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Ακαδημαϊκή Θέση

Καθηγητής με αντικείμενο “Εφαρμοσμένη Γεωγραφία με έμφαση στη Δυναμική της Ατμόσφαιρας και του Κλίματος”, Χαροκόπειο Πανεπιστήμιο Αθηνών (ΧΠΑ).

Ακαδημαϊκή σταδιοδρομία

2016-2022 Αναπληρωτής Καθηγητής, Τμήμα Γεωγραφίας, Χαροκόπειο Πανεπιστήμιο
2011-2016 Επίκουρος Καθηγητής, Τμήμα Γεωγραφίας, Χαροκόπειο Πανεπιστήμιο
2007-2011 Λέκτορας, Τμήμα Γεωγραφίας, Χαροκόπειο Πανεπιστήμιο
2001-2007 Συνεργάτης ΙΔΑΧ στο Εργαστήριο Υπολογιστών του Τμήματος Φυσικής του Εθνικού και Καποδιστριακού Πανεπιστημίου Αθηνών (ΕΚΠΑ)
1997-2007 Ερευνητής στην Ομάδα Αριθμητικών Μοντέλων και Πρόγνωσης Καιρού, Τμήμα Φυσικής, ΕΚΠΑ

Σπουδές

Πτυχίο Μαθηματικών, ΕΚΠΑ, 1993.

Μεταπτυχιακό Δίπλωμα Σπουδών στη Φυσική Περιβάλλοντος, Τμήμα Φυσικής, ΕΚΠΑ, 1996.

Διδακτορικό Δίπλωμα στην Δυναμική της Ατμόσφαιρας, Τμήμα Φυσικής, ΕΚΠΑ, 2003.

Βασικά πεδία έρευνας

- Δυναμική της ατμόσφαιρας (Περιοχικές και μέσης κλίμακας προσομοιώσεις)
- Αφομοίωση μετεωρολογικών δεδομένων και βραχυπρόθεσμη πρόγνωση
- Αλληλεπιδράσεις Ατμόσφαιρας-Ωκεανών-Ξηράς
- Δυναμική του κλίματος και προσομοιώσεις
- Ακραία καιρικά φαινόμενα και φυσικές καταστροφές
- Θαλάσσια μετεωρολογία
- Αέρια ρύπανση (φυσικής και ανθρωπογενούς προέλευσης)
- Εφαρμογές αιολικής και ηλιακής ενέργειας

Εκπαιδευτική εμπειρία στην Τριτοβάθμια Εκπαίδευση

Πάνω από 20 έτη εκπαιδευτική εμπειρία σε προπτυχιακά και μεταπτυχιακά προγράμματα σπουδών Ανώτατων Εκπαιδευτικών Ιδρυμάτων (ΧΠΑ, ΕΚΠΑ, ΕΜΠ, ΑΤΕΙ Πειραιά).

Αυτοδύναμη ή επικουρική διδασκαλία σε προπτυχιακά προγράμματα σπουδών

- *Εφαρμογές Πληροφορικής* (2007-2009, ΧΠΑ)
- *Μετεωρολογία-Κλιματολογία* (2007-2021, ΧΠΑ)
- *Εισαγωγή στην Πληροφορική* (2006-2021, ΧΠΑ)
- *Κλιματική Αλλαγή* (2012-2021, ΧΠΑ)
- *Αριθμητικές και Στατιστικές Μέθοδοι για Γεωγράφους* (2012-2014, ΧΠΑ)
- *Ανανεώσιμες Πηγές Ενέργειας* (2013-2018, ΧΠΑ)

Αυτοδύναμη ή επικουρική διδασκαλία σε μεταπτυχιακά προγράμματα σπουδών

- “*Δυναμική της Ατμόσφαιρας και των Ωκεανών*” στο Διατμηματικό Πρόγραμμα Μεταπτυχιακών Σπουδών του ΕΜΠ και του Τμήματος Φυσικής του ΕΚΠΑ με τίτλο Ναυτική και Θαλάσσια Τεχνολογία και Επιστήμη (2004-2006)
- “*Φυσικές διεργασίες, κίνδυνοι και καταστροφές*” στο Πρόγραμμα Μεταπτυχιακών Σπουδών του Τμήματος Γεωγραφίας του ΧΠΑ με τίτλο Εφαρμοσμένη Γεωγραφία (2006-2021)

- “Περιβαλλοντικοί Κίνδυνοι και Ασφάλεια” στο Πρόγραμμα Μεταπτυχιακών Σπουδών του Τμήματος Γεωγραφίας του ΧΠΑ με τίτλο Εφαρμοσμένη Γεωγραφία (2006-2021)
- “Αρχές αριθμητικών προσομοιώσεων και μοντελοποίησης στις Γεωεπιστήμες” στο Πρόγραμμα Μεταπτυχιακών Σπουδών του Τμήματος Γεωγραφίας του ΧΠΑ με τίτλο Εφαρμοσμένη Γεωγραφία (2009-2012)
- “Γεωμοντελοποίηση” στο Πρόγραμμα Μεταπτυχιακών Σπουδών του Τμήματος Γεωγραφίας του ΧΠΑ με τίτλο Εφαρμοσμένη Γεωγραφία (2014-2021)
- “Global climate change: challenges and impacts” στο Πρόγραμμα Μεταπτυχιακών Σπουδών του Sorbonne University at Abu Dhabi, UAE με τίτλο Master in Environment: Dynamics of Territories and Societies

Συμβολή στην κατάρτιση νέων επιστημόνων (επιβλέπων διδακτορικών διατριβών)

1. Γεώργιος Βάρλας, Φυσικός, με θέμα “*Ανάπτυξη ενός ενοποιημένου συστήματος για την προσομοίωση των αλληλεπιδράσεων αέρα-θαλάσσιων κυμάτων (Development of an integrated modeling system for simulating the air-ocean wave interactions)*”, Δεκέμβριος 2012-Ιούλιος 2017
2. Κωνσταντίνος Τσαρπαλής, Φυσικός, με θέμα “*Αλληλεπιδράσεις της ερημικής σκόνης με το ατμοσφαιρικό περιβάλλον: Ο ρόλος των αερολυμμάτων σκόνης στην πυρηνοποίηση των νεφών και την βροχόπτωση (Desert dust interactions with the atmospheric environment: The dust aerosols’ role on cloud nucleation and precipitation)*”, Ιούλιος 2014-Μάιος 2021
3. Ευαγγελία Παπαδοπούλου, Γεωγράφος, με θέμα “*Μελέτη της δυναμικής αλληλεπίδρασης ατμόσφαιρας ωκεανών*”, Απρίλιος 2014 έως σήμερα
4. Σάββας Κιαπίδης, Αξιωματικός ΠΥ, με θέμα “*Διερεύνηση των παραγόντων που οδηγούν στην εκδήλωση και εξέλιξη μεγάλων πυρκαγιών με έμφαση στην επίδραση του προφίλ της ατμόσφαιρας*”, Ιούλιος 2018 έως σήμερα
5. Αικατερίνη Παππά, Φυσικός, με θέμα “*Αφομοίωση μετεωρολογικών δεδομένων και βραχυπρόθεσμη πρόγνωση*”, Νοέμβριος 2018 έως σήμερα
6. Αγγελική-Αριστέα Μεντζαφού, Γεωλόγος, με θέμα “*An analysis of hydrometeorological and climatic pressures on the Greek river water bodies*”, Σεπτέμβριος 2018 έως σήμερα
7. Ελένη Δρακάκη, Φυσικός, με θέμα “*Desert dust transport processes at multiple scales and implications on cloud formation*”, Ιούνιος 2019

Κύριος επιβλέπων σε περισσότερες από 60 διπλωματικές εργασίες προπτυχιακών και μεταπτυχιακών φοιτητών/τριών.

Σύνοψη δημοσιευμένου έργου

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Δείκτης αξιολόγησης και αναφορές στο δημοσιευμένο έργο

h-index 18, 1428 αναφορές (<http://www.scopus.com> στις 19 Δεκ 2022).

Σύνοψη του δημοσιευμένου έργου σε ανοικτές βάσεις δεδομένων

- <http://www.scopus.com/authid/detail.url?authorId=6507078046>
- <https://scholar.google.gr/scholar?hl=el&q=katsafados&btnG=>

Διατριβές

1. Κατσαφάδος Π., 1996: “Μελέτη Διασποράς και Διάχυσης Αέριων Ρύπων στο λεκανοπέδιο της Εορδαίας”. Διπλωματική εργασία στα πλαίσια του Μεταπτυχιακού Διπλώματος Ειδίκευσης Φυσικής Περιβάλλοντος, Τμήμα Φυσικής, ΕΚΠΑ.
2. Κατσαφάδος Π., 2003: “Παράγοντες και παραμετροποιήσεις που καθορίζουν τη μακράς διάρκειας προγνωστική ικανότητα μοντέλων περιορισμένης περιοχής”. Διδακτορική Διατριβή, Τομέας Φυσικής Εφαρμογών, Τμήμα Φυσικής, ΕΚΠΑ.

Συγγράμματα και συμμετοχή στην συγγραφή κεφαλαίων

1. Gualtieri C. and D.T. Mihailovic, (second edition) 2012: Fluid Mechanics of Environmental Interfaces, *Taylor & Francis Ltd*, (ISBN 13: 978-0-415-62156-4), pp. 480. Contribution to the Chapter 5 entitled as “Desert dust uptake-transport and deposition mechanisms—impacts of dust on radiation, clouds and precipitation”, G. Kallos, P. Katsafados and C. Spyrou, pp. 107-144.
2. Καρύμπαλης Ε., Α. Παπαδόπουλος και Χ. Χαλκιάς 2014: “Η Γεωγραφία του Παράκτιου και Νησιωτικού Χώρου”, *Εκδόσεις Σταμούλη*, ISBN 9789603519270, . Συμμετοχή στη συγγραφή του 7^{ου} Κεφαλαίου με τίτλο: “Εκτίμηση πλημμυρικού κινδύνου σε μικρές χειμαρρικές λεκάνες”, Ε. Καρύμπαλης, Π. Κατσαφάδος, Κ. Καλογερόπουλος, Σ.Θ. Καραλής και Χ. Χαλκιάς, Σελ. 199-240.
3. Κατσαφάδος Π. και Η. Μαυροματίδης, 2015: “Εισαγωγή στη Φυσική της Ατμόσφαιρας και τη Κλιματική Αλλαγή”. Ψηφιακό σύγγραμμα στο πλαίσιο της χρηματοδοτούμενης δράσης *Ελληνικά Ακαδημαϊκά Ηλεκτρονικά Συγγράμματα και Βοηθήματα*, Κάλλιπος, ISBN 9789606030536, <https://repository.kallipos.gr/handle/11419/3708>.
4. Katsafados P., E. Mavromatidis and C. Spyrou, 2020: “Numerical Weather Prediction and Data Assimilation”, *John Wiley & Sons, Inc*, ISBN 9781786301413, <https://www.wiley.com/en-us/Numerical+Weather+Prediction+and+Data+Assimilation-p-9781786301413>.
5. Michaelides S. 2021: “Precipitation Science”, Elsevier, ISBN 9780128229736, <https://www.elsevier.com/books/precipitation-science/michaelides/978-0-12-822973-6>. Συμμετοχή στη συγγραφή του 22ου Κεφαλαίου με τίτλο: “Multiplatform hydrometeorological analysis of a flash flood event”, Varlas G., M. Anagnostou, C. Spyrou, A. Pappa, A. Mentzafou, A. Papadopoulos, J. Kalogiros, P. Katsafados and S. Michaelides, pp. 690-731.

Συμμετοχή στην συγγραφή ειδικών εκδόσεων

1. Manousakis, M., T. Charandonis, G. Sakellaridis, J. Papageorgiou, E. An dranistakis, G. Alexiou, P. Fragouli, D. Sgouros, G. Konstantinidis, N. Mimikou, A. Karachristou, S. Nickovic, P. Katsafados, and A. Papadopoulos, 1998: The Weather Forecasting System SKIRON, Vol. V: Post-processing. Graphics, ISBN 960-8468-19-1.
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3. Nickovic, S., B. Rajkovic, A. Papadopoulos, P. Katsafados, and G. Kallos, 2000: The Weather Forecasting System POSEIDON”, Vol. II: Description of the model.
4. Parcharidis I., M. Foumelis and P. Katsafados. “Seasonal ground deformation monitoring over Southern Larissa Plain (Central Greece) by SAR interferometry”. *Advances in the Research of Aquatic Environment*, N. Lambrakis et al. (Eds.), Vol. 2, doi 10.1007/978-3-642-24076-8, *Springer-Verlag Berlin Heidelberg*, 2011.
5. Katsafados P., E. Papadopoulou, A. Papadopoulos and E. Mavromatidis, 2012: “Seasonal forecasts for the 2010 Russian heat wave using an Atmospheric General Circulation Model”. *Advances in Meteorology, Climatology and Atmospheric Physics*, Helmis C. and P. Nastos, (eds.), 2012, *Springer*, Vol. I, pp. 187-194, ISBN: 978-3-642-29171-5.
6. Papadopoulos A., P. Katsafados and I. Pytharoulis, 2012: “High resolution gridded meteorological data across the Mediterranean basin”. *Advances in Meteorology*,

- Climatology and Atmospheric Physics, Helmis C. and P. Nastos, (eds.), 2012, *Springer*, Vol. I, pp. 187-194, ISBN: 978-3-642-29171-5.
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Δημοσιεύσεις σε διεθνή περιοδικά με κριτές

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79. Papadopoulou E., G. Varlas, P. Katsafados, E. Mavromatidis, and A. Papadopoulos, 2018: "Assessing the predictability of seasonal weather forecast". *14th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2018)*, 15-17 October 2018, Alexandroupolis, Greece.
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81. Varlas G., E. Marinou, A. Tsekeri, A. Gialitaki, K. Tsarpalis, C. Spyrou, S. Solomos, A. Papadopoulos, V. Amiridis, V. Vervatis and P. Katsafados, 2019: "Implementation and evaluation of a wave-dependent sea spray parameterization scheme in modeling system CHAOS". *1st scientific conference PANACEA*, 23-24 September 2019, Heraklion, Greece.
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83. Katsafados P., C. Spyrou, G. Varlas, A. Pappa, A. Mentzafou, A. Papadopoulos, M. Anagnostou and J. Kalogiros, 2020: "Nowcasting an extreme flash flood event: The case of Mandra, Greece". *7th International Civil Protection Conference and New Technologies (SafeGreece 2020)*, 14-16 October 2020, online, Athens, Greece.
84. Papadopoulou E., C. Spyrou, G. Varlas, V. Vervatis, A. Papadopoulos and P. Katsafados, 2021. "Assessing two-way air-sea coupling in a deep Mediterranean cyclone". *15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021)*, 26 – 29 September 2021, Ioannina, Greece.
85. Pappa A., C. Spyrou, M. Anagnostou, G. Varlas, A. Papadopoulos and P. Katsafados, 2021. "An advanced scheme for nowcasting precipitation and its sensitivity to the assimilated remote sensing estimations". *15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021)*, 26 – 29 September 2021, Ioannina, Greece.
86. Papadopoulos A., G. Varlas, G. Papaioannou, A. Mentzafou, G. Terti, V. Markogianni, Y. Panagopoulos, C. Spyrou, P. Katsafados, A. Loukas and E. Dimitriou, 2021. "An integrated hydrometeorological-hydraulic modelling system for investigating flooding". *15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021)*, 26 – 29 September 2021, Ioannina, Greece.
87. Varlas G., V. Vervatis, C. Spyrou, E. Papadopoulou, A. Papadopoulos and P. Katsafados, 2021: "Physical and dynamical considerations of three-way atmosphere-wave-ocean coupling". *15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021)*, 26 – 29 September 2021, Ioannina, Greece.
88. Drakaki E., V. Amiridis, J. Gasteiger, S. Solomos, A. Gialitaki, A. Tsekeri, S. Mallios, and P. Katsafados, 2021: "Effects of particle shape on dust transport processes". *15th International Conference on Meteorology, Climatology and Atmospheric Physics (COMECAP 2021)*, 26 – 29 September 2021, Ioannina, Greece.

Λίστα έργων ως επιστημονικός υπεύθυνος ή συνεργαζόμενος ερευνητής

1. 1994-1997: Development of a high resolution weather forecasting system in high performance computers (SKIRON Project), EPET II.
2. 1995-1997: Environmental impact analysis on the waste transportation, disposal and treatment in Athens, Municipality of Athens-GSRT (92-SYN 170)
3. 1996-1998: Atmospheric circulation and dispersion of air pollutants affected the Western Macedonia and released from local and distant sources, GSRT-PENED 1864.
4. 1997-2000: Supply, Installation and Operation of a System of Floating Oceanographic Measurement Stations for the Monitoring and Forecasting of the Greek Seas (POSEIDON Project), Financial Mechanism of the European Economic Area-EFTA.
5. 1998-2000: Mediterranean Forecasting System Pilot Project (MFSP), EU-MAST Project (Contract # MA53-CT98-0171).
6. 2000-2002: Frost development and evolution in the area of Imathia-Pella, Northern Macedonia, ELGA.
7. 2000-2003: Subgrid-scale Investigation of Factors Determining the Occurrence of Ozone and Fine Particles (SUB-AERO), DG-XII of EU (Contract # EVK2-1999-00052)
8. 2001-2004: Atmospheric Deposition and Impact of Pollutants, Key Elements and Nutrients on the Mediterranean Sea (ADIOS), DG-XII of EU (Contract # EVK3-CT-2000- 00035).
9. 2001-2004: Automated Fire and Flood Hazard Protection System (AUTO-HAZARD PRO), DG-XII of EU (Contract # EVG1-CT-2001-00057).
10. 2002-2005: Development and Application of Validated Geophysical Ocean Wave Products from ENVISAT ASAR and RA-2 Instruments (EnviWave), Energy, Environment and Sustainable Development (EESD) (Contract #EVG2-2001-00017).
11. 2002-2006: Development of a Next Generation Wind Resource Forecasting System for the Large-Scale Integration of Onshore and Offshore Wind Farms (ANEMOS), EU R&D Project (Contract #ENK5-CT-2002-00665).
12. 2003-2004: Development and installation of the special version of the numerical weather and wave models Skiron/Eta, RAMS, LAPS, and WAM for supporting the Athens Olympics 2004, Greek Ministry of Culture, General Secretariat for the Athens Olympic Games, 2004 (Contract No #5217/29-11-2002).
13. 2003-2006: An integrated system for monitoring and forecasting of the ocean waves for supporting the Greek marine shipping (ESPEN), GSRT-32, 4.5.1.
14. 2003-2006: Mediterranean Forecasting System Toward Environmental Predictions (MFSTEP), European Commission, V Framework Program of Energy, Environment and Sustainable Development (EESD) (Contract # EVK3-CT-2002-00075)
15. 2004-2007: Grid enabled Remote Instrumentation with Distributed Control and Computation (GRIDCC), EU (Contract # 511382).
16. 2004-2007: Master Degree on Pollution Dispersion Modelling at the University of Oran, Algeria (MADEPODIM), EU-TEMPUS (Contract # 31062-2003).
17. 2005-2006: A super-computing system for the meteorological information analysis, Greek Information Society #1213/17-02-2005.
18. 2005-2007: Weather forecasting services through web and mobile phones, GSRT-PRAXE, 80, 10435/EFA-2042/7-9-04.
19. 2005-2007: Prognostic systems of the dust cycle originated from Sahara and Gobi deserts in the atmosphere. Comparing evaluation of the two systems, Greece-China bilateral cooperation (GSRT 2005), 120-c, 4.3.6.1.c.
20. 2008: The application of a statistical package for the evaluation of the meteorological forecasts, Subcontract from HCMR (KA00156).
21. 2010-2011: Study of climate variability and the impacts on water and energy cycles, Subcontract from HCMR (KA00198).
22. 2011-2013: Monitoring of the precipitation, estimation of the hydrological cycle at the Mornos bank and forecasting extreme precipitation events, NOA-EYDAP (KA00216).

23. 2012-2014: MyWave: A pan-European concerted and integrated approach to operational wave modelling and forecasting – a complement to GMES MyOcean services, Subcontract from HCMR (KA00220), FP7-SPACE-2011-1/CP-FP, SPA.2011.1.5-03.
24. 2012-2015: AVRA: A national project for the exploitation of the offshore wind energy over the Aegean Sea, ESPA-09SYN-32-598.
25. 2013-2015: GreekARGO infrastructure for monitoring of Oceans, ESPA MIS380214.
26. 2014-2015: Δημιουργία ψηφιακού συγγράμματος με τίτλο “Εισαγωγή στη Φυσική της Ατμόσφαιρας και την Κλιματική Αλλαγή”, ΕΣΠΑ-Εκπαίδευση και Δια Βίου Μάθηση-Ανάπτυξη εκπαιδευτικού υλικού τριτοβάθμιας εκπαίδευσης-Δράση Κάλλιπος-9926.
27. 2013-2015: Προμήθεια Εργαστηριακού και Τεχνολογικού Εξοπλισμού του Χαροκόπειου Πανεπιστημίου, Άξονα Προτεραιότητας "02 - Αειφόρος Ανάπτυξη και Βελτίωση της Ποιότητας Ζωής" του Ε.Π. "Αττική", ΟΠΣ 441265.
28. 2016-2017: Μελέτη της δυναμικής αλληλεπίδρασης του ατμοσφαιρικού και υδρολογικού περιβάλλοντος για τη λεκάνη απορροής του Σπερχειού ποταμού, Ειδικός Λογαριασμός Κονδυλίων Έρευνας Χαροκόπειου Πανεπιστημίου.
29. 2017-2020: Ελληνικό Ολοκληρωμένο Σύστημα Παρακολούθησης, Πρόγνωσης και Τεχνολογίας των Θαλασσών και των Επιφανειακών Υδάτων, Επιχειρησιακό Πρόγραμμα «Ανταγωνιστικότητα Επιχειρηματικότητα και Καινοτομία 2014-2020», ΟΠΣ 5002739, ΕΣΠΑ 2014-2020.
30. 2017-2018: Fully coupled air-sea state simulations based on WRF-OASIS-WAM models (WOW), HPC “ARIS”, Εθνικού Δικτύου Έρευνας και Τεχνολογίας (ΕΔΕΤ).
31. 2018-2019: The first step towards coupling CHAOS and NEMO (CHAOS01), HPC “ARIS”, Εθνικού Δικτύου Έρευνας και Τεχνολογίας (ΕΔΕΤ).
32. 2018-2020: Ionian-Adriatic earLy wARning Monitoring System (i-ALARMS), Interreg IPA II Cross-border Cooperation Programme Greece-Albania 2014-2020, 82334.
33. 2019-2020: Long term three-way coupled simulations of CHAOS (CHAOS02), HPC “ARIS”, Εθνικού Δικτύου Έρευνας και Τεχνολογίας (ΕΔΕΤ).
34. 2020-2021: Long term three-way coupled simulations of CHAOS (CHAOS2020), HPC “ARIS”, Εθνικού Δικτύου Έρευνας και Τεχνολογίας (ΕΔΕΤ).
35. 2020-2022: Προμήθεια Εργαστηριακού και Τεχνολογικού Καινοτόμου Εξοπλισμού του Χαροκόπειου Πανεπιστημίου, Ανάπτυξη Υποδομών και Δομών σε κρίσιμες περιοχές και τομείς Ε&Κ σε συμφωνία με την Υλοποίηση της RIS3 της Περιφέρειας Αττικής, Ε.Π. «Αττική 2014-2020», ΟΠΣ 5063504.
36. 2021-2022: Air Dust Sources in UAE: Understanding Processes that Control Spatial Distributions of Dust Emissions, Sorbonne University at Abu Dhabi (SUAD) Grant.
37. 2021-2022: Δημιουργία ψηφιακού συγγράμματος με τίτλο “Φυσική Μετεωρολογία”, Ανοικτά Ακαδημαϊκά Ηλεκτρονικά Συγγράμματα, Δράση Κάλλιπος+, Πρόγραμμα Δημοσίων Επενδύσεων του ΥΠΙΑΙΘ.
38. 2021-2022: Δημιουργία ψηφιακού συγγράμματος με τίτλο “Κλιματική Αλλαγή”, Ανοικτά Ακαδημαϊκά Ηλεκτρονικά Συγγράμματα, Δράση Κάλλιπος+, Πρόγραμμα Δημοσίων Επενδύσεων του ΥΠΙΑΙΘ.
39. 2021-2022: Air Dust Sources in UAE: Understanding Processes that Control Spatial Distributions of Dust Emissions, Sorbonne University at Abu Dhabi (SUAD) Grant.