

Opportunity MSCA 0916

RPF PROPOSAL NUMBER	TITLE	COORDINATOR	HOST ORGANIZATION	PARTNER ORGANIZATION	FOREIGN ORGANIZATION	PROGECT BUDGET	RPF FUNDING	PUBLISHABLE SUMMARY
OPPORTUNITY/0916/MSCA/0004	Inside the bi-dialectal mind and brain; an electrophysiological study on executive functions	Kyriakos Antoniou	University of Cyprus			150.000,00 €	150.000,00 €	There is widespread impression in Western societies that monolingualism is the norm, but in fact most people function in multilingual and/or bi-dialectal settings. Recently, there has been an upsurge of research on the cognitive effects of bilingualism, with several studies reporting an enhancement of executive control skills in bilinguals. In contrast to bilingualism, however, bi-dialectalism has so far received essentially no research attention. In this context, NeuroBid proposes a multidisciplinary approach that uses both cognitive assessments and electrophysiological measures (Event-Related Potentials) to achieve four goals. The first aim is to characterise the profile of bi-dialectals at both the cognitive and the neural level, focusing on a specific neuro-cognitive system, executive control (EC). In achieving this goal, a second aim will be accomplished, to establish the effect of language similarity on the neuro-cognitive outcomes of bilingualism. The third goal is to explore previous failures to replicate the bilingual cognitive advantage in EC with young adults and to determine whether a bilingual benefit will indeed surface when an experiment that avoids several methodological drawbacks of previous research is implemented. The final aim is to provide data to adjudicate between theoretical accounts regarding the specific locus of the bilingual EC benefit. With a fellowship to implement NeuroBid, the Candidate will provide results and publications that will contribute to a better understanding of the bi-dialectal mind and brain, and will answer important, theory-relevant questions in the neuro-cognitive research on bilingualism; he will also acquire new competences in neuroscientific tools, and receive training in key transferable skills. This will strengthen his academic profile and help him secure a permanent academic post in Europe.
OPPORTUNITY/0916/MSCA/0005	Advancement of Tree Structure Observation Algorithms for FOREST Monitoring	Diofantos Hadjimitsis	Cyprus University of Technology			150.000,00 €	150.000,00 €	The "FOREST" action aims to advance algorithms using emerging technologies related to full-waveform LiDAR, while assisting a young researcher to further improve her intellectual, transferable and scientific skills related to earth observation and environmental sciences, as well as give direct experience in participating in proposals. The concept of this project was initiated from the EngD (Doctor of Engineering) dissertation of the researcher and the need to expand and link these outcomes with complementary existing state-of-the-art technologies such as earth observation imagery and terrestrial LiDAR. This project will connect academic achievements with industrial research and development, further developing and transferring some of the new research outcomes into actual usage and linking expertise and need across several European organisations. In the longer term, the intention is to use the experience and knowledge acquired during the fellowship to initiate a larger project supporting sustainable reforestation, which itself contributes to European Union objectives in environmental protection and, ultimately, in limiting climate change.
OPPORTUNITY/0916/MSCA/0006	Biological treatment of Bilge water using a hybrid system of Submerged Anaerobic Membrane Bioreactor followed by Moving Bed Biofilm Reactor	Ioannis Vyrides	Cyprus University of Technology	PA 1: ECOFUEL (CYPRUS) LTD		149.695,20 €	149.695,20 €	Bilge water is the main pollutant of shipboard wastewater, while discharge of oil residue to marine environments is prohibited according to the International Maritime Organization (IMO) regulations (MARPOL 73/78) and the European directive 2000/59/EC. MicroEaTBilge project will develop an innovative low-cost technology consisting of hybrid bioreactors, Submerged Anaerobic Membrane Bioreactor (SAnMBR) and aerobic Moving Bed Biofilm Reactor (MBBR) for the treatment of real bilge water. The bioreactors and microbial inoculums will be developed and optimized at a laboratory scale at Environmental Engineering Laboratory (EEL) Cyprus University of Technology (CUT), then they will be operated at pilot scale at Ecofuel Cyprus Ltd and the microbial profile in bioreactors will be examined at Environmental Bioprocessing laboratory (EBL) at CUT. The research will be mainly implemented by Dr Mazioti and will involve novel aspects from many disciplines and will also involve testing of bioreactors at industrial pilot scale level (Ecofuel Ltd). More specifically, novel aspects of the project involve the following: 1) isolation of anaerobic and aerobic strain able to biodegrade bilge 2) testing of strains bioaugmentation in anaerobic sludge 3) addition of osmoprotectant compounds (compatible solutes) to anaerobic biomass as a strategy to alleviate salinity inhibition 4) comparison of anaerobic granular sludge with anaerobic suspended sludge in SAnMBR as a strategy to reduce membrane fouling 5) assembly of aerobic microbial consortium that will be inoculated in MBBRs 6) testing of the adequate carriers for immobilization of the aerobic consortium 7) examination of the bioreactor sequence (SAnMBR followed by MBBR) or (MBBR followed by SAnMBR) for the treatment of bilge water 8) operation of pilot bioreactor for bilge treatment 9) correlation of the microbial profile with bioreactors performance at a pilot scale level.

OPPORTUNITY/0916/MSCA/0009	FRAGMENTA IAMBICA: SEMONIDEA, MINORA, ADESPOTA	Giorgos Xenis	University of Cyprus			149.985,31 €	149.985,31 €	Iambica constitutes a rigorous interdisciplinary study on a disparate, incomplete and ill-defined corpus of the early phase (7th-4th century BC) of an ancient Greek poetic genre, iambos, comprising hundreds of fragments preserved on scraps of papyrus and as quotations incorporated in later writers. In Classical times iambos was one of the most versatile and arguably resilient literary forms with a longevity spanning over 1,000 years; today, owing to accidents of survival, it is one of the most elusive ancient poetic genres. The project will provide a definitive reference text (edition and commentary) on a fraction of this early corpus, consisting of the poetry of the major iambic poet Semonides of Amorgos, minor iambic poets and adespota, i.e. authorless texts of dubious provenance. This corpus has been, to date, and partly due to its poor preservation, often neglected, but can shed considerable light on the development of the genre and of ancient poetry as a whole. The work will dynamically complement and enhance the resurgence in the field of study of iambos, and specifically, the international ongoing project to make these large and historically-significant corpora of the early phase of iambos properly accessible for the first time to experts and non-experts alike. The nature of the project reflects larger tendencies in the field of Classics, such as the progress in approaches to fragmentary literature, and the renewed scholarly interest in lyric poetry, its contexts of production, performance and transmission, fueled by a steady stream of papyrological discoveries (such as recently new fragments of Sappho), that continues to, often spectacularly, transform our understanding of literary heritage, history and society of the ancient world. Iambica will provide rigorous training for the Researcher in the skills of textual criticism and literary papyrology as well as the burgeoning field of digital Classics, fundamental to sustaining the study of ancient texts.
OPPORTUNITY/0916/MSCA/0017	Biomimetic, biocompatible and anisotropic synthetic polymer scaffold for tendon stem cell therapy with guided stem cell differentiation	Andreas Anayiotos	Cyprus University of Technology			145.920,00 €	145.920,00 €	Worldwide there are 30 million cases of tendon and ligament injuries annually, and costs approximately €115 billion per year of health care expenditure, and is estimated to grow in the following years. Due to the low regenerative capacity of these tissue treating them requires long and painful rehabilitation periods and the recovery is usually incomplete. Cell-based therapies have shown some successful results when used for tissues such as tendons. The issue that all cell-based therapies have is the cell delivery to the injured site. Studies have shown that using the current cell delivery method, which is injecting the cells at the injured site, less than 5% of the cells reside at the site of injection. Therefore, it is imperative to develop better methods to deliver the cells. In tissue engineering the use of a biomaterial with usually a porous structure (known as a scaffold) is used to aid in tissue development. It functions by providing a temporary 3D structure to the cells with a viable environment for them to adhere and proliferate and develop their own extra cellular matrix while the scaffold is degrading. The POLYSTEM project is aiming to synthesise and fabricate a porous scaffold with the appropriate microstructure and mechanical properties to act as a stem cell carrier for tendon stem cell therapy, but also induce and guide tissue generation and stem cell differentiation.
OPPORTUNITY/0916/MSCA/0010	GRAFFITI-Mediterranean Dialogue	Mia Trentin	The Cyprus Institute			150.000,00 €	150.000,00 €	GRAFMEDIA establishes historic graffiti as a key source for our understanding of the past. Reversing the traditional top-down perspective in historical research, GRAFMEDIA offers a bottom-up approach focusing on an understudied, yet of great emerging significance source that preserves visual and verbal insights into the daily life, religion, and cultural identity of past societies. The project focuses in the culturally rich region of the Eastern Mediterranean where during the Late Medieval and the Early Modern periods, maritime economic and cultural exchanges between Christian Europe and the Islamic Middle East irreversibly shaped the region's history. Graffiti contain the 'voices' of pilgrims, travelers, merchants moving along the Adriatic and Eastern Mediterranean itineraries between the 14th and 18th centuries.