

Call for Expression of Interest
Marie Skłodowska-Curie Postdoctoral Fellowship
(H2020-MSCA-PF-2022)

The University of Malta (UM) is interested in hosting Marie Skłodowska-Curie Action fellows to work in its research teams and welcomes expressions of interest from excellent post-doctoral researchers to apply for the Postdoctoral Fellowship call in conjunction with the research areas below.

Post-Doctoral researchers who match with a University of Malta supervisor will be eligible for funding to travel to Malta for a dedicated training workshop to be held in July 2022.

University of Malta (UM) is the sole public and highest teaching institution in Malta, with its structures being in line with the Bologna Process and the European Higher Education area. UM has a 400-year history and there are over 11,500 students including 1,000 foreign/exchange students from nearly 92 different countries, following full-time or part-time degree and diploma courses. Around 3,500 students graduate each year. UM is comprised of 14 Faculties and several other campuses: at Valletta, Marsaxlokk and Gozo. As of 2020, the UM employed a total of 2,848 employees including academics, administrative, technical and industrial staff (1,885 on a full-time basis and 963 on a part-time basis). Over the past ten years, the UM has been involved as coordinator and partner in numerous EU-funded projects under various Programmes including Horizon Europe, Horizon 2020, FP7, Erasmus+, Lifelong Learning Programme, INTERREG, National Funding and various other international and national programmes and initiatives. The UM is also represented in a number of European and International University networks and groups.

[Banking and Finance / FEMA/DLT/CBM](#)

The University of Malta (UM) fosters the interoperability, synergy and integration of approaches from all Faculties and Departments such as ENGINEERING (ALL FIELDS), ARTIFICIAL INTELLIGENCE, COMPUTER SCIENCE, MEDIA AND KNOWLEDGE SCIENCES, MEDICINE, BIOLOGY, MATHEMATICS, PHYSICS AND SOCIAL SCIENCES. At the UM there are over 11,000 students including over 750 foreign/exchange students from 82 different countries, following full-time or part-time degree and diploma courses. The degree courses at the University are designed to produce highly qualified professionals, with experience of research, who will play key roles in industry, commerce and public affairs in general. The University has been involved as coordinator and partner in numerous EU-funded projects under various Programmes including FP5/6/7, Horizon 2020, Lifelong Learning Programme, Culture 2000, Tempus, Erasmus+, INTERREG EU-MED-ITALIA MALTA, ENPI CBC MED and various other international and national programmes and initiatives. The University is also represented in a number of European and International University networks and groups.

At FEMA we bring new thinking to digital economy. New ecosystems and specialized consulting services for digitally-oriented companies will shape the new landscape with FinTech start-ups and established firms making a leap of bridging inconsistencies in market practices. We intend to bridge the gap between academia, industry,



public and governmental organisations by working in an interdisciplinary way. We are in the early stages of the largest revolution since the emergence of the Internet. Globally, more than \$100 billion of investments have been made in Future Technologies since 2010, and continue growing exponentially. Our goal is to efficiently address the proliferation in FUTURE TECH models within the industry for decision-making. We aim at developing novel approaches in the business domain, for complex business processes, prediction and early warning systems. Via education awareness as first priority the H2020-MSCA-PF-2022 will provide the big-picture view and understanding of Future technologies. That is why bringing awareness of the tech-driven innovations in novel business services is number one priority. The next goal is to connect MSCA-Postdoctoral fellows with opportunities and careers (internships, part-time, full-time) at leading companies that are transforming the way economic services in all sectors treated by all departments are created and delivered. Innovation will be the long-term goal. Entrepreneurship based on novel technologies in all disciplines, will turn the University of into a hub for innovation by providing students with the resources necessary to bring innovative products to the market. FUTURE TECH companies and FinTechs are recruiting top managers, economists, financial analysts, engineers, statisticians, programmers, and business-minded individuals to reshape all business sectors. FEMA collaborates with the Centre for Distributed Ledger Technologies (DLT), the Department of Computer Science from other Faculties, the Central Bank of Malta as well as other public and private organizations.

Research Project

Research Field: Economic Sciences (ECO)

Information Science and Engineering (ENG)

Mathematics (MAT)

Physics (PHY)

Keywords: Quantum computing, Blockchain, Cryptocurrencies, FinTech & Decentralized Finance (DeFi), Big Data Science, Quantum and Classical (hybrid) Artificial intelligence & Machine learning, Internet of Things, 5G, Nonlinear Complex Systems, Bioinformatics, Smart Contracts/DAOs, Software engineering, Computational Econometrics, Bayesian statistics, Chaos and Econophysics.

We intend to explore FUTURE TECHNOLOGIES that cause rapidly accelerating global scientific and societal changes in the future. The scope entails integrated knowledge between academia, policy makers and market stakeholders. We are committed to deliver developed a consistent track record of publications in international journals and submitting successful research grant applications. In addition, MSCA fellows will regularly disseminate their research via seminars, workshops and international conferences. They shall actively seek joint activities with other international Universities, research centres, private and public companies and institutions. Emerging technologies are transforming business services on a global scale. Innovations in FUTURE TECHs e.g., Quantum Computing, Blockchain/Cryptocurrencies, Decentralized Finance (DeFi), Cloud Technologies, Big Data Science, Artificial Intelligence, Internet of Things, 5G, Quantum Machine Learning, Nonlinear Complex Systems, Bioinformatics, Smart Contracts/DAOs, Econophysics etc., are disrupting all business sectors and enabling new business models in various sectors such as banking and investment management, medical data management and epigenomics, royalties tracking, cross-border payments, real-time IoT operating systems, anti-fraud banking systems, supply chain and logistics, e-voting security mechanisms, advertising and marketing, urban commute services, hotel



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management, loyalties, iGambling, Cryptocurrency trading & Decentralized Finance, arts auctioneering, legal services, asset value appraisal, Big Pharma supply chains, Real estate, agricultural farm management, energy supply systems, resilient renewable sources, insurance claim processing, smart appliances, healthcare management systems, E-Governance etc.

Prof. Bekiros is particularly interested in graduates from Engineering (all disciplines), Computer Science, Data Science, Artificial Intelligence, Machine Learning, Economics & Finance, Quantum Physics, Statistics/Mathematics, Medicine, Biology, Nonlinear Dynamics, Environmental Sciences, Chaotic systems, Biostatistics, Operations Research etc. I strongly emphasize multidisciplinary, interdisciplinary and trans-disciplinary research. Candidates should possess strong computing/software skills and solid mathematical/statistical training.

Prof. Bekiros welcomes applications from prospective candidates in specialized areas which may include quantum computing, blockchain, smart contracts, programming languages, Solidity, cryptocurrencies, cryptography, quantum machine learning and artificial/computational intelligence, nonlinear time series, nonlinear dynamics, fractals and chaos, state space modelling, stochastic partial differential equations, optimal/chaotic stochastic self-tuning control, Bayesian updating, averaging and model selection, particle filtering, MCMC, heterogeneous agent modelling, big data econometrics, data science, econophysics etc

The selected candidates will receive dedicated support from the supervisor, [Prof. Stelios Bekiros](#) and the Research Support Services Directorate to write a successful proposal and submission.

Interested candidates must be in possession of a doctoral degree with not more than 8 years post PhD research experience and must not have resided in Malta for more than 12 the past 3 years. Furthermore, their research interests should be relevant to the above project. Kindly send a covering letter and CV to the corresponding [supervisor](#) keeping in copy funding.rssd@um.edu.mt with 'MSCA-PF-2022 *candidate name*' as the email subject by **13 May 2022**.
