

## ANNEX A

SCIENTIFIC DISCIPLINARY AREA MEDICINE
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### RESEARCH PROGRAM NO. 1

**The assessment criteria for the qualifications and the interview will be affixed on 15.01.2020 at 11.00** in Dipartimento di Medicina Sperimentale (DIMES) - Patologia Generale, Via L.B.Alberti 2, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 15.01.2020 at 15.00** in Dipartimento di Medicina Sperimentale (DIMES) - Patologia Generale, Via L.B.Alberti 2, Genova.

**The interview will be held on 17.01.2020 at 10.00** in Dipartimento di Medicina Sperimentale (DIMES) - Patologia Generale, Via L.B.Alberti 2, Genova.

**Such a notice is equivalent to notification to all intents and purposes. All the candidates, who have not received notification of their exclusion, must sit for the exam, without prior notice, at the examination centre.**

**Scientific coordinator:** Prof.ssa Anna Maria Bassi

**NO. 1 research fellowship - Duration 2 years – Two-year gross amount: € 38.734,00 net of all charges borne by the University (two-year gross cost of € 47.574,00**

**Exclusive destination of the research fellowship to candidates who are 29<sup>th</sup> years old or below that age at the date of 15.6.2018 (publication notice of public date n. 422 of 13.6.2018 of Regione Liguria)**

**Title:** In vitro evaluation of neuroprotective potential of chemical compounds: assessment of a physiological relevant experimental platform.

**Description:** Research grant exclusively for young people under the age of 29 on 13.06.2018. The training and research activity focused on setting up a physiologically relevant in vitro platform as a therapeutic strategy that takes into account the pathogenesis and progression of glaucoma, one of the causes of blindness. Evaluation of the effects of prooxidant and pressure stressors on in vitro 3D millifluidic models of human trabecular meshwork and nerve origin cells. endpoints: confocal microscope analysis with selective marking of cellular components and molecules of interest, identification of biomarkers associated with: indices of viability / proliferation, cellular bioenergetics, oxidative stress, response signaling and adaptation to cellular damage.

**Scientific disciplinary sector:** MED/04 PATOLOGIA GENERALE

**Place:** Dipartimento di Medicina Sperimentale (DIMES)

**Required degree:**

Laurea Magistrale delle classi LM-06 Biologia, LM-21 Ingegneria Biomedica, LM-54 Scienze Chimiche.

**Subjects of the interview:**

The candidate has to fulfil the technical and scientific skills within the following fields (at least 4):- assessment of 3D in vitro cell cultures; - in vitro tests for the evaluation of viability and cell toxicity index; - Knowledge and application of molecular biology techniques for biomarker analysis (immunoblot, Elisa, PCR); - Performing analysis with spectrofluorimetric techniques- Use of molecular docking software and molecular dynamics for the in silico study of biological molecules and macromolecules;- Separation of compounds by chromatographic column;

The candidate will need to prove his/her knowledge of the English language.

**RESEARCH PROGRAM NO.2** [Fare clic o toccare qui per immettere il testo.](#)

**The assessment criteria for the qualifications and the interview will be affixed on 21.01.2020 at 9.00** in Campus Universitario di Savona, Palazzina Oliva, Piano I, Via Magliotto 2, Meeting room, Savona.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 21.01.2020 at 12.00** in Campus Universitario di Savona, Palazzina Oliva, Piano I, Via Magliotto 2, Savona. Meeting room, Savona

**The interview will be held on 21.01.2020 at 12.30** in Campus Universitario di Savona, Palazzina Oliva, Piano I, Via Magliotto 2, Meeting room, Savona

**Such a notice is equivalent to notification to all intents and purposes. All the candidates, who have not received notification of their exclusion, must sit for the exam, without prior notice, at the examination centre.**

**Scientific coordinator:** Prof. Marco Testa

**NO. 1 research fellowship - Duration 2 years – Two-year gross amount: € 38.734,00 net of all charges borne by the University (two-year gross cost of € 47.574,00**

**Exclusive destination of the research fellowship to candidates who are 29<sup>th</sup> years old or below that age at the date of 15.6.2018 (publication notice of public date n. 422 of 13.6.2018 of Regione Liguria)**

**Title:** AD4M-REHAB - A Device for Musculoskeletal Rehabilitation: development and testing of a network of wearable sensors to monitor upper limb movements in patients suffering from musculoskeletal, neuromotor or during post-surgical physiotherapy

**Description:** The optimization and validation project of an inertial sensor system for the functional assessment of upper limb movement in an ecological environment aims at:

- (1) Optimization of device portability (ergonomics, size and battery life), requiring information on the orientation of the patient's limbs in very different measurement conditions found during normal activities of the day
- (2) Thanks to the integration of a feedback system, to improve the subject's adherence to the prescriptions of the activities and to the movement limitations to be observed during the therapy. A system for monitoring the quantity and amplitude of movements performed at home with the upper limb will also allow to acquire information on the efficacy of a therapy and on the progression of the pathology.

**Scientific disciplinary sector:** MED/48 SCIENZE INFERMIERISTICHE E TECNICHE NEURO-PSICHIATRICHE E RIABILITATIVE

**Place:** Dipartimento di Neuroscienze, Riabilitazione, Oftalmologia, Genetica e Scienze Materno-Infantili (DINOEMI)

**Required degree:**

Laurea Magistrale delle classi LM-17 Fisica, LM-18 Informatica, LM-29 Ingegneria Elettronica, LM-32 Ingegneria Informatica, LM/SNT2 Scienze riabilitative delle professioni sanitarie, LM-67 Scienze e Tecniche delle Attività Motorie Preventive e Adattative

**Subjects of the interview:**

Kinematics and motor control of the upper limb and characteristics of its alteration in the various neuromuscular and musculoskeletal pathological conditions. Clinical and inertial motion measurement systems (IMU), signal analysis, programming elements in Matlab, C ++, Python, C Sharp

The candidate will need to prove his/her knowledge of the English language.

<b>SCIENTIFIC DISCIPLINARY AREA CHEMISTRY</b>
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**RESEARCH PROGRAM NO. 3**

The assessment criteria for the qualifications and the interview will be affixed on **15.01.2020** at **14.30** in Dipartimento di Chimica e chimica industriale (DCCI), Via Dodecaneso 31, Genova.

The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on **17.01.2020** at **15.00** in Dipartimento di Chimica e chimica industriale (DCCI), Via Dodecaneso 31, Genova.

The interview will be held on **20.01.2020** at **14.30** in Dipartimento di Chimica e chimica industriale (DCCI), Via Dodecaneso 31, Genova.

Such a notice is equivalent to notification to all intents and purposes. All the candidates, who have not received notification of their exclusion, must sit for the exam, without prior notice, at the examination centre.

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call) promptly contacting Prof.ssa Marina Di Carro on the phone number +39 010 3536198 or via the email address: marina.dicarro@unige.it*

**Scientific coordinator:** Prof.ssa Marina Di Carro

**NO. 1 research fellowship - Duration 2 years – Two-year gross amount: € 38.734,00 net of all charges borne by the University (two-year gross cost of € 47.574,00**

**Exclusive destination of the research fellowship to candidates who are 29<sup>th</sup> years old or below that age at the date of 15.6.2018 (publication notice of public date n. 422 of 13.6.2018 of Regione Liguria)**

**Title:** Quality of coastal waters in Liguria: an innovative approach for a fast determination of emerging organic pollutants

**Description:** The project, in collaboration with the Aquarium of Genoa, is about the improvement of an innovative method for continuous sampling of coastal waters, using passive samplers, for the determination of emerging contaminants (chemicals not considered by national and European legislation) by chromatography-mass spectrometry. In fact, for the Liguria region the quality of coastal waters and fish resources is fundamental for the protection of the environmental heritage and for the enhancement of natural resources for tourism and commercial purposes.

In the selected sites, different types of passive samplers will be deployed, in order to obtain qualitative and quantitative information on emerging contaminants.

**Scientific disciplinary sector:** CHIM/01 - CHIMICA ANALITICA

**Place:** Dipartimento di Chimica e Chimica Industriale (DCCI)

**Required degree:**

Laurea V.O. in Chimica, Chimica Industriale, Scienze biologiche, Scienze Ambientali, Laurea Specialistica delle classi 62/S Scienze Chimiche, 81/S Scienze e tecnologie della chimica industriale, 82/S Scienze e tecnologie per l'ambiente e il territorio, 6/S Biologia, Laurea Magistrale delle classi LM-54 Scienze Chimiche, LM-71 Scienze e tecnologie della chimica industriale, LM-75 Scienze e tecnologie per l'ambiente e il territorio, LM-6 Biologia.

**Subjects of the interview:**

Chromatographic and mass spectrometric techniques; sample preparation methods, in particular of food and/or environmental samples.

The candidate will need to prove his/her knowledge of the English language

#### **RESEARCH PROGRAM NO.4**

**The assessment criteria for the qualifications and the interview will be affixed on 20.01.2020 at 9.30** in Dipartimento di Chimica e chimica industriale (DCCI), Via Dodecaneso 31, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 20.01.2020 at 13.00** in Dipartimento di Chimica e chimica industriale (DCCI), Via Dodecaneso 31, Genova.

**The interview will be held on 20.01.2020 at 14.30** in Dipartimento di Chimica e chimica industriale (DCCI), Via Dodecaneso 31, Genova.

**Such a notice is equivalent to notification to all intents and purposes. All the candidates, who have not received notification of their exclusion, must sit for the exam, without prior notice, at the examination centre.**

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call) promptly contacting Prof. Antonio Comite on the phone number +39 010 3536197 or via the email address: antonio.comite@unige.it*

**Scientific coordinator:** Prof. Antonio Comite

**NO. 1 research fellowship - Duration 2 years – Two-year gross amount: € 40,000.00 net of all charges borne by the University (two-year gross cost of € 49,130.00)**

**Exclusive destination of the research fellowship to candidates who are 29<sup>th</sup> years old or below that age at the date of 15.6.2018 (publication notice of public date n. 422 of 13.6.2018 of Regione Liguria)**

**Title:** Study on the conversion of lignocellulosic biomass to valuable compounds

**Description:** The research project concerns with the study of the conversion of lignocellulosic biomass from waste to produce added value chemicals. The project starts with a definition of the scientific and technological state of the art. On selected lignocellulosic materials a mechanical processing and some characterization will be carried out in order to prosecute the activity with the study of the pretreatments (eg Steam Explosion, Hot Water Treatment) to open the structure. The fellow will study the conversion treatments with approaches inspired by Green Chemistry and by using both commercial and lab-made catalysts. For pretreatments and treatments the influence of different operating conditions will be verified (e.g. temperature, pressure, contact time, pH, etc.).

**Scientific disciplinary sector:** CHIM/04 - CHIMICA INDUSTRIALE

**Place:** Dipartimento di Chimica e Chimica Industriale (DCCI)

**Required degree:**

Laurea V.O. in Chimica, Chimica Industriale, Scienze Ambientali, Ingegneria Chimica, Ingegneria per l'ambiente e il territorio, Scienze biologiche, Laurea Specialistica delle classi 62/S Scienze Chimiche, 81/S Scienze e Tecnologie della Chimica Industriale, 82/S Scienze e Tecnologie per l'Ambiente e il Territorio, 27/S Ingegneria Chimica, 38/S Ingegneria per l'Ambiente e il Territorio, 6/S Biologia, Laurea Magistrale delle classi LM-54 Scienze Chimiche, LM-71 Scienze e Tecnologie della Chimica Industriale, LM-75 Scienze e Tecnologie per l'Ambiente e il Territorio, LM-22 Ingegneria Chimica, LM-35 Ingegneria per l'Ambiente e il Territorio, LM-6 Biologia.

**Subjects of the interview:**

Green chemistry and Circular Economy concepts, lignocellulosic materials, adsorption and catalysis

The candidate will need to prove his/her knowledge of the English language.

<b>SCIENTIFIC DISCIPLINARY AREA CIVIL ENGINEERING AND ARCHITECTURE</b>
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**RESEARCH PROGRAM NO.5**

**The assessment criteria for the qualifications and the interview will be affixed on 20.01.2020 at 10.00** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), Sala Riunioni Area Trasporti, II piano, Via Montallegro 1, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 20.01.2020 at 13.30** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), Sala Riunioni Area Trasporti, II piano, Via Montallegro 1, Genova.

**The interview will be held on 20.01.2020 at 14.00** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), Sala Riunioni Area Trasporti, II piano, Via Montallegro 1, Genova.

**Such a notice is equivalent to notification to all intents and purposes. All the candidates, who have not received notification of their exclusion, must sit for the exam, without prior notice, at the examination centre.**

**Scientific coordinator:** Prof. Nicola Sacco

**NO. 1 research fellowship - Duration 2 years – Two-year gross amount: € 38.734,00 net of all charges borne by the University (two-year gross cost of € 47.574,00**

**Exclusive destination of the research fellowship to candidates who are 29<sup>th</sup> years old or below that age at the date of 15.6.2018 (publication notice of public date n. 422 of 13.6.2018 of Regione Liguria)**

**Title:** MASTER - Mobility as a service based on rail transport

**Description:** Nowadays, in the urban context, a growing attention is dedicated to the so-called Mobility as a service (MaaS), intended as the holistic vision of infrastructures and transport services which, integrated together, provide users with efficient mobility solutions.

This project aims to improve rail-rail and rail-road intermodality to encourage the integrated use of rail and local transport. In particular, the aim of the research is to improve the coordination between the different modes of transport through the coordinated and extensive programming of the exercise of the different modes. The solutions found will be extended to other modes (metro, tram, etc.) in order to create a general offer model that makes rail transport the backbone capable of acting as the master of the entire system.

**Scientific disciplinary sector:** ICAR/05 TRASPORTI

**Place:** Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME)

**Required degree:**

Laurea Magistrale delle classi LM-25 Ingegneria dell'Automazione, LM-26 Ingegneria della Sicurezza, LM-27 Ingegneria delle Telecomunicazioni, LM-28 Ingegneria Elettrica, LM-29 Ingegneria Elettronica, LM-31 Ingegneria Gestionale, LM-32 Ingegneria Informatica

**Subjects of the interview:**

The interview will mainly assess the candidate's knowledge in one or more of the following topics: decision support systems (DSS); intermodal transport; rail transport; models and methods for optimization; simulation models and systems; data analysis; software development and computer programming techniques.

The candidate will need to prove his/her knowledge of the English language.

## SCIENTIFIC DISCIPLINARY AREA INDUSTRIAL AND INFORMATION ENGINEERING

### RESEARCH PROGRAM NO. 6

**The assessment criteria for the qualifications and the interview will be affixed:** on **15.01.2020** at **9.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 13, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed:** on **15.01.2020** at **12.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 13, Genova.

**The interview will be held:** on **15.01.2020** at **14.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 13, Genova.

**Such a notice is equivalent to notification to all intents and purposes. All the candidates, who have not received notification of their exclusion, must sit for the exam, without prior notice, at the examination centre.**

**Scientific coordinator:** Prof. Raffaele BOLLA

**NO. 1 research fellowship - Duration 2 years – Two-year gross amount: € 40,000.00 net of all charges borne by the University (two-year gross cost of € 49,130.00)**

**Exclusive destination of the research fellowship to candidates who are 29th years old or below that age at the date of 15.6.2018 (publication notice of public date n. 422 of 13.6.2018 of Regione Liguria)**

**Title:** Mechanisms for the advanced security management in virtualized network environments

**Description:** The research activity aims at extending the work done by UNIGE and Ericsson in the H2020 European project ASTRID, with the intent of specializing the approach studied in that context towards the network management. More in detail, the objective is to inspect the problem of the automation of the security management and response to threats, security incidents and cyber-attacks by applying the solutions and concepts defined in the ASTRID project to the case of network management. A first phase will be dedicated to the acquisition of know-how, about both cyber-security and network technologies, with particular reference to NFV/SDN approaches and network management. The second phase will focus on the specialization and application of automation technologies borrowed from the ASTRID project in the context of network management.

**Scientific disciplinary sector:** ING-INF/03 TELECOMUNICAZIONI

**Place:** Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN)

**Required degree:**

Laurea V.O. in Ingegneria delle Telecomunicazioni, in Ingegneria Informatica, in Ingegneria Elettronica; Laurea Specialistica delle classi 30/S Ingegneria delle Telecomunicazioni, 32/S Ingegneria Elettronica, 35/S Ingegneria Informatica; Laurea Magistrale delle classi LM-27 Ingegneria delle Telecomunicazioni o Multimedia Signal Processing and Telecommunication Networks, LM-29 Ingegneria Elettronica, LM-32 Ingegneria Informatica.

**Subjects of the interview:** Technologies related to modern wired and wireless telecommunications networks, with in-depth analysis of Software Define Network (SDN) and Network Function Virtualization (NFV) technologies and the aspects related to cyber-security. Verification of programming skills with particular reference to the C ++ language and the Matlab environment.

The candidate will need to prove his/her knowledge of the english language.