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# Dimitrios Stavrakoudis

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**Teams:** jstavrak

## ABOUT ME

Assistant Professor in the School of Forestry and Natural Environment at the Aristotle University of Thessaloniki (AUTH), the field of "Geographic Information Systems and Remote Sensing in Forest Ecosystems." I received my BSc (with integrated Masters) and PhD degrees from the School of Electrical and Computer Engineering at AUTH. From 2014 to 2023, I worked as a postdoctoral researcher at the Laboratory of Forest Management and Remote Sensing at AUTH. Through my participation in many European and national research programs and projects, I have gained expertise—among other things—in the use of modern Remote Sensing and Geographic Information System (GIS) in research and applications related to wildfires management, mapping land cover / land use and detecting their changes, and postfire monitoring of natural ecosystems.

## WORK EXPERIENCE

### ASSISTANT PROFESSOR – SCHOOL OF FORESTRY AND NATURAL ENVIRONMENT, ARISTOTLE UNIVERSITY OF THESSALONIKI – 29/06/2023 – Current – THESSALONIKI, GREECE

- Teaching of undergraduate and master's courses
- Research and algorithm development in the fields of remote sensing, GIS, pattern recognition, hyperspectral data processing, wildfires, biomass estimation, precision agriculture, image segmentation, image processing and machine learning
- Proposal writing for competitive research projects
- Scientific papers writing

### POSTDOC RESEARCHER / RESEARCH FELLOW – LABORATORY OF FOREST MANAGEMENT AND REMOTE SENSING, ARISTOTLE UNIVERSITY OF THESSALONIKI – 2013 – 2023 – THESSALONIKI, GREECE

- Participation in the administration and implementation of national and European projects
- Research and algorithm development in the fields of fuzzy systems, remote sensing, pattern recognition, hyperspectral data processing, wildfires, biomass estimation, precision agriculture, image segmentation, image processing and machine learning
- Software development
- Proposal writing for competitive research projects
- Scientific papers writing

### RESEARCH FELLOW – INSTITUTE OF PLANT BREEDING AND GENETIC RESOURCES — HELLENIC AGRICULTURAL ORGANIZATION "DEMETER" – 2015 – 2023 – THESSALONIKI, GREECE

- Participation in the implementation of national and European projects
- Research and algorithm development in the fields of precision agriculture, remote sensing, and analysis of UAV data
- Software development
- Proposal writing for competitive research projects
- Scientific papers writing

### YOUNG RESEARCHER – LABORATORY OF AUTOMATION AND ROBOTICS, SCHOOL OF ELECTRICAL AND COMPUTER ENGINEERING, AUTH – 2005 – 2012 – THESSALONIKI, GREECE

Participation in the implementation of national and European co-funded projects, during my PhD. Primary responsibilities:

- Research and algorithm development in the fields of fuzzy systems, remote sensing, image processing and pattern recognition
- Software development
- Scientific papers writing

## EDUCATION AND TRAINING

14/12/2005 – 22/04/2013 Thessaloniki, Greece

### PHD DEGREE IN ELECTRICAL AND COMPUTER ENGINEERING Aristotle University of Thessaloniki, School of Electrical and Computer Engineering

**PhD defence date:** 05/03/2013
**Thesis:** Methodologies for developing fuzzy classification systems using evolutionary algorithms: Application to high-dimensional classification tasks

- Development of novel fuzzy classifiers for high-dimensional tasks
- Primary application: Land cover classification (including forest species discrimination) using multispectral and hyperspectral satellite imagery

**Address** Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece | **Website** https://www.auth.gr/en/ |

**Field of study** Electricity and energy , Electronics and automation | **Final grade** "Excellent" | **Level in EQF** EQF level 8

**Link** http://hdl.handle.net/10442/hedi/39930

2000 – 2005 Thessaloniki, Greece

### DEGREE IN ELECTRICAL AND COMPUTER ENGINEERING (B.S. & M.S.) Aristotle University of Thessaloniki, School of Electrical and Computer Engineering

**Address** Aristotle University of Thessaloniki, 54124, Thessaloniki, Greece | **Website** https://www.auth.gr/en/ |

**Field of study** Electricity and energy , Electronics and automation | **Final grade** 7.17 / 10 ("Very Good") | **Level in EQF** EQF level 7 |

**Thesis** Time-series simulation and modeling using recurrent neuro-fuzzy networks

**Link** http://ikee.lib.auth.gr/record/290109

## TEACHING EXPERIENCE

29/06/2023 – CURRENT

### Assistant Professor

Independent teaching of courses as Assistant Professor at AUTH's School of Forestry and Natural Environment of the Aristotle University of Thessaloniki:

- Undergraduate courses: "Geographic Information Systems – Geospatial analysis", "Forest Aerial Photography – Remote sensing", "Remote sensing of environment – Applications".
- Master courses at the MSc "Natural Resources: Monitoring, Technology and Bioeconomy": "Technologies for Natural Resources Monitoring", "Applied Spatial Analysis and Decision Making Systems".

2020 – 2023

### Teaching fellow

Teaching fellow in the MSc Programme "Natural Resources: Monitoring, Technology and Bioeconomy" of the School of Forestry and Natural Environment of the Aristotle University of Thessaloniki for the courses:

- Technologies for Natural Resources Monitoring
- Applied Spatial Analysis and Decision Making Systems

**Link** https://mscnaturalresources.for.auth.gr

2020 – 2022

### Teaching fellow

Sole responsible for teaching the following courses in the School of Forestry and Natural Environment of the Aristotle University of Thessaloniki for the academic year 2021-2022:

- Environmental Geographic Information Systems

- Environmental Remote Sensing
- Forest Aerial Photography

Under the project “Acquisition of Academic Teaching Experience from Young Scientists Holding a PhD 2019-2022 — ΕΔΒΜ96”, co-financed by Greece and the European Union (European Social Fund – ESF) through the Operational Programme “Human Resources Development, Education and Lifelong Learning 2014–2020”.

**Link** https://www.for.auth.gr

2014 – 2023

### Teaching fellow

Teaching fellow (School of Electrical and Computer Engineering, Aristotle University of Thessaloniki) in the “Interdepartmental / Interdisciplinary Postgraduate Programme on Advanced Computer and Communication Systems” for the course “Computation Intelligence — Bio-inspired Systems”.

2007 – 2011

### Teaching fellow

Teaching fellow (laboratory courses) in the Department of Automation of Technological Educational Institute of Thessaloniki (Greece) for the undergraduate courses:

- Intelligent Control
- Digital Signal Processing
- Automatic Control Systems I

2006 – 2010

### Teaching assistant

Teaching assistant (School of Electrical and Computer Engineering, Aristotle University of Thessaloniki) for the “Computational Intelligence” course in the programme “Erasmus Mundus Scholarships, MSc in Network and e-Business Centered Computing (NeBCC)” (funded by the European Commission Directorate General for Education and Culture).

2006 – 2008

### Teaching assistant

Teaching assistant in the School of Electrical and Computer Engineering of the Aristotle University of Thessaloniki, for the courses “Fuzzy Systems” and “Automatic Control Systems I”.

## INTERESTS

### Research Interests

Geographic Information Systems (GIS), remote sensing, image processing, pattern recognition, machine learning, computational intelligence, environmental monitoring, remote sensing and GIS applications in forestry

## LANGUAGE SKILLS

Mother tongue(s): **GREEK**

Other language(s):

| | UNDERSTANDING | | SPEAKING | | WRITING |
|---|---|---|---|---|---|
| | Listening | Reading | Spoken production | Spoken interaction | |
| **ENGLISH** | C2 | C2 | C2 | C2 | C2 |
| **GERMAN** | A2 | A2 | A1 | A1 | A1 |

*Levels: A1 and A2: Basic user; B1 and B2: Independent user; C1 and C2: Proficient user*

## SKILLS

### Programming languages & tools

C++ | Python | Matlab | C | Git/ GitHub | Docker

**Web technologies**

FastAPI | Apache Web Server | HTML | JavaScript | PHP | CSS | Wordpress

**Database systems**

MySQL | PostgreSQL | Redis

**Operating systems**

Linux | Microsoft Windows | Bash shell script

**Office applications**

LaTeX | LibreOffice | Microsoft Office

**Specialized software on remote sensing and geographic information systems**

QGIS | GDAL | Google Earth Engine | ArcGIS | ENVI | PCI Geomatica | ERDAS

## PARTICIPATION IN RESEARCH PROJECTS

2013 – CURRENT

### Summary

- Participation as Team Member in **more than 15** European and national research projects, with various responsibilities (implementation, participation in coordination/management, preparation of deliverables, scientific paper writing, software development).
- Participation in the implementation and management of operational services.
- Participation in dissemination and technology update actions.

2024 – CURRENT

### The Golden Twins

European Space Agency (ESA) InCubed programme, run by ESA Φ-lab.

Responsibilities/contribution:

- Designing the wildfire service that is being integrated into the platform.
- Participation in the software implementation of the operational services.
- Participation in the preparation of the project's deliverables, dissemination activities and publications.

**Link** https://thegoldentwins.eu

2024 – CURRENT

### Sat4Φorest — Greek National Satellite Space Project: Axis 3 – Forest Monitoring Service

Ministry of Digital Governance, Part of Axis 3 of the Greek National Small-Sats Programme, funded through the National Recovery and Resilience Plan "Greece 2.0" and implemented with the assistance of the Hellenic Space Center and the European Space Agency (ESA).

Responsibilities/contribution:

- Participation in designing the forest type, forest fuel type, and biodiversity mapping methodologies.
- Software implementation of the operational services.
- Representing the consortium in technical meetings.
- Participation in the preparation of the project's deliverables, dissemination activities and publications.

2020 – CURRENT

### Greek Observatory of Forest Fires (gOFFi) — Investigation of the potential application of modern technologies in forest fire prevention and analysis of post-fire vegetation growth, with pilot implementation

Directorate General of Forests and Forest Environment, Hellenic Ministry of Environment and Energy.

Responsibilities/contribution:

- Development of a fully automated algorithm for mapping burned areas using pairs of Sentinel-2 or other multispectral satellite imagery.
- Software implementation of the methodology.

- Participation in designing the fuel type mapping and the post-fire regeneration monitoring methodologies.
- Preparation of project's deliverables

**Link** https://goffi.web.auth.gr

2021 – 2025

### FirEUrisk — Developing a Holistic, Risk-Wise Strategy for European Wildfire Management

European Union's Horizon 2020 research and innovation programme (Grant Agreement no. 101003890).

Responsibilities/contribution:

- Development and software implementation of a methodology for mapping forest fuels in pilot sites using Sentinel-2 satellite imagery
- Participation in accuracy assessment process of the prevention products
- Responsible for addressing all data management issues
- Participation in scientific papers writing
- Preparation of project's deliverables

**Link** https://fireurisk.eu

2017 – 2021

### XENIOS: A combined application platform for the protection and promotion of cultural and tourist sites

Co-financed by the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RE-SEARCH—CREATE—INNOVATE (project code: T1EDK-02219).

Responsibilities/contribution:

- Development of fire danger indices using timeseries of satellite imagery and auxiliary geospatial layers
- Remote sensing and GIS processing
- Software development of the automated services that feed the Xenios platform with the fire danger products (midterm and short-term fire danger indices)
- Participation in project coordination and dissemination action
- Preparation of project's deliverables

**Link** https://xenios-project.eu/en/

2018 – 2021

### ARTEMIS: Development practices and establishment of standardized monitoring service of economic forests

Co-financed by the European Union and Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation, under the call RE-SEARCH—CREATE—INNOVATE (project code: T1EDK-01577).

Responsibilities/contribution:

- Remote sensing and GIS technologies for monitoring the health of economic forests
- Participation in project's tasks
- Preparation of project's deliverables

**Link** https://artemis2018.eu/en/main/

2018 – 2019

### SUFOGIS: GIS and Remote Sensing for Sustainable Forestry and Ecology

Erasmus+ Programme, European Union.

Responsibilities/contribution:

- Preparation of workshop/summer school material and video
- Participation in training activities for students and academic staff

**Link** https://sufogis.volgatech.net

2017 – 2020

### Development of tools for wildfires' direct impact assessment on a national level using satellite data and Google Earth Engine

Scholarship in the framework of “Post doc Scholarships – Partnership Agreement (PA) 2014-2020 — Round B”, co-financed by Greece and the European Union (European Social Fund – ESF) through the Operational Programme “Human Resources Development, Education and Lifelong Learning 2014–2020”.

Responsibilities/contribution:

- Development of an algorithm for the automated mapping of burned areas using pairs of Sentinel-2 multispectral imagery
- Software implementation of the methodology in Python and C++ programming languages
- Participation in the project's coordination
- Scientific papers writing
- Preparation of project’s deliverables

2015 – 2018

### ERMES: An Earth Observation Model based Rice Information System

Commission Of The European Communities – Research Executive Agency, FP7 (Grant agreement ID: 606983).

Responsibilities/contribution:

- Development and software implementation of a methodology for mapping the variability of agricultural fields using multispectral satellite imagery to optimize fertilization
- Participation in scientific papers writing
- Preparation of project’s deliverables

2013 – 2018

### Establishment and Pilot Operation of the National Observatory of Forest Fires (NOFFi) — Development of indices, products and services related to the prevention of forest fires and the assessment of their impact

Directorate General of Forests and Forest Environment, Hellenic Ministry of Environment and Energy.

Responsibilities/contribution:

- Development of a semi-supervised algorithm for mapping burned areas using pairs of Sentinel-2 or Landsat multispectral imagery and software implementation of the methodology
- Participation in the development of a midterm fire danger index using timeseries of satellite images and auxiliary geospatial data
- Scientific papers writing
- Preparation of project’s deliverables

2013 – 2015

### Tele-Kyoto: Vegetation mapping and biomass estimation using modern remote sensing methods under the United Nations Convention on Climate Change and the Kyoto Protocol

Programme “Thales: “Strengthening Interdisciplinary and/or Interdepartmental research and innovation with the possibility of attracting researchers from abroad through basic and applied research of excellence”, European Social Fund, Partnership Agreement for the Development Framework 2007–2013.

Responsibilities/contribution:

- Development and software implementation of a methodology for land cover mapping and forest species discrimination using a fusion of multispectral and hyperspectral remote sensed data
- Development of statistical models for estimating forest aboveground biomass
- Participation in project coordination
- Scientific papers writing
- Preparation of project’s deliverables

## PUBLICATIONS

### Summary

- Author/co-author of **80** scientific papers
- **Citations:** Scopus 1061, Web of Science 841, Google Scholar 1490
- **h-index:** Scopus 19, Web of Science 17, Google Scholar 22

**More:** https://scholar.google.com/citations?user=9Plc91IAAAAJ

### Articles in Peer-reviewed Journals

## J40

Abdollahnejad, A.; Georgopoulos, N.; Katagis, T.; Stavrakoudis, D.; Gitas, I.Z. A Sentinel-2-Based Forest Type Mapping Framework for Supporting Forest Inventory at the Regional Scale. *International Journal of Remote Sensing* **2026**, *47*, 909–927, doi:10.1080/01431161.2025.2597676.

## J39

Antoniadis, K.; Gitas, I.Z.; Georgopoulos, N.; Grammenos, A.; Stavrakoudis, D. Automated Roundwood Volume Estimation Using Mobile LiDAR Data and Circle Fitting Methods. *Remote Sensing Applications: Society and Environment* **2025**, *40*, 101785, doi:10.1016/j.rsase.2025.101785.

## J38

Van Hout, A.W.; Choopani, A.; Stavrakoudis, D.; De Witte, W.; Gitas, I.; Van Meerbeek, K.; Ottoy, S. Estimation of Burned Fuel Volumes in Heathland Ecosystems Using Multitemporal UAV LiDAR and Superpixel Classification. *Drones* **2025**, *9*, 615, doi:10.3390/drones9090615.

## J37

Koumoulidis, D.; Varvaris, I.; Hadjimitsis, D.; Gabriele, M.; Brumana, R.; Gitas, I.; Georgopoulos, N.; Abdollahnejad, A.; Gkounti, E.; Stavrakoudis, D.; et al. Profiling Land Use Planning: Legislative Structures in Five European Nations. *Land* **2025**, *14*, 1261, doi:10.3390/land14061261.

## J36

Antoniadis, K.; Gitas ,Ioannis Z.; Georgopoulos ,Nikos; Stavrakoudis ,Dimitris; and Hadjimitsis, D. Investigating the Potential of ICEYE-SAR Data in Storm Damage Detection in a Coniferous Forest with Rugged Terrain. *International Journal of Remote Sensing* **2025**, *46*, 1622–1651, doi:10.1080/01431161.2024.2433761.

## J35

Sismanis, M.; Gitas, I.Z.; Georgopoulos, N.; Stavrakoudis, D.; Gkounti, E.; Antoniadis, K. A Spectral–Spatial Approach for the Classification of Tree Cover Density in Mediterranean Biomes Using Sentinel-2 Imagery. *Forests* **2024**, *15*, 2025, doi: 10.3390/f15112025.

## J34

Sismanis, M.; Gitas, I.Z.; Stavrakoudis, D.; Georgopoulos, N.; Antoniadis, K.; Gkounti, E. A Novel Spectral–Spatial Methodology for Hierarchical Fuel Type Mapping in Mediterranean Ecosystems Using Sentinel-2 Timeseries and Auxiliary Thematic Data. *Fire* **2024**, *7*, 407, doi:10.3390/fire7110407.

## J33

Chuvieco, E.; Yebra, M.; Martino, S.; Thonicke, K.; Gómez-Giménez, M.; San-Miguel, J.; Oom, D.; Velea, R.; Mouillot, F.; Molina, J.R.; et al. Towards an Integrated Approach to Wildfire Risk Assessment: When, Where, What and How May the Landscapes Burn. *Fire* **2023**, *6*, 215, doi:10.3390/fire6050215.

## J32

Stavrakoudis, D.; Gitas, I.Z. Object-Based Burned Area Mapping with Extreme Gradient Boosting Using Sentinel-2 Imagery. *Journal of Geographic Information System* **2023**, *15*, 53–72, doi:10.4236/jgis.2023.151004.

## J31

Ottoy, S.; Tziolas, N.; Van Meerbeek, K.; Aravidis, I.; Tilkin, S.; Sismanis, M.; Stavrakoudis, D.; Gitas, I.Z.; Zalidis, G.; De Vocht, A. Effects of Flight and Smoothing Parameters on the Detection of Taxus and Olive Trees with UAV-Borne Imagery. *Drones* **2022**, *6*, 197, doi:10.3390/drones6080197.

## J30

Psaroudakis, C.; Xanthopoulos, G.; Stavrakoudis, D.; Barnias, A.; Varela, V.; Gkotsis, I.; Karvouniari, A.; Agorgianitis, S.; Chasiotis, I.; Vlachogiannis, D.; et al. Development of an Early Warning and Incident Response System for the Protection of Visitors from Natural Hazards in Important Outdoor Sites in Greece. *Sustainability* **2021**, *13*, 5143, doi:10.3390/su13095143.

## J29

Georgopoulos, N.; Gitas, I.Z.; Stefanidou, A.; Korhonen, L.; Stavrakoudis, D. Estimation of Individual Tree Stem Biomass in an Uneven-Aged Structured Coniferous Forest Using Multispectral LiDAR Data. *Remote Sensing* **2021**, *13*, 4827, doi:10.3390/rs13234827.

## J28

Stefanidou, A.; Z. Gitas, I.; Korhonen, L.; Georgopoulos, N.; Stavrakoudis, D. Multispectral LiDAR-Based Estimation of Surface Fuel Load in a Dense Coniferous Forest. *Remote Sensing* **2020**, *12*, 3333, doi:10.3390/rs12203333.

## J27

Stefanidou, A.; Z. Gitas, I.; Korhonen, L.; Stavrakoudis, D.; Georgopoulos, N. Erratum: Stefanidou, A., et al. LiDAR-Based Estimates of Canopy Base Height for a Dense Uneven-Aged Structured Forest. Remote Sensing 2020, 12, 1565. *Remote Sensing* **2020**, *12*, 3116, doi:10.3390/rs12193116.

## J26

Stefanidou, A.; Gitas, I.Z.; Korhonen, L.; Stavrakoudis, D.; Georgopoulos, N. LiDAR-Based Estimates of Canopy Base Height for a Dense Uneven-Aged Structured Forest. *Remote Sensing* **2020**, *12*, 1565, doi:10.3390/rs12101565.

## J25

Stavrakoudis, D.; Katagis, T.; Minakou, C.; Gitas, I.Z. Automated Burned Scar Mapping Using Sentinel-2 Imagery. *Journal of Geographic Information System* **2020**, *12*, 221–240, doi:10.4236/jgis.2020.123014.

## J24

Franquesa, M.; Vanderhoof, M.K.; Stavrakoudis, D.; Gitas, I.Z.; Roteta, E.; Padilla, M.; Chuvieco, E. Development of a Standard Database of Reference Sites for Validating Global Burned Area Products. *Earth System Science Data* **2020**, *12*, 3229–3246, doi:https://doi.org/10.5194/essd-12-3229-2020.

## J23

Stefanidou, A.; Gitas, I.Z.; Stavrakoudis, D.; Eftychidis, G. Midterm Fire Danger Prediction Using Satellite Imagery and Auxiliary Thematic Layers. *Remote Sensing* **2019**, *11*, 2786, doi:10.3390/rs11232786.

## J22

Stavrakoudis, D.; Katsantonis, D.; Kadoglidou, K.; Kalaitzidis, A.; Gitas, I.Z. Estimating Rice Agronomic Traits Using Drone-Collected Multispectral Imagery. *Remote Sensing* **2019**, *11*, 545, doi:10.3390/rs11050545.

## J21

Pagani, V.; Guarneri, T.; Busetto, L.; Ranghetti, L.; Boschetti, M.; Movedi, E.; Campos-Taberner, M.; Garcia-Haro, F.J.; Katsantonis, D.; Stavrakoudis, D.; et al. A High-Resolution, Integrated System for Rice Yield Forecasting at District Level. *Agricultural Systems* **2019**, *168*, 181–190, doi:10.1016/j.agsy.2018.05.007.

## J20

Kadoglidou, K.; Kalaitzidis, A.; Stavrakoudis, D.; Mygdalia, A.; Katsantonis, D. A Novel Compost for Rice Cultivation Developed by Rice Industrial By-Products to Serve Circular Economy. *Agronomy* **2019**, *9*, 553, doi:10.3390/agronomy9090553.

## J19

Stefanidou, A.; Dragozi, E.; Stavrakoudis, D.; Gitas, I.Z. Fuel Type Mapping Using Object-Based Image Analysis of DMC and Landsat-8 OLI Imagery. *Geocarto International* **2018**, *33*, 1064–1083, doi:10.1080/10106049.2017.1333532.

## J18

Nutini, F.; Confalonieri, R.; Crema, A.; Movedi, E.; Paleari, L.; Stavrakoudis, D.; Boschetti, M. An Operational Workflow to Assess Rice Nutritional Status Based on Satellite Imagery and Smartphone Apps. *Computers and Electronics in Agriculture* **2018**, *154*, 80–92, doi:10.1016/j.compag.2018.08.008.

## J17

Campos-Taberner, M.; García-Haro, F.J.; Camps-Valls, G.; Grau-Muedra, G.; Nutini, F.; Busetto, L.; Katsantonis, D.; Stavrakoudis, D.; Minakou, C.; Gatti, L.; et al. Exploitation of SAR and Optical Sentinel Data to Detect Rice Crop and Estimate Seasonal Dynamics of Leaf Area Index. *Remote Sensing* **2017**, *9*, 248, doi:10.3390/rs9030248.

## J16

Busetto, L.; Casteleyn, S.; Granell, C.; Pepe, M.; Barbieri, M.; Campos-Taberner, M.; Casa, R.; Collivignarelli, F.; Confalonieri, R.; Crema, A.; et al. Downstream Services for Rice Crop Monitoring in Europe: From Regional to Local Scale. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* **2017**, *10*, 5423–5441, doi:10.1109/JSTARS.2017.2679159.

## J15

Mylonas, S.K.; Stavrakoudis, D.G.; Theocharis, J.B.; Zalidis, G.C.; Gitas, I.Z. A Local Search-Based GeneSIS Algorithm for the Segmentation and Classification of Remote-Sensing Images. *IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing* **2016**, *9*, 1470–1492, doi:10.1109/JSTARS.2016.2518403.

## J14

Dragozi, E.; Gitas, I.Z.; Bajocco, S.; Stavrakoudis, D.G. Exploring the Relationship between Burn Severity Field Data and Very High Resolution GeoEye Images: The Case of the 2011 Evros Wildfire in Greece. *Remote Sensing* **2016**, *8*, 566, doi:10.3390/rs8070566.

## J13

Mylonas, S.K.; Stavrakoudis, D.G.; Theocharis, J.B.; Mastorocostas, P.A. A Region-Based GeneSIS Segmentation Algorithm for the Classification of Remotely Sensed Images. *Remote Sensing* **2015**, *7*, 2474–2508, doi:10.3390/rs70302474.

## J12

Mylonas, S.K.; Stavrakoudis, D.G.; Theocharis, J.B.; Mastorocostas, P.A. Classification of Remotely Sensed Images Using the GeneSIS Fuzzy Segmentation Algorithm. *IEEE Transactions on Geoscience and Remote Sensing* **2015**, *53*, 5352–5376, doi:10.1109/TGRS.2015.2421640.

## J11

Giannoglou, V.G.; Stavrakoudis, D.G.; Theocharis, J.B.; Petridis, V. Genetic Fuzzy Rule Based Classification Systems for Coronary Plaque Characterization Based on Intravascular Ultrasound Images. *Engineering Applications of Artificial Intelligence* **2015**, *38*, 203–220, doi:10.1016/j.engappai.2014.10.018.

## J10

Stavrakoudis, D.G.; Dragozi, E.; Gitas, I.Z.; Karydas, C.G. Decision Fusion Based on Hyperspectral and Multispectral Satellite Imagery for Accurate Forest Species Mapping. *Remote Sensing* **2014**, *6*, 6897–6928, doi:10.3390/rs6086897.

## J9

Dragozi, E.; Gitas, I.Z.; Stavrakoudis, D.G.; Theocharis, J.B. Burned Area Mapping Using Support Vector Machines and the FuzCoC Feature Selection Method on VHR IKONOS Imagery. *Remote Sensing* **2014**, *6*, 12005–12036, doi:10.3390/rs61212005.

## J8

Mylonas, S.K.; Stavrakoudis, D.G.; Theocharis, J.B. GeneSIS: A GA-Based Fuzzy Segmentation Algorithm for Remote Sensing Images. *Knowledge-Based Systems* **2013**, *54*, 86–102, doi:10.1016/j.knosys.2013.07.018.

## J7

Stavrakoudis, D.G.; Theocharis, J.B. Handling Highly-Dimensional Classification Tasks with Hierarchical Genetic Fuzzy Rule-Based Classifiers. *International Journal of Uncertainty, Fuzziness and Knowledge-Based Systems* **2012**, *20*, 73–104, doi:10.1142/S0218488512400168.

## J6

Stavrakoudis, D.G.; Galidaki, G.N.; Gitas, I.Z.; Theocharis, J.B. Reducing the Complexity of Genetic Fuzzy Classifiers in Highly-Dimensional Classification Problems. *International Journal of Computational Intelligence Systems* **2012**, *5*, 254–275, doi:10.1080/18756891.2012.685290.

## J5

Stavrakoudis, D.G.; Galidaki, G.N.; Gitas, I.Z.; Theocharis, J.B. A Genetic Fuzzy-Rule-Based Classifier for Land Cover Classification From Hyperspectral Imagery. *IEEE Transactions on Geoscience and Remote Sensing* **2012**, *50*, 130–148, doi:10.1109/TGRS.2011.2159613.

## J4

Stavrakoudis, D.G.; Theocharis, J.B.; Zalidis, G.C. A Multistage Genetic Fuzzy Classifier for Land Cover Classification from Satellite Imagery. *Soft Comput* **2011**, *15*, 2355–2374, doi:10.1007/s00500-010-0666-z.

## J3

Stavrakoudis, D.G.; Theocharis, J.B.; Zalidis, G.C. A Boosted Genetic Fuzzy Classifier for Land Cover Classification of Remote Sensing Imagery. *ISPRS Journal of Photogrammetry and Remote Sensing* **2011**, *66*, 529–544, doi:10.1016/j.isprsjprs.2011.01.010.

## J2

Mastorocostas, P.; Stavrakoudis, D.; Theocharis, J. A Pipelined Recurrent Fuzzy Model for Real-Time Analysis of Lung Sounds. *Engineering Applications of Artificial Intelligence* **2008**, *21*, 1301–1308, doi:10.1016/j.engappai.2008.01.001.

## J1

Stavrakoudis, D.G.; Theocharis, J.B. Pipelined Recurrent Fuzzy Neural Networks for Nonlinear Adaptive Speech Prediction. *IEEE Transactions on Systems, Man, and Cybernetics, Part B: Cybernetics* **2007**, *37*, 1305–1320, doi:10.1109/TSMCB.2007.900516.

## Papers in International Conference Proceedings

### C36

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### C35

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### C34

Varvaris, I.; Hadjimitsis, D.; Mavrovouniotis, M.; Stavrinides, M.; Neophytides, S.; Koumoulidis, D.; Kokkinos, N.; Lojka, B.; Kotrba, R.; Jůnek, T.; et al. AfroGrow: Co-Creating Living Labs for Sustainable Agroforestry and Climate Resilience Across Africa. In Proceedings of the Eleventh International Conference on Remote Sensing and Geoinformation of Environment; Paphos, Cyprus, March 2025.

### C33

Georgopoulos, N.; Antoniadis, K.; Stavrakoudis, D.; Gitas, I.Z. Exploring the Potential of Spaceborne LiDAR Data for Forest Biomass Estimation in a Complex-Structured Coniferous Forest. In Proceedings of the Tenth International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2024); SPIE, September 13 2024; Vol. 13212, pp. 272–284.

### C32

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### C31

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### C30

Routis, G.; Paraskevopoulos, M.; Vetsikas, I.A.; Roussaki, I.; Stavrakoudis, D.; Katsantonis, D. Data-Driven and Interoperable Smart Agriculture: An IoT-Based Use-Case for Arable Crops. In Proceedings of the 2022 IEEE International Conference on Omni-layer Intelligent Systems (COINS); August 2022; pp. 1–8.

### C29

Stavrakoudis, D.; Katagis, T.; Minakou, C.; Gitas, I.Z. Towards a Fully Automatic Processing Chain for Operationally Mapping Burned Areas Countrywide Exploiting Sentinel-2 Imagery. In Proceedings of the Seventh International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2019); International Society for Optics and Photonics, June 27 2019; Vol. 11174, p. 1117405.

## C28

Georgopoulos, N.; Stavrakoudis, D.; Gitas, I.Z. Object-Based Burned Area Mapping Using Sentinel-2 Imagery and Supervised Learning Guided by Empirical Rules. In Proceedings of the IGARSS 2019 - 2019 IEEE International Geoscience and Remote Sensing Symposium; July 2019; pp. 9980–9983.

## C27

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## C26

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## C25

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## C23

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## C22

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## C20

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## C19

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## C13

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## C12

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## C11

Stavrakoudis, D.G.; Galidaki, G.N.; Gitas, I.Z.; Theocharis, J.B. A Fast Iterative Rule-Based Linguistic Classifier for Hyperspectral Remote Sensing Tasks. In Proceedings of the 2011 IEEE 5th International Workshop on Genetic and Evolutionary Fuzzy Systems (GEFS); April 2011; pp. 24–30.

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### C9

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### C8

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### C6

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### C5

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### C4

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### C3

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### C2

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### C1

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## Book Chapters / Articles in Collections

### S4

Stefanidou, A.; Stavrakoudis, D.; Gitas, I.Z. Chapter 23 - Recent Advances and Future Trends in Operational Burned Area Mapping Using Remote Sensing. In *Geographical Information Science*; Petropoulos, G.P., Chalkias, C., Eds.; Elsevier, 2024; pp. 477–495 ISBN 978-0-443-13605-4.

### S3

Mylonas, I.; Stavrakoudis, D.; Katsantonis, D.; Korpetis, E. Chapter 1 - Better Farming Practices to Combat Climate Change. In *Climate Change and Food Security with Emphasis on Wheat*; Ozturk, M., Gul, A., Eds.; Academic Press, 2020; pp. 1–29 ISBN 978-0-12-819527-7.

### S2

Bernardes, S.; Madden, M.; Astuti, I.; Bernardes, S.; Chuvieco, E.; Cotten, D.; Dennison, P.E.; Dronova, I.; Gitas, I.; Gong, P.; et al. Image Processing and Analysis Methods. In *Manual of Remote Sensing*; American Society for Photogrammetry and Remote Sensing: MD, USA, 2019; pp. 631–868 ISBN 978-1-57083-103-4.

### S1

Stavrakoudis, D.G.; Theocharis, J.B.; Zalidis, G.C. Genetic Fuzzy Rule-Based Classifiers for Land Cover Classification from Multispectral Images. In *Applications of Intelligent Control to Engineering Systems*; Valavanis, K.P., Ed.; Intelligent Systems, Control, and Automation: Science and Engineering; Springer Netherlands, 2009; pp. 195–221 ISBN 978-90-481-3017-7.

## SCHOLARSHIPS

15/02/2020 – 30/12/2021

### IKY Postdoc Scholarship

- **Scholarship from the Hellenic State Scholarships Foundation (IKY)** under the subproject “Post doc Scholarships – Partnership Agreement (PA) 2014-2020 — Round B”, co-financed by Greece and the European Union (European Social Fund – ESF) through the Operational Programme “Human Resources Development, Education and Lifelong Learning 2014–2020”.
- **Research Title:** Development of tools for wildfires’ direct impact assessment on a national level using satellite data and Google Earth Engine.
- **Duration:** 15/02/2020 – 30/12/2022
- **Host institute:** Laboratory of Forest Management and Remote Sensing of AUTH

26/06/2018 – 28/01/2020

### AUTH Postdoc Scholarship

- **Scholarship from the Aristotle University of Thessaloniki** under the action “Support for Researchers with Emphasis on Young Researchers — ΕΔΒΜ 34”, co-financed by Greece and the European Union (European Social Fund – ESF) through the Operational Programme “Human Resources Development, Education and Lifelong Learning 2014–2020”.
- **Subproject:** Development of an advanced algorithm and an open-source software for automated burned area mapping using high-resolution data (MIS: 5005537).
- **Duration:** 26/08/2018 – 28/01/2020
- **Host institute:** Laboratory of Forest Management and Remote Sensing of AUTH