CV of Dr Milto Miltiadou

Email: m.miltiadou@exeter.ac.uk
Webpage: https://Art-n-MathS.github.io   GitHub: https://github.com/Art-n-MathS
Twitter: @DrMiltiadou @_DASOS_   YouTube: https://www.youtube.com/@MiltoMiltiadou

Professional Experience:

Lecturer in Computer Science at *University of Exeter, UK*   2024-ongoing

Postdoctoral Research Associate at *University of Cambridge & Trinity Hall, UK*   2022- 2024
Starting from an initial idea, designed, led, and implemented the open-source software PlotToSat (in review) that addresses the challenges of extracting time-series from Sentinel-1 and Sentine-2 collections at thousands of plot locations scattered across a landscape. This framework, implemented using the Python API of GEE, is innovative due to its scalability, adaptability, flexibility, and global transferability.
The first application of PlotToSat on tree genera classifications in Spain using time-series Sentinel-2 data was submitted to IGARSS-2024. Because equal numbers of samples per genera was chosen to reduce bias, the large gerera were under-represented resulting in low F1-score. By leveraging the full potential of PlotToSat, including the incorporation of SAR data from Sentinel-1, we are planning to attempt classifying specific tree species.

Special Scientist – Researcher at *Cyprus University of Technology, Cyprus*   2017- 2022
Permanent research position where I successfully secured funding and managed my own independent projects, ASTARTE and FOREST, totalling 400,000 EUR. Both projects received excellent reviews. My role also involved co-supervising PhD and MSc students, in addition to delivering specialised lectures for the MSc in Geomatics.

"ASTARTE", RIF Excellence hubs (granted 250,00EUR)   2020-2022
- Showed that the SAR phenological cycle of Paphos forest in Cyprus contains two peaks; the summer peak is associated with the regeneration of the pine needles while the trough in February with the act of the pityocampa pest, which eats the pine needles annually.
- Associated a delayed of summer peak with increased temperatures in springtime and the reduce act of pityocampa with decrease temperature in autumn.
- Initiated a collaboration with Friends of the Earth (Cyprus) and conducted a quantitative study on whether Cypriot resident observe the climate crisis and its effects on the forests. Among other results, unlike previous literature, people were able to observe climate-related phenomena, such as decreased soil moisture and a lack of forest regeneration. This work received significant attention on social media.
- Work included various dissemination activities and my enthusiasm for outreach is demonstrated by the "Audience Favourite Booth Award" that the booth I lead received at the Researcher's night in Cyprus in 2020.

"FOREST", RIF 2nd Opportunity for H2020 Marie Curie Individual Fellowship (granted 150,00EUR)   2018-2020
- Multi-scale 3D windows improved prediction of dead tree detection in full-waveform lidar data as it accounts height differences of native Eucalypt forests.
- Co-registration and fusion of LiDAR with satellite data
- Accounting occlusions in a forested environment while collecting full-waveform LiDAR showed increased information at lower heights

"SEO-DWARF", H2020 Research Innovation and Staff Exchange   2017-2018
- Introduction of clustering approaches (k-means and mean shift) for improving ocean current front detection and comparison of results with canny edge and Laplacian detection algorithms.

**PhD co-supervisor** at Unesp - São Paulo State University – International, Brazil   2018-2021
Acknowledged as a co-supervisor for Dr Martin-Neto's PhD due to my high contribution to his research.
- We showed that my open-source software, DASOS, performed better in tree species classification than the widely used LidR. The improved performance is attributed to DASOS effectively addressing variations in point cloud density resulting from uneven scanning patterns. Our work was selected as Editor's Choice Article in 2023 Series of the Forests journal.

- LiDAR systems now collect waveform data, with las files containing peak points extracted from this waveform data. The need for increased waveform information is questionable. A comparative study of data from different flight heights revealed that information between peak points depends on beam size. Higher flights result in larger beams and more information. For narrow laser beams, such as in terrestrial laser scanning, including waveform samples can introduce noise to classifications.

Education:

EngD Computer Science and Remote Sensing with Forest Applications | Computer Science, University of Bath & NERC Airborne Research Facility, Plymouth Marine Laboratory - *Industrial Based Doctorate degree that includes an additional year of taught units*   2012-2017
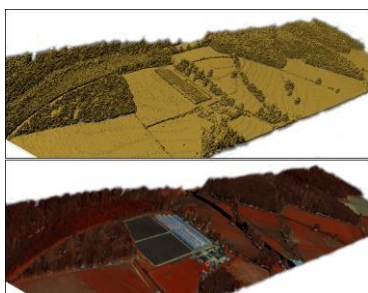
- DASOS, my open-source software, manages both full-waveform and discrete LiDAR. It is fundamentally different from other available software as it employs a rasterisation process prior to feature extraction, thereby mitigating harmonisation issues of the data. Selected for the Github 2020 Archive Program: http://miltomiltiadou.blogspot.com.cy/2015/03/las13vis.html

- Extracting features at local areas using DASOS can either be done at tree or plot level. For example, we used it with Dr Martins-Neto for estimating Biomass in Brazilian Atlantic Forest at plot level. I used it at tree level for detecting dead standing Eucalypts in Australia, which is crucial for biodiversity management. To address challenges of the irregular tree shapes, different tree heights and the low-resolution of the laser scan, I proposed using multi-scale 3D windows and a machine learning pipeline to detect dead Eucalypts without delineating the trees first.

- Handling big laser scanning data is challenging, so I compared six different data structures for storing the data and assessed their efficiency while generating 3D polygonal meshes (feature available on DASOS). I further proposed the new series of data structures named Integral Trees. This work was included in the Most Notable articles of the *Remote Sensing* Journal and acknowledged as a distinguished contribution by Ladies of Landsat.

MSc Computer Animation and Visual Effects – Distinction (1st)   2011-2012
Media School, Bournemouth University, UK

- Usage of Natural Language models for generating trees models and generative AI for forest modelling without repeating patterns and collisions.
- Classification of 3D motion capture data for fall detection of elder people in their home environment.
Showreel: https://www.youtube.com/watch?v=11ImtFBytZk

BSc Computer Science - Second-class, Upper division (2:1)   2008-2011
Department of Computer Science, University of Bristol, UK

- Individual Project: Geometrical correspondence tools for 3D noisy facial point clouds – 75% (first class mark)
- Core Units: Image Processing and Computer Vision (e.g., Machine Learning and Signal processing), Artificial Intelligence, Computer Graphics, Animation Production

Research Grants & Scholarships (total funding granted for projects: 400,000EUR)

"ASTARTE" – EXCELLENCE/0918/034 - 250,000EUR - scored 14.56/15   2019-2022
Conceptualisation, initiation of proposal and writing of first draft, management, and delivery of project at high standards according to reviewers.
Partners: Prof. Vassilia Karathanassi (National Technical University of Athens, Greece), Efrosyni Antoniou (Friends of the Earth, Cyprus)
Funded through Cyprus Research Innovation Foundation (RIF): Excellence Hubs call

"FOREST" - OPPORTUNITY/0916/MSCA/0005 - 150,000EUR - scored 90.04/100   2018-2020
Conceptualisation, initiation of proposal and writing of first draft, management, and delivery of project at high standards according to reviewers.
Partner: Efrosyni Antoniou (Friends of the Earth Cyprus)

Funded through Cyprus Research Innovation Foundation (RIF): 2nd Opportunity for MSCA Postdoctoral Fellowship

EngD (equivalent PhD) Studentship: - ~ 100,000GPB highly competitive four-year EngD studentship funded by EPSRC though the Centre for Digital Entertainment and Plymouth Marine Laboratory   2012-2016

Scholarship from the Cyprus State Scholarship Foundation   2008-2011
Awarded to students who scored excellent grades on their Lyceum Apolytirion

"AustrLiDAR" – MSCA Fellowship – 276,135.60EUR **- scored 91.4/100**   2022
Received Sealed of Excellence under Horizon Europe
Proposal idea designed collaboratively with Dr Tommaso Jucker, University of Bristol and I wrote the first draft.
Title: Developing better algorithms for quantifying the role forests play in regulating terrestrial carbon cycle
Collaborators: Dr Suzanne Prober and Dr Shaun Levick (CSIRO Commonwealth Scientific and Industrial Research Organisation, Australia)

Other proposals I conceptualised and submitted as principal investigator: ESA PECs 2021, RIF Excellence Hubs 2022

Teaching Experience:

P**roposed & held a 4 hours session, MSc AI for Environmental Risks (AI4ER),** University of Cambridge   2023
I conducted a half-hour research-led lecture on Remote Sensing, Classifications, and the related literature of my open-source software, PlotToSat. The 3-hour practical sessions included JavaScript introduction, Python API classification in GEE, and extracting spectral temporal signatures using PlotToSat at plot locations.
Students appreciated the setup via a Teams meeting in a lab environment, enabling clear visibility of my both lecture slide and code editing.

Co-advised the PhD of Dr Rorai Pereira Martins-Neto at Sao Paulo State University (Unesp), Brazil   2018-2021
  • Tree Species Classification in a Complex Brazilian Tropical Forest Using Hyperspectral and LiDAR Data (paper: https://www.mdpi.com/1999-4907/14/5/945 - Editor's Choice Article in 2023 Series, Forests).
  • Identification of Significative LiDAR Metrics and Comparison of Machine Learning Approaches for Estimating Stand and Diversity Variables in Heterogeneous Brazilian Atlantic Forest (paper: https://www.mdpi.com/2072-4292/13/13/2444).
  • Comparison of data collected at different flight heights for estimating biomass.
Thesis available at: https://repositorio.unesp.br/handle/11449/215634
Due to the great collaboration, we established a long lasting collaboration indicated by being Guest Editors now at for "Lidar for Forest Parameters Retrieval" at *Remote Sensing* journal. I still provide material for this Postdoc.

Co-supervised the PhD of Mr Christos Theocharidis, Cyprus University of Technology   2020-2022
Provided PhD subject and funded him for 2 years through the ASTARTE project to combine multi-sensory time-series ground and satellite data for forest monitoring at Cyprus University of Technology, Cyprus – He received a bursary to present his work at the 8th International Conference on Drylands, Deserts & Desertification in 2022.

MSc Geoinformatics Lecturing at Cyprus University of Technology, Cyprus   2017-2022
Annually holding a 2+1hours lecture with practical, specialised on the history and state-of-art research of LiDAR, batch scripting and how to process LiDAR data with my open source software DASOS in command prompt.
Once at a lecture for the public at Friends of the Earth (Cyprus), someone approached me and told me that one of my students recommended my talk to her.

Co-supervised MSc thesis of Dimitris Apostolou at Cyprus University of Technology   2021
We collected time-series hyper-spectral signatures of grapes from two locations and observed its growth

Graduate mentor for PhD students   2017-ongoing
Providing pastoral guidance, support independently of their principal supervisor, often acting as a personal coach
A PhD student (Anastasia Yfantidou) once visited National Technical University of Athens, told me that she was surprised on how much scientist there appreciated me as a person and scientist. After I reviewed her CV and cover letter she got a job at the National Observatory of Athens.

Online Instructor at GEO University   2017 - ongoing
- Teach online courses about Latex and LiDAR data (practical and theoretical respectively)

Teaching Assistant at the Greek Supplementary School, Weston-Super-Mare, UK   2010 - 2011
- Planning classes and teaching Modern Greek language and Greek culture to children under the guidance of the
  senior teacher

BSc Computer Science, Lab Demonstrator, University of Bristol   2009- 2010
- Helped first year students with their assignments on C programming, selected due to high marks in programming

Invitations:

<u>**Lead Editor**</u> "Lidar for Forest Parameters Retrieval" *Remote Sensing* journal   2023
Co-editor: Dr Henrik J. Persson (Swedish University of Agricultural Sciences, Umea, Sweden) and
          Dr Rorai Pereira Martins-Neto (Czech University of Life Sciences Prague, Prague, Czech Republic)

Invited Speaker "Full waveform LiDAR and Scalability of Forest plots"   2023
Energy and Environment (EEG) group led by Prof Rober S. Keshav, Computer Science, University of Cambridge

Invited Speaker "Time-series analysis of SAR data & scalability of forests plots",   2023
Ecology Meeting led by Prof David Coomes, Plant Sciences, University of Cambridge

Invited Speaker "Computer Science and Earth Observation with emphasis on Forest Research"   2023
Tree Ring Group led by Prof Ulf Büntgen, Geography, University of Cambridge

<u>**Interviews at national TV channels**</u> in Cyprus (<u>Alpha, RIK, and Sigma TV channels</u>): My work with the NGO 'Friends
of the Earth Cyprus' gained significant attention on social media. Our articles targeting the general public on 'How
Cypriot residents perceive climate change' and 'How Cypriot residents understand and perceive the effects of
climate change on Cypriot forests' were<u> published in three printed newspapers and seventeen online newspapers.</u>
We were also invited for interviews on Cypriot national well-established channels.   2021

<u>**Invited Speaker and Panellist**</u> at FAST "Forestry & Allied Subject Topics: Emerging Trends" <u>conference</u>, Institute
of Biomedical & Natural Science Dehradun (DIBNS) Uttarakhand, India   2021

Invited Speaker "Advancement of tree structure observation algorithms for forest monitoring using LiDAR
 technologies at National Technical" <u>University of Athens, Athens, Greece</u>   2020

<u>**Moderator**</u> at <u>ForestSAT conference, Maryland, USA</u>   2018

Invited Speaker Efficient accumulation, analysis and visualisation of full-waveform LiDAR in a volumetric
representation with applications to forestry at <u>University of Bari, Bari, Italy</u> & <u>Planetek Italia, Bari, Italy</u>   2017

Invited Speaker about "Exploration and Visualisation of full-waveform LiDAR Data for Forestry Applications" at
<u>National Institute For Space Research (INPE), San Jose dos Campos, Brazil</u>   2016

Invited Speaker / Held full day workshops on full-waveform LiDAR and the open-source software DASOS at
<u>Interpine Group Ltd and Scion Research, Rotorua, New Zealand</u>   2016

Prizes and Awards:

"**Editor's Choice Articl**e in 2023 Series, *Forests*   2023
The article I co-supervised "Tree Species Classification in a Complex Brazilian Tropical Forest Using Hyperspectral
and LiDAR Data" was selected as Editor's choice

"**Most Notable Article**" in the category "Engineering Remote Sensing" - *Remote Sensing*   2021
My article "A Comparative Study about Data Structures Used for Efficient Management of Voxelised Full Waveform
Airborne LiDAR Data during 3D Polygonal Model Creation" was listed as one of the most Notable articles published
in the *Remote Sensing* journal for the period of December 2020-February 2021.

Distinguished manuscript contribution acknowledged by Ladies of Landsat   2021
My name has been included in the Ladies of Landsat Manuscript Monday series, which is a weekly series
highlighting cutting-edge research impacting the field of remote sensing (my manuscript is no. 104)
Link: https://github.com/ladiesoflandsat/LOLManuscriptMonday

Artic code Vault Contributor of 2020 Github Archive Program   2020

My open-source software, DASOS (https://github.com/Art-n-MathS/DASOS) was included in Github 2020 Archive Program that aims to preserve world heritage of open-source software for future generations.

"Audience Favourite Booth Award" at Researcher's Night of Cyprus 2020
Our booth entitled "Forest monitoring using satellite imagery for understanding the effects of climate change", which was presented as part of her project "ASTARTE" (EXCELLENCE/0918/0341) was voted as the best booth by the audience.

Ede and Ravenscroft Academic Prize for Excellence – Finalist 2016
Selected as one of the five finalists for this prestigious prize that recognises the work of the best postgraduate researcher at the University of Bath.

Student Poster Competition Award at Silvilaser Conference 2015
Promotes researchers at early career by granting them free entrance to the conference.

"Queens Anniversary Prizes" 2012
Selected from my MSc course to represent Bournemouth University at the ceremony.

"You are Brilliant" award 2012
Acknowledged student reps with high involvement at Bournemouth University. Nominated by classmates.

Bristol Plus Award 2011
Awarded by the University of Bristol's Career Service to students who have gained significant professional and life skills through extra-curricular experiences.

Earlier: Multiple national awards in Mathematics, Physics and Fine Arts in Cyprus. I was also selected to represent the country through six national competitions at the Junior Balkan Mathematical Olympiad 2005.

Admin Experience, Committees and Volunteering:

Equality, Diversity and Inclusion (EDI) committee member, Geography, University of Cambridge   2023-ongoing
Representative of Postdocs – recommendations on how to make Postdocs feel more inclusive

Communication officer, Cambridge University Science Improv Society   2023-ongoing
Predominantly joint the committee as more committee members were required to keep the society going
I am responsible for the social media. I help in organising events. I lead Improv shows and organise improv training

Volunteer/Judge at Robotex Competition, Cyprus Computer Society   2022-23
Organised annually with around 700 contestants annually.

Founding and Active member of the NGO "300,000 trees in Limassol"   2019-2022
Meet with local municipalities to arrange urban land for planting trees, participate to educational seminars at schools for public engagement and volunteering at tree planting events

Special Scientist - Researcher, Cyprus University of Technology, Cyprus   2017- 2022
My role included: project management – time, budget, task allocation, timesheets, planning secondments, communication with partners and funder, paper and proposal writing, organise workshops for university students and the public audience.

Committee member of the NGO "Friends of the Earth (Cyprus)"   2019-2021
Duties include monitoring the progress of the projects running, define the future directions of the organisation, interviewing new employers

Writing Retreat Organiser   2013-2016
Duties included interviewing potential speakers, hiring venue, arranging meals, scheduling and preparing entertainment, managing budget

Student Representative for EngD and MSc students   2011-2014
Centre for Digital Entertainment (CDE), Computer Science, University of Bath and Media School, Bournemouth University & Collecting feedback for improving student experience and productively participating at CDE board meetings that define the future of the centre.

Casual Admin Assistant, *University of Bath*   2012-2013
Preparing papers for interviews and welcoming potential students during open days
High confidentiality is required while accessing UCAS applications of students

Industrial Internships, Placements and Secondments

Carbomap – United Kingdom - "FOREST" project   July 2018
Showed that parallelising exportation of 2D metrics improves execution time than running them sequentially

Planetek Hellas, Greece and **Planetek Italia**, Italy -"SEO-DWARF project"   2017-2018
Research and Implementation of the best algorithms for ocean monitoring (fronts and turbidity). Introduced clustering approaches for front detection and showed that perform better than edge detection algorithms.

Interpine Group Ltd, Rotorua, New Zealand – EngD student   Jan 2016 - Mar 2016
Collaborating with the foresters to write a user-friendly user-guide for the open-source software DASOS
Worked on detecting dead standing Eucalypt trees, which are important for managing biodiversity

NERC Airborne Research Facility, Plymouth Marine Laboratory - EngD student   2013-2016
Improved the usage of full-waveform LiDAR data through the implementation of DASOS and worked on forest related applications.

Interests: Dancing, Theatre Improv   **Languages:** English (fluent), Greek (native)

List of Publications:

PhD Theses:

➢ **Extraction of structural variables using LiDAR data combined with hyperspectral images for classification of upper canopy tree species in Brazilian Atlantic Forest - 2021**
Author: RP Martins Neto,
Advisors: A. M. G Tommaselli, N. N. Imai, D. Hassan Camil, M. Miltiadou
Universidade Estadual Paulista (Unesp)
Link: https://repositorio.unesp.br/handle/11449/215634

➢ **Efficient accumulation, analysis and visualisation of full-waveform LiDAR in a volumetric representation with applications to forestry – 2017**
Author: M. Miltiadou
Advisors: M. Brown, M. Grant, N DF Campbell, D Cosker
University of Bath, UK and Plymouth Marine Laboratory, UK
Link: https://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.725395

Refereed full papers:

➢ **PlotToSat: a tool for generating spectral-temporal signatures from Sentinel-1 and Sentinel-2 at plot locations from various geographic regions for machine learning applications,** M.Miltiadou, E. R. Lines, T. T. Julián, S. Grieve,– 2024 – (submitted)
Contribution: Software development, Conceptualisation, Formal Analysis, Writing of original draft

➢ **Tree Species Classification in Complex Brazilian Tropical Forest Using Hyperspectral and LiDAR Data,** R.P.M. Neto, A.M.G Tommaselli, N.N. Imai, H.C. David, E. Honkavaara, M. Miltiadou, E. A. S. Moriya, H. C. David, *Forests* – 2023 – doi: 10.3390/f14050945
Contribution: Software development, supervision – suggestions on methodology/validation, review of original draft

➢ **A Selection of Experiments for Understanding the Strengths of Time Series SAR Data Analysis for Finding the Drivers Causing Phenological Changes in Paphos Forest, Cyprus**, M. Miltiadou, V. Karathanassi, A. Agapiou, C. Theocharidis, P. Kolokousis, C. Danezis *Remote Sensing* – 2022 – doi: 10.3390/rs14153581
Contribution: Conceptualization, Funding acquisition, Formal analysis, Validation, Writing of original draft

➢ **Time Series Analysis of Landsat Data for Investigating the Relationship between Land Surface Temperature and Forest Changes in Paphos Forest, Cyprus,** V. Andronis, V. Karathanassi, V. Tsalapati, P. Kolokoussis, M. Miltiadou, C. Danezis *Remote Sensing* – 2022 – doi: 10.3390/rs14041010
Contribution: Conceptualization, Funding acquisition, Interpretation of Results, Original draft review

➢ **A Comparative Study about Data Structures Used for Efficient Management of Voxelised Full Waveform Airborne LiDAR Data during 3D Polygonal Model Creation**, M. Miltiadou, N.D.F. Campbell, D. Cosker, M.G. Grant, *Remote Sensing* vol. 13, no. 4, p. 559 – 2021 – doi: 10.3390/rs13040559
Contribution: Conceptualization, Formal Analysis, Validation, Writing of original draft

➢ **Do people understand and observe the effects of climate crisis on forests? The case study of Cyprus**, M. Miltiadou, E. Antoniou, C. Theocharidis, C. Danezis, *Forests* – 2021 – doi: 10.3390/f12091152
Contribution: Conceptualization, Funding Acquisition, Formal Analysis, Writing of original draft. We created the questionnaire with Friends of the Earth (Cyprus) and they collected most of responses

➢ **Identification of Significative LiDAR Metrics and Comparison of Machine Learning Approaches for Estimating Stand and Diversity Variables in Heterogeneous Brazilian Atlantic Forest**, R.P.M. Neto, A.M.G

Tommaselli, N.N. Imai, H.C. David, <u>M. Miltiadou</u>, E. Honkavaara, *Remote Sensing*, vol. 13, no. 13, p. 2444 – 2021 – doi: 10.3390/rs13132444

> Contribution: Software development, supervision – suggestions on methodology/validation, review of original draft

- **Detecting Dead Standing Eucalypt Trees from Voxelised Full-Waveform Lidar Using Multi-Scale 3DWindows for Tackling Height and Size Variations,** <u>M. Miltiadou</u>, A, Agapiou, S. Gonzalez Aracil, D.G. Hadjimitsis, Forests, vol. 11, no. 2, p. 161 – 2020 – doi: 10.3390/f11020161

> Contribution: Software Development, Conceptualization, Funding Acquisition, Formal Analysis, Validation, Writing of original draft – The application ideas was provided by Interpine Group Ltd

- **Open source software DASOS: efficient accumulation, analysis, and visualisation of full-waveform lidar**, <u>M. Miltiadou</u>, M.G.Grant, N.D.F. Campbell, M. Warren, D. Clewley, D. G. Hadjimitsis, *SPIE - International Society for Optics and Photonics*, Seventh International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2019), vol. 111741 – 2019 – doi: 10.1117/12.2537915

> Contribution: Conceptualization, Software Development, Formal Analysis under supervision, Writing of first draft

- **Detection of dead standing eucalypt trees without tree delineation for managing biodiversity in native Australian forest**, <u>M. Miltiadou,</u> N.D.F Campbell, S. Gonzalez Aracil, T. Brown, M. Grant, *ELSEVIER International Journal of Applied Earth Observation and Geoinformation* – 2018 – doi: 10.1016/j.jag.2018.01.008

> Contribution: Software Development, Formal Analysis under supervision, Validation, Writing of original draft – The application ideas was provided by Interpine Group Ltd. The methodology was derived by both myself and my supervisor Matthew Brown (who asked me to not be included in the paper as I published it more than a year after he left University of Bath)

- **Alignment of hyperspectral imagery and full-waveform LiDAR data for visualisation and classification purposes**, <u>M. Miltiadou</u>, M. A. Warren, M. Grant, and M. Brown, *The International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences* vol. 40, no. 7, p. 1257 – 2015 – doi:10.5194/isprsarchives-XL-7-W3-1257-2015

> Contribution: Conceptualization, Software Development, Formal Analysis under supervision, Validation, Writing of first draft

Refereed conference publications:

- **Tree genera classifications in Spain using time-series Sentinel-2 data extracted from PlotToSat.** <u>M. Miltiadou,</u> E. R. Lines, S. WD Grieve, P. R. Benito, J. Astigarraga, V. Cruz, J. T., Trivino (IGRASS 2024 – in review)

> Contribution: Conceptualisation, Software development, Formal Analysis, Writing of original draft

- **AI applications in forest monitoring need remote sensing benchmark datasets.** E. R. Lines, M. Allen, C. Cabo, K. Calders, A. Debus, S. WD Grieve, <u>M. Miltiadou</u>, A. Noach, H. JF Owen, and S. Puliti *IEEE International Conference on Big Data (Big Data)* (2022). doi:10.48550/arXiv.2212.09937

> Contribution: Suggesting benchmark datasets and applications, review of original draft

- **Understanding phenological changes of coniferous forests in Cyprus using time-series of SAR data from 2015 till 2020,** <u>M. Miltiadou</u>, C. Theocharidis, V. Karathanassi, A. Agapiou, M. Nikolaidis, C. Danezis, *Proceedings of Silvilaser Conference* – 2021 – doi: 10.34726/wim.1962

> Contribution: Conceptualization, Funding acquisition, Formal analysis, Validation, Writing of original draft

- **Exploring the importance for promoting Earth observation in education.** D.G. Hadjimitsis, P. Kyriakides, C. Danezis, E. Akylas, N. Kyriakides, C. Papoutsa, K. Themistocleous, R. Mammouri, A. Nisantzi, A. Agapiou, C. Mettas, M. Tuataras, M. Prodromou, E. Loulli, G. Melillos, V. Lysandrou, A. Antoniades, D. Christofe, H. Kontoes, G. Schreier, A. Ansmann, S. Michaelides, A. Evagorou, E. Anastasiou, T. Polydorou, K. Neocleous, <u>M.</u>

Miltiadou, E. Evagorou, C. Theocharides, G. Leventis, A. Anayiotos, S. Tziortzis& G. Komodromos. In *Earth Resources and Environmental Remote Sensing/GIS Applications XI* (Vol. 11534, pp. 277-296). SPIE. – 2020 – doi:10.1117/12.2574134

Contribution: Participated to teaching Remote Sensing at schools – Review original draft

➢ **Detection of marine fronts: a comparison between different approaches applied on the SST product derived from Sentinel-3 data**, M. Miltiadou, C. Papoutsa, V. Karathanassi, P. Kolokoussis, V. Lafon, D. Sykas, A. Sarelli, M. Prodromou, D. Hadjimitsis, *SPIE Library*, In Sixth International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2018), vol. 10773 – 2018 – doi: 10.1117/12.2324126

Contribution: Conceptualization, Formal analysis, Validation, Writing of original draft

➢ **A semantic representation of EO data for image retrieval based on natural language queries.** M. Polignano, M. De Gemmis, V. Kopsacheilis, M. Vaitis, J. Malig, D. Grether, I. Ioannou, A. Sarelli, V. De Pasquale, S. Samarelli, P. Kolokoussis, K. Karamvasis, M. Miltiadou, C. Papoutsa, O. Regniers, V. Lafon, K. Topouzelis, B. Despotov. *In Sixth International Conference on Remote Sensing and Geoinformation of the Environment* (RSCy2018) (Vol. 10773, pp. 36-45). SPIE. – 2018 – doi:10.1117/12.2325839

Contribution: EO data advisor, Review of final draft

➢ **A novel automated methodology that estimates the United Nations (UN) In Sustainable Development Goal (SDG) 14.1. 1.: index of coastal eutrophication using the Copernicus Marine Environment Monitoring Service (CMEMS).** A. Sarelli, D. Sykas, M. Miltiadou, D. Bliziotis, Y. Spastra, & M. Ieronymaki. Sixth International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2018) (Vol. 10773, p. 1077302). SPIE. – 2018 – doi:10.1117/12.2326160

Contribution: Support in data analysis, Review of original draft

➢ **Improving and optimising visualisations of full-waveform LiDAR data**, M. Miltiadou, N.D.F Campbell, M. Brown, D.Cosker, and M. Grant, *Eurographics UK in Computer Graphics and Visual Computing* – 2016 – doi:10.2312/cgvc.20161295

Contribution: Conceptualization, Formal analysis under supervision, Validation, Writing of original draft

➢ **Reconstruction of a 3D Polygon Representation from full-waveform LiDAR data.** *RSPSoc conference,* M. Miltiadou, M. Grant, M. Brown, M. Warren, & E. Carolan – 2014.

Contribution: Conceptualization, Formal analysis under supervision, Validation, Writing of original draft

Published Conference Abstracts:

➢ **Fusion of European forest inventories with Sentinel-1 and Sentinel-2 data for improving scalability in estimating forest variables** (No. EGU23-8720), M. Miltiadou, S. Grieve, J.T Triviño, J. Astigarraga, H. Owen, P.R. Benito and E., Lines. – 2023 – Copernicus Meetings doi: 10.5194/egusphere-egu23-8720

Contribution: Software Development, Formal Analysis, Writing of first draft

➢ **Understanding phenological changes of coniferous forests in Cyprus using time-series of SAR data from 2015 till 2020,** M. Miltiadou, C. Theocharidis, V. Karathanassi, A. Agapiou, M. Nikolaidis, C. Danezis, *Proceedings of Silvilaser Conference* – 2021 – doi: 10.34726/wim.1962

Contribution: Conceptualization, Funding acquisition, Formal analysis, Validation, Writing of original draft (data downloaded by Mr Theocharidis)

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Contribution: Conceptualization, Funding acquisition, Formal analysis, Validation, Writing of original draft

- ➢ **Analysis of radar and thermal satellite data time-series for understanding the long-term impact of land surface temperature changes on forests.**Prodromou, M., Yfantidou, A., Theocharidis, C., <u>Miltiadou, M</u>. and Danezis, C., 2020, May. *In EGU General Assembly Conference Abstracts* (p. 10582). – 2020 – [doi: 10.5194/egusphere-egu2020-10582](doi:10.5194/egusphere-egu2020-10582)

  Contribution: Conceptualization, Funding acquisition, Formal analysis, Validation, Writing of original draft

- ➢ **A comparison between different approaches for detecting fronts using the Sea Surface Temperature product of the Sentinel-3 SLSTR instrument.** <u>Miltiadou, M.</u>, Papoutsa, C., Karathanassi, V., Kolokousis, P., Sykas, D., Lafon, V., Prodromou, M. and Hadjimitsis, D., 2018, April. In *EGU General Assembly Conference Abstracts* (p. 3738). – 2018 – [Bibcode: 2018EGUGA..20.3738M](Bibcode:2018EGUGA..20.3738M)

  Contribution: Conceptualization, Formal analysis, Validation, Writing of original draft