

CULTUREAWARD-YR 0418

RIF PROPOSAL NUMBER	TITLE	COORDINATOR	HOST ORGANIZATION	PROJECT BUDGET	RIF FUNDING	PUBLISHABLE SUMMARY
CULTURE/AWARD-YR/0418/0007	Synergistic Use of Optical and Radar data for cultural heritage applications	Athos Agapiou	Cyprus University of Technology	60.000,00 €	60.000,00 €	<p>The project "Synergistic Use of Optical and Radar data for cultural heritage applications", in short PLACES, aims to support the Young Researcher to further investigate the potentials of earth observation and space technologies for cultural heritage. Despite the availability of sensors providing a range of different spatial and spectral characteristics, research is sometimes restricted by the mismatch observed between the individual sensors' characteristics related to their spatial, spectral, radiometric and temporal resolution. Since each sensor operates on a specific wavelength range and is sensitive to specific environmental conditions, the acquisition of all the required information is not feasible to be acquired by a single sensor. It is essential therefore capitalize on the capacity of existing sensors and understand potential synergies between them, expanding thus the scope of space-based Earth system science in order to meet the needs of a particular domain area such as cultural heritage.</p> <p>The various activities planned in the project, follow the general trend in the field towards the fusion and synergistic use of heterogeneous satellite datasets (i.e. optical and radar images), especially satellite datasets which have nowadays become open and freely distributed, such as those from the European Space Agency (ESA) and National Aeronautics and Space Administration (NASA). The activities of the project include multi-temporal analysis of satellite images, image processing and fusion of remote sensed datasets.</p>
CULTURE/AWARD-YR/0418/0014	Resource Allocation in Flexible Optical Networks	Georgios Ellinas	University of Cyprus	60.000,00 €	60.000,00 €	<p>Operators and market analysts from all parts of the telecommunication industry recognize that bandwidth demand is increasing dramatically, year on year, with typical growth figures of up to 60% for Internet based traffic. In order deal with this increase in traffic, additional resources are required in the current deployment networks and as a consequence advance techniques are required in order manage the traffic and the additional resources in an efficient way. The proposed project "Resource Allocation in Flexible Optical Networks" (REALFON) aims at designing and developing innovative optimization algorithms for resource allocation in flexible optical networks (FONs). The optimization algorithms proposed by REALFON is based on four technical pillars: a) Routing and spectrum allocation (RSA) in FONs with traffic demand variations, b) RSA with physical layer impairments (PLIs) in spectrally spatially (SS)-FONs, c) Security and protection in FONs and d) Secure anycasting in FONs. These innovative solutions will reach a significant advance beyond the current state-of-the-art and will fulfil the requirements of future optical networks regarding scalability and security, as well as important savings on the spectrum utilization for network operators. Furthermore, reduction of the total cost of ownership and power consumption represent other significant results. Integer Linear Programming (ILP) formulations, relaxation techniques, and meta-heuristic algorithms will be proposed in order to deal with open issues of resource allocation in flexible optical networks.</p>