

OPEN POSITION

Early-Stage Researcher / PhD position (ESR 7) *at Università degli Studi di Torino, Italy*

This ESR position is part of the European Training Network “BIOREMIA” dealing with research on novel biofilm-resistant materials for hard tissue implant applications. BIOREMIA offers the possibility to pursue the PhD within the Network at different universities and industrial companies from 10 European countries (Germany, Austria, Italy, Sweden, Greece, UK, Spain, Ireland, France, and Switzerland).

Background information on all ESR positions and BIOREMIA Network is available on www.bioremia.eu. BIOREMIA (“*BIO*film-*RE*sistant Materials for hard tissue Implant Applications”) is funded by the European Union’s Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement no. 861046.

Job title	Early-Stage Researcher (PhD student position) / ESR 7
Project title	ESR 7: Design of antimicrobial mechanism of metallic patterned hydrophobic surfaces produced by dealloying and plastic flow deformation of metallic glasses
Application deadline	15/04/2020
Expected starting date¹	August 2020 (approx.)
Recruiting institution	Department of Chemistry, Università degli Studi di Torino Via Giuria 7, Torino, Italy https://www.chemistry.unito.it/do/home.pl
City, Country	Torino, Italy
Job/project description	<p>Objectives: Design antimicrobial TiO₂, Cu or Au nanostructured surfaces with direct topological action and/or enhanced chemical activity in influencing antibacterial surface properties and evaluation of their surface microbial adhesion. Tasks: i) development of new Ti-Cu based amorphous alloys with antimicrobial elements (Ag, Ga or Zn); ii) design of nanoporous Cu/TiO₂ surfaces from Ti-based glassy alloys, development of hierarchical nanopatterned surfaces by plastic flow deformation and dealloying with the evaluation of surface wettability of the produced materials; iii) evaluation, in cell free systems, of antimicrobial activity by: reactive oxygen species, Fenton chemistry, free-radical release, surface radical species, peroxidation of biomolecules, including endogenous antioxidants and/or suitable molecular probes.</p> <p>Expected Results: Development of efficient nanoporous hydrophobic surfaces on glassy alloys.</p> <p>The ESR will travel abroad for research secondments at partner organisations of the BIOREMIA Network (e.g. at IFW Dresden-Germany, Universitat Autònoma de Barcelona-Spain, The University Clinics of Giessen & Marburg - Germany, PX Services-Switzerland) and will participate in specialised training meetings and international conferences.</p>
Appointment	The appointment will be on a temporary basis for a maximum period of 36 months (PhD student, regular full-time employment contract), with an attractive salary plus allowances package according to the <i>Marie Skłodowska-Curie / Innovative Training Networks</i> rules.

Eligibility conditions	<p>Applicants must at the time of recruitment:</p> <ol style="list-style-type: none"> 1) Be in the first four years (full-time equivalent) of their research careers 2) Have not resided in Italy for more than 12 months in the last 3 years 3) Have not been awarded a doctoral degree.
Candidate's profile	<ul style="list-style-type: none"> • Applicants must hold a Master's degree or equivalent in Materials Science, Materials Engineering or Chemistry providing access to PhD programs and should have experience with experimental research. • Applicants must have excellent proficiency in written and spoken English. • Applicants must have strong motivation and ability to collaborate in an interdisciplinary and international team.
How to apply²	<p>Interested candidates should send an application containing the following documents in English (and, when necessary, a certified translation of official documents):</p> <ul style="list-style-type: none"> • Motivation Letter (describing research career goals, skills, experience, and highlighting the consistency between the candidate's profile and the chosen ESR position) • A complete Curriculum Vitae with references to past research and training experiences • Copies of Bachelor and Master's certificates/diploma & transcripts • Two Reference Letters • Publications (if available). <p>Applications should be sent by e-mail <u>as a single PDF</u>, quoting the project name and the ESR position "BIOREMIA - ESR 7", to: Prof. Paola Rizzi paola.rizzi@unito.it</p> <p>Applications can also be submitted via the online <i>Application Form</i> at www.bioremia.eu</p>
Further information	<ul style="list-style-type: none"> • For additional information about this ESR position please contact: Prof. Paola Rizzi paola.rizzi@unito.it • Some background material about host institution can be found here: Chemistry Department home page: https://www.chemistry.unito.it/do/home.pl Laboratory of Metallurgy home page: http://momo.ch.unito.it/ and www.bioremia.eu

¹ Employment start date to be mutually agreed

² The recruiting organization may decide to interview only those applicants who appear from the information available, to be the most suitable, in terms of experience, qualifications and other requirements of the position.