


# Theodoros Christoudias

## Curriculum Vitæ

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### Education

2005–2009 **PhD Physics**, Imperial College London, UK.

2002–2005 **BSc Physics**, Imperial College London, UK.  
1st Class Honours

### Professional Experience

2021– **Associate Professor**, Cyprus Institute.  
Earth System Modelling Group Leader, Climate and Atmosphere Research Center  
Steering Group Member, EMAC Model International Consortium  
Institute Principal Investigator, CERN CLOUD Experiment

2014–2021 **Assistant Professor**, Cyprus Institute.

2012–2014 **Associate Research Scientist**, Cyprus Institute.

2010–2012 **Computational Scientist**, Cyprus Institute.

2006–2009 **International Fellow**, Fermilab, USA.

### Associations & Memberships

2005 Associate of the Royal College of Science (ARCS), UK

2005 Associate Member, Institute of Physics, UK

2012– Member, European Geosciences Union (EGU)

2014– Member, American Geophysical Union (AGU)

### Fellowships & Awards

2022 MACLEAN Best Paper Award

2019 CYI Innovation Award

2006–2009 Fermilab International Fellowship

2005 A.G. Leventis Foundation Grant

2004 Imperial College London UROP

### Research Interests

- Earth System Modelling
- Air Quality
- High Performance Computing (HPC)

## Teaching & Supervision

### Courses (Cyprus Institute Graduate School)

- 2019– Atmospheric Modelling (5/10 ECTS)
- 2018–2024 Visualisation and Advanced Data Structures (10 ECTS)
- 2016 Computer Graphics and Data Exploration (10 ECTS)
- 2014 Data Structures (10 ECTS)

### Supervision of PhD Students

- 2021–2024 P Kiriakidis: Solar and Wind Energy Potential Assessment in the Eastern Mediterranean and Middle East through Atmospheric Modelling
- 2020–2023 A Rey-Pommier, Cotutelle with Institut Pierre Simon Laplace (IPSL), France: Detection and quantification of the emissions of nitrogen oxides using satellite data across the eastern Mediterranean and Middle East region
- 2016–2020 GK Georgiou: Air Quality Modelling over Cyprus

### Supervision of MSc Students

- 2024 M Moustras: Using statistical methods for improving the resolution of air quality data
- 2023 M Satraki: Aeolian Dust Modelling over Cyprus with WRF

### Schools & Workshops

- 2016 International HPC Summer School on Challenges in Computational Sciences (*Mentor*)
- 2016 HPC architectures and numerical methods (5 ECTS)
- 2016 Large-scale numerical computation (5 ECTS)
- 2015 High Performance Visualization for Large-Scale Scientific Data Analytics (10 ECTS)
- 2013 Advanced Scientific Visualization (with NCSA Advanced Visualisation Lab)

## Research Grants

- 2025–2026 **PV-Dust**, *RIF*, Commercial Proof of Concept, Energy. Correlation of Dust Models with PV Energy Production
- 2024–2028 **Dust-DN**, *Marie Skłodowska-Curie Actions*. Dust Doctoral Network
- 2023–2027 **NERO**, *COST Action*, Management Committee Member. European Network on Extreme Fire Behaviour
- 2022–2025 **CLOUD-DOC**, *Marie Skłodowska-Curie Actions*. CLOUD Doctoral Network
- 2022–2025 **SIRIUS**, *LIFE Environmental Governance and Information*. A System for Integrated EnviRonmental Information in Urban areaS
- 2020–2024 **ACCEPT**, *Norway Grants*, Work Package Leader (Modelling), 800K EUR. Assessment of Climate Change Effect on Pollution Transport
- 2020–2023 **QEERI**, *Qatar Environment and Energy Research Institute*, 450K USD. Atmospheric Dispersion of Pollutants

- 2020–2021 **VECTOR**, *Copernicus Climate Change Service (C3S)*, ECMWF, 120K EUR.  
Vector Climate Threat Online Resource
- 2020–2022 **META-SAT**, *European Space Agency (ESA) PECS*, Scientific Expert, 220K EUR.  
Modeling of Emissions, Trends and Air quality, using Satellite measurements
- 2019–2023 **GAIA**, *Cyprus Research & Innovation Foundation (RIF)*, PRE-SEED, 100K EUR.  
Geospatial Artificial Intelligence Analytics
- 2019–2023 **NI4OS**, *EU Horizon 2020*, Climate Scientific Community Leader, 5.6M EUR.  
National Initiatives for Open Science in Europe
- 2019–2021 **AQ-SERVE**, *RIF Integrated*, Work Package Leader (Air Quality Modelling), 1M EUR.  
Air Quality Services for a cleaner air in Cyprus
- 2017–2019 **Vi-SEEM**, *EU Horizon 2020*, Climate Scientific Community Leader, 3.3M EUR.  
Virtual Research Environment in Southeast Europe and the Eastern Mediterranean
- 2011–2015 **DEEP**, *EU FP7*, Climate Modelling Application Co-Design.  
Dynamical Exascale Entry Platform

## Service

### Peer Review & Editorial Boards

Atmospheric Chemistry and Physics (ACP), Geoscientific Model Development (GMD), Atmospheric Environment, Science of the Total Environment (STOTEN), Atmospheric Pollution Research, Aerosol and Air Quality Research, Environment International Journal, Atmosphere (Section Board Member 2020–2021, Advisory Board 2021–2023), Climate (Editorial Board Member 2018–2021), Scalable Computing: Practice and Experience (Special Issue Guest Editor), Remote Sensing Applications: Society and Environment (RSASE), Urban Science, Environmental Science & Technology, Journal of Environmental Radioactivity, Climate Dynamics, Computer Physics Communications, Solar Energy, Nature, Environmental Pollution

### Conference Programme Committees

- 2021–2024 ISC High Performance
- 2018 Data Management and Semantic Structures for Cross-disciplinary Research, Cyprus
- 2018 e-Infrastructures for Excellent Science, Sofia, Bulgaria

### Review of Proposals

- French State “Investissements d’Avenir” Research Grants
- National Natural Science Foundation of China (NSFC) / Hong Kong Research Grant Council (RGC) Joint Research Scheme
- Hungarian National Research, Development and Innovation Office (NKFIH)
- Science Fund of the Republic of Serbia (PROMIS and IDEAS programmes)
- European Commission Horizon 2020, Horizon Europe
- National Science Centre Poland
- University of Malta Research Excellence Fund
- French National Research Agency (ANR)

## Expert Committees

- 2022 Programme Committee Expert, “Climate, Energy and Mobility”, Horizon Europe
- 2021 National Representative, Cluster 5 Programme, Horizon Europe
- 2018 Nominated Expert, Comprehensive Test-Ban Treaty Organisation (CTBTO)
- 2016 National Representative, EU SET-Plan Working Group on Nuclear Safety

## Intramural (Cyprus Institute)

- 2014–2016 **Colloquium Committee**, Chair.  
Organised 37 colloquium talks by prominent speakers
- 2019– **Quality Assurance Committee**, Member, Graduate School.  
Committee for assuring alignment of the quality assurance standards of the Graduate School of the Cyprus Institute with national regulations
- 2019– **ERASMUS Committee**, Member, Graduate School.  
Reviewing candidate applications for Erasmus exchange programme
- 2017– **Tenders & Procurement**, Ad hoc committees member.  
Tendering committee for new supercomputer (1.2M EUR)  
Technical evaluation committee for computer system tender (120K EUR)  
Computational infrastructure for Teaming and ERA-Chair projects (550K EUR)  
HPC Computational and Data Storage infrastructure for EMME-CARE Teaming project (500K EUR)  
Extension of public liability and professional indemnity insurance
- 2016–2019 **IT Committee**, Member.  
Drafting policies and advising on use of IT equipment and software
- 2016–2019 **HPC Scientific Committee**, Member, High Performance Computing Facility.  
Code benchmarking on new architectures and assessment for strategic plan
- 2016–2020 **Outreach Committee**, Member.  
Publications, Web, Science Fair, Solar Car Race

## Invited Talks

- 2021 *“Case studies on climate data use in the Mediterranean”*, Copernicus C3S Climate challenges and data-informed solutions in the Mediterranean Workshop, 25-26 October 2021
- 2021 *“Datasets and applications on vector-borne diseases and climate change”*, Copernicus and Public Health Workshop, 15-16 September 2021
- 2020 *“The Mediterranean/Marine Atmosphere”*, CLOUD-MOTION virtual event, September 2020
- 2019 *“Air Pollution”*, World Environment Day, United Nations, Nicosia, Cyprus, 5 June 2019
- 2018 *“Summary of scientific projections of climate change in the Eastern Mediterranean”*, Regional Environment and Security Workshop, House for Cooperation, Nicosia, Cyprus, 12 June 2018
- 2017 *“Earth System Model Post-processing & Visualisation”*, Institute of Physics, Serbia, October 2017
- 2017 *“Atmospheric Forecasts”*, Cyprus Ministry of Energy, Commerce, Industry and Tourism, 23 October 2017
- 2017 *“Climate Change: Physical Science, Impacts, Mitigation & Adaptation”*, Climate-KIC Journey, CUT, Limassol, Cyprus, July 2017

- 2017 *"Accelerating Earth System Models with GPUs"*, Institute for Advanced Simulation (IAS), Jülich Supercomputing Centre (JSC), Germany, May 2017
- 2017 *"HPC and Big Data: The Climate Scientific Community"*, PRACE 2017 Spring School, Nicosia, Cyprus, 26 April 2017
- 2016 *"Hardware acceleration for the EMAC model"*, German Aerospace Center (DLR), Munich, Germany, July 2017
- 2015 *"Global risk model for the atmospheric dispersion of radionuclides by nuclear power plant accidents"*, 1st International Conference on Nuclear Risk (NURIS), International Nuclear Risk Assessment Group (INRAG), Vienna, Austria, May 2015
- 2015 *"Atmospheric Risk from Nuclear Power Plant Accidents: Global Assessment, Eastern Mediterranean, Akkuyu"*, European Parliament Members Visit to Cyprus, House for Cooperation, Nicosia, Cyprus, May 2015
- 2014 *"Nuclear Power Plant Atmospheric Risks"*, Friends of the Earth NGO, Cyprus, July 2014
- 2014 *"Insights from Modeling the Global Atmospheric Transport of Radionuclides"*, International Workshop on Atmospheric and Ocean Modeling, American University Beirut (AUB), Lebanon, July 2014
- 2013 *"Visualisation in Climate Research"*, National Center for Supercomputing Applications (NCSA), University of Illinois at Urbana-Champaign (UIUC), USA, January 2013

## International Media Coverage

- 2022 *"Changes in Present and Future Climate Conditions and Air Quality"*, Eastern Mediterranean Affairs Magazine Issue 3: Climate Change and Sustainability in the Eastern Mediterranean
- 2018 *"Akkuyu NPP Atmospheric Disperion Risk"*, Ta Nea, Greece, 14 August 2018
- 2015 *Newsday*, BBC World Service Commentary on the risk from radioactivity dispersion by forest fires at Chernobyl, 29 April 2015
- 2015 *"Atmospheric Dispersion of Radioactivity from Nuclear Power Plant Accidents: Study Global Assessment and Case Study for the Eastern Mediterranean and Middle East"*, Global Research News, Canada, 30 January 2015
- 2013 *"New insight on the spread of contamination from Fukushima"*, EU Parliament Magazine, Issue 370, 27 May 2013
- 2012 *"New insight on the spread of contamination from Fukushima"*, Science for Environment Policy: European Commission DG Environment News Alert Service, edited by SCU, The University of the West of England, Bristol, Issue 310, 12 December 2012.

## Outreach

- 2023, 2024 Science Unfold Ambassador, RIF Science Communication Competition
- 2020 Copernicus Climate Change Sevice (C3S) 4th General Assembly: ECMWF Demo Case Statement
- 2017 European Big Data Value Forum, Paris, France
- 2017 Cyta Smartcity Crowdhackathon, Invited Mentor, Marathon for the Development of Innovative Applications and Services for Local Authorities, Cyprus
- 2016 Open Data Cyprus Crowd Hackathon Invited Mentor by Dept. of Public Governance, Ministry of Economics and Administrative Reform Unit, Cyprus

## Conference Abstracts & Proceedings

1. M. Kohl et al. "Modeling atmospheric aerosols from the surface to the stratosphere: Evaluation, Global Budgets and Process Studies". In: *TP-Challenges - International Conference*. 2024.
2. Christos Xenofontos et al. "Modelling the Impact of Ammonia Emissions on New Particle Formation in the Asian Monsoon Upper Troposphere". In: *Copernicus Meetings*. 2024.
3. Ioannis Cheliotis et al. "Optimization of simulated CO<sub>2</sub> & NO<sub>2</sub> concentrations for a detailed infrastructure map in the Middle East". In: *Copernicus Meetings*. 2023.
4. Dimitrios Melas et al. "Developing a System for Integrated Environmental Information in Urban Areas: An Estimation of the Impact of Thermal Stress on Health". In: vol. 26. 1. 2023. DOI: 10 . 3390 / envirosciproc2023026117.
5. Anthony Rey-Pommier et al. "Quantifying nitrogen oxide emissions in the Eastern Mediterranean-Middle East region using TROPOMI observations". In: *Copernicus Meetings*. 2023.
6. Pantelis Kiriakidis et al. "The impact of assimilating AEOLUS wind data on regional Aeolian dust model simulations using WRF-Chem." In: *Copernicus Meetings*. 2022.
7. Seyed Omid Nabavi et al. "Ensemble modeling of radionuclide dispersion over the Arabian Peninsula from nuclear power plant accidents using FLEXPART". In: *Copernicus Meetings*. 2022.
8. T. Christoudias. "Comparison of modelled atmospheric radionuclides from the Fukushima Dai-ichi nuclear accident with CTBTO station measurements." In: *CTBT Science and Technology Conference (SnT2021)*. June 2021.
9. Kamil Erguler et al. "VeCTOR: Vector Climate Threat Online Resource". In: *11th Conference on Dynamical Systems Applied to Biology and Natural Sciences DSABNS 2020*. 2020.
10. M. Wang et al. "New-particle formation in the free upper troposphere by nitric acid and ammonia". In: *AGU Fall Meeting Abstracts*. Vol. 2020. Dec. 2020, A072-03, A072-03.
11. Theodoros Christoudias et al. "Wildfire and drought spatial and temporal risk modelling over the East Mediterranean." In: *Geophysical Research Abstracts*. Vol. 21. 2019.
12. Vassiliki Kotroni et al. "Drought and fire observatory and early warning system: The DISARM project". In: *EMS Annual Meeting Abstracts*. Vol. 16. 2019, EMS2019-111.
13. Jonilda Kushta et al. "Supporting the EU Air Quality Directive over Cyprus through modelling and the FAIRMODE benchmarking methodology". In: *19th International Conference on Harmonisation within Atmospheric Dispersion Modelling for Regulatory Purposes, Bruges, Belgium*. 2019.
14. Silas Michaelides et al. "Wildfire risk, observation and early warning in Cyprus." In: *Geophysical Research Abstracts*. Vol. 21. 2019.
15. Jonilda Kushta et al. "Atmospheric pollution over EM region: Model results and insight from observations". In: *EGU General Assembly Conference Abstracts*. Vol. 20. 2018, p. 13060.
16. S Michaelides et al. "Forecasting Drought and Fire Risk in the Balkan-Med Region". In: *14th International Conference on Meteorology, Climatology and Atmospheric Physics COMECAP*. 2018.
17. George K Georgiou et al. "Air quality modelling over the Eastern Mediterranean using the WRF/Chem model: Comparison of gas-phase chemistry and aerosol mechanisms". In: *EGU General Assembly Conference Abstracts*. Vol. 19. 2017, p. 7894.
18. Jonilda Kushta et al. "Application of the WRF-Chem model for the simulation of air quality over Cyprus". In: *EGU General Assembly Conference Abstracts*. Vol. 19. 2017, p. 12333.

19. T Christoudias, Y Proestos, and J Lelieveld. "Global risk from the atmospheric dispersion of radionuclides by nuclear power plant accidents". In: *1st International Conference on Nuclear Risk*. International Nuclear Risk Assessment Group. 2015.
20. T Christoudias, Y Proestos, and J Lelieveld. "Global risk from the atmospheric dispersion of radionuclides by nuclear power plant accidents". In: *EGU General Assembly Conference Abstracts*. Vol. 17. 2015, p. 10126.
21. T Christoudias et al. "Visualising the dark sky IEEE SciVis contest 2015". In: *2015 IEEE Scientific Visualization Conference (SciVis)*. IEEE. 2015, pp. 79–86.
22. T Christoudias, Y Proestos, and J Lelieveld. "Global Risk from the Atmospheric Dispersion of Radionuclides by Nuclear Power Plant Accidents in the Coming Decades". In: *AGU Fall Meeting*. 2014.
23. T Christoudias and J Lelieveld. "Modelling the global atmospheric transport and deposition of radionuclides from the Fukushima Dai-ichi nuclear accident." In: *EGU General Assembly Conference Abstracts*. Vol. 15. 2013, p. 400.
24. T Christoudias, A Pozzer, and J Lelieveld. "Influence of the North Atlantic Oscillation on air pollution transport". In: *EGU General Assembly Conference*. 2012.
25. T Christoudias. "Search for Associated Production of Z and Higgs Bosons in  $\nu\nu b\bar{b}$  Final States". In: *American Physical Society April Meeting*. 2009. URL: <http://meetings.aps.org/link/BAPS.2007.APR.X14.9>.
26. T Christoudias. "Search for Associated Production of Z and Higgs Bosons in  $n\nu b\bar{b}$  Final States". In: *American Physical Society April Meeting*. 2008. URL: <http://meetings.aps.org/link/BAPS.2008.APR.L12.5>.

## Technical Reports

1. Pascal Bailly du Bois et al. *A review of the model comparison of transportation and deposition of radioactive materials released to the environment as a result of the Tokyo Electric Power Company's Fukushima Daiichi Nuclear Power Plant accident*. Tech. rep. Science Council of Japan, Sectional Committee on Nuclear Accident, 2014.
2. Theo Christoudias et al. *Search for the Standard Model Higgs boson in the  $ZH \rightarrow \nu\nu b\bar{b}$  channel at  $\sqrt{s} = 1.96$  TeV*. Tech. rep. D0-5872. D0, Feb. 2009.
3. T. Christoudias and P. Jonsson. *Certification of the Level-3 Impact Parameter b-tagger*. Tech. rep. D0-5513. D0, 2008.
4. Theodoros Christoudias, Michele Petteni, and Gavin Davies. *A Search for the Standard Model Higgs Boson in the Channel  $ZH \rightarrow \nu\nu b\bar{b}$  at  $\sqrt{s} = 1.96$  TeV*. Tech. rep. D0-5506. D0, Sept. 2007.
5. Gavin Davies, M. Petteni, and T. Christoudias. *A Search for Standard Model Higgs Boson in the Channel  $ZH \rightarrow \nu\nu b\bar{b}$  at  $\sqrt{s} = 1.96$  TeV at D0*. Tech. rep. D0-5353. D0, Feb. 2007.

## Peer-Reviewed Conference Papers

1. Giannis Ashiotis et al. "AI for Air Quality: Leveraging Data Fusion for Deep Downscaling of Atmospheric Pollutants". In: *MACLEAN: MACHINE Learning for EARTH Observation Workshop 2022, in conjunction with ECML/PKDD (European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases) 2022*. Vol. 3343. 2022.
2. Theodoros Christoudias et al. "GPU Optimizations for Atmospheric Chemical Kinetics". In: *The International Conference on High Performance Computing in Asia-Pacific Region*. 2021, pp. 136–138.

3. G. Ashiotis et al. "Shared-space Autoencoders with Randomized Skip Connections for Building Footprint Detection with Missing Views". In: *Proc. International Conference on Pattern Recognition (ICPR), 11th IAPR International Workshop on Pattern Recognition in Remote Sensing*. 2020.
4. Theodoros Christoudias and Mihalis A Nicolaou. "Machine Learning towards a Global Parameterisation of Atmospheric New Particle Formation and Growth". In: *NeurIPS 2020 Workshop: Tackling Climate Change with Machine Learning*. 2020.
5. T Christoudias and M Alvanos. "Accelerated chemical kinetics in the EMAC chemistry-climate model". In: *High Performance Computing & Simulation (HPCS), 2016 International Conference on*. IEEE. 2016, pp. 886–889.

## Peer-Reviewed Journal Publications

1. Anthony Rey-Pommier et al. "Mapping NO<sub>x</sub> emissions in Cyprus using TROPOMI observations: evaluation of the flux-divergence scheme using multiple parameter sets". In: *Environmental Science and Pollution Research* (2025), pp. 1–20.
2. Theodoros Christoudias et al. "Earth's atmosphere protects the biosphere from nearby supernovae". In: *Communications Earth & Environment* 5.1 (2024), p. 326.
3. Pantelis Kiriakidis et al. "Projected wind and solar energy potential in the eastern Mediterranean and Middle East in 2050". In: *Science of The Total Environment* 927 (2024), p. 172120.
4. Modou Niang et al. "Radioactivity of the atmospheric aerosols detected by CTBTO stations in Africa following the accident at the Fukushima Daiichi nuclear power plant". In: *Journal of Environmental Radioactivity* 276 (2024), p. 107439.
5. Jiali Shen et al. "New particle formation from isoprene under upper-tropospheric conditions". In: *Nature* 636.8041 (2024), pp. 115–123.
6. Christos Xenofontos et al. "The impact of ammonia on particle formation in the Asian Tropopause Aerosol Layer". In: *npj Climate and Atmospheric Science* 7.1 (2024), p. 215.
7. Giannis Ashiotis et al. "Toward Explainable and Transferable Deep Downscaling of Atmospheric Pollutants". In: *Geoscience and Remote Sensing Letters* 20 (2023), p. 1002505.
8. Maria Christou et al. "Entomological surveillance and spatiotemporal risk assessment of sand fly-borne diseases in Cyprus". In: *Current Research in Parasitology & Vector-Borne Diseases* 4 (2023), p. 100152. ISSN: 2667-114X.
9. Pantelis Kiriakidis et al. "The impact of using assimilated Aeolus wind data on regional WRF-Chem dust simulations". In: *Atmospheric Chemistry and Physics* 23.7 (2023), pp. 4391–4417.
10. Jasper Kirkby et al. "Atmospheric new particle formation from the CERN CLOUD experiment". In: *Nature Geoscience* 16.11 (2023), pp. 948–957.
11. Seyed Omid Nabavi et al. "Spatiotemporal variation of radionuclide dispersion from nuclear power plant accidents using FLEXPART mini-ensemble modeling". In: *Atmospheric Chemistry and Physics* 23.13 (2023), pp. 7719–7739.
12. Niki Paisi et al. "Modeling of carbonaceous aerosols for air pollution health impact studies in Europe". In: *Air Quality, Atmosphere & Health* (2023), pp. 1–14.
13. Anthony Rey-Pommier et al. "Detecting nitrogen oxide emissions in Qatar and quantifying emission factors of gas-fired power plants—a 4-year study". In: *Atmospheric Chemistry and Physics* 23.21 (2023), pp. 13565–13583.
14. G. K. Georgiou et al. "Evaluation of WRF-Chem model (v3.9.1.1) real-time air quality forecasts over the Eastern Mediterranean". In: *Geoscientific Model Development* 15.10



- (2022), pp. 4129–4146. DOI: 10.5194/gmd-15-4129-2022.
15. Alexandra Monteiro et al. “Multi-sectoral impact assessment of an extreme African dust episode in the Eastern Mediterranean in March 2018”. In: *Science of The Total Environment* (2022), p. 156861. ISSN: 0048-9697. DOI: <https://doi.org/10.1016/j.scitotenv.2022.156861>.
  16. A. Rey-Pommier et al. “Quantifying NO<sub>x</sub> emissions in Egypt using TROPOMI observations”. In: *Atmospheric Chemistry and Physics* 22.17 (2022), pp. 11505–11527. DOI: 10.5194/acp-22-11505-2022.
  17. Anwar Al Shami et al. “Updated national emission inventory and comparison with the Emissions Database for Global Atmospheric Research (EDGAR): case of Lebanon”. In: *Environmental Science and Pollution Research* (2022), pp. 1–13.
  18. Kyriacos Sophocleous and Theodoros Christoudias. “Reduced-Precision Chemical Kinetics in Atmospheric Models”. In: *Atmosphere* 13.9 (2022). ISSN: 2073-4433. DOI: 10.3390/atmos13091418.
  19. Mingyi Wang et al. “Synergistic HNO<sub>3</sub>–H<sub>2</sub>SO<sub>4</sub>–NH<sub>3</sub> upper tropospheric particle formation”. In: *Nature* 605.7910 (2022), pp. 483–489. DOI: 10.1038/s41586-022-04605-4.
  20. George K Georgiou et al. “Air quality modelling over the Eastern Mediterranean: Seasonal sensitivity to anthropogenic emissions”. In: *Atmospheric Environment* 222 (2020), p. 117119. DOI: 10.1016/j.atmosenv.2019.117119.
  21. Vassiliki Kotroni et al. “DISARM Early Warning System for Wildfires in the Eastern Mediterranean”. In: *Sustainability* 12.16 (2020), p. 6670.
  22. Michail Alvanos and Theodoros Christoudias. “Accelerating Atmospheric Chemical Kinetics for Climate Simulations”. In: *IEEE Transactions on Parallel and Distributed Systems* (2019). DOI: 10.1109/TPDS.2019.2918798.
  23. Jonilda Kushta et al. “Evaluation of EU air quality standards through modeling and the FAIRMODE benchmarking methodology”. In: *Air Quality, Atmosphere & Health* 12.1 (2019), pp. 73–86.
  24. Alexander De Meij, George Zittis, and Theodoros Christoudias. “On the uncertainties introduced by land cover data in high-resolution regional simulations”. In: *Meteorology and Atmospheric Physics* (2018), pp. 1–11.
  25. George K Georgiou et al. “Air quality modelling in the summer over the eastern Mediterranean using WRF-Chem: chemistry and aerosol mechanism intercomparison”. In: *Atmospheric Chemistry and Physics* 18.3 (2018), pp. 1555–1571. DOI: 10.5194/acp-18-1555-2018.
  26. M Alvanos and T Christoudias. “GPU-accelerated atmospheric chemical kinetics in the ECHAM/MESSy (EMAC) Earth system model (version 2.52)”. In: *Geoscientific Model Development* 10.10 (2017), p. 3679. DOI: 10.5194/gmd-10-3679-2017.
  27. M Alvanos and T Christoudias. “MEDINA: MECCA Development in Accelerators–KPP Fortran to CUDA source-to-source Pre-processor”. In: *Journal of Open Research Software* 5.1 (2017).
  28. J Kushta et al. “Modelling study of the atmospheric composition over Cyprus”. In: *Atmospheric Pollution Research* (2017).
  29. Sara Bacer, T Christoudias, and Andrea Pozzer. “Projection of North Atlantic Oscillation and its effect on tracer transport”. In: *Atmospheric Chemistry and Physics* 16.24 (2016), pp. 15581–15592. DOI: 10.5194/acp-16-15581-2016.
  30. Michalis Christou et al. “Earth system modelling on system-level heterogeneous architectures: EMAC (version 2.42) on the Dynamical Exascale Entry Platform (DEEP)”. In: *Geoscientific Model Development* 9.9 (2016), p. 3483. DOI: 10.5194/gmd-9-3483-2016.

31. NI Kristiansen et al. "Evaluation of observed and modelled aerosol lifetimes using radioactive tracers of opportunity and an ensemble of 19 global models". In: *Atmospheric Chemistry and Physics* 16.5 (2016), pp. 3525–3561. DOI: 10 . 5194 / acp - 16 - 3525-2016.
32. T Christoudias, Y Proestos, and J Lelieveld. "Atmospheric Dispersion of Radioactivity from Nuclear Power Plant Accidents: Global Assessment and Case Study for the Eastern Mediterranean and Middle East". In: *Energies* 7.12 (2014), pp. 8338–8354.
33. T Christoudias, Y Proestos, and J Lelieveld. "Global risk from the atmospheric dispersion of radionuclides by nuclear power plant accidents in the coming decades". In: *Atmospheric Chemistry and Physics* 14.9 (2014), pp. 4607–4616. DOI: 10.5194/acp-14-4607-2014.
34. T Christoudias and J Lelieveld. "Modelling the global atmospheric transport and deposition of radionuclides from the Fukushima Dai-ichi nuclear accident". In: *Atmospheric Chemistry and Physics* 13.3 (2013), pp. 1425–1438. DOI: 10.5194/acp-13-1425-2013.
35. T Christoudias, A Pozzer, and J Lelieveld. "Influence of the North Atlantic Oscillation on air pollution transport". In: *Atmospheric Chemistry and Physics* 12.2 (2012), pp. 869–877. DOI: 10.5194/acp-12-869-2012.
36. VM Abazov et al. "A measurement of the ratio of inclusive cross sections  $\sigma(p\bar{p} \rightarrow Z + bjet)/\sigma(p\bar{p} \rightarrow Z + jet)$  at  $\sqrt{s}=1.96$  TeV". In: *Phys. Rev. D* 83 (2011), p. 031105. DOI: 10 . 1103 / PhysRevD . 83 . 031105. arXiv: 1010 . 6203 [hep-ex].
37. VM Abazov et al. "Azimuthal decorrelations and multiple parton interactions in  $\gamma+2$  jet and  $\gamma+3$  jet events in  $p\bar{p}$  collisions at  $\sqrt{s}=1.96$  TeV". In: *Phys. Rev. D* 83 (2011), p. 052008. DOI: 10 . 1103 / PhysRevD . 83 . 052008. arXiv: 1101.1509 [hep-ex].
38. VM Abazov et al. "Determination of the width of the top quark". In: *Phys. Rev. Lett.* 106 (2011), p. 022001. DOI: 10 . 1103 / PhysRevLett . 106 . 022001. arXiv: 1009 . 5686 [hep-ex].
39. VM Abazov et al. "High mass exclusive diffractive dijet production in  $p\bar{p}$  collisions at  $\sqrt{s} = 1.96$  TeV". In: *Phys. Lett. B* 705 (2011), pp. 193–199. DOI: 10 . 1016 / j . physletb . 2011 . 10 . 013. arXiv: 1009.2444 [hep-ex].
40. VM Abazov et al. "Measurement of color flow in  $t\bar{t}$  events from  $p\bar{p}$  collisions at  $\sqrt{s}=1.96$  TeV". In: *Phys. Rev. D* 83 (2011), p. 092002. DOI: 10 . 1103 / PhysRevD . 83 . 092002. arXiv: 1101.0648 [hep-ex].
41. VM Abazov et al. "Measurement of spin correlation in  $t\bar{t}$  production using dilepton final states". In: *Phys. Lett. B* 702 (2011), pp. 16–23. DOI: 10 . 1016 / j . physletb . 2011 . 05 . 077. arXiv: 1103.1871 [hep-ex].
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