



## Correspondence

### Making progress in education: The EUROFORGEN master degree pilot project in forensic genetics



Sir,

There is a definite lack of common educational and training programs in Europe in Forensic Genetics and harmonization and implementation of expert qualification schemes are urgently needed. Currently, experts to carry out routine casework are recruited by governmental (Police, Justice), academic (Institutes of Legal Medicine), or private laboratories from academic graduates usually with a background in biomedical sciences but very often without specific quality educational schemes or experience in a forensic laboratory. This is a real handicap to provision of quality forensic expertise.

The European Forensic Genetics Network of Excellence (EUROFORGEN-NoE, <https://www.euroforgen.eu/>) is a European project funded by the SECURITY programme of the European Commission under the 7th Framework Programme, started in January 2012 and finishing by the end of 2016. The original network comprises 16 partners from 9 countries including leading groups in European forensic genetic research. EUROFORGEN aims to create a close

integration of existing collaborations as well as to establish new interactions in this highly specialized field of security. Therefore, all key players such as scientists, stakeholders and end-users (e.g. police institutions and the justice system), educational centres and scientific societies have been invited to integrate into the activities of the network. Furthermore, the societal dimension of applying forensic genetics in criminal investigations, potentially affecting privacy rights and minority protection, is also addressed in a specific work package. One of the main goals of the network is training and educational activities and to try to establish common European-wide standards for generating and interpreting genetic data related to biological evidence in criminal casework.

More than 300 scientists from around 200 institutions in Europe are now connected in this collaborative network and benefiting of the activities of the network including many educational activities such as short term fellowships for exchanging personnel, training courses, on-line resources such as webinars and recorded presentation among others.

One of the priorities of the consortium was to develop a curriculum for postgraduate education of scientists specializing in forensic genetics and once defined, to start with a pilot project within a European academic institution. To achieve this aim, we invited the University of Rome Tor Vergata since as, far as we know, the master degree on Forensic Genetics organized by this

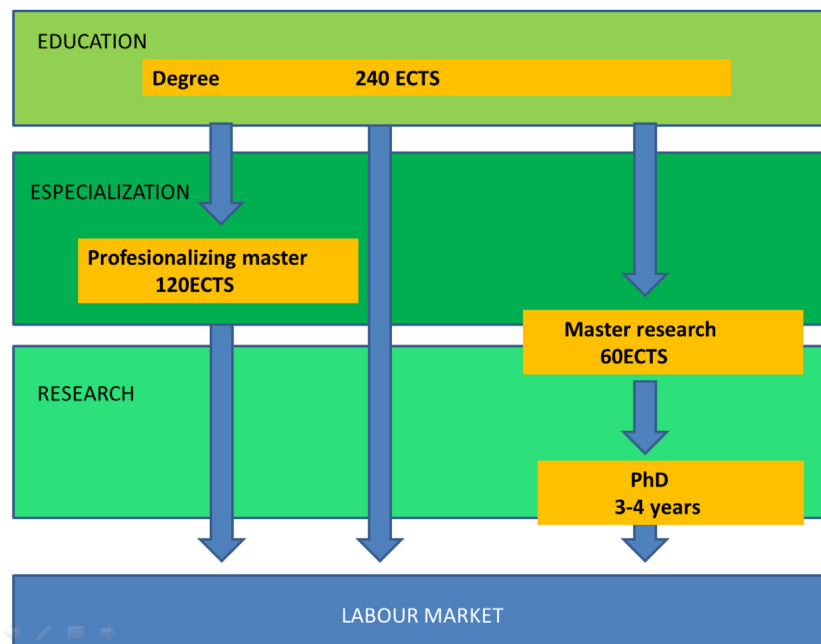


Fig. 1. General structure for European Master Degrees: 60–120 ECTS (120 ECTS are required for Profesionalizing Master).

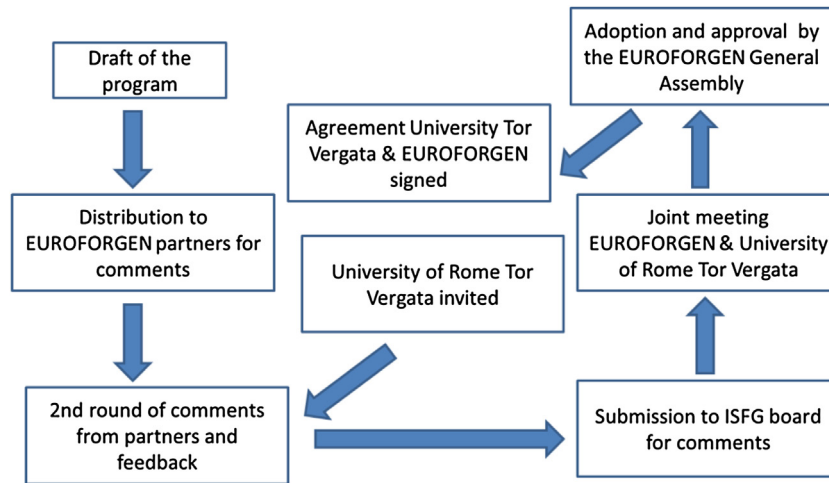


Fig. 2. Roadmap for a curriculum for postgraduate education of scientist specializing in forensic genetics and pilot project.

University (*Master Universitario di II livello in Genetica Forense*) is one of the few official master program in this area and it would be an ideal partner for the pilot project.

Although the academic structures are not the same across Europe, there are more similarities than differences, in particular following the Bologna process where an agreement was reached to harmonize the higher education systems across Europe ([http://ec.europa.eu/education/policy/higher-education/bologna-process\\_en](http://ec.europa.eu/education/policy/higher-education/bologna-process_en)). The general scheme of Master degrees in Europe is shown in Fig. 1 although some variety of structures still exists.

Based on the feedback from the educational workshops carried out by the consortium, the experience of the academic groups that are in general participating or organizing master degrees in general forensic science, different formats for a postgraduate education where discussed and a roadmap was designed as shown in Fig. 2.

The program, described in Annex I in Supplementary material includes five theoretical and practical blocks together with a research project with a final dissertation for a master degree program of 60ECTS. This can be extended with more intensive practical training to 90 or the 120 ETCS required for a professionalizing master.

The EUROFORGEN master degree pilot project with the standard curriculum defined will be carried out in the Academic year 2017-2018 in the University of Rome Tor Vergata with the aim to disseminate this experience to other universities worldwide. The EUROFORGEN Consortium is ready to reply to any inquiries from other universities, and to provide support for introducing and adopting new programs.

### Acknowledgement

This work was funded by the European Union Seventh Framework Program (FP7/2007-2013) under grant agreement no. 285487 (EUROFORGEN-NoE).

### Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at <http://dx.doi.org/10.1016/j.fsigen.2017.03.006>.

Angel Carracedo<sup>a,b</sup>

<sup>a</sup>Institute of Forensic Sciences Luis Concheiro, Genomics Medicine Group, University of Santiago de Compostela, Santiago de Compostela, Spain

<sup>b</sup>Center of Excellence in Genomic Medicine Research, King Abdulaziz University, Jeddah, Saudi Arabia

Emiliano Giardina<sup>a,b</sup>

<sup>a</sup>Department of Biomedicine & Prevention, School of Medicine, University of Rome "Tor Vergata", Rome, Italy

<sup>b</sup>Laboratory of Genomic Medicine, Fondazione Santa Lucia IRCCS, Rome, Italy

Ana Mosquera-Miguel

Institute of Forensic Sciences Luis Concheiro, Genomics Medicine Group, University of Santiago de Compostela, Santiago de Compostela, Spain

Laura Manzo

Department of Biomedicine & Prevention, School of Medicine, University of Rome "Tor Vergata", Rome, Italy

Vanesa Alvarez-Iglesias\*

Institute of Forensic Sciences Luis Concheiro, Genomics Medicine Group, University of Santiago de Compostela, Santiago de Compostela, Spain

Peter M. Schneider

Institute of Legal Medicine, Faculty of Medicine, University of Cologne, Cologne, Germany

\* Corresponding author.

E-mail address: [vanesa.alvarez@usc.es](mailto:vanesa.alvarez@usc.es) (V. Alvarez-Iglesias).

Received 23 February 2017

Available online 6 March 2017