

**Roma Tre University, Roma, Italy is seeking to fill
two Ph.D. Positions
within the
H2020 Marie Skłodowska-Curie Innovative Training Network
“enhAnced Mobile BiomEtRics (AMBER)”**

Positions	2 Ph.D. positions
Location	Biometrics and Multimedia Security Lab , Section of Applied Electronics Engineering Department, Roma Tre University , Roma, Italy
Duration	36 months
Topics	<ul style="list-style-type: none"> • (ESR 3) Template protection in biometric-based mobile scenarios • (ESR 4) Multibiometrics architectures and privacy in a mobile environment
Eligibility	<ul style="list-style-type: none"> • Eligibility requirements for Marie Skłodowska-Curie Early Stage Researcher positions as defined by the European Commission • Master degree or equivalent
Salary (gross)	3.318€/month + 600€/month mobility allowance + 500€/month family support allowance
Point of contact	Prof. Patrizio Campisi patrizio.campisi@uniroma3.it

The project

AMBER (“enhAnced Mobile BiomEtRics”) is a Marie Skłodowska-Curie Innovative Training Network (under contract no 675087) addressing a range of current issues facing biometric solutions on mobile devices. AMBER will comprise ten integrated Marie Skłodowska-Curie Early Stage Researcher (ESR) projects across five EU universities. The Network has the direct support of seven Industrial Partners. For more information on AMBER, see: www.amber-biometrics.eu The aim of the Network is to collate Europe-wide complementary academic and industrial expertise, train and equip the next generation of researchers to define, investigate and implement solutions, and develop solutions and theory to ensure secure, ubiquitous and efficient authentication whilst protecting privacy of citizens.

Details of the project can be found at www.amber-biometrics.eu

The ubiquity of mobile computing platforms such as smartphones and tablet devices has rapidly increased. Biometrics are being introduced onto mobile platforms utilising generic sensors (cameras, microphones, etc.) alongside devices specifically designed for biometric purposes (such as fingerprint sensors). However, biometrics on mobile devices raises a number of current and unresolved issues.

The **Biometrics and Multimedia Security Lab** (<http://biomedia4n6.uniroma3.it/>) (lead by prof. Patrizio Campisi) Section of Applied Electronics, Engineering Department, Roma Tre University, within the **H2020 MSCA-ITN AMBER** (enhanced Mobile Biometrics) European Project (<https://www.amber-biometrics.eu/>) is seeking appropriate, excellent and highly motivated early stage researchers **for two PhD positions** (for a fixed period of 36 months) to perform innovative research on an inter-European scope, with strong industrial participations and pursue their PhD thesis in the field of mobile biometrics.

Specifically, two Ph.D. positions are available in the following thematic areas:

ESR 3: Template protection in biometric-based mobile scenarios Biometric template protection, also known as privacy enhancing techniques (PETS), is a topic of research that has recently attracted the attention of both academia and industry that have gained a deep understanding of how the implementation of methods devoted to privacy protection is propaedeutic to the general public acceptance. However, no research activity has been devoted so far to the understanding of the issues and challenges related to the design of PETS in the mobile scenario. Therefore, the research activity will focus on the unaddressed problems related with the use of mobile platforms. Specifically, in mobile scenarios, computationally cheap, yet privacy protection effective, algorithms need to be designed as well as the metrics for assessing the template security and privacy needs to be properly defined.

ESR 4: Multibiometrics architectures and privacy in a mobile environment The use of multiple biometric features and modalities to reach an identification decision has been the focus of many research studies given the higher level of universality, security, and performance multibiometrics systems can guarantee in real life applications.

Conventionally these have been within static platforms and environments and have assessed combining decisions at feature, modality matching score or modality decision level. On the other hand, new challenges are posed by the use of multibiometrics in a mobile environment where limited computational resources are available and a range of novel embedded sensors. Within the aforementioned scenario, the research activity will be focused on establishing a multimodal framework for the evaluation of the privacy risks for the different multibiometrics architectures that can be implemented. In addition, it will focus on the design of multibiometric template protection approach able to cope with the new dangers to privacy coming from the new considered scenario in a “privacy by design” framework which is a key factor for the acceptability of biometric solutions by the population.

Eligibility requirements

Eligibility requirements for Marie Skłodowska-Curie Early Stage Researcher positions as defined by the European Commission must be fulfilled:

- no PhD awarded yet
- a Master Degree, qualifying for PhD qualification (e.g. Master by Research or equivalent)
- English language skill, both in speech and writing, at a level where candidates can function independently and with a great deal of precision on a wide variety of subjects and in almost any setting without any prior preparation in the scientific field.
- has less than 4 years research experience (i.e. working in research projects for less than 4 years since the date of the degree that gives access to doctoral studies and the day of the first working date)
- has not lived or worked in the country of their host institution (Italy) for more than 12 months in the last 3 years

Key Duties

The post holder will be expected to undertake the programme of work described for Kent as detailed in the work section of the AMBER consortium agreement and grant programme.

Key duties include:

- Progress the research theme with diligence, independently and as part of the wider AMBER consortium, with constant reference to innovation
- To work closely with other researchers in the collaborating network. This will include travel to other sites for short-term research visits, in addition to the planned longer placements.
- Attend and present at AMBER training activities and meetings as outlined in the wider programme, including at national/international conferences relevant to the research.
- Undertake secondments as indicated.
- Report on progress regularly to the network and the rest of the research group.
- Document their research findings for publication in leading peer-reviewed international journals and conferences
- Help plan regular meetings between the network partners and present updates at these meetings.
- Engage in outreach activities and public dissemination of knowledge. The post holder will also be expected to undertake such other duties, commensurate with the grading of the post, which may be assigned by the grant holder.

Salary

The positions are for a **36-month** duration at Roma Tre University (Roma, Italy) with very competitive remuneration (**3.318€/month**), additional mobility (**600€/month**), and family support allowances (**500€/month**) [gross amounts].

How to apply:

Applicants are required to contact prof. Patrizio Campisi at patrizio.campisi@uniroma3.it with subject AMBER Ph.D. position application ESR 3/ESR4 submitting:

- a CV in the EuroPass format (with list of publications and at least two contacts for reference)
- a statement expressing their research interest and plans, and
- the desired project(s) and name(s) of the host institution (e.g. “Uniroma3” and “ESR3”).

As well as applying directly to a university, applicants should also send a single pdf file to jobs@amber-biometrics.eu with the aforementioned documents.

By submitting an application, applicants agree that their details may be shared between the partner universities to assist recruitment opportunities.

Selection of candidates will undergo a formal recruiting process as stated by Italian law.