

Dr. Eleni Athanasopoulou

Atmospheric Scientist — Research Associate, National Observatory of Athens (NOA)

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Comprehensive Research & Professional Profile

RESEARCH PROFILE

Atmospheric scientist with over 20 years of research experience in air-quality modelling, atmospheric composition, Earth Observation and health-related atmospheric applications. Broad international track record: participation in more than 30 research projects (16 EU-funded), collaborations spanning more than 20 research institutions across Europe and the United States, over 100 co-authors, and 30 peer-reviewed journal articles (~950 citations, h-index 16, Google Scholar), complemented by book chapters, conference proceedings, technical reports and open-data deliverables. Committed to Open Science, FAIR and GEO data-management principles, and to the exploitation and promotion of open, free Copernicus data (CAMS, GHSL, CLMS). Active in editorial work, peer review, science communication, teaching, and the governance of international scientific/data infrastructures (GEO, EuroGEO).

PROFESSIONAL EXPERIENCE

2011 – present | Research Associate

Institute for Environmental Research and Sustainable Development (IERSD), National Observatory of Athens (NOA), Athens, Greece

- Research on air quality, atmospheric composition, Earth Observation (Copernicus) uptake, environmental-health exposure assessment, urban sustainability incl. climate adaptation/mitigation planning.
- Stakeholder engagement, capacity building, user co-design, webinars and science-to-policy activities.
- Coordination and leadership roles in European projects and GEO/EuroGEO activities.

2024 | Scientific Expert, European Commission (EC)

- *Supporting the EuroGEO Urban Action Group on scientific policy, research and networking matters (Expert Contract CT-EX2018D322345-102)*

2017 – 2018 | Contract Lecturer

Division of Energy and Environment, Physics Department, University of Patras (UPATRAS), Patra, Greece

- Taught the undergraduate course "Atmospheric Pollution", within the national-EU programme "Gaining Academic Teaching Experience".

2012 – 2015 | Post-doctoral Fellow

National and Kapodistrian University of Athens (NKUA), Greece, and University of Manchester, U.K.

- Long-range transport of air masses towards the SE Mediterranean (dust transport and Etesian winds).

2010 – 2011 | Post-doctoral Fellow

Group of Aerosols, Trace Gases and Climate Processes, Institute of Meteorology and Climate Research – Troposphere Research, Karlsruhe Institute of Technology (KIT), Germany

- Secondary organic aerosol (SOA) chemistry and impacts on the state of the atmosphere.

2003 – 2009 | PhD Fellow & Postdoctoral Researcher

Group of Numerical Applications in the Atmosphere, Division of Environmental Physics & Meteorology, Department of Physics, NKUA, Athens, Greece

- Air-quality numerical simulations.

EDUCATION

2009 PhD in Atmospheric Environment and Air Quality Modelling, NKUA, Greece

2003 MSc in Environmental Physics, NKUA, Greece

2000 BSc in Geology, NKUA, Greece

FELLOWSHIPS & SCHOLARSHIPS

- National PhD Fellowship (Greece) — Doctoral studies, NKUA (2003-2009).
- National Post-doctoral Fellowship (Greece) — Post-doctoral research, NKUA/University of Manchester (2012-2015).

TEACHING EXPERIENCE

2017 – 2018 | Autonomous Teaching (by assignment)

Undergraduate course "Atmospheric Pollution", Physics Department, University of Patras — within the national/EU programme "Gaining Academic Teaching Experience for Young Doctorate Holders" (ESF & national co-funding)

- Full responsibility for syllabus design, delivery, innovative teaching methods (hands-on exercises, group work, project-based learning), and use of the e-class platform.

2016 – 2020 | Co-Teaching, Inter-institutional MSc Programme

"Space Science, Technologies and Applications", Dept. of Informatics & Telecommunications, University of Peloponnese & NOA

- Taught "Earth System Science" and "Advanced Space Applications"; syllabus design, mentoring, co-supervision and grading of group project work.

2016 – 2017 | Undergraduate & Internship Supervision

IERSD/NOA

- Co-supervised undergraduate thesis (University of Crete) on urban air pollution from a peri-urban fire accident; supervised undergraduate internship on numerical modelling of point-source aerosol emissions (CAMx).
- Member, Advisory Committee for the professional internship of an international PhD visiting researcher (National Polytechnic School, Algiers) on numerical simulations of air pollution in Algeria (2017).

2004 – 2009 | Hourly-Paid Teaching

Atmospheric Physics Laboratories, Physics Department, NKUA

RESEARCH ACTIVITIES

Continuous research activity (2002–present) on atmospheric physical/chemical processes via atmospheric modelling, organised by research theme and period:

- Continuous, >20-year (2002 - present) research activity on the physical and chemical processes of the atmosphere via atmospheric modelling at multiple spatial scales a. Installed, configured and applied five (5) Eulerian-grid atmospheric (photochemical) models at regional (REMSAD, CAMx, COSMO-ART) and local/intra-urban (EPISODE-CityChem, TAPM) scale, and coupled them with observational platforms (satellites, ground stations, aircraft).
- 2018 - now: Study of intra-urban air-pollution levels and variability. Installed, configured and applied the EPISODE-CityChem local-scale photochemical model for the Athens urban area. Contributed to high-resolution emissions and coupling with Copernicus/CAMS regional data; assessed Athens population exposure to air pollution at high resolution.). Installed, configured and applied the local-scale TAPM dispersion model for the Athens urban area; assessed air-pollution levels for the Region of Attica under climate change
- 2016 - 2018: From oil to biomass (wood): the effect of residential heating fuel on observed basin pollution and the radiation balance. Optimised/updated the European TNO-MACC (now CAMS) emissions database via dedicated measurements of the physicochemical characteristics of residential wood-burning pollution in Athens over the past decade.
- 2012 - 2015: Etesian winds and African dust-generation processes on atmospheric chemistry during dust transport in the Eastern Mediterranean. Developed the numerical spatial, temporal and chemical coupling of global- and regional-scale pollution models (GEOS-CHEM and CAMx). Numerically modelled the physicochemical characteristics of the Aegean atmosphere during the Etesian period, in synergy with dedicated aircraft and ground measurements. . Simulated selected dust-transport episodes at global and regional scale, in synergy with other observational platforms (models, satellites, ground stations).
- 2015: Drought in Greece from 1897 to 2015. Statistical processing of meteorological-parameter measurements across Greece to assess and compare drought periods across sub-regions.
- 2011 - 2014: Numerically modelled the physicochemical effects of the plume from the 2007 Peloponnese wildfires. Installed, adapted and applied the COSMO-ART model for Greece; integrated a global wildfire emissions database; assessed regional risk from meteorological conditions and plume chemical composition.
- 2010 - 2011: Secondary organic aerosol: numerical modelling of its formation and impact on the European atmosphere. Adapted COSMO-ART for European application; numerically modelled and integrated a reliable SOA-formation mechanism into COSMO-ART; investigated its contribution to atmospheric chemistry and the radiation balance.
- 2004 - 2009: Studied particulate matter (sources and chemistry) across Greece. in the Attica region. Installed, adapted and applied the CAMx photochemical model for Greece; Numerically parameterised sea-salt emission processes and integrated them into the CAMx photochemical model; Numerically parameterised road- and soil-dust emission processes; performed sensitivity tests of aerosol chemical-component concentrations against each pollution source in the Attica basin;

FUNDED RESEARCH PROJECTS (PAID POSITIONS)

Full list of 26 funded research projects in which she held a paid research position (as postdoctoral or graduate researcher), 2003–present:

- **2025 - Metronome: Design, M&E, City-Transformative Intelligence.** Funding: EU (Horizon Europe). Postdoctoral Researcher. co-responsible for IERSD/NOA's project role - responsible for urban-scale numerical simulations
- **2023 - CIROCCO: Enhancing the In-situ Environmental Observations across Under-sampled Deserts.** Funding: EU (H2020). Postdoctoral Researcher. co-responsible for IERSD/NOA's project role - Task Leader
- **2021 – 2025 RI-URBANS: Research Infrastructures Services Reinforcing Air Quality Monitoring Capacities in European Urban & Industrial Areas.** Funding: EU (H2020). Postdoctoral Researcher. responsible for urban emissions/concentrations, Athens area - Task Leader
- **2022 – 2024 e-shape: EuroGEO Showcases: Applications Powered by Europe.** Funding: EU (H2020). Postdoctoral Researcher. co-responsible for coordinating the Health Surveillance Air Quality pilot, responsible for urban-scale numerical simulations
- **2022 – 2025 ATMO-ACCESS: Sustainable Access to Atmospheric Research Facilities.** Funding: EU (H2020). Postdoctoral Researcher. Task Leader
- **2020 - 2021 MAX3D: Τρισδιάστατη απεικόνιση του ατμοσφαιρικού αστικού ρύπου NO₂ (διοξείδιο του αζώτου) στην Αθήνα, με τη μέθοδο παθητικής τηλεπισκόπησης MAX-DOAS.** Funding: Greek Ministry of Development and Investments. Postdoctoral Researcher. responsible for NO₂ numerical simulations
- **2020 - 2021 PANAKEIA: Pan-Hellenic infrastructure for the study of atmospheric composition and climate change.** Funding: OP Competitiveness, Entrepreneurship & Innovation (NSRF 2014-2020). Postdoctoral Researcher. member, pollution-modelling scientific team
- **2017 - 2021 ERA-PLANET SMURBS: SMart URBan Solutions for air quality, disasters and city growth.** Funding: Horizon 2020 (H2020). Postdoctoral Researcher. co-authored the funding proposal, contributed to programme coordination, organised conferences/meetings, authored/reviewed reports and deliverables, maintained the official project website του προγράμματος <http://smurbs.eu/>, member, pollution-modelling scientific team τοπικής κλίμακας
- **2019 - 2020 EMISSION: Environmental monitoring integrated system using an IoT network.** Funding: EPAnEK 2014-2020 "Research-Create-Innovate". Postdoctoral Researcher. co-authored the funding proposal, contributed to programme coordination, co-authored/reviewed reports, deliverables and publications, member, atmospheric-pollution scientific team
- **2016 – 2017 GEO-CRADLE - 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.** Funding: H2020. Postdoctoral Researcher. identified regional capacities/needs for climate-change numerical simulations; – authored the report, contributed to pilot application development προσαρμογής στην κλιματική αλλαγή
- **2015 – 2016 ACTRIS 2– Aerosols, Clouds, and Trace gases Research InfraStructure Network.** Funding: H2020-INFRAIA-2014-2015. Postdoctoral Researcher. co-authored the ACTRIS PPP proposal, statistical analysis of aerosol physicochemical properties
- **2015 Assessing drought recurrence in EUR-ORA countries using nonlinear approach – “EUR-OPA”.** Funding: Earthquake Planning & Protection Organization (EPPO), Greece. Postdoctoral Researcher. statistical analysis linking meteorological data to drought periods; authored the technical report
- **2015 Θεμελίωση Συνεργιστικών και ολοκληρωμένων μεθοδολογιών και εργαλείων παρακολούθησης, διαχείρισης και πρόγνωσης Περιβαλλοντικών παραμέτρων και πιέσεων - Αναπτυξιακές Προτάσεις Ερευνητικών Φορέων δράση “ΚΡΗΠΙΣ-ΘΕΣΠΙΑ”.** Funding: Greek GSRT. Postdoctoral Researcher. installed/adapted/applied COSMO-ART at NOA to study aerosol-meteorology/climate interactions
- **2012 - 2015 AerAS-EtS- Chemical and physical processes of atmospheric Aerosol over the Aegean Sea during Etesian and Saharan events.** Funding: European Social Fund & Greek State. Postdoctoral Researcher. co-authored the funding proposal, Principal Investigator via numerical modelling, authored reports/deliverables
- **2011- 2012 Climate Local Information in the Mediterranean region: Responding to User Needs - “CLIM-RUN”.** Funding: FP7-ENV-2010. Postdoctoral Researcher. pilot application of COSMO-ART over Greece assessing 2007-wildfire impacts on atmospheric chemistry/radiation balance
- **2012 Lidar Climatology of Vertical Aerosol Structure for Space-Based Lidar Simulation Studies – “LIVAS”.** Funding: European Space Agency (ESA). Postdoctoral Researcher. statistical analysis of lidar aerosol data; maintained the APCG group website
- **2007 - 2010 Environmentally Compatible Air Transport System-ECATS.** Funding: European Union. Graduate Researcher. optimised aircraft/airport emissions
- **2008 - 2009 Determining the impact of soil erosion on particulate matter in the Attica region using the CAMx photochemical model.** Funding: NKUA Research Committee (Kapodistrias). Graduate Researcher. co-authored the funding proposal, Principal Investigator via numerical modelling, authored the report/deliverable

- **2005 - 2008 Study of particulate-matter pollution in the Attica atmosphere using numerical simulation.** Funding: European Union. Graduate Researcher. co-authored the funding proposal, Principal Investigator (as PhD candidate) via numerical modelling, authored reports/deliverables
- **2005 - 2008 The impact of air transport on local, regional and global air pollution.** Funding: Greek Ministry of Education (PYTHAGORAS II). Graduate Researcher. regional photochemical modelling of aviation's role in Athens pollution
- **2004 - 2005 Numerical simulations of particulate-matter resuspension in the wider Athens area.** Funding: NKUA Research Committee (Kapodistrias). Graduate Researcher. co-authored the funding proposal, Principal Investigator via numerical modelling, authored the report/deliverable
- **2004 - 2005 Assessment of the economic and environmental impacts of the Attiki Odos road network on the wider Attica region.** Funding: Attiki Odos S.A.. Graduate Researcher. modelled vehicle emissions on 2 new roads (Attiki Odos, Ymittos Ring), integrated into Greece's emissions database/model CAMx με σκοπό την εκτίμηση της παραγόμενης ρύπανσης στην ευρύτερη περιοχή της Αττικής, Συν-συγγραφή αναφοράς/παραδοτέου
- **2004 Optimisation control of air-pollution sources in the wider Athens area.** Funding: Greek Ministry of Environment & Energy. Graduate Researcher. co-authored the funding proposal, Principal Investigator via numerical modelling, authored the report/deliverable
- **2004 Application of a gas-emission dispersion model for the new industrial station at Revythousa.** Funding: Asprofos S.A.. Graduate Researcher. ran CAMx sensitivity tests on the plant's contribution to regional pollution
- **2003 - 2004 Cartographic mapping of air pollution across Greece.** Funding: Greek Ministry of Environment & Energy. Graduate Researcher. spatial mapping of characteristic Greek pollution episodes via numerical modelling
- **2003 - 2004 Integrated Computational Assessment of urban air quality via Remote Observation Systems network (ICAROS-NET).** Funding: European Union. Graduate Researcher. contributed to numerical simulations of Greek air pollution

OTHER RESEARCH PROGRAMMES (UNPAID / SELF-OBTAINED)

Unpaid personal contribution (proposal writing and/or implementation and/or coordination) to 6 recent funded projects, alongside 8 successive self-obtained computational-time access grants at the Greek National HPC infrastructure (GRNET), where she acted as Principal Investigator without a paid position:

- **2021 - 2024 Revealing the role of geoss as the default digital portal for building climate change adaptation & mitigation applications - EIFFEL.** Funding/Provider: EU Horizon 2020 (Grant 101003518). high-resolution air-pollution numerical modelling under climate change
- **2021 - 2023 Generating Advanced Usage of Earth Observation for Smart Statistics - GAUSS.** Funding/Provider: European Space Agency. contributed to coordination
- **2021 - 2025 Climate Resilient-Regions through Systemic Solutions and Innovations – ARSINOE.** Funding/Provider: European Union. high-resolution air-pollution numerical modelling under climate change
- **2020 - 2025 PANhellenic Geophysical observatory of Antikythera – PANGEA.** Funding/Provider: European Investment Bank & Greek Public Investment Programme. member of the coordination team; website/infrastructure maintenance
- **2019 - 2020 Preparation of the Regional Plan for Climate Change Adaptation (ΠεΣΠΚΑ), Region of Attica (Contract No. 106/2019).** Funding/Provider: National funding (Region of Attica). lead of the high-resolution air-quality modelling team
- **2019 - 2021 Improving resilience of sensitive industrial plants & infrastructures exposed to cyber - physical threats, by means of an open testbed stress-testing system – Infrastress.** Funding/Provider: H2020. contributed to coordinating atmospheric-observation actions
- **2021 High-resolution Air Quality fields In support of human Health - H-AQI-H.** Funding/Provider: GRNET HPC computational-time grant. Principal Investigator / implementation lead
- **2020 City-Scale CTM applications for Athens – CiTyM.** Funding/Provider: GRNET HPC computational-time grant. Principal Investigator / implementation lead
- **2019 Urban Wood Burning and Aerosol Cloud Effects - U_WoodBACE.** Funding/Provider: GRNET HPC computational-time grant. Principal Investigator / implementation lead
- **2018 Bridging Regional to City-Scale Air Quality Modeling for Athens – RECLAiM.** Funding/Provider: GRNET HPC computational-time grant. Principal Investigator / implementation lead
- **2017 Aerosol implications on Energy and Clouds over the Eastern Mediterranean – AECIEM.** Funding/Provider: GRNET HPC computational-time grant. Principal Investigator / implementation lead
- **2016 AirQuality for Athens –towards Integrated Services of Chemical Weather Forecast – AQ4ATH.** Funding/Provider: GRNET HPC computational-time grant. Principal Investigator / implementation lead

- **2015 Atmospheric Chemistry and Radiative forcing assessment of recent pollution episodes over Athens, Greece – ACRA.** Funding/Provider: GRNET HPC computational-time grant. Principal Investigator / implementation lead
- **2015 Near Real-time simulations of Air quality over the greater Athens area, Greece – NeRAirA.** Funding/Provider: GRNET HPC computational-time grant. Principal Investigator / implementation lead

SCIENTIFIC COLLABORATIONS

- 2017–present: Collaboration with Dr Martin Ramacher, Dr Volker Matthias and Dr Matthias Karl, Helmholtz-Zentrum Geesthacht (HZG), Germany, on (1) installing, adapting and applying the local-scale EPISODE/CityChem photochemical model and the TAPM dispersion model over Greek urban areas, and (2) emissions-conversion mechanisms into atmospheric-model emission fields.
- 2012–2014: Visiting postdoctoral researcher, School of Earth, Atmospheric and Environmental Sciences, University of Manchester, UK, under Prof. H. Coe, within the "Support for Postdoctoral Researchers" Action of the "Education and Lifelong Learning" Operational Programme. Title: "Chemical and physical processes of atmospheric Aerosol over the Aegean Sea during Etesian and Saharan events".
- 2011 - 2018: Collaboration with Dr B. Vogel and team on aerosol–energy-balance interactions over selected European regions, Institute of Meteorology and Climate Research – Department Troposphere Research, Karlsruhe Institute of Technology (KIT), Germany (delivered an invited seminar: "The current research on...").
- 2010 - 2018: Coordinator of collaboration between the APCG group (IERSD/NOA) and the "Atmospheric Modelling and Remote Sensing" group, Swiss Federal Laboratories for Materials Science and Technology (EMPA), Switzerland. Collaboration with Dr Dominik Brunner on adapting the European CAMS-REG emissions database for COSMO-ART simulations over Greece.
- 2013 - 2018: Coordinator of collaboration between the APCG group (IERSD/NOA) and the German Meteorological Service (DWD). Collaboration with Mr Ulrich Schättler on configuring COSMO-ART meteorological subroutines for Greece and on obtaining meteorological data from DWD's official COSMO forecasts.
- 2007–2009: PhD candidate under the guidance of visiting Prof. Armistead G. Russell, Georgia Institute of Technology (GATECH), USA, on the numerical modelling of road and soil dust and its integration into CAMx, to study heterogeneous pollution interactions in the Athens area.
- Feb 2005: Visiting PhD candidate, Department of Chemical Engineering, University of Patras, under Prof. S. Pandis (member of the three-member advisory committee), on the design of particulate-matter numerical modelling in Greece with the PMCAMx model, within the PENED 2003 Research Personnel Reinforcement Programme.

INVITED TALKS & SEMINARS

- 17/12/2021: Invited contribution to the hybrid university seminar "Air quality monitoring and management" for graduate students, University of Patras. Title: "Urban air pollution mapping towards protecting human health".
- 24/06/2021: GEO Virtual Symposium 2021. Talk: "Resilient and sustainable cities and human settlements".
- 17/06/2020: Invited talk, (online) 16th Summer School and SMURBS Training School 2020, organised by RECETOX Dept., Masaryk University, Czech Republic. Title: "Human Exposure - Population exposure to air quality in cities: the case study of Hamburg and Athens".
- 11/12/2018: Invited talk, E2mC Workshop, Bled, Ljubljana. Title: "SMart URBan Solutions on air quality, disasters and city growth: the overview of SMURBS/ERA-PLANET and the integration of crowdsourcing in EO-based flood management".
- 26/06–01/07/2018: Mentor, 2nd Marathon for Developing Innovative Services for Smart Cities and Digital Transformation, on air-pollution topics and smart applications.
- 5–6/02/2018: Invited talk, 21st European Forum on Eco-Innovation, Sofia, Bulgaria. Title: "Residential wood burning and the smart cities approach in mitigating its impacts".
- 12/01/2018: Invited talk, MSc programme "Applied Meteorology and Environmental Physics", Physics Dept., University of Patras. Title: "Residential Wood Combustion in Greece: Impacts on air quality and interaction with radiation".
- 13/03/2014: Seminar at NOA. Title: "Atmospheric aerosol modeling – Applications over Greece".
- 13/11/2012: Invited talk, Hellenic National Meteorological Service (HNMS). Title: "Applications of COSMO-ART for Greece".
- 02/09/2011: Seminar, Institute for Meteorology and Climate Research – Troposphere Research, KIT, Germany. Title: "Simulating secondary organic aerosol formation over Europe using the volatility basis-set approach in the online coupled model COSMO-ART".
- 2007: Seminar, MSc programme "Environmental Physics and Meteorology", Physics Dept., NKUA. Title: "Introduction for Atmospheric Aerosol".

CONFERENCE & WORKSHOP PRESENTATIONS

Participation in more than 35 scientific conferences, workshops and meetings; representative selection from source records (further items available on request):

- E. Athanasopoulou: Air quality – Do climate actions bring additional co-benefits?, METRONOME co-design workshop, Kozani-Ioannina, Greece, 4-5 December 2025. / E. Athanasopoulou: The portrait and perspective of the EuroGEO Urban Action group, Annual EuroGEO Workshop, Krakow, Poland, 8-11 October 2024. / E. Athanasopoulou: EO-based pollution-health risks profiling in the urban environment (additional 2024 contributions).
- E. Athanasopoulou: S2P3: EO based pollution health risks profiling in the urban environment: Demonstration of the HSAQ Teaser Platform, e-shape Webinar on the 'Health Surveillance Air Quality (HSAQ)' Pilot, 1 April 2022.
- E. Athanasopoulou et al. (on behalf of SMURBS): Progress and Major Achievements: Our Mural, ERA-PLANET Annual Meeting 2020, 2 December, virtual meeting.
- E. Athanasopoulou et al. (on behalf of SMURBS): The contribution of NOA to the SDG monitoring: Population exposure to air pollution in Europe, Researchers' Night 2019, 27 September, Athens, Greece.
- E. Athanasopoulou (on behalf of NOA): The contribution of SMURBS project to smart technologies through the exploitation of Earth Observations, Thessaloniki International Fair (TIF) 2018, 8-16 September, Greece.
- E. Athanasopoulou: Progress and Current status of SMURBS H2020 project, SMURBS Midterm Meeting (MTR), 3-4 June 2019, Kyiv, Ukraine.
- E. Athanasopoulou: Progress and Current status of SMURBS H2020 project, SMURBS Annual Meeting (PM1), 9-10 October 2018, Athens, Greece.
- E. Athanasopoulou: Preliminary results on stakeholders' survey, SMURBS workshop on user needs, HZG, Hamburg, Germany, 27-28 March 2018.
- E. Athanasopoulou: Work-plan and timeline of the SMURBS project, ERA-PLANET Kick-off meeting, CNR, Rome, Italy, 9-11 October 2017.
- E. Athanasopoulou, O. Speyer, E. Liakakou, M. Gratsea, E. Gerasopoulos, N. Mihalopoulos et al.: Residential wood combustion in Athens since 2010: Impacts on air quality and Atmospheric variables, HAAR Annual Meeting, NEO Messinia, Greece, 16 May 2016.
- Elise Hendriks, Frans Snik, Christoph Keller, Eleni Athanasopoulou, Orestis Speyer, Evangelos Gerasopoulos, Vassilis Amiridis et al.: ISPEX-EU: European citizens measure air pollution with their smartphone, One Step BEYOND Workshop, 15 October 2015, Frascati, Italy.
- Speyer, O., Athanasopoulou, E., Gerasopoulos, E. (2014): COSMO-ART applications for the area of Greece: first results and on-going work, 16th COSMO General Meeting, 8-11 September 2014, Eretria, Greece.
- Athanasopoulou, E. (2007): Study of particulate matter concentrations in the Greater Athens Area by means of numerical models, 1st Spring School, ECATS project, 11-14 March 2007, Manchester, UK.
- Athanasopoulou, E. (2007): Sea-Salt Aerosols (SSA): Impact on Atmospheric Pollution of Greece, 3rd GEOS-Chem Users' Meeting, Harvard University, 11-13 April 2007, Boston, USA.

PUBLICATIONS & RESEARCH OUTPUTS

Peer-Reviewed Journal Articles (30)

- 1. Athanasopoulou, E., Karagiannis, D., Kakouri, A. et al.: Intra-urban air quality under future Representative Concentration Pathways: modeling experiments for an Eastern Mediterranean city. *npj Clean Air*, 2(1) (2026). DOI: 10.1038/s44407-026-00081-6. [Open Access]
- 2. Hohenberger, T. L., el Malki, M., Visschedijk, A. et al.: Link-based European road transport emissions for CAMS-REG v8.1 and a comparison to city inventories. *Earth System Science Data*, 18(6), 3959–3978 (2026). DOI: 10.5194/essd-18-3959-2026. [Open Access]
- 3. Siouti, E., Skyllakou, K., Patoulas, D. et al.: Source apportionment of carbonaceous submicron particulate matter in an urban area synthesizing the results of observation- and chemical transport model-based approaches. *Atmospheric Environment*, 368, 121761 (2026). DOI: 10.1016/j.atmosenv.2025.121761.
- 4. Siouti, E., Skyllakou, K., Patoulas, D. et al.: High resolution source-resolved PM_{2.5} spatial distribution and human exposure in a large urban area. *Atmospheric Environment*, 355, 121277 (2025). DOI: 10.1016/j.atmosenv.2025.121277.
- 5. Sartelet, K., Kerckhoffs, J., Athanasopoulou, E. et al.: Air pollution mapping and variability over five European cities. *Environment International*, 199, 109474 (2025). DOI: 10.1016/j.envint.2025.109474.
- 6. Poupkou, A., Kontos, S., Liora, N. et al.: Investigating the Role of Organic Aerosol Schemes in the Simulation of Atmospheric Particulate Matter in a Large Mediterranean Urban Agglomeration. *Sustainability*, 17(6), 2619 (2025). DOI: 10.3390/su17062619. [Open Access]

- **7.** Votsi, N., Papangelis, G., Varotsos, K. V. et al.: A multi-faceted, integrated methodological approach to identify hotspots of combined urban environmental pressures in the climate change context. *Euro-Mediterranean Journal for Environmental Integration*, 10(5), 4287–4311 (2025). DOI: 10.1007/s41207-025-00746-w.
- **8.** Kakouri, A., Kontos, T., Grivas, G. et al.: Spatiotemporal modeling of long-term PM_{2.5} concentrations and population exposure in Greece, using machine learning and statistical methods. *Science of The Total Environment*, 958, 178113 (2025). DOI: 10.1016/j.scitotenv.2024.178113.
- **9.** Myriokefalitakis, S., Karl, M., Weiss, K. A. et al.: Analysis of secondary inorganic aerosols over the greater Athens area using the EPISODE–CityChem source dispersion and photochemistry model. *Atmospheric Chemistry and Physics*, 24(13), 7815–7835 (2024). DOI: 10.5194/acp-24-7815-2024. [Open Access]
- **10.** J. Lasne, A. Lostier, T. Salameh et al.: NO_x emissions by real-world fresh and old asphalt mixtures: Impact of temperature, relative humidity, and UV-irradiation. *Urban Climate*, 49, 101457 (2023). DOI: 10.1016/j.uclim.2023.101457.
- **11.** Jennifer Bailey, Martin Otto Paul Ramacher, Orestis Speyer et al.: Localizing SDG 11.6.2 via Earth Observation, Modelling Applications, and Harmonised City Definitions: Policy Implications on Addressing Air Pollution. *Remote Sensing*, 15(4), 1082 (2023). DOI: 10.3390/rs15041082. [Open Access]
- **12.** Nicola Pirrone, Paolo Mazzetti, Sergio Cinnirella et al.: The science-policy interfaces of the European network for observing our changing planet: From Earth Observation data to policy-oriented decisions. *Environmental Science & Policy*, 137, 359–372 (2022). DOI: 10.1016/j.envsci.2022.09.006.
- **13.** Aquilino, M., Tarantino, C., Athanasopoulou, E. et al.: EO4Migration: The Design of an EO-Based Solution in Support of Migrants' Inclusion and Social-Cohesion Policies. *Remote Sensing*, 14(17), 4295 (2022). DOI: 10.3390/rs14174295. [Open Access]
- **14.** Evangelos Gerasopoulos, Jennifer Bailey, Eleni Athanasopoulou et al.: Earth observation: An integral part of a smart and sustainable city. *Environmental Science & Policy*, 132, 296–307 (2022). DOI: 10.1016/j.envsci.2022.02.033.
- **15.** Charalampos Georgiadis, Petros Patias, Natalia Verde et al.: State-of-play in addressing urban environmental pressures: Mind the gaps. *Environmental Science & Policy*, 132, 308–322 (2022). DOI: 10.1016/j.envsci.2022.02.030.
- **16.** Stelios Myriokefalitakis, Elisa Bergas-Mass'o, Mar'ia Gon'calves-Ageitos et al.: Multiphase processes in the EC-Earth model and their relevance to the atmospheric oxalate, sulfate, and iron cycles. *Geoscientific Model Development*, 15(7), 3079–3120 (2022). DOI: 10.5194/gmd-15-3079-2022. [Open Access]
- **17.** Gratsea, M., Athanasopoulou, E., Kakouri, A. et al.: Five Years of Spatially Resolved Ground-Based MAX-DOAS Measurements of Nitrogen Dioxide in the Urban Area of Athens: Synergies with In Situ Measurements and Model Simulations. *Atmosphere*, 12(12), 1634 (2021). DOI: 10.3390/atmos12121634. [Open Access]
- **18.** Ramacher, M. O. P., Kakouri, A., Speyer, O. et al.: The UrbEm Hybrid Method to Derive High-Resolution Emissions for City-Scale Air Quality Modeling. *Atmosphere*, 12(11), 1404 (2021). DOI: 10.3390/atmos12111404. [Open Access]
- **19.** Grivas, G., Athanasopoulou, E., Kakouri, A. et al.: Integrating in situ Measurements and City Scale Modelling to Assess the COVID–19 Lockdown Effects on Emissions and Air Quality in Athens, Greece. *Atmosphere*, 11(11), 1174 (2020). DOI: 10.3390/atmos11111174. [Open Access]
- **20.** Athanasopoulou, E., Speyer, O., Brunner, D. et al.: Changes in domestic heating fuel use in Greece: effects on atmospheric chemistry and radiation. *Atmospheric Chemistry and Physics*, 17(17), 10597–10618 (2017). DOI: 10.5194/acp-17-10597-2017. [Open Access]
- **21.** Kosmopoulos, P. G., Kazadzis, S., Taylor, M. et al.: Dust impact on surface solar irradiance assessed with model simulations, satellite observations and ground-based measurements. *Atmospheric Measurement Techniques*, 10(7), 2435–2453 (2017). DOI: 10.5194/amt-10-2435-2017. [Open Access]
- **22.** Athanasopoulou, E., Protonotariou, A., Papangelis, G. et al.: Long-range transport of Saharan dust and chemical transformations over the Eastern Mediterranean. *Atmospheric Environment*, 140, 592–604 (2016).
- **23.** Athanasopoulou, E., Protonotariou, A. P., Bossioli, E. et al.: Aerosol chemistry above an extended archipelago of the eastern Mediterranean basin during strong northern winds. *Atmospheric Chemistry and Physics*, 15(14), 8401–8421 (2015).
- **24.** Athanasopoulou, E., Rieger, D., Walter, C. et al.: Fire risk, atmospheric chemistry and radiative forcing assessment of wildfires in eastern Mediterranean. *Atmospheric Environment*, 95, 113–125 (2014).
- **25.** Athanasopoulou, E., Vogel, H., Vogel, B. et al.: Modeling the meteorological and chemical effects of secondary organic aerosols during an EUCAARI campaign. *Atmospheric Chemistry and Physics*, 13, 625–645 (2013). DOI: 10.5194/acp-13-625-2013. [Open Access]
- **26.** Athanasopoulou, E., Tombrou, M., Russell, A. G. et al.: Implementation of road and soil dust emission parameterizations in the aerosol model CAMx. *Journal of Geophysical Research - Atmospheres*, 115, D17301 (2010). DOI: 10.1029/2009JD013207.

- **27.** Bossioli, E., Tombrou, M., Dandou, A. et al.: The role of planetary boundary-layer parameterizations in the air quality of an urban area with complex topography. *Boundary-Layer Meteorology*, 131, 53-72 (2009). DOI: 10.1007/s10546-009-9349-7.
- **28.** Athanasopoulou, E., Tombrou, M., Pandis, S. N., Russell, A. G.: The role of sea-salt emissions and heterogeneous chemistry in the air quality of polluted coastal areas. *Atmospheric Chemistry and Physics*, 8, 5755-5769 (2008). DOI: 10.5194/acp-8-5755-2008. [Open Access]
- **29.** Athanasopoulou, E., Basili, E., Tombrou, M.: Modelling of aerosol in the Greater Athens Area, Greece. *International Journal of Environment and Pollution*, 24 (1/2/3/4), 230-246 (2005). DOI: 10.1504/IJEP.2005.007395.
- **30.** Protonotariou, A., Bossioli, E., Athanasopoulou, E. et al.: Evaluation of CALPUFF modelling system performance: an application over the Greater Athens Area, Greece. *International Journal of Environment and Pollution*, 24 (1/2/3/4), 22-35 (2005).

Book Chapters (6)

- **1.** Athanasopoulou, E., Karagiannis, D., Speyer, O. et al.: Exploring the Co-benefit of Climate Change Mitigation Scenarios on Urban Air Quality Through the Penetration of Electricity in the Building and the Road Sector. In: *Air Pollution Modeling and Its Application XXX*, pp. 237–244. Springer Nature Switzerland (2026). DOI: 10.1007/978-3-032-02971-3_30.
- **2.** Ramacher, M. O. P., Stavroulas, I., Grivas, G. et al.: Measuring and Modeling the Impact of Indoor Infiltration on PM_{2.5} Exposure in Residential Environments of Athens, Greece—Results from the PIRathe Project. In: *Air Pollution Modeling and Its Application XXX*, pp. 179–187. Springer Nature Switzerland (2026). DOI: 10.1007/978-3-032-02971-3_23.
- **3.** Karl, M., Myriokefalitakis, S., Athanasopoulou, E. et al.: Studying the Impact of Sea Salt Emissions on Secondary Aerosol Formation in Coastal Cities Using the EPISODE-CityChem Source Dispersion and Photochemistry Model. In: *Air Pollution Modeling and Its Application XXX*, pp. 293–300. Springer Nature Switzerland (2026). DOI: 10.1007/978-3-032-02971-3_37.
- **4.** Ramacher, M. O. P., Bieser, J., Athanasopoulou, E. et al.: Why Current Exposure Estimates are Biased Low—The Impact of Population Activity on Regional Scale Exposure to Air Pollution. In: *Air Pollution Modeling and Its Application XXIX*, pp. 227–235. Springer Nature Switzerland (2025). DOI: 10.1007/978-3-031-70424-6_28.
- **5.** E. Athanasopoulou, O. Speyer, S. Apostolopoulou et al.: Near Real-Time Aerosol Predictions During the First Citizen Observatory Campaign in Greece. In: *Perspectives on Atmospheric Sciences*, pp. 823–829. Springer International Publishing (2016). DOI: 10.1007/978-3-319-35095-0_118.
- **6.** E. Athanasopoulou, H. Vogel, K. Lundgren et al.: Estimating Direct Effects of Secondary Organic Aerosol Over Europe Using COSMO-ART. In: *Advances in Meteorology, Climatology and Atmospheric Physics*, pp. 873–879. Springer Berlin Heidelberg (2012). DOI: 10.1007/978-3-642-29172-2_122.

Conference Proceedings (3)

- **1.** Anastasia Poupkou, Serafim Kontos, Natalia Liora et al.: Evaluation of the Simulated Atmospheric Particulate Matter Chemical Composition in Athens: Organic Aerosols Formation Sensitivity Tests. In: *COMECAP 2023* (2023). DOI: 10.3390/environsciproc2023026032.
- **2.** Eleni Athanasopoulou, Anastasia Kakouri, Dimitris Karagiannis et al.: Enhancing air quality data from multiple platforms towards geospatial health-related information in the intra-urban environment. In: *2023 Joint Urban Remote Sensing Event (JURSE)* (2023). DOI: 10.1109/jurse57346.2023.10144148.
- **3.** Evangelos Gerasopoulos, Eleni Athanasopoulou, Orestis Speyer et al.: Urban resilience to environmental stressors via EO-based smart solutions. In: *2021 IEEE International Geoscience and Remote Sensing Symposium IGARSS* (2021). DOI: 10.1109/igarss47720.2021.9554066.

Conference Abstracts / Contributions (5)

- **1.** Athanasopoulou, E., Karagiannis, D., Papangelis, G. et al.: Health-related atmospheric aerosol over an urban hotspot in the Mediterranean: model performance and insights for different urban parameterizations during heat stress periods. Conference contribution, EGU General Assembly (2026). DOI: 10.5194/egusphere-plinius18-21. [Open Access]
- **2.** Ramacher, M. O. P., Kakouri, A., Athanasopoulou, E., Matthias, V.: Advancing Regional Air Pollution Exposure Assessment: Revealing Underestimated Long-Term Exposure to PM_{2.5} in Greece. Conference contribution, EGU General Assembly (2025). DOI: 10.5194/egusphere-egu25-7968. [Open Access]
- **3.** Athanasopoulou, E., Dubost, A., Wenger, J., Philippin, S.: A pilot to showcase the interaction of National public authorities with the European Atmospheric Research Facilities. Conference contribution, EGU General Assembly (2025). DOI: 10.5194/egusphere-egu25-20393. [Open Access]

- 4. Martin Otto Paul Ramacher, Matthias Karl, Eleni Athanasopoulou et al.: A novel approach for dynamic population activity in urban-scale exposure estimates. Conference contribution, EGU General Assembly (2020). DOI: 10.5194/egusphere-egu2020-2576. [Open Access]
- 5. Bailey, J., Speyer, O., Gerasopoulos, E., Athanasopoulou, E.: Insights and Policy Implications from a Harmonized Earth Observation Approach to Urban Air Quality. Conference contribution, EGU General Assembly (2020). DOI: 10.1002/essoar.10502027.1. [Open Access]

Selected Technical Reports, Deliverables & Open Data/Outreach Materials (6)

- 1. Färber, M., Nicolae, D., Athanasopoulou, E., Wenger, J.: ATMO-ACCESS D6.5 Report on evaluation of the TNA pilots and future recommendations. Zenodo (2025). DOI: 10.5281/ZENODO.17153460. [Open Access]
- 2. Eleni Athanasopoulou: EuroGEO Urban Action Group - JRC/KCEO Expert study. GEO Knowledge Hub (2024). DOI: 10.60566/2TRA6-GB632. [Open Access]
- 3. FABER, M., Dubost, A., WU, Z. et al.: ATMO-ACCESS WP6 Webinar ATMO-ACCESS & RI-URBANS UFP and PNSD Part 4 PNSD guidance and monitoring. Zenodo (2024). DOI: 10.5281/ZENODO.14335724. [Open Access]
- 4. Salameh, T., Wenger, J., Athanasopoulou, E. et al.: ATMO-ACCESS WP6 Webinar ATMO-ACCESS & RI-URBANS VOCs, PM and BC Part 1 VOCs guidance, monitoring, added value. Zenodo (2024). DOI: 10.5281/ZENODO.14336126. [Open Access]
- 5. Pandolfi, M., Wenger, J., Athanasopoulou, E. et al.: ATMO-ACCESS WP6 Webinar ATMO-ACCESS & RI-URBANS VOCs, PM and BC Part 3 Determination of BC mass concentration. Zenodo (2024). DOI: 10.5281/ZENODO.14336542. [Open Access]
- 6. Athanasopoulou, E.: ATMO-ACCESS WP6 D6.4 Proposed TNA pilots for public authorities V1. Zenodo (2023). DOI: 10.5281/ZENODO.17226558. [Open Access]

Note: publicly available items are marked [Open Access].

EDITORIAL & PEER-REVIEW EXPERIENCE

- Editorial team member, **Kosmos** popularised-science magazine, National Observatory of Athens (2019 – present).
- Editorial team member & book reviewer, **Κόκκινη Αλεπού** (kokkinialepou.gr) — online magazine dedicated to children's/YA science-themed literature; reviews of children's popular-science books (c. 2020 – present, ~5 years).
- Peer reviewer of 15 manuscripts for 7 international journals: Atmospheric Chemistry and Physics (×5), Atmospheric Environment (×3), Environmental Pollution (×3), Journal of Environmental Management (×1), Journal of Environmental Science and Health (×1), Global Nest (×1); plus 4 conference papers (COMECAP) and 2 funding proposals for the European Facility for Airborne Research (EUFAR).
- Registered as Remote expert evaluator, H2020 FET-Open call (FETOPEN-01-2018-2019-2020).
- Member of the Registry of Certified Evaluators, Greek General Secretariat for Research and Technology (GSRT).

SCIENCE COMMUNICATION & PUBLIC ENGAGEMENT

- Lead of social-media communication (Facebook, LinkedIn) for the APCG research group, responsible for its public science-communication profile (2025 – present, > 1 year, ongoing).
- Editorial contributions to *Kosmos* and *Κόκκινη Αλεπού* (see Editorial section above).
- Elective contributor, UniversALL — Astronomy education programme for students in border/remote areas of Greece, National Observatory of Athens (2025 – present).
- Administrator of NOA's Gender-Equality-in-Research webpage (ΕΙΦΚΔ), since joining the Committee (2025 – present, ~6 months).
- Multi-year collaboration with local/regional public authorities — Municipality of Kozani, Municipality of Ioannina, Municipality of Penteli, Region of Attica — co-designing public platforms that communicate research results to citizens and administrations.
- Co-organiser: IGARSS 2024 Summer School; EuroGEO Workshop 2022; IAC 2022 (sustainability track); SMURBS project events (2018-2020).
- Coordination of the capacity-development webinar and blog-post series of the Horizon project CiROCCO, reaching more than 200 participants from research, academia and governmental bodies across ~30 countries.
- Participant, National Researchers' Night (2019), presenting SDG-related air-quality/EO work to the public.
- Invited speaker at numerous public, academic and EU stakeholder workshops on urban air quality, smart cities and Earth Observation (2011 – present).

OPEN SCIENCE, FAIR & GEO DATA-MANAGEMENT COMMITMENT

- Consistent design and implementation of FAIR and GEO data-management principles, and Data Management Plans (DMPs), at both design and implementation level, across successive EU projects: SMURBS (2017-2020), e-shape (2022-2024) and EIFFEL (2021-2024).
- Systematic promotion of the GEO Knowledge Hub (GKH) within the projects she participates in (e.g. EIFFEL, CiROCCO), in service of FAIR principles.
- Coordinator of the use of the libinsitu tool (an open-source library supporting FAIR principles) for atmospheric in-situ data within CiROCCO (2025-2026).
- Application of the DMP-assessment tool for the e-shape Health Surveillance Air Quality pilot she co-led.
- Public deposit of research outputs on the GEO Knowledge Hub (an open-source digital repository of open, authoritative and reproducible knowledge, GEO): the UrbEm emissions method/tool (EIFFEL, published) and forthcoming CiROCCO outputs; author of the EuroGEO Urban Action Group JRC/KCEO Expert Study (GKH, 2024, open access).
- Development and maintenance of open, public-facing visualisation platforms translating research into accessible science-to-policy information: the SDG 11.6.2 indicator platform and CityAirPP (SMURBS); the Health Surveillance Air Quality (HSAQ) platform (e-shape); the urban sustainability platform (EIFFEL); and the ΠεΣΠΚΑ regional climate-adaptation platform (Region of Attica).
- Project Manager/Coordinator of the newly awarded project Wild-beCAMS, contributing to the CAMS National Contact Point (NCP) network, enriching the Copernicus/CAMS Health Hub and strengthening the flow of open CAMS/Copernicus data and information to stakeholders and the public.
- Co-author (2026) of a Horizon Europe proposal on countering climate-related disinformation through credible popular-science communication and trust-building public engagement (outcome pending).
- Co-author (2026) of a proposal in which she is designated as responsible for promoting the Copernicus/CAMS Health Hub and its open data and services to the wider community (outcome pending).

POLICY, GOVERNANCE & LARGE-SCALE INITIATIVES

- Scientific Expert, European Commission, supporting the EuroGEO Urban Action Group (2024).
- Member, Greek GEO Office (GGO) (2020 – present) and the EuroGEO Urban Action Group (UrbAG).
- Co-lead, e-shape "Health Surveillance Air Quality" pilot, including co-design activities with national health authorities and development of EO-based pollution/health-risk applications (2022-2024).
- Task Leader, ATMO-ACCESS — Trans-National Access (TNA) of EU atmospheric research infrastructures by representatives of public authorities (2021-2025).
- Task Leader, CiROCCO — capacity-building and liaison activities (2023-2026).
- Responsible for high-resolution air-quality predictions supporting the "Regional Plan for Climate Change Adaptation for the Region of Attica" (ΠεΣΠΚΑ).
- Author of policy-oriented articles in Environmental Science & Policy (x3) and Remote Sensing (localising SDG 11.6.2).

TECHNICAL & DIGITAL SKILLS

- **Atmospheric/Air-Quality Models:** Installation, configuration and application of five (5) chemical-transport models across regional and urban/local scale — REMSAD, CAMx, COSMO-ART (regional, Eulerian); EPISODE-CityChem, TAPM (urban/local scale).
- **Programming Languages:** Fortran 90/95, Bash scripting, Matlab, NCL.
- **Data Formats & Tools:** Advanced handling of GRIB, NetCDF, HDF5, and CDO (Climate Data Operators).
- **Infrastructure:** Linux/Unix environments, High-Performance Computing (HPC) job schedulers (SLURM).

LANGUAGES

- **Greek:** Native speaker.
- **English:** Full Professional Proficiency (C1/C2 equivalent) — drafting technical proposals, delivering scientific presentations, operating in international research environments.

INTERNATIONAL NETWORKS, SCIENTIFIC COMMUNITIES & ORGANISATIONAL ACTIVITIES

- Member: Gender Equality Team (NOA), Greek GEO Office (GGO), EuroGEO Urban Action Group (UrbAG), Hellenic Association for Aerosol Research (HAAR), FAIRMODE.
- Co-organiser: IGARSS 2024 Summer School, EuroGEO 2022, IAC 2022 (sustainability activities), SMURBS events.