

CURRICULUM VITAE OF ANASTASIA POLYCHRONAKI

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PROFILE

I am an environmental scientist with extensive experience in remote sensing and GIS applications for a wide range of tasks such as mapping and monitoring of land-cover/land-use and habitat types as well as burned area mapping and monitoring of post-fire vegetation recovery using optical and SAR data. I am also experienced in project management, scientific writing and field work.

WORK EXPERIENCE

1 June 2013 - 31 Dec. 2013

External collaborator at the Institute for Applied Remote Sensing of the European Academy of Bolzano (EURAC), Italy

- Responsible for the European (FP7 SPACE) project MS.MONINA (Multi-scale Service for Monitoring NATURA 2000 Habitats of European Community Interest): Mapping and monitoring of habitat types in Alpine regions using multi-temporal RapidEye data and Support Vector Machines classification
- Scientific writing

1 March 2012 - 31 May 2013

Senior Researcher at the Institute for Applied Remote Sensing of the European Academy of Bolzano (EURAC), Italy

- Remote sensing and GIS applications for land-cover/land-use mapping and habitat type mapping in Alpine regions
- Responsible for the European (FP7 SPACE) project MS.MONINA (Multi-scale Service for Monitoring NATURA 2000 Habitats of European Community Interest): Mapping and monitoring of habitat types in Alpine regions using multi-temporal RapidEye data and Support Vector Machines classification
- Scientific writing
- Field work

1 March 2011 - 29 Feb. 2012

Research associate at the laboratory of Forest Management and Remote Sensing, Faculty of Forestry and Natural Environment, Aristotle University of Thessaloniki (AUTH) (Research Committee of the AUTH), Greece

- Remote sensing and GIS applications for land-cover/land-use mapping, burned area mapping and monitoring of post-fire vegetation recovery
- Responsible for the European Project 'GEOLAND2 Towards an operational GMES Land Monitoring Core Service' (European Commission, Research Directorate General): Mapping and monitoring of grassland types in Greece using multi-temporal AWiFS data and Support Vector Machines classification
- Scientific writing
- Field work

1 Sept. 2009 - 28 Feb. 2011

Trainee at the European Space Research Institute (ESRIN) of the European Space Agency (ESA), Frascati, Italy

- Acquisition and analysis of SAR data for monitoring burned areas and estimating forest biomass
- Participation in the United Nations Collaborative Programme on 'Reducing Emissions from Deforestation and Forest Degradation' (UN-REDD) in developing countries

1 July 2005 - 31 Aug. 2009

Research associate at the laboratory of Forest Management and Remote Sensing, Faculty of Forestry and Natural Environment, Aristotle University of Thessaloniki (AUTH) (Research Committee of the AUTH), Greece

- Remote sensing and GIS applications for land-cover/land-use mapping, burned area mapping and monitoring of post-fire vegetation recovery
- Responsible for the Greek National Project 'Forests for the future' (WWF, Greece): Mapping and monitoring of land-cover types in Greece using multi-temporal Landsat data and object-based classification
- Participation in the following projects: European Project 'GEOLAND2 Towards an operational GMES Land Monitoring Core Service' (European Commission, Research Directorate General), European Project 'BOSS4GMES Building Operational Sustainable Services for GMES' (European Commission, Research Directorate General), Greek National Project 'Fuel type mapping in the prefectures of Attiki and Chalkidiki' (Algosystems SA, Greece), Greek National Project 'Burned area mapping after the recent fires in the Peloponnese' (WWF, Greece), Greek National Project 'Vegetation Mapping of Mount Parnitha before the fire of July 2007' (Geografiki SA / Greek Ministry of Rural Development and Food), European Project 'FIRE PARADOX-An Innovative Remote Sensing Approach of Integrated Wildland Fire / Management Regulating the Wildfire Problem by the Wise Use of Fire: Solving the Fire Paradox' (European Commission, Research Directorate General), European Project 'GeoLand-GMES products & services, integrating EO monitoring capacities to support the implementation of European directives and policies related to LAND cover and vegetation' (European Commission/ESA), Greek National Project 'PYTHAGORAS project Production of vegetation condition maps using MODIS data' (General Secretariat for Research and Technology, Greece)
- Scientific writing
- Field work

EDUCATION

Feb. 2009 - Feb. 2013

PhD in Forestry specialized in remote sensing and GIS applications, Faculty of Forestry and Natural Environment, Aristotle University of Thessaloniki (AUTH), Greece

Dissertation: Developing methods to assess the short- and long-term effects of wildfires on natural ecosystems using remote sensing and geographic information systems

Nov. 2005 - July 2007

Master in Remote Sensing and Forest Management, Faculty of Forestry and Natural Environment, AUTH, Greece

Oct. 2003 - Oct. 2005

Master in Environmental Management, Mediterranean Agronomic Institute of Chania (MAICH), Greece

Sep. 1997 - Sep. 2003

Bachelor in Forestry and Natural Environment, AUTH, Greece

CONTINUING EDUCATION

Sep. 2013 - now

Python Programming: UC Berkeley Extension Online Learning

April 2013

Course on Advanced Scientific Writing: ‘Getting Papers Published’, course leader: Avril Arthur- Goetting (www.bioexpress.de), 15-16 April 2013, EURAC, Bolzano, Italy

March, April 2013

Intermediate Programming with IDL and Extending ENVI with IDL, Exelis Visual Information Solutions, 5-7 March and 2-3 April 2013, EURAC, Bolzano, Italy

May 2012

Course on Applied Scientific Writing, course leader: Avril Arthur-Goetting (www.bioexpress.de), 14-16 May 2012, EURAC, Bolzano, Italy

Feb., June, July 2012

Advanced Techniques for Analysis of Remote Sensing Images, leader: Prof. Lorenzo Bruzzone, 8-10 February, 11-14 June and 3 July 2012, EURAC, Bolzano, Italy

January 2011

Advanced Course on Radar Polarimetry, 17-21 January 2011, ESA/ESRIN, Frascati, Italy

SKILLS

- Field work experience: collection of ground truth data for land cover mapping, post-fire vegetation recovery and forest biomass estimation
- Experience in writing research proposals
- Experience in reviewing scientific papers. Reviewer for Remote Sensing Letters, International Journal of Health Geographics, Remote Sensing
- Computer literacy:
 - Excellent use of eCognition, ERDAS IMAGINE, ArcGIS, ENVI, NEST, PolSARpro, Sarscape
 - Experience with IDL for data analysis
 - Excellent use of MS Office applications (Word, PowerPoint, Excel)
 - Excellent use of Prezi for presentations
 - Experience using Adobe Illustrator, SPSS

HONORS AND AWARDS

2011

Scholarship of Excellence for PhD students for the year 2011. Awarded by the Research Committee of the Aristotle University of Thessaloniki, Greece

Traineeship for Greek scientists at the European Space Agency (ESA). Awarded by the Greek State Scholarships Foundation (IKY) and ESA

PUBLICATIONS

- Polychronaki, A., Gitas, I., Veraverbeke, S., Debien, A., 2013. 'Evaluation of ALOS PALSAR Imagery for Burned Area Mapping in Greece Using Object-Based Classification', **Remote Sensing**, 5(11), 5680-5701; doi:10.3390/rs5115680.
- Polychronaki, A., Gitas, I., Minchella, A., 2013. 'Monitoring post-fire vegetation recovery in the Mediterranean using SPOT and ERS imagery', **International Journal of Wildland Fire**. <http://dx.doi.org/10.1071/WF12058>.
- Gitas I., Mitri G., Veraverbeke S., and Polychronaki A. 'Advances in Remote Sensing of Post-Fire Vegetation Recovery Monitoring (a Review)'. In Remote Sensing of Biomass - Principles and Applications. Edited by Temilola Fatoyinbo, ISBN 978-953-51-0313-4, Hard cover, 322 pages, Publisher: InTech, Published: March 28, 2012 under CC BY 3.0 license, in subject Energy Engineering DOI: 10.5772/696.
- Polychronaki, A., and Gitas, I.Z., 2012. 'Burned Area Mapping in Greece Using SPOT-4 HRVIR Images and Object-Based Image Analysis', **Remote Sensing**, 4(2), 424-438; doi:10.3390/rs4020424.
- Veraverbeke, S., Gitas, I., Katagis, T., Polychronaki, A., Somers, B. and Goossens, R., 2012. 'Assessing post-fire vegetation recovery using red-near infrared vegetation indices: accounting for background and vegetation variability', **ISPRS Journal of Photogrammetry and Remote Sensing**, 68, 28-39.
- Veraverbeke, S., Somers, B., Gitas, I., Katagis, T., Polychronaki, A. and Goossens, R., 2011. 'Spectral mixture analysis to assess post-fire vegetation regeneration using Landsat Thematic mapper imagery: accounting for soil brightness variation', **International Journal of Applied Earth Observation and Geoinformation**, 14, 1-11.
- Polychronaki, A. and Gitas, I. Z., 2010. 'The development of an operational procedure for burned-area mapping using object-based classification and ASTER imagery', **International Journal of Remote Sensing**, 31: 4, 1113-1120.
- Gitas, I.Z., Polychronaki, A., Katagis, T. and Mallinis, G., 2008. 'Contribution of remote sensing to disaster management activities: A case study of the large fires in the Peloponnese, Greece', **International Journal of Remote Sensing**, 29(6): 1847-1853.

CONFERENCE PAPERS

- Polychronaki, A., Spindler, N., Schmidt, A., Stoinschek, B., Zebisch, M., Renner, K., Notarnicola, C., Sonnenschein, R., 2013. 'Mapping habitats in Alpine regions using multi-temporal RapidEye data', Special Workshop at GI_Forum 2013 (EO4Hab), Ecosystem and Biodiversity Monitoring – best practice in Europe and globally, University of Salzburg, 3 July 2013.
- Polychronaki, A., Spindler, N., Stoinschek, B., Schmidt, A., Zebisch, M., Renner, K., Notarnicola, C., Sonnenschein, R., 2013. 'Habitat mapping and monitoring in Alpine regions using multi-temporal RapidEye data'. 33rd EARSeL Symposium, Towards Horizon 2020: Earth Observation and Social Perspectives, 3-6 June 2013, Matera, Italy.
- Polychronaki, A., Gitas, I.Z., Minchella, A., 2011. 'Monitoring post-fire vegetation recovery using optical and SAR data'. In Jesus San-Miguel Ayanz, Ioannis Gitas, Andrea Camia, Sandra Oliveira (Eds.) Proceedings of 8th International Workshop of the European Association of Remote Sensing Laboratories (EARSeL) Special Interest Group (SIG) on Forest Fires: Advances in RS and GIS applications in Forest Fire Management from local to global assessment, Stresa, Italy, 20-22 October. pp: 142-147.
- Dimitrakopoulos, K., Gitas, I.Z., Polychronaki, A., Katagis, T., Minakou, C., 2010. 'Land Cover/Use Mapping Using Object Based Classification of SPOT Imagery', Proceedings of the 30th EARSeL Symposium, 31 May-3 June 2010, Paris, France.

- Gitas, I.Z., T. Katagis, A. Polychronaki, M. Mateescu, 2010. 'BAS2: An in-house developed stand-alone GIS application for the estimation of burned area statistics', 3rd WSEAS International Conference on Visualization, Imaging and Simulation, VIS'10, 3-5 November 2010, Faro, Portugal, Code 85139 - Proceedings, pp. 18-22.
- Stergiopoulos, I., Polychronaki, A., Gitas, I.Z., Galidaki, G., Dimitrakopoulos, K., Mallinis, G., 2009. 'Fuel type mapping using SPOT-5 imagery and object based image analysis' In Proceedings of the VII International EARSeL Workshop, E. Chuvieco & R. Lasaponara (eds) Advances on Remote Sensing and GIS applications in Forest Fire Management - Towards an operational use of Remote Sensing in Forest Fire Management, 2-5 September 2009, Matera, Italy, p. 69-73.
- Katagis, T., Polychronaki, A., Gitas, I.Z., 2008. 'Mapping burned areas and assessing short-term fire effects with the use of object-based analysis and high resolution satellite imagery', 28th EARSeL Symposium and Workshops Remote Sensing for a Changing Europe, 2-7 June 2008, Istanbul, Turkey.
- Gitas, I.Z., Polychronaki, A., Katagis, T., Mallinis, G., Minakou, C., 2007. 'Wildfires & Remote Sensing - Fast Mapping Results Provide Deeper Insights', GEOInformatics, October/November 2007, Vol 10, 16-19.
- Polychronaki, A., Katagis, T., Gitas, I., Karteris, M., 2007. 'Assessment of the short-term impact of forest fires by employing object-based classification and GIS analysis', 6th International Workshop of the EARSeL Special Interest Group (SIG) on Forest Fires Towards an operational use of Remote Sensing in Forest Management, European Commission, Joint Research Centre, EUR 22892 EN, Luxembourg p.217-220.
- Polychronaki, A., Gitas, I., Karteris, M., 2007. 'The development of a transferable object-oriented model for ASTER imagery to be used in burned area mapping', 6th International Workshop of the EARSeL Special Interest Group (SIG) on Forest Fires Towards an operational use of Remote Sensing in Forest Management, European Commission, Joint Research Centre, EUR 22892 EN, Luxembourg p.178-181.
- Polychronaki, A., Gitas, I.Z., Mitri, G., 2006. 'The development of an object-oriented model for burned area mapping using ASTER imagery', RSPSOC Annual Conference, Understanding a Changing World, 5-8 September 2006, University of Cambridge, England.

WORKSHOPS AND CONFERENCES

- POLinSAR, the 5th International Workshop on Science and Applications of SAR Polarimetry and Polarimetric Interferometry, 24-28 January 2011, ESA/ESRIN, Frascati, Italy.
- The European Space Agency Living Planet Symposium, 28 June - 2 July 2010, Bergen, Norway.
- GOFC-GOLD Fire Implementation Team Workshop, 23-25 March 2010, ESA/ESRIN, Frascati, Italy.
- SEASAR Workshop: Advances in SAR Oceanography from ENVISAT, ERS and ESA third party missions, 25-29 January 2010, ESA/ESRIN, Frascati, Italy.
- FRINGE Workshop: Advances in the Science and Applications of SAR Interferometry, ESA/ESRIN, 30 November - 4 December 2009, and NEST Toolbox Training Course from 25-27 November 2009, Frascati, Italy.
- 6th International Workshop of the EARSeL Special Interest Group (SIG) on Forest Fires, Towards an operational use of Remote Sensing in Forest Management, 26-28 September 2007, Thessaloniki, Greece.

Referrals

Prof. Dr. Ioannis Gitas

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