
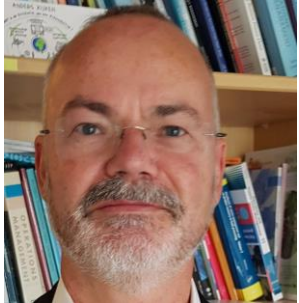



Universidad de Málaga

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Type of organisation:

SME School University Public Authority
 Training No Profit NGO

Other (Specify)

Fields of action :

SMEs Youth Universities Public Authorities
 Equal opportunities Schools Unemployed

Other (Specify)

Description of the organisation

The University of Malaga (UMA) is one of Spain's premiere institutions of higher education (world ranking Webometrics: 496) [2019]. Since its foundation back in 1972, UMA has rapidly expanded its international presence and prestige. Currently, UMA has 2 campuses (1.797.247 m²), +35,700 students, +2,500 professors, +1900 administrative staff, 23 faculties and schools, 82 departments, 200 educational programmes (incl. 68 undergraduate, 75 master and 34 PhD), 309 research groups, research projects (425 national / 150 EU) and +1,800 business contacts. Specifically, the Industrial Engineering school has +4000 graduate students. Regarding international relations, UMA has bilateral agreements with +945 universities from all over the world with +1,500 incoming and +1,100 outgoing exchange students per year and +100 incoming and +200 outgoing exchange staff per year. UMA participates actively in international, national and regional as well as privately-funded programmes, all of them managed by the Office of International Affairs and Cooperation. UMA is member of +100 networks and associations. UMA meets the following quality standards: EFQM 200, EFQM 300, ISO 9001, ISO 14001. UMA is also part of the "Andalucia Tech" Campus of Excellence.

Experience of the organization in previous European projects

The organization has ample experience in Erasmus driven projects for improving teaching and learning experience:

599287-EPP-1-2018-1-UK-EPPKA1-JMD-MOB	U. of Wolverhampton
2018-1-ES01-KA104-048687	Escuela Oficial de Idiomas San Roque, España
2018-1-DE02-KA204-005060	Association Culture & Work, Germany?
2018-1-IT02-KA204-048009	Centro Provinciale Istruzione Adulti, Italy
601115-EPP-1-2018-1-EL-EPPKA2-SSA	AKMI, Greece
2018-1-SE01-KA203-039115	Linkopings Universitet, Sweden
2018-1-ES01-KA107-048198	Fundación CEIMAR
2018-1-ES01-KA107-049841	Universidad de Sevilla
2018-1-ES01-KA204-050991	Iniciativa Internacional Joven
2018-2-ES02-KA205-011871	ADIS-Meridianos
2019-1-ES01-KA107-062759	Fundación CEIMAR
2019-1-ES01-KA107-063775	Universidad de Málaga
610297-EPP-1-2019-1-IN-EPPKA2-CBHE-JP	Banasthali Vidyapith
609668-EPP-1-2019-1-ES-EPPKA2-CBHE-JP	Universidad de Málaga
609543-EPP-1-2019-1-IN-EPPKA2-CBHE-JP	RK University
2019-1-ES01-KA201-065378	Universidad de Zaragoza
2019-1-DE01-KA203-005028	Paedagogische Hochschule Weingarten
2019-1-IT02-KA201-062320	Divisione Educazione Ricerca delle Gallerie degli Uffizi
2019-1-ES01-KA201-063967	Universidad de Málaga
2019-1-ES01-KA201-065104	Universidad de Málaga
19PS0001	Haute Ecole Léonard de Vinci
2019-1-DK01-KA203-060285	University College Copenhagen (KP)
2019-1-UK01-KA203-061463	University of Exeter
2019-1-ES01-KA204-064101	Universidad de Málaga
2020-1-ES01-KA107-080884	Universidad de Málaga
619042-EPP-1-2020-1-PS-EPPKA2-CBHE-JP	Birzeit University
618883-EPP-1-2020-1-IT-EPPKA2-CBHE-JP	Università G. d'Annunzio
621648-EPP-1-2020-1-ES-EPPKA2-KA	Universidad de Málaga
2020-1-ES01-KA204-083103	Universidad de Málaga
2020-1-ES01-KA202-082178	Universidad de Málaga
2020-1-IT02-KA204-079301	Università delle LiberEtà del Fvg
2020-1-IT02-KA203-079313	Fondazione Ente Nazionale per il Diritto allo Studio e per i Servizi agli Studenti
2020-1-UK01-KA203-079064	ASTON UNIVERSITY
2020-1-FR01-KA203-080325	Aix-Marseille Université
2020-1-RO01-KA203-080085	Universitatea Politehnica din Bucuresti
2020-1-ES01-KA204-082195	Universidad de Málaga
2020-1-ES01-KA226-SCH095517	Universidad de Málaga
2020-1-BE05-KA227-YOU-003135	MemoryLab vzw, Bélgica

Experience and Expertise of the organization in the project's subject area

UMA stimulates educational innovation and research by boosting the quality of its professors and research groups through their participation in international research projects -managed by Research Results Transference Office (OTRI) - with the support and sponsorship of enterprises from local TechPark (PTA). The university has a dedicated career center which fosters the employability of students and young researchers by offering a wide services portfolio including academic and professional counselling, paid internships and fellowships.

Contributions that can be provided to the project

The mentioned teachers prof Hendrix and Guerrero-Garcia have a long tradition in teaching mathematical optimization, statistics and computer science and have developed books and educational material on the subjects. Our teaching departments have been looking for many years for tools to improve the teaching beyond blackboard exercises and master classes. A lot of material has been developed which is provided to the students for self-study in the internet learning platform environment called "Campus Virtual". One of the mayor steps in modern teaching is that students are heterogeneous with a different background, such that a teacher can put the pace of getting concepts into the head of the student by talking at a certain speed. However, a student is very well able when a challenge/exercise is provided to look for information and tools that may lead to a solution of a practical problem. Therefore, our departments see it as an obligation to provide learning paths that a student may follow in his/her own speed. The project proposed aims as this target interacting in between departments of various higher education institutions that are dealing with the same objective. Knowledge and experience on teaching will provide new methodologies and publications and exposure of the reached deliverables.

Reasons of involvement in the project

The wide department of Applied Mathematics (called MatAp) is involved in teaching and investigating subjects on mathematical analysis, statistics and OR. The department of Computer Architecture is responsible for providing courses on Computer Technology based material and computer aided design. In the Industrial Engineering school we focus on Algebra, Calculus, Numerical Methods, Vector Calculus, Statistics, Differential Equations, etc. that later are applied in advanced courses on fluid dynamics, thermodynamics, etc. It may be clear that it is not directly the dream of a future engineer to be forced to think in abstract levels about equations and symbols, if it does not refer to an observable reality. The aim is to generate new teaching methodologies in cooperation with the consortium members to achieve this goal.

Contact Person's Experience and Expertise

Prof. Dr. Eligius M.T. Hendrix is a European scientist affiliated with UMA with more than 35 years of experience in teaching and investigating mathematical modelling and optimization algorithms. His research focuses on exploiting mathematical structure of optimization problems in order to derive novel specific algorithms that can be implemented on modern computer platforms. Among others he developed a new method on unmixing data from hyperspectral data. Moreover, his studies enhance logistics, inventory control, competitive location problems, production scheduling, traffic control, minimizing the size of search trees, fisheries quota determination, offshore wind farm maintenance, pooling, water control, food supply chains, coalition formation, deforestation, economic behaviour, design of experiments, permit trading, biomass production, fodder production, farm management and plague control. He published more than 85 journal articles and several books.

Prof. Dr. Pablo Guerrero-García after finishing his education in Madrid has more than 27 years of teaching experience in several engineering schools in Málaga on mathematics subjects. He specialized in didactical innovation projects for mathematics; he received prizes for several projects he initiated. One of his projects on "recreational mathematics" got a lot of attention for stimulating young talent into the direction of engineering. His didactical material focusing on accessible exercises is used in several countries. His research focus is on specialized methods in algebra, optimization and statistics, such as "Direct methods and orthogonalization techniques for sparse systems", "Pivoting methods for linear and quadratic programming" and "Integer programming applications in engineering". His texts and exercises are used in course work all over the world.