CALL FOR APPLICATIONS (Call ID: 129/2023)
Post/s of Full-Time or Part-Time Bioinformatics Researchers at all levels from graduate to postdoctoral (Research Support Officer I, II, III or IV, or Senior Research Support Officer I)

Project “TargetMI” - A Multi-Omics Approach for Novel Drug Targets, Biomarkers and Risk Algorithms for Myocardial Infarction
Funded by Horizon Europe: EIC Pathfinder

And any other projects undertaken by the Department of Applied Biomedical Science, Faculty of Health Sciences

1. Applications are invited for Research Support Officer/s (RSO) or Senior Research Support Officer/s (SRSO) to carry out duties in relation to the TargetMI project funded by Horizon Europe, an EIC Pathfinder (Cardiogenomics Challenge) Grant awarded to the University of Malta on a multi-omics approach to identifying novel drug targets, biomarkers and risk algorithms applied to myocardial infarction. The RSOs may be required to work on other projects undertaken by the Department of Applied Biomedical Science within the Faculty of Health Sciences.

2. For the post of RSO I, applicants should be in possession of a degree in Computing or Biochemistry or Bioinformatics or Applied Biomedical Science or Statistics or Biology or related fields. For the RSO II post, applicants should be in possession of a Masters in Bioinformatics, or Computing, or Statistics or Molecular Biology or Genetics or similar field. For the post of RSO III, applicants should be in possession of a PhD degree in Bioinformatics, or Computing or Statistics or Molecular Biology or Genetics or similar field. For the post of RSO IV, applicants should also have an additional minimum of 3 years relevant full-time equivalent post-doctoral research experience. For the post of SRSO I, applicants should have a minimum of 6 years relevant full-time equivalent post-doc research experience. It is necessary for applicants to have an interest in Bioinformatics. Experience in coding, particularly with Python, and R will be considered an asset. Statistics may also be considered an asset as well as experience in Biology particularly in -omics fields.

The University of Malta is an Equal Opportunity employer.

3. The selected candidate/s must be living in Malta for the period of employment.

4. The post/s is/are for an initial period of 1 year, renewable yearly for up to 4.5 years or until the end of the project. A part-time position will entail an average of 20 hours of work per week.

5. The position/s start at a remuneration rate of:
   €20,800 per annum or €10 per hour (RSO I);
   €24,960 per annum or €12 per hour (RSO II);
   €31,200 per annum or €15 per hour (RSO III);
   €41,600 per annum or €20 per hour (RSO IV); and
   €49,920 per annum or €24 per hour (SRSO I).
Candidates who already hold, or had held within the last six months, a RSO post (in the same grade) at the University of Malta, will start at their latest salary scale in accordance with the salary structure for RSOs.

As from 1st January 2024, in accordance with the new salary structure for RSOs, the remuneration inclusive of any cost-of-living adjustment shall be:
- €25,709 per annum or €12.36 per hour for (RSO I);
- €28,829 per annum or €13.86 per hour (RSO II);
- €35,111 per annum or €16.88 per hour (RSO III);
- €45,511 per annum or €21.88 per hour (RSO IV); and
- €52,791 per annum or €25.38 per hour (SRSO I).

6. Candidates may be offered to continue their studies in fields related to the project at Masters or PhD level.

7. Candidates must upload their covering letter, curriculum vitae, and certificates (certificates should be preferably submitted in English; selected candidates will be required to provide certificates in English) and contact details of at least two referees through this form https://www.um.edu.mt/hrmd/workatum-projects by not later than Sunday, 15th October 2023.

**Late applications will not be considered.**

8. Further information may be obtained from http://www.um.edu.mt/hrmd/recruitment and should you have any queries, please send us an email on projects.hrmd@um.edu.mt.

Office of the University,
Msida, 22nd September 2023
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Further Information

1. TargetMI is an EIC Pathfinder project at the forefront of research on Cardio genomics. In this project a high throughput multi-omic approach for rapid discovery of novel drug targets, biomarkers and risk algorithms will be developed, applied here to atherosclerosis, myocardial infarction (MI) and their risk factors. Cardiovascular disease is a major cause of death and morbidity worldwide. The causes of MI are highly complex involving genetic, lifestyle and environmental factors. Whilst much research effort has been invested in attempting to decipher these factors, clinical applications of findings are disappointingly few. We will harness four -omic datasets (whole genome, transcriptomic, metabolomic and proteomic data) on 1000 highly phenotype samples of the Maltese Acute Myocardial Infarction (MAMI) Study. These were collected from cases, controls and relatives of cases (including 80 families) with meticulous attention to preanalytical variables. We will identify intermediate phenotypes associated with risk of MI and its associated risk factors. Using a combination of approaches, we will identify variants which robustly influence these intermediate phenotypes. The genes thus identified are potential drug targets that influence risk of MI via an intermediate phenotype and are applicable across all populations. They will be validated through various approaches including computational analysis, (using Mendelian randomisation and 10-year follow-up data), and functional work that includes using zebrafish as an animal model. Machine learning algorithms will be used to analyse the multi-layered data to identify novel biomarkers and risk algorithms, including polygenic risk scores, for early risk prediction in the clinic. Quantitative targeted proteomic assays will be developed for further validation in other cohorts facilitating clinical use. Besides the increase in knowledge on the molecular aetiology of MI, this powerful integrated strategy is expected to bring rapid clinical translation of unprecedented multi-omic data.

TargetMI is an EIC Pathfinder project is being conducted in collaboration with Leiden University Medical Center. Further information may be obtained by contacting the Project Coordinator and Principal Investigator of the project Prof Stephanie Bezzina Wettinger at stephanie.bezzina-wettinger@um.edu.mt.

2. The position/s are for Researchers to conduct Bioinformatic analyses. The call is for Researchers at all levels: from RSO I for graduates, RSOII (with a Master’s degree in a relevant field), for RSO III (with a PhD degree) or RSO IV (with 3 years full-time equivalent research experience following the attainment of the PhD degree) or SRSO I (with 6 years full-time equivalent research experience following the attainment of the PhD degree) level to become part of the TargetMI team at the University of Malta. The ideal candidate/s will have a demonstrable background in the field of Bioinformatics, and/or Informatics, Statistics, Genetics, Molecular Biology, Science or similar subjects, with an emphasis on computational approaches to biological data analysis. Expertise in Genomics, Transcriptomics, and/or Metabolomics data analysis is a strong asset.

3. The successful candidate/s will work within the TargetMI team which will be located at the Centre for Molecular Medicine and Biobanking (CMMB). They will also work in close collaboration with the BioGeMT ERA Chair Team in Bioinformatics at the University of Malta for up to 4.5 years or up to the end of the
project, performing Bioinformatic analysis to analyse the large amounts of data available, developing methods, approaches and pipelines with the aim of identifying risk factors for myocardial infarction and its risk factors, developing risk scores, identifying biomarkers and potential drug targets for myocardial infarction and its risk factors besides writing of publications, presenting scientific findings in conferences and to the general public, teaching assistance, and any other tasks relevant to the scientific goals of the TargetMI Project. Candidates for the senior positions will also be expected to assist with mentoring of PhD and graduate Students. All will be expected to be involved in grant writing, meetings with collaborators and partners on the project, dissemination and communication activities, and other activities of the project.

The ideal candidate/s will be expected to have:
- Qualifications as described in the call.;
- Experience in Bioinformatics or Statistics, or in -omics, and drive to perform high end research in a dynamic field;
- Demonstrable experience in working with high throughput biological data and methods;
- Experience in coding language(s) (Python and/or R or similar) and demonstrable experience in writing clean code. GitHub repository of past work would be very useful;
- Experience with databases;
- Familiarity with Biological and/or medical data analysis;
- Ability to communicate across disciplines (Informatics, Statistics, Biomedical, Bioinformatics);
- Scientific writing and presentation skills; and
- Excellent command of the English language.

Demonstrable experience working in multi-disciplinary projects and publications of research papers or presentations in scientific conferences will be considered an asset.

4. The appointee/s will be expected to undertake the following duties together with other team members:
   i. Design and write QC and data analysis pipelines for metabolomics, proteomics and other -Omics;
   ii. Carry out a range of bioinformatics and statistical analyses to conduct differential expression analysis, gene enrichment analysis, splice site analysis, amongst others;
   iii. Write and optimise pipelines and applications for the identification of structural variants;
   iv. Apply machine learning techniques to multi-omic data set analysis;
   v. Risk score algorithm development
   vi. Biomarker identification
   vii. Drug target identification
   viii. Carry out appropriate data QC;
   ix. Attend project team meetings as required;
   x. Collaborate with other team members and with researchers;
   xi. Liaise with collaborators within and outside the University of Malta as required;
   xii. Work with the Project Coordinator and other team members to reach the deliverables of the project;
   xiii. Liaise with and mentor students from various fields in bioinformatics analysis or development of tools;
   xiv. Attend project team meetings as required;
   xv. Participate in dissemination and outreach activities as part of the project team;
   xvi. Contribute to the writing of scientific papers;
   xvii. Participate in scientific conferences; and
   xviii. Assist in other duties as directed by the Project Coordinator.

5. The appointee/s will be expected to work at such places and during such hours as may be determined by the University authorities.
6. The selection procedure will involve:
   a. scrutiny of qualifications and experience claimed and supported by testimonials and/or certificates (copies to be included with the application);
   b. shortlisting; and
   c. an interview and/or extended interview.

7. The post/s is/are for an initial period of 1 year, renewable yearly for up to 4.5 years or until the end of the project, and will be subject to a probationary period and to the provisions of the Statutes, Regulations and Bye-Laws of the University of Malta which are now or which may hereafter be in force.

Office of the University,
Msida, 22nd September 2023