Campaign, Atmosphere 2022, 13, no. 1: 94. <https://doi.org/10.3390/atmos13010094>
6. D. Kaskaoutis; G. Grivas; K. Oikonomou; P. Tavernaraki; K. Papoutsidaki; M. Tsagkaraki; I. Stavroulas; P. Zarpas; D. Paraskevopoulou; A. Bougiatioti; E. Liakakou; **M. Gavrouzou**; U.C. Dumka; N. Hatzianastassiou; J. Sciare; E. Gerasopoulos; N. Mihalopoulos, Impacts of severe residential wood burning on atmospheric processing, water-soluble organic aerosol and light absorption, in a medium-sized city of Southeastern Europe, Atmospheric Environment, under review
7. **Maria Gavrouzou**, Nikos Hatzianastassiou, Marios-Bruno Korras-Carraca, Christos J. Lolis, Nikos Mihalopoulos, Ilias Vardavas, Modification of temperature lapse rates and cloud properties during a spatiotemporally extended dust aerosol episode (16-18 June 2016) over the Mediterranean Basin based on satellite and reanalysis data, Remote Sensing, under review

*Publications in international conference proceedings with review*

1. **Gavrouzou M.**, Gkikas A., Papadimas C. D., Hatzianastassiou N., Impact of Saharan dust transport on the atmospheric lapse rates over the Mediterranean basin, Proceedings

- of 14th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2018), p. 81-86, 15-17 October, 2018, Alexandroupolis, Greece
2. **Gavrouzou M.**, A. Gkikas, and N. Hatzianastassiou, A global dust climatology based on contemporary satellite observations, Proceedings of XXXIIeme Colloque Internationale de l' AIC, Le changement climatiques (Climatic Change, Variability and Climatic Risks), p. 397-402, 29 May-1st June, 2019, Thessaloniki, Greece
  3. **Gavrouzou M.**, N. Hatzianastassiou, A. Gkikas, and N. Mihalopoulos, A 15-year climatology of Desert dust episodes in the 2 broader Mediterranean Basin, Proceedings of 3rd International Electronic Conference on Atmospheric Sciences, 16/11/2020 - 30/11/2020
  4. **Gavrouzou M.**, N. Hatzianastassiou, A. Gkikas, and N. Mihalopoulos, A climatological assessment of desert dust aerosols using MODIS C6.1 and OMI-OMAERUV satellite data, Proceedings of 15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021), p. 659-663, 26-29 September, 2021, Ioannina, Greece
  5. **Gavrouzou M.**, N. Hatzianastassiou, A. Gkikas, and N. Mihalopoulos, Desert dust episodes in the Mediterranean Basin during the period 2005-2018, Proceedings of 15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021), p. 966-970, 26-29 September, 2021, Ioannina, Greece
  6. **Gavrouzou M.**, Koras-Karraca M.B, Liakakou E., Grivas G., Bougiatioti A., Stavroulas I., Michailidis K., Karagkiozidis D., Papanikolaou C.-A., Foskinis R., Mylonaki M., Soupiona O., Koukouli M., Hatzianastassiou N., Balis D., Bais A.F., Papayannis A., Gerasopoylos E., Mihalopoulos N., Overview of the 2019-2020 winter PANACEA campaign at Ioannina, Proceedings of 15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021), p. 339-343, 26-29 September, 2021, Ioannina, Greece
  7. D. Karagkiozidis, A. F. Bais, N. Hatzianastassiou, **M. Gavrouzou**, M. E. Koukouli, C. Papanikolaou, S. Kontos, D. Balis and A. Papayannis, Monitoring of tropospheric NO<sub>2</sub>, HCHO and aerosols using MAX-DOAS observations for the first time in Ioannina Greece during the PANACEA winter campaign 2020, Proceedings of 15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021), p. 358-363, 26-29 September, 2021, Ioannina, Greece
  8. I. Michailidis, **M. Gavrouzou**, N. Hatzianastassiou, The regime of ultrafine, fine and coarse particulate matter in the city center of Ioannina, Proceedings of 15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021), p. 107-111, 26-29 September, 2021, Ioannina, Greece

*Publications in international conference proceedings*

1. **Gavrouzou M.**, Gkikas A., Papadimas, Hatzianastassiou N., Intense dust episodes in the Mediterranean and possible effects on atmospheric lapse rates, European Geosciences Union (EGU) General Assembly 2016, Geophysical Research Abstracts, Vol. 18, EGU2016-14601, European Geosciences Union General Assembly, 17-22 April, 2016, Vienna, Austria

2. **Gavrouzou M.**, Hatzianastassiou N., Gkikas A., Mihalopoulos N., A climatology of desert dust aerosols over the Mediterranean basin based on contemporary satellite data, European Geosciences Union (EGU) General Assembly 2019, Geophysical Research Abstracts, Vol. 21, EGU2019-11479, 2019, European Geosciences Union General Assembly, 07-12 April, 2019, Vienna, Austria
3. **Gavrouzou M.**, Hatzianastassiou N., Gkikas A., Mihalopoulos N., Global dust climatology based on MODIS C6.1 and OMI-OMAERUV satellite data for the period 2005 to 2019, European Geosciences Union (EGU) General Assembly 2019, Geophysical Research Abstracts, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-706, <https://doi.org/10.5194/egusphere-egu2020-706>, 2020
4. **Gavrouzou M.**, Hatzianastassiou N., Gkikas A., Mihalopoulos N., A climatology of dust episodes in the broader Mediterranean Basin, using satellite MODIS C6.1 and OMI OMAERUV data, European Geosciences Union (EGU) General Assembly 2019, Geophysical Research Abstracts, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-20288, <https://doi.org/10.5194/egusphere-egu2020-20288>, 2020
5. **Gavrouzou M.**, Hatzianastassiou N., Gkikas A., Marios-Bruno Korras-Carraca, Christos Lolis and Mihalopoulos N., Atmospheric circulation and meteorological conditions during dust aerosol episodes over the broader Mediterranean Basin. The case of 16 June 2016. European Geosciences Union (EGU) General Assembly 2021, Geophysical Research Abstracts, EGU General Assembly 2021, Online, 19-30 April 2021, EGU2021-8949
6. **Vasilis Margaritis**, Nikolaos Hatzianastassiou, Marios Bruno Korras Carraca, and Maria Gavrouzou, The effect of SARS-CoV-2 on atmospheric particulate matter (AOD) as observed by satellites. Geophysical Research Abstracts, EGU General Assembly 2021, Online, 19-30 April 2021, EGU2021-7128
7. **Gavrouzou M.**, Hatzianastassiou N., Gkikas A., Marios-Bruno Korras-Carraca and Mihalopoulos N., Aerosol cloud interactions and temperature inversions during dust aerosol episodes in the Mediterranean Basin. The case study of 16-18 June 2016, Dust Conference 2021, Monopoli, Italy, 4-7 October 2021

*Presentations in international conferences*

1. Intense dust episodes in the Mediterranean and possible effects on atmospheric lapse rates, European Geosciences Union (EGU) General Assembly 2016, 17-22 April, 2016, Austria
2. Impact of aerosols on the atmospheric lapse rates (temperature inversions) over the Mediterranean basin, BSc Diploma Thesis presentation, Physics Department, University of Ioannina, 26 September 2016, Ioannina
3. Impact of Saharan dust transport on the atmospheric lapse rates over the Mediterranean basin, 14th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2018), 15-17 October, 2018, Alexandroupolis, Greece
4. A climatology of desert dust aerosols over the Mediterranean basin based on contemporary satellite data, European Geosciences Union (EGU) General Assembly

- 2019, Geophysical Research Abstracts, Vol. 21, EGU2019-11479, 2019, 07-12 April, 2019, Vienna, Austria
5. A global dust climatology based on contemporary satellite data, Proceedings of the AIC (Association Internationale de Climatologie) 2019 conference, Thessaloniki 29 May – 01 June 2019
  6. Global dust climatology based on MODIS C6.1 and OMI-OMAERUV satellite data for the period 2005 to 2019, European Geosciences Union (EGU) General Assembly 2019, Geophysical Research Abstracts, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-706
  7. A climatology of dust episodes in the broader Mediterranean Basin, using satellite MODIS C6.1 and OMI OMAERUV data, European Geosciences Union (EGU) General Assembly 2019, Geophysical Research Abstracts, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-20288
  8. Atmospheric circulation and meteorological conditions during dust aerosol episodes over the broader Mediterranean Basin. The case of 16 June 2016. European Geosciences Union (EGU) General Assembly 2021, Geophysical Research Abstracts, EGU General Assembly 2021, Online, 19-30 April 2021, EGU2021-8949
  9. Aerosol cloud interactions and temperature inversions during dust aerosol episodes in the Mediterranean Basin. The case study of 16-18 June 2016, Dust Conference 2021, Monopoli, Italy, 4-7 October 2021

*Recommendations:*

Available upon request