L-Università ta' Malta

Research Support Services Directorate

University of Malta
Msida MSD 2080, Malta

Tel: +356 2340 3413
rssd@um.edu.mt

www.um.edu.mt

Call for Expression of Interest
Marie Skłodowska-Curie Postdoctoral Fellowship
(H2020-MSCA-PF-2021)

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.

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.

[Department of Banking and Finance](#) (Faculty of Economics, Management & Accountancy – FEMA)

The University of Malta has highly ranked programs in Finance & Economics, Computer Science & Engineering, Math & Statistics, Artificial Intelligence & Data Science. At FEMA and in particular the Department of Banking & Finance, we bring new thinking to digital economy. New ecosystems and specialized consulting services for FinTechs will shape the new landscape with startups 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. Blockchain-related companies and FinTechs are recruiting top managers, economists, financial analysts, engineers, statisticians, programmers, and business-minded individuals to reshape all business sectors. FEMA and the Department of Banking & Finance collaborate with the Centre for Distributed Ledger Technologies (DLT), the Department of Computer Science from other Faculties, the 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: Machine Learning, Blockchain, Artificial Intelligence, FinTech, Big Data Science, Chaos and Econophysics, Computational Econometrics, Bayesian Statistics, Complex Systems

We are in the early stages of the largest revolution since the emergence of the Internet. Emerging technologies are transforming financial and business services on a global scale. The innovations of Blockchain, cryptocurrencies, cloud technologies, big data analytics, artificial intelligence, Internet of Things, machine learning, are disrupting the business and financial services sector and enabling new business models. Globally, more than $100 billion of investments have been made into FinTech companies and Artificial Intelligence (AI) since 2010, and continue growing exponentially. Our goal is to efficiently address the proliferation in AI models within the financial industry for decision-making. For example, we aim at developing novel approaches in the FinTech domain, for complex business processes, automated markets, high frequency trading, prediction and early warning systems. We will focus on developing new algorithms for machine learning, AI-based smart contracts on DLT platforms not limited to Ethereum, new programming tools for solidity incorporating machine learning, artificial intelligence and big data, and on incorporating methodologies from complexity science, nonlinear dynamical chaotic systems and econophysics.

Blockchain and FinTech by nature, is a multidisciplinary field. The University of Malta has highly ranked programs in Finance & Economics, Computer Science & Engineering, Math & Statistics, Artificial Intelligence & Data Science. At FEMA and in particular the Department of Banking & Finance, we bring new thinking to digital economy. New ecosystems and specialized consulting services for FinTechs will shape the new landscape with startups 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. Blockchain-related companies and FinTechs are recruiting top managers, economists, financial analysts, engineers, statisticians, programmers, and business-minded individuals to reshape all business sectors. FEMA and the Department of Banking & Finance collaborate with the Centre for Distributed Ledger Technologies (DLT), the Department of Computer Science from other Faculties, the Bank of Malta as well as other public and private organizations.

I am interested in graduates from Software Engineering, Computer Science, Data Science, Artificial Intelligence, Machine Learning, Economics, Physics, Statistics/Mathematics, Nonlinear Dynamics, Chaotic systems, or Biostatistics. I strongly emphasize multidisciplinary, interdisciplinary and trans-disciplinary research. You should have strong computing/software skills and solid mathematical/statistical training, preferably in conjunction with an Econometrics/Computational Finance background. I welcome applications from prospective Post-Doctoral fellows in specialized areas which include blockchain, smart contracts, programming languages, Solidity, BTC, ETH, cryptography, 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.

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.

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Interested candidates should be in possession of a doctoral degree and must not have resided in Malta for more than 12 months during 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 rssd@um.edu.mt with 'MSCA-PF-2021 *candidate name*' as the email subject by **30 April 2021**.