

**RESEARCH PROGRAM NO. 1**

**The assessment criteria for the qualifications and the interview will be affixed on 7.5.2019 at 9.00** in Dipartimento di Matematica (DIMA), Via Dodecaneso 35, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 7.5.2019 at 12.30** in Dipartimento di Matematica (DIMA), Via Dodecaneso 35, Genova.

**The interview will be held on 7.5.2019 at 16.00** in Dipartimento di Matematica (DIMA), Via Dodecaneso 35, 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. Giuseppe Rosolini on the phone number +39 010 3536942 or via the email address: [rosolini@unige.it](mailto:rosolini@unige.it)*

**Scientific coordinator:** Prof. Giuseppe ROSOLINI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Strengthening and development of the project "MateFitness – The gym for mathematics" active for 9 years in all of Italy.

**Description:** The project focusses on the research of methodologies for an effective presentation of mathematics, as well as related themes in the history of science to the young students and the public at large, with particular attention toward the use of new technologies. We want to test new modes to inform and to disseminate the science and the history of the science, at both national and international levels, also by the production of exhibitions and conferences to promote the scientific culture in the schools of all levels, also with an improved use of the laboratories. The base for this work is the logical structure of mathematics offered by the formal theories and of the categorical models of logic.

**Scientific disciplinary sector:** MAT/01 LOGICA MATEMATICA

**Place:** Dipartimento di Matematica (DIMA)

**Required degree:**

Dottorato di ricerca in matematica, o matematica e applicazioni.

**Subjects of the interview:**

Dissemination of Mathematics, Mathematical Logic, Category Theory.

## RESEARCH PROGRAM NO. 2

**The assessment criteria for the qualifications and the interview will be affixed on 29.4.2019 at 9.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via all'Opera Pia 15, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 29.4.2019 at 12.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via all'Opera Pia 15, Genova.

**The interview will be held on 29.4.2019 at 14.30** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via all'Opera Pia 15, 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. Stefano VIGNOLO on the phone number +39 3204367085 or via the email address: [vignolo@dime.unige.it](mailto:vignolo@dime.unige.it)*

**Scientific coordinator:** Prof. Stefano VIGNOLO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 27.133,00**

**Title:** Compact stars in General Relativity and its extensions.

**Description:** The properties and the structure of compact objects are still a matter of intense research in General Relativity (GR) and in many of its extension (e.g. Einstein-Cartan Gravity,  $f(R)$ -gravity, etc.). This project will focus on the exploration of their features, also comparing theoretical results with observations. Using the covariant 1+1+2 approach proposed by Clarkson, Ellis and others, we will construct and explore analytical or semi-analytical models of compact stars made by different types of matter energy, including scalar and electromagnetic fields. Particular attention will be devoted to the development of a covariant gauge invariant theory of perturbations for these compact objects as well as to the problem of the formulation of junction conditions.

**Scientific disciplinary sector:** MAT/07 FISICA MATEMATICA

**Place:** Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME)

**Required degree:**

Dottorato di ricerca in Matematica o Fisica

**Subjects of the interview:**

Physical and Mathematical aspects of models for compact stars in general relativity and extended theories of gravity.

### RESEARCH PROGRAM NO. 3

**The assessment criteria for the qualifications and the interview will be affixed on 6.5.2019 at 11.00** in Dipartimento interscuola di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Dodecaneso 35, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 6.5.2019 at 14.00** in Dipartimento interscuola di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Dodecaneso 35, Genova.

**The interview will be held on 10.5.2019 at 17.00** in Dipartimento interscuola di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Dodecaneso 35, 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. Lorenzo Rosasco on the phone number (+39) 010353 – 6607 or via the email address: lorenzo.rosasco@unige.it*

**Scientific coordinator:** Prof. Lorenzo ROSASCO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Machine learning and reinforcement learning approaches to signal representation and prediction for time series applied to biological behavior.

**Description:** Extracting reliable information from large amounts of large data is a key problem in science and technology. The objective of this project is to develop statistical learning algorithms for the representation and prediction of time series related to biological behavior. We will consider a multidisciplinary approach based on tools from computer science, signal processing and optimization. We will combine statistical learning and reinforcement learning, to compare model-based and model-free algorithms. The goal is to obtain algorithms that lead to a better understanding of decision making in biological behavior, in the presence of a large flow of noisy information.

**Scientific disciplinary sector:** INF01 INFORMATICA

**Place:** Dipartimento interscuola di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS)

**Required degree:**

Laurea Magistrale delle classi LM-17 Fisica, LM-18 Informatica, LM-40 Matematica.

**Subjects of the interview:**

Machine learning, reinforcement learning

**RESEARCH PROGRAM NO. 4**

**The assessment criteria for the qualifications and the interview will be affixed on 02.05.2019 at 15.00** in Dipartimento di Fisica (DIFI), 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 02.05.2019 at 18.00** in Dipartimento di Fisica (DIFI), Via Opera Pia 13, Genova.

**The interview will be held on 03.05.2019 at 14.00** in Dipartimento di Fisica (DIFI), 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.**

*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. Dario Barberis via the email address: Dario.Barberis@ge.infn.it*

**Scientific coordinator:** Prof. Dario BARBERIS

**NO. 1 research fellowship - Duration 2 year – Annual pre-tax amount: € 19.367,00**

**Title:** Development of the pixel detector for the ATLAS experiment at HL-LHC.

**Description:** The winner of this position will develop new silicon pixel detectors with the appropriate requirements for the LHC upgrade planned for 2024-2025. The pixel detector is fundamental both to reconstruct efficiently the trajectories of particles in high-luminosity conditions and to identify particles that have a short average lifetime. In particular, the winner of the position will develop and characterize radiation-resistant sensors, in the laboratory and with test beams, and also develop the software for the calibration and the data acquisition.

**Scientific disciplinary sector:** FIS/01 FISICA SPERIMENTALE

**Place:** Dipartimento di Fisica (DIFI)

**Required degree:**

Dottorato di Ricerca in Fisica

**Subjects of the interview:**

Knowledge of particle detectors based on silicon semiconductors and their properties. Familiarity with detector read-out systems and calibrations; measurements of particle trajectories.

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

## **RESEARCH PROGRAM NO. 5**

**The assessment criteria for the qualifications and the interview will be affixed on 03.05.2019 at 09.00** in Dipartimento di Fisica (DIFI), 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 06.05.2019 at 10.00** Dipartimento di Fisica (DIFI), Via Opera Pia 13, Genova.

**The interview will be held on 06.05.2019 at 15.30** in Dipartimento di Fisica (DIFI), 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.ssa Ornella CAVALLERI

**NO. 1 research fellowship - Duration 2 year – Annual pre-tax amount: € 27.133,00**

**Title:** Interaction of 2D materials with liquids and bio-organic molecules.

**Description:** The project focusses on the study of the interaction of 2D materials with liquids, organic molecules and bio-molecules. The interaction with a liquid phase can significantly influence the interplane interactions in 2D materials and can be exploited to tune interfacial processes which can lead to a structural reorganization of the 2D material. The interface between organic molecules and 2D materials will be characterized by coupling high resolution scanning probe microscopy, spectroscopic ellipsometry and core level photoemission spectroscopy (XPS).

**Scientific disciplinary sector:** FIS/07 FISICA APPLICATA (A BENI CULTURALI, AMBIENTALI, BIOLOGIA E MEDICINA)

**Place:** Dipartimento di Fisica (DIFI)

**Required degree:**

Laurea V.O. in Fisica, Laurea Specialistica della classe 20/S Fisica, Laurea Magistrale della classe LM-17 Fisica.

**Subjects of the interview:**

Physics of interfaces and thin films, Experimental methods for the spectroscopic and morphological characterization of surfaces and thin/ultrathin films

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

**RESEARCH PROGRAM NO. 6**

**The assessment criteria for the qualifications and the interview will be affixed on 06.05.2019 at 15.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), piano T, bacheca, Corso Europa 26, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 07.05.2019 at 09.30** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), piano T, bacheca, Corso Europa 26, Genova.

**The interview will be held on 07.05.2019 at 14.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, 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. Laura Gaggero on the phone number +39 010 3538317 or via the email address: gaggero@dipteris.unige.it*

**Scientific coordinator:** Prof.ssa Laura GAGGERO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 23.250,00**

**Title:** Implementation of airborne fibers monitoring by Scanning Electron Microscopy + EDS from occupational exposure.

**Description:** The activity of the research grant is developed within a wider investigation on microstructural, physical, chemical analyses on inorganic fibrous materials from natural sources. The activity is particularly addressed to the analyses of airborne particulate matter on membranes, to its mineralogical characterisation and to the quantification of the fibrous fraction according to the normative. The analytical activity is to be carried out by Scanning Electron Microscopy coupled with EDS, in order to connect the environmental sampling to risk categories defined by the Control Authority. Finally, analytical reports and transmission of the data are part of the monitoring activity, in connection with the lithotypes originating the particulate.

**Scientific disciplinary sector:** GEO/09 GEORISORSE MINERARIE E APPLICAZIONI MINERALOGICO- PETROGRAFICHE PER L'AMBIENTE ED I BENI CULTURALI

**Place:** Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV)

**Required degree:**

Laurea V.O. in Scienze Geologiche, Scienze Naturali, Scienze Ambientali; Laurea Specialistica delle classi 86/S Scienze Geologiche o 85/S Scienze geofisiche o 68/S Scienze della Natura; 82/S Scienze e tecnologie per l'ambiente e il territorio, Laurea Magistrale della classe LM-74 Scienze e Tecnologie geologiche, LM-79 Scienze geofisiche, LM-60 Scienze della Natura o LM-75 Scienze e tecnologie per l'ambiente e il territorio.

**Subjects of the interview:**

Asbestos mineralogy, morphological and in situ compositional analytical methods.

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

## **RESEARCH PROGRAM NO. 7**

**The assessment criteria for the qualifications and the interview will be affixed on 06.05.2019 at 09.30** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 06.05.2019 at 13.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The interview will be held on 06.05.2019 at 14.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, 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. Marco CAPELLO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Monitoring of microplastics in different matrices both abiotic (water and sediment) and biotic (fishes and mussels) for the characterization of a port environment. [EU Project Interreg V-A Italy France Maritime 2014 - 2020 "SPLASH! - Stop alle plastiche in H2O! (Stop Plastics in H2O!)" - CUP D31I18000620007].

**Description:** The European Project "SPlasH!" will analyze the presence, the origin and the dynamics of the macro- and microplastics in the ports of the area Marittimo. The research will provide data on the dynamics of plastics in the port environment, the inflow and incidence of terrestrial sources, and the distribution of microplastics at different depths in densely populated areas.

**Scientific disciplinary sector:** GEO/12 OCEANOGRAFIA E FISICA DELL' ATMOSFERA

**Place:** Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV)

**Required degree:**

Laure Magistrale della classe LM-6 Biologia, LM-60 Scienze della natura, LM-74 Scienze e tecnologie geologiche, LM-75 Scienze e tecnologie per l'ambiente e il territorio.

**Subjects of the interview:**

Animal tissue sampling techniques, fish visual analysis, plastic recognition, dynamics

**RESEARCH PROGRAM NO. 8**

**The assessment criteria for the qualifications and the interview will be affixed on 13.05.2019 at 09.30** in Dipartimento di Scienze della Terra, dell' Ambiente e della Vita (DISTAV) Corso Europa 26, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 13.05.2019 at 13.00** in Dipartimento di Scienze della Terra, dell' Ambiente e della Vita (DISTAV) Corso Europa 26, Genova.

**The interview will be held on 13.05.2019 at 15.30** in Dipartimento di Scienze della Terra, dell' Ambiente e della Vita (DISTAV) Corso Europa 26, Genova.

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**Scientific coordinator:** Prof.ssa Mirca ZOTTI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Molecular characterization and cryopreservation of fungal strains isolated from extreme environments and different types of matrices.

**Description:** The main objective is to standardize a series of procedures to preserve the current and future strains of the DISTAV mycological collection, also in relation to the recent affiliation of UNIGE to MIRRI-IT (Microbial Resource Research Infrastructure - Italy). Shortly, the conservation procedures will provide: a molecular characterization of the living strains present in the collection; the continuous database updates with the gene sequences of specific strains present in the collection; the implementation of a cryopreservation protocol that will allow to save space need for tubes, costs for personnel and reagent. Finally, the adoption of international standards useful for conserving organisms will simplify the access to the DISTAV collection.

**Scientific disciplinary sector:** BIO/03 BOTANICA AMBIENTALE E APPLICATA

**Place:** Dipartimento di Scienze della Terra, dell' Ambiente e della Vita (DISTAV)

**Required degree:**

Dottorato di ricerca in Botanica applicata all'ambiente e all'agricoltura

**Subjects of the interview:**

Mycological collections and enhancement of the biotechnological potential of conserved microorganisms; morphological and molecular characterization of fungal strains; conservation protocols of fungal strains; regulation of conservation of microorganisms according to international standards.



## **RESEARCH PROGRAM NO. 9**

**The assessment criteria for the qualifications and the interview will be affixed on 09.05.2019 at 10.00** in Dipartimento di Medicina sperimentale (DIMES) - Fisiologia in Viale Benedetto XV/3, Genova

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 09.05.2019 at 14.00** in Dipartimento di Medicina sperimentale (DIMES)- Fisiologia in Viale Benedetto XV/3, Genova

**The interview will be held on 09.05.2019 at 16.00** in Dipartimento di Medicina sperimentale (DIMES)- Fisiologia in Viale Benedetto XV/3, 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.**

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**Scientific coordinator:** Prof. Fabio BENFENATI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Emerging Postsynaptic Roles For Known Presynaptic Proteins Implicated In Neurological Disorders.

**Description:** PRoline-Rich Transmembrane protein 2 (PRRT2), is a neuron-specific protein identified as the single causative gene for a group of paroxysmal syndromes of infancy including infantile epilepsy, paroxysmal movement disorders and migraine. Studying the PRRT2 interactome by proteomics we found interacting proteins expressed in the axon or in presynaptic or postsynaptic terminals. The project aim is to understand if the axonal, pre- and post-synaptic location of PRRT2 serves distinct functions by involving distinct interactors and/or occurs in distinct brain areas. To this end, we will study if the phenotype of knockdown, PRRT2 KO neurons or the pathogenetic mutations, differentially affect the axon, pre- or post-synaptic function by means of molecular/cellular neurobiology techniques.

**Scientific disciplinary sector:** BIO/09 FISIOLOGIA

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

**Required degree:**

Laurea Magistrale delle classi LM-9 Biotecnologie mediche, veterinarie e farmaceutiche, LM-6 Biologia, LM-41 Medicina e Chirurgia, LM-13 Farmacia e Farmacia Industriale

**Subjects of the interview:**

Master thesis, research experiences and laboratory skills.

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

## RESEARCH PROGRAM NO. 10

**The assessment criteria for the qualifications and the interview will be affixed on 06.05.2019 at 10.00** in Laboratorio Unità di Oncologia Cellulare, Torre C3, ex-CBA L.go R. Benzi 10, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 06.05.2019 at 13.00** in Laboratorio Unità di Oncologia Cellulare, Torre C3, ex-CBA L.go R. Benzi 10, Genova.

**The interview will be held on 06.05.2019 at 14.30** in Laboratorio Unità di Oncologia Cellulare, Torre C3, ex-CBA L.go R. Benzi 10, 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 Sveva Bollini on the phone number +39 010 555 8394 or via the email address: sveva.bollini@unige.it*

**Scientific coordinator:** Prof.ssa Sveva BOLLINI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Triggering CARDIOmyocyte renewal by harnessing the STem cell pARacrine potential (CARDIO-STAR).

**Description:** This project aims at investigating the cardio-active potential of the human amniotic fluid-derived stem cell secretome in triggering functional re-activation of cardiomyocyte proliferation. To comprehensively assess cell cycle progression, we will take advantage of FUCCI (Fluorescent Ubiquitination-based Cell Cycle Indicator) technology as tracing system. Candidate will be required to have good research skills, broad expertise in cell and molecular biology and relevant know-how in flow cytometry. Expertise in surgical procedures on preclinical rodent models is preferable. Strong team-work attitude, problem-solving disposition and experience in the supervision of junior collaborators are also required.

**Scientific disciplinary sector:** BIO/13 BIOLOGIA APPLICATA

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

**Required degree:**

Laurea V.O. in Biotecnologie indirizzo Biotecnologie Mediche; Biotecnologie Indirizzo Biotecnologie Farmaceutiche; Biotecnologie indirizzo Biotecnologie Veterinarie; Biotecnologie Indirizzo Biotecnologie Industriali; Chimica e tecnologie farmaceutiche o Chimica e tecnologia farmaceutiche; Farmacia, Medicina e Chirurgia; Medicina veterinaria; Scienze biologiche, Laurea Specialistica, della classe: 9/S Biotecnologie mediche, veterinarie e farmaceutiche; 8/S Biotecnologie Industriali, 14/S Farmacia e farmacia industriale; 46/S Medicina e Chirurgia; 47/S Medicina Veterinaria; 6/S Biologia, Laurea Magistrale della classe: LM-9 Biotecnologie mediche, veterinarie e farmaceutiche; LM-8 Biotecnologie industriali; LM-13 Farmacia e farmacia industriale; LM-41 Medicina e Chirurgia; LM-42 Medicina Veterinaria; LM-6 Biologia.

**Subjects of the interview:**

Stem cell paracrine modulatory potential; extracellular vesicle biology; strategies for reactivating endogenous mechanism of cardiac repair and regeneration.

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

**RESEARCH PROGRAM NO. 11**

**The assessment criteria for the qualifications and the interview will be affixed on 06.05.2019 at 9.00** in Dipartimento di Scienze della Salute (DISSAL), Via A. Pastore 1, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 06.05.2019 at 12.00** in Dipartimento di Scienze della Salute (DISSAL), Via A. Pastore 1, Genova.

**The interview will be held on 06.05.2019 at 14.00** in Dipartimento di Scienze della Salute (DISSAL), Via A. Pastore 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.ssa Maria Pia SORMANI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 27.133,00**

**Title:** An MRI biomarker for disability progression for use in clinical trial.

**Description:** The aim of the project is the development of markers for the clinical progression of the disease in patients with Multiple Sclerosis Primary Progressive, which can be used as primary outcome measures in phase 2 studies. The idea is that the progression of the disease related to brain lesion in MS will be detectable through the MRI before its clinical expression and that we will be able to develop such markers by identifying the characteristics of the lesions detected in MRI. To this end, a series of international controlled clinical trial databases will be available. Aim of the project is an advanced statistical analysis of these data with a training / validation procedure, to define early markers of prognosis and treatment response to be used in future clinical trials.

**Scientific disciplinary sector:** MED/01 STATISTICA MEDICA

**Place:** Dipartimento di Scienze della Salute (DISSAL)

**Required degree:**

Dottorato di ricerca in Scienze della salute, curriculum Statistica.

**Subjects of the interview:**

Main outcomes in Multiple Sclerosis – Statistical Methodology applied to Multiple Sclerosis

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

## **RESEARCH PROGRAM NO. 12**

**The assessment criteria for the qualifications and the interview will be affixed on 29.04.2019 at 08.30** in Dipartimento di Neuroscienze, Riabilitazione, Oftalmologia, Genetica e Scienze Materno-Infantili (DINOEMI), Largo Rosanna Benzi, 10, Genova

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 29.04.2019 at 10.00** in Dipartimento di Neuroscienze, Riabilitazione, Oftalmologia, Genetica e Scienze Materno-Infantili (DINOEMI), Largo Rosanna Benzi, 10, Genova

**The interview will be held on 29.04.2019 at 12.00** in Dipartimento di Neuroscienze, Riabilitazione, Oftalmologia, Genetica e Scienze Materno-Infantili (DINOEMI), Largo Rosanna Benzi, 10, 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. Mario AMORE

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Lifestyle, physical health, and severe psychiatric disorders

**Description:** The life expectancy of subjects with schizophrenia, other psychotic disorders, bipolar disorder, major depression is reduced by 10-25 years (mainly due to the greater morbidity and mortality linked to physical comorbid illnesses) when compared to the general population. Generally, the inadequate dietary habits, poor exercise, cigarette, alcohol or substances abuse, dysregulation of the sleep-wake rhythm, poor adherence to treatment have been all identified as potentially relevant causes related to the poor outcome of these conditions. Based on the current literature, it is generally known that lifestyle modification may have attenuate the physical morbidity/mortality of people with severe psychiatric disorders. The present project is aimed to evaluate the effectiveness of an intervention based on psychoeducation, cognitive-behavioral strategies, and health coaching.

**Scientific disciplinary sector:** MED/25 PSICHIATRIA

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

**Required degree:**

Laurea Magistrale delle classi LM-41 Medicina e Chirurgia, LM-51 Psicologia

**Subjects of the interview:**

Schizophrenia and other psychotic disorders; bipolar disorder; major depression; physical health; psychoeducation; cognitive-behavioral strategies; health coaching.

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

## RESEARCH PROGRAM NO. 13

**The assessment criteria for the qualifications and the interview will be affixed on 07.05.2019 at 09.00** in Dipartimento di Neuroscienze, riabilitazione, oftalmologia, genetica e scienze materno-infantili (DINOEMI), Largo Daneo 3, Genova

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 07.05.2019 at 12.00** in Dipartimento di Neuroscienze, riabilitazione, oftalmologia, genetica e scienze materno-infantili (DINOEMI), Largo Daneo 3, Genova

**The interview will be held on 07.05.2019 at 14.00** in Dipartimento di Neuroscienze, riabilitazione, oftalmologia, genetica e scienze materno-infantili (DINOEMI), Largo Daneo 3, 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. Carlo TROMPETTO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Artificial sensory feedback in patients with altered motor performance due to sensory deficits: a pilot study.

**Description:** Post-stroke subjects showing serious sensory impairment of the hand and only mild motor deficit will be enrolled.

Artificial sensory feedback will be delivered through a system able both to sense touch on parts of the hand with sensory deficit and to communicate the tactile information on other intact parts of the subject body, eg the shoulder.

Physiotherapy will be provided by a physiotherapist during 20 daily sessions lasting 1 hour each. During each of the 20 sessions and for the whole duration of the session, the patient will wear a sensorized glove and receive artificial sensory information through cutaneous electrostimulation. The results will be compared to those obtained in a control group of patients receiving physiotherapy without any artificial sensory feedback.

**Scientific disciplinary sector:** MED/34 MEDICINA FISICA E RIABILITATIVA

**Place:** Dipartimento di Neuroscienze, riabilitazione, oftalmologia, genetica e scienze materno-infantili (DINOEMI)

**Required degree:**

Laurea Specialistica della classe: SNT/02/S Scienze delle professioni sanitarie della riabilitazione, Laurea Magistrale della classe: LM/SNT2 Scienze riabilitative delle professioni sanitarie, LM-67 Scienze e tecniche delle attività motorie preventive e adattative, LM-68 Scienze e tecniche dello sport, LM-41 Medicina e chirurgia, LM-21 Ingegneria biomedica.

**Subjects of the interview:**

- Sensory impairment after stroke
- Rehabilitation in post-stroke subjects

## **RESEARCH PROGRAM NO. 14**

**The assessment criteria for the qualifications and the interview will be affixed on 07.05.2019 at 12.00** in Dipartimento di Scienze della salute (DISSAL), Via A. Pastore 1, Genova

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 08.05.2019 at 12.00** Dipartimento di Scienze della salute (DISSAL), Via A. Pastore 1, Genova

**The interview will be held on 09.05.2019 at 10.00** in Dipartimento di Scienze della salute (DISSAL), Via A. Pastore 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. Alberto IZZOTTI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Analysis of health effects of environmental pollutants

**Description:** The research activity will focus on the assessment of the health impact applied to the sources of pollution that insist on the territory. It is necessary to study new integrated approaches to answer the question of what the health effects of a pollutant are. This assessment must take into account the demographic specificities of the exposed subjects. The integrated assessment is based on classical and molecular epidemiology, analyzing health and molecular biomarkers in exposed subjects. The grant holder will have to work to support the Regional Environment and Health table set up at the Health and Social Services Department and in collaboration with the Regional Health Service of the Liguria Region and to make transfers to the regional territory.

**Scientific disciplinary sector:** MED/42 IGIENE GENERALE E APPLICATA

**Place:** Dipartimento di Scienze della salute (DISSAL)

**Required degree:**

Dottorato di ricerca in: Metodologie Innovative Applicate a Malattie Trasmissibili e Cronico-Degenerative.

**Subjects of the interview:**

Epidemiological analysis in populations exposed to environmental pollution; (2) biomonitoring of subjects exposed to pollutants; 3) analysis techniques of molecular biomarkers of exposure to pollutants

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

## **RESEARCH PROGRAM NO. 15**

**The assessment criteria for the qualifications and the interview will be affixed on 07.05.2019 at 12.00 in IST-NORD Policlinico San Martino (Biblioteca), Largo R. Benzi, 10 Genova.**

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 08.05.2019 at 10.00 IST-NORD Policlinico San Martino (Biblioteca), Largo R. Benzi, 10 Genova.**

**The interview will be held on 08.05.2019 at 15.00 in IST-NORD Policlinico San Martino (Biblioteca), Largo R. Benzi, 10 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 Maddalena MASTROGIACOMO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Interactions between stem cells and growth factors in cell therapies

**Description:** Regenerative Medicine has as its main objective the repair of organs and tissues damaged by pathological events, aging and traumas; traditional approaches are not always able to meet the clinical demand so that the medical strategies currently studied offer the extraordinary regenerative potential of mesenchymal stem cells (MSC) for tissue regeneration. Stem cell research offers the possibility of developing therapies to treat important diseases affecting different types of tissues and for many degenerative diseases such as diabetes, damage to the bone and cartilage tissue. Although clinical and basic research has shown the great potential differentiation of these cells and how they are able to activate the sequence of events that lead to tissue regeneration, the mechanisms by which this occurs are not yet clear. The research project in which my group is involved (IRMI Project-Science of Life) aims to "Realize and validate effective systems (medical devices) for the controlled release of platelet derivatives at the site of the lesion (chronic skin ulcers)". This arises from previous research of the group that had demonstrated the extreme importance of growth factors in the activity of mesenchymal stem cells. The study intends to develop a directly injectable product for the treatment of bone and skin lesions. In this context, a further objective becomes the development of new culture conditions of mesenchymal stem cells for their use in cell therapy.

**Scientific disciplinary sector:** MED 46 SCIENZE TECNICHE DI MEDICINA DI LABORATORIO

**Place:** Dipartimento di Medicina interna e specialità mediche (DIMI)

**Required degree:**

Dottorato di ricerca in Biotecnologie in Medicina Traslazionale

**Subjects of the interview:**

Biology and pathology of connective tissues (bone and cartilage) and skin - Microenvironment involved in the control of tissue regeneration. Platelet growth factors and their use in bone and skin regeneration. Specific biomaterials for bone and skin regeneration; controlled release biomaterials of specific molecules and / or growth factors, related applications in tissue regeneration. Identification, protocols and regulatory legislation for the development of medical devices.

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

**RESEARCH PROGRAM NO. 16**

**The assessment criteria for the qualifications and the interview will be affixed on 09.05.2019 at 08.30** in Dipartimento di Ingegneria delle Civile, Chimica e Ambientale (DICCA), 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 09.05.2019 at 11.30** in Dipartimento di Ingegneria delle Civile, Chimica e Ambientale (DICCA), Via Montallegro 1, Genova.

**The interview will be held on 09.05.2019 at 12.00** in Dipartimento di Ingegneria delle Civile, Chimica e Ambientale (DICCA) 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. Michele BOLLA PITTALUGA

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Interaction between river plumes and wave action and its implications on the triggering of turbidity currents.

**Description:** It is well known that hyperpycnal flows can be triggered at the river mouth when the river is characterized by a severe flood. The flow hydrodynamic conditions that lead to the triggering of such gravity flows are only partially known, and this is due in part to the difficulty for turbidity currents to be directly measured. Here we suggest to analyze the interaction between the river plume and the longshore current induced by the wave action in the nearshore region and investigate whether it is possible to identify the control parameters that lead to the triggering of turbidity currents downslope. Beyond the undisputable scientific interest, these researches have a great practical relevance in particular in the field of the hazard of submarine infrastructures.

**Scientific disciplinary sector:** ICAR/01 IDRAULICA

**Place:** Dipartimento di Ingegneria Civile, Chimica e Ambientale (DICCA)

**Required degree:**

Laurea V.O. in Ingegneria Civile, Laurea Specialistica delle classi 28/S Ingegneria civile, 38/S Ingegneria per l'ambiente e il territorio, Laurea Magistrale delle classi LM -23 Ingegneria Civile, LM-35 Ingegneria per l'ambiente e il territorio.

**Subjects of the interview:**

Knowledge of the foundations of the following disciplines: fluid mechanics, sediment transport, fluvial hydraulics, maritime hydraulics.

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



## **RESEARCH PROGRAM NO. 17**

**The assessment criteria for the qualifications and the interview will be affixed on 08.05.2019 at 10.00** in Dipartimento di Ingegneria delle Civile, Chimica e Ambientale (DICCA), in 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 08.05.2019 at 13.00** in Dipartimento di Ingegneria delle Civile, Chimica e Ambientale (DICCA), Via Montallegro 1, Genova.

**The interview will be held on 08.05.2019 at 14.00** in Dipartimento di Ingegneria delle Civile, Chimica e Ambientale (DICCA), 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. Roberto PASSALACQUA

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Low-cost soil moisture sensor networks for monitoring landslides.

**Description** The research team has developed an integrated hydrological-geotechnical model to assess, in an almost 3D GIS environment, the susceptibility to landslide failure triggered by rainfall. The candidate is required to calibrate low-cost soil moisture sensors and the relevant monitoring network, both in the laboratory and in the test field and on the sites of interest, optimising the installation, functioning and data collection phases of the instrumentation. The candidate will also collaborate in the feeding the model mentioned above with the data of such sensors. The activity will take place within the framework of the research project INTERREG V-A France - Italy ALCOTRA 2014-2020 AD-VITAM.

**Scientific disciplinary sector:** ICAR-07 GEOTECNICA

**Place:** Dipartimento di Ingegneria Civile, Chimica e Ambientale (DICCA)

**Required degree:**

Laurea Magistrale della classe LM-35 Ingegneria per l'ambiente e il territorio

**Subjects of the interview:**

Slope stability, geotechnical characterization, sensors for environmental monitoring, cartographic data management in GIS environment

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

**RESEARCH PROGRAM NO. 18**

**The assessment criteria for the qualifications and the interview will be affixed on 7.5.2019 at 9.00** in Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), 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 7.5.2019 at 14.00** in Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), Via Montallegro 1, Genova.

**The interview will be held on 7.5.2019 at 15.00** in Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), 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.**

*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. Stefano GAGGERO on the phone number +39 010 335 2389 or via the email address: [stefano.gaggero@unige.it](mailto:stefano.gaggero@unige.it)*

**Scientific coordinator:** Prof. Stefano GAGGERO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Development of simulation methodologies using the open-source OpenFOAM solver for the characterization of semi-displacing and planning hulls performance.

**Description:** The proposed activity deals with the development of appropriate simulation strategies using OpenFOAM for the prediction of the calm-water resistance curve and of the dynamic attitude of semi-displacing and planning hulls. In particular, the activity will be focused on:

- Development of appropriate meshing strategies to deal with the peculiarities (chines, stray rails) of planning hulls and the generation of high-quality prism layers, using both OpenFOAM libraries and ad-hoc approaches developed to tackle these specific issues,
- Analysis of multiphase RANS simulations for the prediction of the calm-water resistance curve, with particular attention to the prediction of the dynamic attitude and to the avoiding of the “numerical” ventilation of the hull bottom.

**Scientific disciplinary sector:** ING-IND/01 ARCHITETTURA NAVALE

**Place:** Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN)

**Required degree:**

Laurea V.O. in Ingegneria Navale, Laurea Specialistica della classe 37/S Ingegneria navale, Laurea Magistrale della classe LM-34 Ingegneria navale.

**Subjects of the interview:**

Prediction of the resistance curve of semi-displacing and planning hulls using numerical approaches, numerical approaches for the solution of RANS equations (and relative issues), Approaches for the definition of appropriate computational meshes (and relative issues), Development of dedicated solvers in OpenFOAM environment.

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

## RESEARCH PROGRAM NO. 19

**The assessment criteria for the qualifications and the interview will be affixed on 29.04.2019 at 8.30** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), 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 29.04.2019 at 11.30** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), Via Montallegro 1, Genova.

**The interview will be held on 29.04.2019 at 12.00** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), 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.**

*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. Alberto TRAVERSO on the phone number +39 0103352442 or via the email address: [alberto.traverso@unige.it](mailto:alberto.traverso@unige.it)*

**Scientific coordinator:** Prof. Alberto TRAVERSO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 27.133,00**

**Title:** Analysis and optimisation of hybrid energy systems.

**Description:** With particular reference to the energy systems for the production of electricity from gaseous fuel, such as natural gas or biogas, the research activity proposed here aims at the analysis and optimisation of performance of gas turbine fuel cell hybrid systems, which are able to guarantee high performance and low emissions both at nominal power and at partial load. In particular, the need to operate a very low load in different atmospheric conditions can require the adoption of heat pumps for compressor intake conditioning. The research activity is therefore oriented to study the performance obtainable from these systems, both in nominal conditions and in off-design conditions, in pre-defined reference scenarios. The analysis will be carried out with appropriate simulation software of plants and energy systems.

**Scientific disciplinary sector:** ING-IND/09 SISTEMI PER L'ENERGIA E L'AMBIENTE

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

**Required degree:**

Laurea V.O. in Ingegneria Meccanica, Laurea Specialistica della classe 36/S Ingegneria meccanica, Laurea Magistrale della classe LM-33 Ingegneria meccanica

**Subjects of the interview:**

Energy systems, power plants, fuel cell systems, heat pumps, performance optimisation, ambient condition impact on performance

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

## RESEARCH PROGRAM NO. 20

**The assessment criteria for the qualifications and the interview will be affixed on 9.5.2019 at 9.30** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME) sez. MEC, Via Opera Pia 15, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 9.5.2019 at 12.30** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME) sez. MEC, Via Opera Pia 15, Genova.

**The interview will be held on 9.5.2019 at 14.00** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME) sez. MEC, Via Opera Pia 15, 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. Pietro FANGHELLA

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Advanced simulation of assembly and manipulation operations within Factory 4.0 framework.

**Description:** Set up, test and multimedia presentation of manipulation and assembly operations of small and large objects, in an industrial framework, in presence of human operators realized by advanced software tools for the motion simulation of complex mechanical systems. The research is developed within the LHP research project carried out by Ansaldo Energia in cooperation with University of Genoa, so it will be partially carries out at AEN premises.

**Scientific disciplinary sector:** ING-IND/13 MECCANICA APPLICATA ALLE MACCHINE

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

**Required degree:**

Laurea Magistrale delle classi LM-25 Ingegneria dell'Automazione, LM-33 Ingegneria Meccanica, LM-32 Ingegneria Informatica.

**Subjects of the interview:**

Candidate experience regarding geometric, functional, and kinematic modeling of mechanical system and related software tools

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

## RESEARCH PROGRAM NO. 21

**The assessment criteria for the qualifications and the interview will be affixed on 7.5.2019 at 8.30** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), via Opera Pia 15A, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 7.5.2019 at 11.30** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), via Opera Pia 15A, Genova.

**The interview will be held on 7.5.2019 at 12.00** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), via Opera Pia 15A, 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. Matteo ZOPPI on the phone number +39320 438 2160 or via the email address: [zoppi@dimec.unige.it](mailto:zoppi@dimec.unige.it)*

**Scientific coordinator:** Prof. Matteo ZOPPI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Development of a robot for load testing of dental implants

**Description:** The researcher will contribute to the construction of the prototype of a robotized system for load testing of dental implants and prostheses; the tests carried out by the system will comprise cyclic and fatigue with forces applied at any position and direction; the research work will comprise hardware and software integration, the definition of the method of operation of the system, tuning, programming and the support in the development of the tests.

**Scientific disciplinary sector:** ING-IND/13 MECCANICA APPLICATA ALLE MACCHINE

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

**Required degree:**

Laurea Magistrale delle classi LM-25 Ingegneria dell'automazione, LM-32 Ingegneria Informatica, LM-33 Ingegneria Meccanica.

**Subjects of the interview:**

Variable stiffness actuation in robotics, fluidics, basics of dental implantology.

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

## **RESEARCH PROGRAM NO. 22**

**The assessment criteria for the qualifications and the interview will be affixed on 09.05.2019 at 08.30** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti DIME – Sezione Meccanica e Costruzione delle Macchine (MEC), Via Opera Pia 15/A, Genova

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 09.05.2019 at 13.30** Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti DIME – Sezione Meccanica e Costruzione delle Macchine (MEC), Via Opera Pia 15/A, Genova

**The interview will be held on 09.05.2019 at 14.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti DIME – Sezione Meccanica e Costruzione delle Macchine (MEC), Via Opera Pia 15/A, 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. Roberto RAZZOLI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Mechanical design of a wearable medical device for the NeuroGlass project

**Description:** The project aim is the development of a wearable device “NeuroGlass” for the continuous biometric-data collection useful for the early diagnosis of neurodegenerative disease, using a standard pair of prescription glasses integrated with battery, sensors, storage, signal elaboration and transmission.

**Scientific disciplinary sector:** ING/IND 15 DISEGNO E METODI DELL’INGEGNERIA INDUSTRIALE

**Place:** Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME)

**Required degree:**

Laurea Magistrale della classe LM-33 Ingegneria meccanica

**Subjects of the interview:**

Mechanical design of plastic components

Techniques of stress analysis and additive manufacturing of plastic materials

## RESEARCH PROGRAM NO. 23

**The assessment criteria for the qualifications and the interview will be affixed on 2.5.2019 at 10.00** 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 2.5.2019 at 15.00** in Dipartimento di Chimica e Chimica Industriale (DCCI), Via Dodecaneso 31, Genova.

**The interview will be held on 3.5.2019 at 10.00** 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.**

**Scientific coordinator:** Prof. Paolo PICCARDO

**NO. 2 research fellowship - Duration 2 year – Annual pre-tax amount: € 19.367,00**

**Title:** Metallic Interconnects aged under pressure.

**Description:** Research based on the qualification of stainless steels to be used in SOC stacks for long lasting test at operating conditions using pressure as an acceleration factor. ASR and post-experiment investigation are performed during and after a few hundred hours of test.

**Scientific disciplinary sector:** ING-IND/21 METALLURGIA

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

**Required degree:**

Dottorato di ricerca in Scienza e Tecnologie Chimiche

**Subjects of the interview:** Usage of metals in SOC stacking, high temperature oxidation of stainless steels in dry and humid air, main investigation protocols and methodologies.

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

## RESEARCH PROGRAM NO. 24

**The assessment criteria for the qualifications and the interview will be affixed on 8.5.2019 at 9.30** in Dipartimento di Ingegneria civile, chimica e ambientale (DICCA), Via Opera Pia 15, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 8.5.2019 at 12.30** in Dipartimento di Ingegneria civile, chimica e ambientale (DICCA), Via Opera Pia 15, Genova.

**The interview will be held on 8.5.2019 at 13.00** in Dipartimento di Ingegneria civile, chimica e ambientale (DICCA), Via Opera Pia 15, 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. Renzo DI FELICE via the e-mail address: [renzo.difelice@unige.it](mailto:renzo.difelice@unige.it)*

**Scientific coordinator:** Prof. Renzo DI FELICE

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Solvents fro CO<sub>2</sub> capture using aqueous solutions.

**Description:** Post-combustion CO<sub>2</sub> capture using a liquid absorbent is one of the most attractive technologies for CO<sub>2</sub> capture due to high efficiency and scale-up feasibility. This technology relies greatly on the performances of solvents, which is dictated by its CO<sub>2</sub> loading capacity, reaction kinetics, energy for regeneration, and mass transfer characteristics. Therefore, the selection of an appropriate solvent is one of the main challenges in CO<sub>2</sub> absorption processes.

The present work aims at contributing to the characterization and understanding of amino acid salt solutions and their blended solutions with amines as new CO<sub>2</sub>absorbents.In brief, this study will focus on:

- (i) Development of the most efficient solvent for CO<sub>2</sub> capture with desired properties.
- (ii) Measurement of their physiochemical properties such as density, viscosity and loading capacity
- (iii)Development of a thermodynamic model in order to predict CO<sub>2</sub> loading capacity.

**Scientific disciplinary sector:** ING-IND/24 PRINCIPI DI INGEGNERIA CHIMICA

**Place:** Dipartimento di Ingegneria civile, chimica e ambientale (DICCA)

**Required degree:**

Laurea V.O. in Ingegneria Chimica, Laurea Specialistica della classe 27/S Ingegneria Chimica, Laurea Magistrale della classe LM-22 Ingegneria chimica

**Subjects of the interview:** CO<sub>2</sub> capture, gas-liquid systems, multiphase chemical reactors

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



## **RESEARCH PROGRAM NO. 25**

**The assessment criteria for the qualifications and the interview will be affixed on 6.5.2019 at 9.30** in Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), Via Opera Pia 11, Genova

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 6.5.2019 at 12.30** in Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), Via Opera Pia 11, Genova

**The interview will be held on 6.5.2019 at 15.30** in Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), Via Opera Pia 11, 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. Federico SILVESTRO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Study and development of models for the integration of storage systems on microgrid.

**Description:** The topic of the research concerns the definition and development of a distributed generation and storage solution for the electrical distribution.

The electrical network must be modeled and simulated in a suitable computing environment to be chosen during the research. The different electric balance (EPLA) solutions will be modeled with also a zonal approach taking into account storage systems.

**Scientific disciplinary sector:** ING-IND/33 SISTEMI ELETTRICI PER L'ENERGIA

**Place:** Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN)

**Required degree:**

Laurea Magistrale della classe LM-28 Ingegneria Elettrica

**Subjects of the interview:** Methodological aspects for the modeling of power system; sw tools for modeling and multivariable optimization algorithms; EPLA (Electric Power Load Analysis); modeling of generation and storage systems for on power systems.

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

## RESEARCH PROGRAM NO. 26

**The assessment criteria for the qualifications and the interview will be affixed on 3.5.2019 at 9.30** in ELIOS Lab, Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), Via Opera Pia 11/A, Genova

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 3.5.2019 at 11.00** in Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), Via Opera Pia 11/A, Genova

**The interview will be held on 3.5.2019 at 14.00** in ELIOS Lab, Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN), Via Opera Pia 11/A, 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. Riccardo BERTA on the phone number +39 348-0191440 o via the e-mail address: [berta@elios.unige.it](mailto:berta@elios.unige.it)*

**Scientific coordinator:** Prof. Riccardo BERTA

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Design and development of an edge computing system for the acquisition and classification of data from the field.

**Description:** The project will implement an edge computing system for acquisition of data from the field and their automatic classification. The system provides a client module, on a microcontroller, and a server module in the cloud. The system, which interfaces with the Atmosphere DB, provides modules for:

- Programmable acquisition of data from the field
- Statistical cleaning of data according to measurement theory
- Supervised classification through Machine Learning algorithms such as: k-NN, CNN, RNN
- Unsupervised classification through clustering algorithms

Most modules will be redundant on both clients and servers, to support the flexibility required by Edge computing. A module will be developed to manage the division of work between clients and server.

**Scientific disciplinary sector:** ING-INF/01 ELETTRONICA

**Place:** Dipartimento di Ingegneria navale, elettrica, elettronica e delle telecomunicazioni (DITEN)

**Required degree:**

Laurea V.O. in Ingegneria elettronica, o Ingegneria informatica o Informatica Laurea Specialistica delle classi 32/S Ingegneria elettronica, 35/S Ingegneria informatica, 23/S Informatica, Laurea Magistrale delle classi LM-29 Ingegneria elettronica, LM/32 Ingegneria informatica LM-18 Informatica.

**Subjects of the interview:**

Machine learning and deep learning algorithms; Use of microcontrollers for the processing of signals from the field

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

## RESEARCH PROGRAM NO. 27

**The assessment criteria for the qualifications and the interview will be affixed on 15.5.2019 at 9.00** in Centro italiano di eccellenza sulla logistica, i trasporti e le infrastrutture (CIELI), Via Vivaldi 5, Genova

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 15.5.2019 at 12.00** in Centro italiano di eccellenza sulla logistica, i trasporti e le infrastrutture (CIELI), Via Vivaldi 5, Genova

**The interview will be held on 15.5.2019 at 15.00** in Centro italiano di eccellenza sulla logistica, i trasporti e le infrastrutture (CIELI), Via Vivaldi 5, 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. Enrico MUSSO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Definition of joint standards for risk assessment in maritime dangerous good transportation and realization of the “Observatoire des Marchandises Dangereuses (OMD)”.

**Description:** The research activity is related to a Interreg Italia Francia Marittimo project OMD. The main objectives of the project are: 1) Design and implementation of a joint OMD information system as the Italian-French Observatory to monitor the maritime flows of dangerous goods (DG) and increase navigation safety; 2) Definition of memorandums of understanding between public entities and private subjects of the cross-border area to harmonize functional and organizational procedures for DG traffic monitoring; 3) Definition of joint standards for risk assessment; 4) Library of emergency management models related to DG sea accidents and definition of accident risk maps.

**Scientific disciplinary sector:** ING-INF/04 AUTOMATICA

**Place:** Centro italiano di eccellenza sulla logistica, i trasporti e le infrastrutture (CIELI)

### **Required degree:**

Laurea V.O. in Ingegneria Informatica, Elettronica, Ingegneria dell’Ambiente, Ingegneria Civile e Ambientale, Ingegneria per l’Ambiente e il Territorio, Ingegneria Chimica, Ingegneria dei materiali, Scienze Chimiche, Chimica Industriale, Laurea Specialistica delle classi 35/S Ingegneria Informatica, 38/S Ingegneria per l’Ambiente e il Territorio, 28/S Ingegneria Civile, 29/S Ingegneria dell’Automazione, 27/S Ingegneria Chimica, 62/S Scienze Chimiche, 81/S Scienze e tecnologie della chimica industriale, 61/S Scienza e ingegneria dei materiali, Laurea Magistrale delle classi LM-32 Ingegneria Informatica, LM-25 Ingegneria dell’Automazione, LM-21 Ingegneria Biomedica, LM-35 Ingegneria per l’ambiente e il territorio, LM-23 Ingegneria Civile, LM-26 Ingegneria della sicurezza, LM-22 Ingegneria Chimica, LM-54 Scienze Chimiche, LM-71 Scienze e Tecnologie della chimica Industriale, LM-53 Scienza e Ingegneria dei Materiali.

### **Subjects of the interview:**

The research activity is related to a Interreg Italia Francia Marittimo project OMD. The main objectives of the project are: 1) Design and implementation of a joint OMD information system as the Italian-French Observatory to monitor the maritime flows of dangerous goods (DG) and increase navigation safety; 2) Definition of memorandums of understanding between public entities and private subjects of the cross-border area to harmonize functional and organizational procedures for DG traffic monitoring; 3) Definition of joint standards for risk assessment; 4) Library of emergency management models related to DG sea accidents and definition of accident risk maps.

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

## RESEARCH PROGRAM NO. 28

**The assessment criteria for the qualifications and the interview will be affixed on 8.5.2019 at 9.00** in Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), 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 8.5.2019 at 12.00** in Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The interview will be held on 8.5.2019 at 15.00** in Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), 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. Roberto SACILE

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 27.133,00**

**Title:** Logistics and safety of freight transport - Multiaction Project on the handling of *dangerous goods entering and exiting ports* in the area of cooperation.

**Description:** The research activity is included in the Interreg Italia Francia Marittimo LOSE + project. The project stems from multiple needs arising on the cross-border territories involved, such as:

- a) implement appropriate ICT tools and systems for the control of goods flows that enable the activation of a continuous monitoring system at cross-border level;
- b) define, on the basis of the emergency forecasting and management system, a codification of accidents occurring at sea near the coast and in the port area;
- c) develop a training support system for the use of ICT in the management of risk and emergencies in the transport of dangerous goods.

**Scientific disciplinary sector:** ING-INF/04 AUTOMATICA

**Place:** Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS)

**Required degree:**

Laurea V.O. in Ingegneria Informatica, Ingegneria Biomedica, Ingegneria per l'Ambiente e il Territorio, Ingegneria Civile, Ingegneria Chimica, Laurea Specialistica delle classi 35/S Ingegneria Informatica, 26/S Ingegneria Biomedica, 38/S Ingegneria per l'Ambiente e il Territorio, 28/S Ingegneria Civile, 29/S Ingegneria dell'automazione, 27/S Ingegneria Chimica. Laurea Magistrale delle classi LM-32 Ingegneria Informatica, LM-25 Ingegneria dell'automazione, LM-21 Ingegneria Biomedica, LM-35 Ingegneria per l'Ambiente e il Territorio, LM-23 Ingegneria Civile, LM-26 Ingegneria della Sicurezza, LM-22 Ingegneria Chimica.

**Subjects of the interview:**

risk in the transport of dangerous goods, ICT tools for the monitoring of logistics and transport, general aspects concerning the definition of risk and the vulnerable environmental and social vulnerability, GIS environments oriented to risk assessment, creation of maps of danger, vulnerability and risk in GIS environments, with particular reference to ArcGIS and Geomedia, definition of decision support systems in risk assessment.

## **RESEARCH PROGRAM NO. 29**

**The assessment criteria for the qualifications and the interview will be affixed on 7.5.2019 at 9.00** in Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Viale Causa 13, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 7.5.2019 at 12.00** in Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Viale Causa 13, Genova.

**The interview will be held on 7.5.2019 at 15.30** in Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Viale Causa 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. Fulvio MASTROGIOVANNI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Context- and emotion-based verbal human-machine interfaces.

**Description:** A computational linguistics project based on application of pragmatics technique in human-machine interface's context (through a philosophical and linguistics approach). It requires focusing on the human-machine vocal exchange on an emotional and contextual basis, with adequate consideration of differences and similarities between heterogeneous contexts (Smart Home and industrial environments for instance). Working on chatbots is more than expected because it helps to converge attention on fundamental aspects such as creativity of language and its personalization. Knowledge engineering resources will be employed (ontologies) along with structural insights on robots personality's development according to different goals: to work with, to entertain and to assist humans. Some testing surveys are going to be hold in order to understand levels of credibility and amusement for users. Moreover, prosody and rhetoric are essential components of language to be analyzed for successful interactions.

**Scientific disciplinary sector:** ING-INF/05 SISTEMI DI ELABORAZIONE DELLE INFORMAZIONI

**Place:** Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS)

**Required degree:**

Laurea Magistrale della classe LM-55 Scienze Cognitive.

**Subjects of the interview:**

Principles of computational linguistics; principles of knowledge engineering; ontology-based representation; computational models of emotional states in human-machine interaction; discussion.

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

## PROGRAMMA DI RICERCA N. 30

**The assessment criteria for the qualifications and the interview will be affixed:** on **29.04.2019** at **10:00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), 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 **29.04.2019** at **14:30** presso il Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS) Via Opera Pia 13, Genova.

**The interview will be held:** on **29.04.2019** at **15:00** presso il Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS) 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.**

*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. Gabriele ARNULFO on the phone number +39 0103532789 or via the email address: [gabriele.arnulfo@unige.it](mailto:gabriele.arnulfo@unige.it)*

**Scientific coordinator:** Prof. Gabriele ARNULFO

**N. 1 assegno - Durata anni 1 – Importo lordo annuo: € 19.367,00**

**Title:** Electrophysiological correlates of aging in the human brain: a connectivity and complexity study exploiting invasive recordings in epileptic patients.

**Description:** The human brain is a complex system that continuously evolves across our entire life. Despite great effort in the scientific community, a model of the healthy aging is not yet available. In this project the candidate will exploit invasive recordings to improve our understanding of aging from an electrophysiological point of view. Thus this project will provide evidences of modifications in terms of functional and structural connectivity. These will be leveraged to define such a model of the healthy aging brain.

**Scientific disciplinary sector:** ING-INF/06 BIOINGEGNERIA ELETTRONICA E INFORMATICA

**Place:** Dipartimento interscuola di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS)

**Required degree:**

Laurea Magistrale delle classi LM-17 Fisica, LM-21 Ingegneria Biomedica, LM-40 Matematica.

**Subjects of the interview:**

Discrete signal-processing, EEG signal processing, object oriented programming

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

## PROGRAMMA DI RICERCA N. 31

**The assessment criteria for the qualifications and the interview will be affixed:** on **03.05.2019** at **10:00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), 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 **03.05.2019** at **14:30** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The interview will be held:** on **03.05.2019** at **15:00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), 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.**

*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. Gabriele ARNULFO on the phone number +39 0103532789 or via the email address: [gabriele.arnulfo@unige.it](mailto:gabriele.arnulfo@unige.it)*

**Scientific coordinator:** Prof. Gabriele ARNULFO

**N. 1 assegno - Durata anni 1 – Importo lordo annuo: € 23.250,00**

**Title:** Electrophysiological correlates of drug-resistant focal epileptic patients in paediatric age

**Description:** The onsets of epilepsy in 80% of the cases is at paediatric age; on average, 25% of the patients are refractory to Anti-Epileptic Drugs. To treat these last cases, surgical ablation of the onset zone can be considered. The localization of this zone is usually performed with highly invasive intra-cerebral recordings. To prevent this, modern inversion techniques and non-invasive EEG recordings can be used. These techniques may require structural information, such as cortical segmentation and the characterization of white matter pathways. The successful candidate will study functional/structural connectivity and critical dynamics to help formalize forward/inverse solutions in HDEEG from focal epileptic patients. Implementation will be done with Python or Matlab, the most commonly used tools in neuroscience.

**Scientific disciplinary sector:** ING-INF/06 BIOINGEGNERIA ELETTRONICA E INFORMATICA

**Place:** Dipartimento interscuola di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS)

**Required degree:**

Dottorato di ricerca in Ingegneria Biomedica, Fisica, Matematica.

**Subjects of the interview:**

Segmentation and coregistration algorithms, Diffusion tensor imaging, structural and functional connectivity, graph theory, self-organized critical systems

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

## RESEARCH PROGRAM NO. 32

**The assessment criteria for the qualifications and the interview will be affixed on 6.5.2019 at 10.00** in Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via dell'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 6.5.2019 at 14.30** in Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via dell'Opera Pia 13, Genova.

**The interview will be held on 6.5.2019 at 15.00** in Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via dell'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.**

*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. Marco Massimo Fato on the phone number +39 3356790848 or via the email address: [marco.fato@unige.it](mailto:marco.fato@unige.it)*

**Scientific coordinator:** Prof. Marco Massimo FATO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Methods for organizing and analysis health data.

**Description:** The activities will focus on the study and analysis of methodologies for the organization of health data: creation of dashboards and / or statistical evaluation, an efficient interaction between doctor and patient. The researcher will have to evaluate the management of the data on the basis of some variables such as the age or the pathology of the patient.

**Scientific disciplinary sector:** ING-INF/06 BIOINGEGNERIA ELETTRONICA E INFORMATICA

**Place:** Dipartimento di informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS)

**Required degree:**

Laurea V.O. in Ingegneria biomedica, Informatica, Scienze dell'informazione, Ingegneria elettronica, Ingegneria Informatica, Ingegneria delle telecomunicazioni, Fisica, Matematica, Laurea Specialistica delle classi 26/S Ingegneria biomedica, 30/S Ingegneria delle telecomunicazioni, 32/S Ingegneria elettronica, 35/S Ingegneria informatica, 23/S Informatica, 20/S Fisica, 45/S Matematica, Laurea Magistrale delle classi LM-21 Ingegneria biomedica, LM-27 Ingegneria delle telecomunicazioni, LM-26 Ingegneria della sicurezza, LM-29 Ingegneria elettronica, LM-32 Ingegneria informatica, LM-18 Informatica, LM-17 Fisica, LM-40 Matematica.

**Subjects of the interview:**

Basic concepts in medical informatics, methods for organizing and analysis health data.

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



<b>SCIENTIFIC DISCIPLINARY AREA ANTIQUITIES, PHILOLOGY, LITERARY STUDIES, ART HISTORY</b>
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**RESEARCH PROGRAM NO. 33**

**The assessment criteria for the qualifications and the interview will be affixed on 7.5.2019 at 9.30 in Biblioteca di Archeologia, Via Balbi 4, Genova.**

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 7.5.2019 at 12.30 in Biblioteca di Archeologia, Via Balbi 4, Genova.**

**The interview will be held on 8.5.2019 at 9.30 in Biblioteca di Archeologia, Via Balbi 4, 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. Silvia PALLECCHI

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Functional analysis, contextualization and commercial dynamics of the late Archaic ceramic productions of Pinto Park (Policastro Bussentino, SA) and the surrounding area.

**Description:** The research aims are to study the technological, functional and commercial aspects of the late Archaic ceramics recovered between 2015 and 2018 during the stratigraphical investigations of the University of Genoa in the area of Pinto Park in Policastro Bussentino (SA). This work, assessing the technical and morphological characteristics of the finds, is developed together with a functional analysis, which takes into account the data of discovery, as well as defining the comprehension of those social phenomena that determined the development of particular formal associations. Specifically, attention will be given to the contextualization of ceramics, not only as regards the Policastro area, but also for the purpose of analysing the production system and trade, with the aim of clarifying the different ways in which the various forms of transmission, assimilation and cultural integration are implemented.

**Scientific disciplinary sector:** L-ANT/10 METODOLOGIE DELLA RICERCA ARCHEOLOGICA

**Place:** Dipartimento di Antichità, Filosofia, Storia (DAFIST)

**Required degree:**

Laurea V.O. in Lettere Classiche, curriculum classico o archeologico, Laurea Specialistica della classe 2/S Archeologia, Laurea Magistrale della classe LM-2 Archeologia.

**Subjects of the interview:**

- the late Archaic ceramic productions of Policastro Bussentino (SA) and of the surrounding territory, with particular reference to the Pinto Park area;
- the Greek ceramics, the colonial productions and the local productions of the Archaic sites of the Gulf of Policastro, with particular reference to Policastro Bussentino;
- Analysis and comparison of ceramics in the sub-geometric Oenotrian style of Policastro Bussentino, Palinuro and Sala Consilina (SA).

## **RESEARCH PROGRAM NO. 34**

**The assessment criteria for the qualifications and the interview will be affixed on 30.4.2019 at 10.00** in Dipartimento Lingue e Culture Moderne (DLCM), Piazza Santa Sabina 2, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 30.4.2019 at 13.00** in Dipartimento Lingue e Culture Moderne (DLCM), Piazza Santa Sabina 2, Genova.

**The interview will be held on 7.5.2019 at 17.00** in Dipartimento Lingue e Culture Moderne (DLCM), sala consiglio, Piazza Santa Sabina 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.**

*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. Elisa BRICCO on the phone number +39 01020951350 or via the email address: [elisa.bricco@unige.it](mailto:elisa.bricco@unige.it)*

**Scientific coordinator:** Prof.ssa Elisa BRICCO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Forms of literary creation outside the book and creation of alternative socialities.

**Description:** In France, in the last three decades, many projects of literary / artistic collaboration have developed, and have thus actively participated in the dissemination of culture. In all social spheres, literary creation practices - such as writing ateliers, writers' performances, forms of participation in public events - have become widespread, creating spaces for sharing and co-creation. The project aims to investigate the role and function of the public involved in cultural projects that include the use of new forms of creation and the use of literature. The projet foresees the analysis of production of new forms and the development of a proposal for a categorization model that can be a critical starting point for reading hybrid projects and their outcomes.

**Scientific disciplinary sector:** L-LIN/03 LETTERATURA FRANCESE

**Place:** Dipartimento Lingue e Culture Moderne

**Required degree:**

Dottorato di ricerca in Lingue, Culture e Tecnologie dell'Informazione e della Comunicazione.

**Subjects of the interview:**

Contemporary French Literature, Forms of Literary Creation Hybridized with Artistic Forms, Forms of Literary Reception.

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

## RESEARCH PROGRAM NO. 35

**The assessment criteria for the qualifications and the interview will be affixed on 29.4.2019 at 9.00** in Dipartimento di Lingue e Culture Moderne (DLCM), Piazza Santa Sabina 2, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 29.4.2019 at 12.45** in Dipartimento di Lingue e Culture Moderne (DLCM), Piazza Santa Sabina 2, Genova.

**The interview will be held on 29.4.2019 at 14.00** in Dipartimento di Lingue e Culture Moderne (DLCM), Piazza Santa Sabina 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.**

*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. Laura Colombino on the phone number +39 348 7254576 or via the email address: [laura.colombino@lingue.unige.it](mailto:laura.colombino@lingue.unige.it)*

**Scientific coordinator:** Prof. Laura COLOMBINO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** High-rise living and tower-blocks in the cultural discourse on London's skyline in the new millennium.

**Description:** The project will explore a series of literary and screen media representations of housing, with particular attention to the dichotomy between tower-block e high-rise living and their role in London's skyline as a space for social economic negotiation. It will focus, in particular, on productions from the early 2000s to the present, a crucial and often critical period in the transformation of the city. The project will look at the exchanges between different art forms– literature, drama, television and film–and will adopt an interdisciplinary methodology rooted in urban and cultural studies, focused on the study of contemporary literary and screen representations of London and on housing studies and the connections between the city, gentrification and cultural production.

**Scientific disciplinary sector:** L-LIN/10 LETTERATURA INGLESE

**Place:** Dipartimento di Lingue e Culture Moderne

**Required degree:**

Dottorato di ricerca in letterature comparate euro-americane (con curriculum comprovante significativa produzione scientifica nel campo della letteratura inglese novecentesca e del rapporto tra letteratura, arti visive e produzioni audiovisive).

**Subjects of the interview:**

Urban literature and film devoted to London; theoretical-methodological instruments; archival research.

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

**SCIENTIFIC DISCIPLINARY AREA HISTORY, PHILOSOPHY, PEDAGOGY AND  
PSYCHOLOGY**

**RESEARCH PROGRAM NO. 36**

**The assessment criteria for the qualifications and the interview will be affixed on 29.4.2019 at 18.00** in Dipartimento di Scienze della formazione (DISFOR), Stanza 3c3, Laboratory of Language and Social Cognition, Corso Podestà 2, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 30.4.2019 at 12.00** in Dipartimento di Scienze della formazione (DISFOR), Stanza 3c3, Laboratory of Language and Social Cognition Corso Podestà 2, Genova.

**The interview will be held on 3.5.2019 at 10.00** in Dipartimento di Scienze della formazione (DISFOR), Stanza 3c3, Laboratory of Language and Social Cognition Corso Podestà 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.**

*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. Luca ANDRIGHETTO on the phone number +39 01020953718 or via the email address: [luca.andrighetto@unige.it](mailto:luca.andrighetto@unige.it)*

**Scientific coordinator:** Prof. Luca ANDRIGHETTO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** Cognitive anthropomorphism and social robots.

**Description:**

The research fellow will be involved in a research project conducted in collaboration with the Cognitive Robotics and Interaction Lab –Istituto Italiano di Tecnologia. Her/his work will focus on the execution of two experimental works based on cognitive paradigms commonly used in sexual objectification research and aimed at investigating the cognitive anthropomorphism of social robots.

The ideal candidate should have the following:

- a) Knowledge about paradigms that investigate the cognitive processing of social and nonsocial stimuli
- b) Knowledge about the social psychological literature on (de)humanization
- c) Lab software programming skills (e.g., PsychoPy, E-Prime, Presentation)
- d) Knowledge about statistical models (i.e., linear and mixed models) and skills in using statistical software (R, Jamovi or SPSS).

**Scientific disciplinary sector:** M-PSI/05 PSICOLOGIA SOCIALE

**Place:** Dipartimento di Scienze della formazione (DISFOR)

**Required degree:**

Laurea V.O. in Psicologia, Laurea Specialistica della classe 58/S Psicologia, Laurea Magistrale della classe LM-51 Psicologia.

**Subjects of the interview:**

The interview will focus on the specific skills of the candidate and on the adequacy of his/her profile with respect to the activity required by the research project. The candidate will be evaluated in particular with respect to her/his methodological skills and her/his knowledge of the literature taken into account in the research project.

**RESEARCH PROGRAM NO. 37**

**The assessment criteria for the qualifications and the interview will be affixed on 6.5.2019 at 9.00** in Dipartimento di Scienze Politiche (DISPO), Piazzale E. Brignole 3a, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 6.5.2019 at 14.00** in Dipartimento di Scienze Politiche (DISPO), Piazzale E. Brignole 3a, Genova.

**The interview will be held on 6.5.2019 at 16.00** in Dipartimento di Scienze Politiche (DISPO), Piazzale E. Brignole 3a, 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. Lorenzo CUOCOLO

**NO. 1 research fellowship - Duration 1 year – Annual pre-tax amount: € 19.367,00**

**Title:** The implementation of “differentiated autonomy” in the Italian Regional State (art. 116, c. 3, Cost.): Italian perspectives and comparative experiences.

**Description:**

The research activity aims to study the so-called asymmetric regionalism. Among other topics, it will be studied the role to be played by the Parliament in the devolution process. Particular importance will be attached also to the study of the relationship between national and regional laws, especially as regards the solution of antinomies which could occur between the national legislation, which is generally applicable to ordinary regions, and the legislation regions may adopt in the exercise of their differentiated powers.

Asymmetric regionalism not having been implemented in Italy yet, a comparative study will be necessary as well. In this view, it will be required to conduct an analysis of the Spanish system and of some consolidated federal systems, starting with the German one.

**Scientific disciplinary sector:** IUS/21 DIRITTO PUBBLICO COMPARATO

**Place:** Dipartimento di Scienze Politiche (DISPO)

**Required degree:**

Dottorato di ricerca in Diritto pubblico comparato.

**Subjects of the interview:**

- Comparative Public Law
- Italian Regional Law
- Italian Constitutional Law

