

SCIENTIFIC DISCIPLINARY AREA: MATHEMATICS AND INFORMATICS
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**RESEARCH PROGRAM NO. 1**

**The assessment criteria for the qualifications and the interview will be affixed on 2.5.2018 at 8.00** in Dipartimento 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 2.5.2018 at 11.30** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Via Dodecaneso 35, Genova.

**The interview will be held on 2.5.2018 at 12.00** in Dipartimento 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. Stefano Rovetta via the email address: stefano.rovetta@unige.it.*

**Scientific coordinator:** Prof. Stefano ROVETTA

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

**Title:** Unbounded data streams learning: Unsupervised methods and their application.

**Description:** The project addresses the problem of clustering unstructured, non-stationary data streams. Objectives: (1, methodological) Extension of the Graded Possibilistic Clustering method to data streams; (2, methodological) Extension of spectral clustering to streams with complexity control; (3, applicative) Applications to problems in urban traffic forecasting (smart cities), web session analysis, wearable sensors for health monitoring. Existing methods will be adapted to accept incremental updates, and learning will be controlled through appropriate objectives connecting model parameters to measures of fit and of model complexity to allow updates when needed and to the extent needed.

**Scientific disciplinary sector:** INF/01 INFORMATICA

**Place:** Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS)

**Required degree:**

Laurea Magistrale delle classi: LM-17 Fisica, LM-18 Informatica, LM-25 Ingegneria dell'automazione, LM-27 Ingegneria delle telecomunicazioni, LM-29 Ingegneria elettronica, LM-32 Ingegneria informatica, LM-40 Matematica, o LM-82 Scienze statistiche.

**Subjects of the interview:**

- Exposition of the most relevant scientific achievements of the candidate.
- Machine learning methodologies.
- Data clustering.
- Skills in computer science/tech and programming.

## **RESEARCH PROGRAM NO. 2**

**The assessment criteria for the qualifications and the interview will be affixed on 8.5.2018 at 10.00** 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 8.5.2018 at 13.00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Viale Causa 13, Genova.

**The interview will be held on 8.5.2018 at 15.00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Viale Causa 13, Genova.

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**Scientific coordinator:** Prof.ssa Ilaria TORRE

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

**Title:** Decision Support System for Risk Assessment.

**Description:** The goal of the project is to study and design a decision support system that allows making predictive analyses of structures damage and optimizing the scheduling of interventions. The project will be focused on studying: methods and techniques to represent and integrate heterogeneous data, reasoning models for predictive evaluations, interaction design, recommender systems techniques for interactive decision support and planning techniques for action scheduling. The project includes the development of a demonstrator for action scheduling that applies the investigated methods.

**Scientific disciplinary sector:** INF/01 INFORMATICA

**Place:** Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS)

**Required degree:**

Laurea Magistrale delle classi: LM-18 Informatica, o LM-32 Ingegneria informatica.

**Subjects of the interview:**

- Thorough knowledge of reasoning methods, artificial intelligence techniques, recommender systems, decision support systems, planning and automatic information extraction.
- Discussion of research projects where the above methods have been already studied and applied by the applicant.

### **RESEARCH PROGRAM NO. 3**

**The assessment criteria for the qualifications and the interview will be affixed on 4.5.2018 at 9.00** in Dipartimento 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 4.5.2018 at 12.00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Via Dodecaneso 35, Genova.

**The interview will be held on 4.5.2018 at 14.00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Via Dodecaneso 35, Genova.

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**Scientific coordinator:** Prof. Filippo RICCA

**NO.1 research fellowship - Duration 1 year – Annual pre-tax amount: € 31.015,00**

**Title:** Design, implementation and testing of a SW infrastructure dedicated to the collection and management of data originating from portable/wearable electronic devices.

**Description:** Recently, the use of mobile wireless devices in e-Health has increased. The research program, in the context of the Software Engineering, is supported by a partnership with Actelion Pharmaceuticals Italy and it is aimed at designing, developing and testing a system dedicated to the collection / management of data originating from portable / wearable electronic devices. Required activities: analysis and specification of the requirements, analysis and design of the architecture (using UML and cloud-based services), prototypes development, interfacing with IoT e-Health devices, system testing (also through interactions with web/mobile interfaces thanks to tools such as Selenium), analysis of data from devices, and finally, realization of empirical studies to experimentally validate the proposed techniques.

**Scientific disciplinary sector:** INF/01 INFORMATICA

**Place:** Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS)

**Required degree:**

Dottorato di ricerca in Informatica.

**Subjects of the interview:**

The interview is aimed at assessing the knowledge of the candidate with respect to the research themes. Thus, in particular, experiences and publications in the following fields: system requirements analysis and specification, distributed architectures, software testing. He/she will also be evaluated on the experiences in the application of the Empirical Software Engineering methods as well as on his/her motivation and attitude to research and to work both independently and in group.

## RESEARCH PROGRAM NO. 4

**The assessment criteria for the qualifications and the interview will be affixed on 2.5.2018 at 10.00** in Dipartimento 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 2.5.2018 at 13.00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Via Dodecaneso 35, Genova.

**The interview will be held on 3.5.2018 at 14.00** in Dipartimento 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.ssa Nicoletta Noceti on the phone number +39 0103536626 or via the email address: nicoletta.noceti@unige.it.*

**Scientific coordinator:** Prof.ssa Nicoletta NOCETI

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

**Title:** Development and validation of Machine Learning methods for financial and insurance services.

**Description:** The goal of the project is the study, the development, and the validation of methods combining Machine Learning and High-Performance Computing in the context of bank and insurance applications. Particular attention will be posed to learn models from temporal, heterogeneous and high-dimensional data, and for the definition of intelligent, personalized, and multi-channel services.

The setting and the technologies adopted will refer to tools typical of the Big Data world (e.g. Hadoop and Apache Spark).

The activity will be carried out in strong synergy with a multinational company leader in the fields.

**Scientific disciplinary sector:** INF/01 INFORMATICA

**Place:** Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS)

**Required degree:**

Laurea V.O. in Informatica.

Laurea Specialistica della classe 23/S Informatica.

Laurea Magistrale delle classi: LM-18 Informatica, o LM-66 Sicurezza informatica.

**Subjects of the interview:**

- Principles of supervised and unsupervised Machine Learning.
- Data processing and analysis, big data technologies.

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

<b>SCIENTIFIC DISCIPLINARY AREA: PHYSICS</b>
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**RESEARCH PROGRAM NO. 5**

**The assessment criteria for the qualifications and the interview will be affixed on 26.4.2018 at 15.00** in Dipartimento di Fisica (DIFI), Via Dodecaneso 33, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 26.4.2018 at 18.00** in Dipartimento di Fisica (DIFI), Via Dodecaneso 33, Genova.

**The interview will be held on 27.4.2018 at 14.30** in Dipartimento di Fisica (DIFI), Via Dodecaneso 33, 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 years – Annual pre-tax amount: € 19.367,00**

**Title:** Development of the pixel detector for the ATLAS experiment for the search for supersymmetric and exotic particles.

**Description:** The winner of this position will develop new silicon pixel detectors with the appropriate requirements for the LHC upgrade planned for 2024-2025, with particular attention to the software for their calibration and to acquire data. The pixel detector is fundamental both to reconstruct the trajectories of heavy and "slow" particles that have a significantly higher ionization in the detector compared to standard particles and to identify particles that have a short average life, for which they decay after traveling a few tens of cm. The winner of the position will develop algorithms for these searches using the data already collected during the run in progress.

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

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

**Required degree:**

Dottorato di ricerca in Fisica.

**Subjects of the interview:**

- Familiarity with measurements of particle track reconstruction and analysis of data from high-energy physics experiments.
- Knowledge of particle detectors based on silicon semiconductors and their properties.

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 8.5.2018 at 13.30** in Dipartimento di Farmacia (DIFAR), Via Cembrano 4, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 8.5.2018 at 16.30** in Dipartimento di Farmacia (DIFAR), Via Cembrano 4, Genova.

**The interview will be held on 8.5.2018 at 17.00** in Dipartimento di Farmacia (DIFAR), Via Cembrano 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.ssa Monica CASALE

**NO.1 research fellowship – Duration 17 months – Annual pre-tax amount: € 19.367,00**

**Title:** Multivariate analysis methods applied to analytical signals of different nature to evaluate the quality and authenticity of Italian extra virgin olive oil.

**Description:** The project is focused on the development and application of advanced strategies for the multivariate chemometric processing of analytical data coming from different sources (innovative analytical techniques, commercial devices or lab-made prototyped, such as LC-MS, LCxLC-MS, ICP-MS, GCxGC-MS, GC-IRMS, NMR, FT-NIR, FT-IR, PTR-ToF-MS, and MALDI-ToF-ToF), with a special attention on signal pre-processing, class modelling and model validation. The final aim is to assess the quality and authenticity of Italian extra virgin olive oil.

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

**Place:** Dipartimento di Farmacia (DIFAR)

**Required degree:**

Laurea Magistrale della classe LM-13 Farmacia e farmacia industriale.

**Subjects of the interview:**

- Chemometric methods for the processing of analytical data, in particular spectral data.
- Near infrared spectroscopy (NIRS).
- Analytical strategies for oil authenticity and quality studies.

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 8.5.2018 at 8.30** in Dipartimento di Farmacia (DIFAR), Via Cembrano 4, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 8.5.2018 at 11.30** in Dipartimento di Farmacia (DIFAR), Via Cembrano 4, Genova.

**The interview will be held on 8.5.2018 at 12.00** in Dipartimento di Farmacia (DIFAR), Via Cembrano 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. Paolo OLIVERI

**NO.1 research fellowship - Duration 2 years – Annual pre-tax amount: € 23.250,00**

**Title:** Innovative analytical strategies based on near-infrared spectroscopy and hyperspectral imaging: from data acquisition to extraction of information by means of advanced chemometric techniques.

**Description:** The project is focused on the development and optimisation of state-of-the-art analytical methodologies. In particular, spectroscopic methods in the near-infrared region (NIRS) will be developed, with a particular focus on temperature-resolved near infrared spectroscopy (NIRS) and hyperspectral imaging (HSI).

A fundamental part of the project involves the development and application of advanced strategies for the multivariate chemometric processing of analytical data, with a special attention on signal pre-processing, class modelling, calibration and model validation.

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

**Place:** Dipartimento di Farmacia (DIFAR)

**Required degree:**

Dottorato di ricerca in Innovazione Tecnologica per le Scienze Agro-Alimentari e Ambientali, o Dottorato di ricerca in Scienze e Tecnologie della Chimica e dei Materiali.

**Subjects of the interview:**

- Near infrared spectroscopy (NIRS).
- Hyperspectral imaging techniques (HSI).
- Chemometric methods for the processing of spectral and hyperspectral signals.
- Analytical strategies for food authenticity, safety and shelf-life studies.

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

## RESEARCH PROGRAM NO. 8

**The assessment criteria for the qualifications and the interview will be affixed on 3.5.2018 at 12.00** 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 3.5.2018 at 16.00** in Dipartimento di Chimica e Chimica Industriale (DCCI), Via Dodecaneso 31, Genova.

**The interview will be held on 4.5.2018 at 15.00** 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.**

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**Scientific coordinator:** Prof. Maurizio FERRETTI

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

**Title:** Study of new luminescent materials: synthesis and characterization of  $ABX_3$ ,  $A_4BX_6$  e  $A_2BB^I X_6$  perovskites.

**Description:** The project aims to prepare and characterize compounds with luminescent properties, perovskitic structure and general formula  $ABX_3$ ,  $A_4BX_6$  e  $A_2BB^I X_6$ . In the latter case, the study will focus on the partial substitution of the trivalent metal with luminescent lanthanide ions of particular relevance. The aim of the work will be to study the different stoichiometries in order to obtain high efficiency materials. To this end, various synthetic routes will be investigated taking into account the influence of the various parameters such as, for example, temperature, concentration of the precursors, added additives. The compounds will be characterized by morphological investigations (SEM and TEM), structural investigations (XRD and synchrotron light), investigations of luminescent properties and thermal stability.

**Scientific disciplinary sector:** CHIM/02 CHIMICA FISICA

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

**Required degree:**

Dottorato di ricerca in Scienze e Tecnologie Chimiche.

**Subjects of the interview:**

- Luminescent materials, in particular based lanthanide ions.
- Synthesis of  $ABX_3$ ,  $A_4BX_6$  e  $A_2BB^I X_6$  luminescent materials.
- Characterization methods: SEM and TEM, XRD, photoluminescence, thermal analysis.

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



## **RESEARCH PROGRAM NO. 9**

**The assessment criteria for the qualifications and the interview will be affixed on 4.5.2018 at 8.30** in Dipartimento di Farmacia (DIFAR), Via Cembrano 4, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 4.5.2018 at 13.00** in Dipartimento di Farmacia (DIFAR), Via Cembrano 4, Genova.

**The interview will be held on 4.5.2018 at 15.00** in Dipartimento di Farmacia (DIFAR), Via Cembrano 4, Genova.

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**Scientific coordinator:** Prof.ssa Raffaella BOGGIA

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

**Title:** Development and formulation of new botanical dietary supplements and functional foods by ecofriendly extraction procedures and valorization of their by-products.

### **Description:**

- Design of new botanicals (dietary supplements) and functional foods using a green extraction technique, i.e. direct sonication (UAE: Ultrasounds Assisted Extraction) starting from plant materials at different phenological stages.
- Optimization of the extraction processes using DOE (design of experiments).
- Formulation of several dietary supplements (botanicals) and functional foods according to traditional techniques (i.e. maceration).
- Analysis of the plant extracts, of botanicals and of functional foods by spectroscopic and chromatographic analytical techniques.
- Multivariate analysis of the data and their comparison with analogous commercial products.
- Application of UAE for the production of co-products with high antioxidant capacity from waste products.
- Total phenol content and antiradical activity of the co-products using spectrophotometric and chromatographic analysis).

**Scientific disciplinary sector:** CHIM/10 CHIMICA DEGLI ALIMENTI

**Place:** Dipartimento di Farmacia (DIFAR)

### **Required degree:**

Laurea Specialistica della classe 14/S Farmacia e farmacia industriale.

Laurea Magistrale della classe LM-13 Farmacia e farmacia industriale.

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

- Spectroscopic and chromatographic analytical methods.
- Food supplements, with a particular emphasis on botanicals.
- Functional foods and nutraceutical ingredients, examples of valorization of agro-food wastes.
- Chemometric methods.

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 26.4.2018 at 9.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Palazzo delle Scienze, V piano, Sala di lettura, 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 26.4.2018 at 12.30** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Palazzo delle Scienze, V piano, Sala di lettura, Corso Europa 26, Genova.

**The interview will be held on 26.4.2018 at 14.30** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Palazzo delle Scienze, V piano, Sala di lettura, Corso Europa 26, Genova.

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

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

**Title:** Effects of nanoplastics in marine invertebrates of temperate and Antarctic environments.

**Description:** The projects represents the development of on the effects of nanoparticles (NPs) in marine invertebrates. Nanoparticles (NPs) are materials of 1-100 nm that due to continuous production and use and consequent release in aquatic environments, represent a class of emerging contaminants. Among these, nanoplastics are derived from fragmentation of plastic debris that is present in the oceans worldwide, including polar waters. In this light, nanoplastics represent a potential threat for marine organisms, whose biological impact is largely unknown. The project is aimed at investigating the effects of nanoplastics in species of marine bivalves from temperate and antarctic environments. The project will also provide antarctic samples for the National Antarctic Museum of Genoa.

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

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

**Required degree:**

Dottorato di ricerca in Scienze Ambientali (Scienza del Mare).

**Subjects of the interview:**

- Physiological responses of marine bivalves to environmental stimuli.
- Biomarkers of environmental stress at different levels of biological organization.
- Effects of nanoparticles on immune and oxidative stress biomarkers and on gene expression.

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 3.5.2018 at 10.00** in Dipartimento di Medicina Sperimentale (DIMES) - Fisiologia, 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 3.5.2018 at 14.00** in Dipartimento di Medicina Sperimentale (DIMES) - Fisiologia, Viale Benedetto XV 3, Genova.

**The interview will be held on 3.5.2018 at 16.00** in Dipartimento di Medicina Sperimentale (DIMES) - Fisiologia, 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.**

**Scientific coordinator:** Prof. Fabio BENFENATI

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

**Title:** PRRT2, a novel synaptic gene causing epilepsy, dyskinesia and migraine: functional studies in mutant mice and reprogrammed neurons from patients' fibroblasts.

**Description:** The goal of the project is the clarification of the functional role of PRRT2 (PRoline-Rich Transmembrane protein 2), a gene causative for several parossistic disorder of infancy, in brain physiology and in the regulation of synaptic function. The study will be performed in murine model in which the expression of PRRT2 is constitutively or conditionally abrogated. Morphological and functional analysis will be performed to reveal synaptic abnormalities and impact of the pathogenic mutations in excitation/inhibition balance. Pathophysiological role will be analyzed with the final aim of discovering novel therapeutic targets.

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

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

**Required degree:**

Dottorato di ricerca in Farmacologia e Tossicologia, o Dottorato di ricerca in Neuroscienze.

**Subjects of the interview:**

PhD thesis, research experiences and laboratory skills.

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 4.5.2018 at 9.00** in Laboratorio di Medicina Rigenerativa, IST Nord, Policlinico San Martino, 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 4.5.2018 at 12.00** in Laboratorio di Medicina Rigenerativa, IST Nord, Policlinico San Martino, Largo Rosanna Benzi 10, Genova.

**The interview will be held on 4.5.2018 at 14.00** in Laboratorio di Medicina Rigenerativa, IST Nord, Policlinico San Martino, Largo Rosanna Benzi 10, Genova.

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**Scientific coordinator:** Prof. Aldo PAGANO

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

**Title:** (GENEDREN): Understanding the genetic predisposition to neuroblastoma to improve diagnosis and treatment.

**Description:** Our project is based on the main hypothesis that heritable DNA variation influences the initiation of NB. We plan to test our central hypothesis and address our major objective with two specific aims: 1) Discover common, rare and de novo risk variants that are associated with NB and 2) Determine how the NB susceptibility genes act as oncogenic drivers of the malignant phenotype. Through whole genome analyses integrated with clinical data and computational modeling, this project aims to generate potential targets for the design of appropriate and personalised prognostic and treatment strategies.

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

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

**Required degree:**

Dottorato di ricerca in Neuroscienze, o Dottorato di ricerca in Biologia Cellulare.

**Subjects of the interview:**

Molecular biology of the nervous system cancer cell with particular reference to childhood tumors.

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 26.4.2018 at 9.30** in Laboratorio di Medicina Rigenerativa – Centro di Biotecnologie Avanzate (CBA), Torre C, 3° piano, 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 26.4.2018 at 12.30** in Laboratorio di Medicina Rigenerativa – Centro di Biotecnologie Avanzate (CBA), Torre C, 3° piano, Largo Rosanna Benzi 10, Genova.

**The interview will be held on 26.4.2018 at 14.30** in Laboratorio di Medicina Rigenerativa – Centro di Biotecnologie Avanzate (CBA), Torre C, 3° piano, 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.ssa Chiara GENTILI

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

**Title:** Biological validation of the stem cells product into bioreactor to use in clinical therapy.

**Description:** Regenerative medicine has as its main objective the repair of organs and tissues damaged by pathological events, aging or traumas; the medical strategies currently studied make use of the regenerative potential of cells called mesenchymal stem cells (MSC). The Starstem project, in which my group is involved, aims to validate the in vivo distribution of MSCs and exosomes in animal models of osteoarthritis. Using approaches of "innovative imaginaries" such as optoacoustic imaging, we plan to use new generation nanoparticles called "nanostars" to mark stem cells and exosomes, which will be used in vivo for a cell therapy approach. Our laboratory will be involved in the process of biological validation of the cells and of the exosomes produced. In vitro isolated and expanded stem cells should be adequately characterized to ensure their identity, sterility, potential and safety for use in cell therapy.

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

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

**Required degree \*:**

Laurea V.O. in: Biotecnologie indirizzo Biotecnologie Mediche, o Biotecnologie indirizzo Biotecnologie industriali, o Scienze Biologiche.

Laurea magistrale delle classi: LM-6 Biologia, LM-8 Biotecnologie industriali, o LM-9 Biotecnologie mediche, veterinarie e farmaceutiche.

**Subjects of the interview:**

- Stem cell culture.
- Cell therapy and connective tissue engineering.
- Animal model.
- Bioreactor and biomaterial for bone and cartilage regeneration.

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

*\* Required degree modified with Chancellor Decree n. 1332 dated 6/4/2018*

## **RESEARCH PROGRAM NO. 14**

**The assessment criteria for the qualifications and the interview will be affixed on 27.4.2018 at 14.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI) – Sezione Farmacologia, Viale Benedetto XV 2, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 27.4.2018 at 17.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI) – Sezione Farmacologia, Viale Benedetto XV 2, Genova.

**The interview will be held on 27.4.2018 at 17.05** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI) – Sezione Farmacologia, Viale Benedetto XV 2, Genova.

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

**Scientific coordinator:** Prof. Tullio FLORIO

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

**Title:** Role of prion protein in the differentiation of human glioblastoma cancer stem cells.

**Description:** Cancer stem cells (CSC) determine most of the malignant properties in solid tumors. CSCs persist within tumor mass giving rise to "differentiated" progeny that populates a given malignancy. Considering that "differentiated" cancer cells lose the tumorigenic potential, a possible differentiation therapeutic approach was proposed to deplete tumor mass from CSCs. Recently, prion protein (PrP), identified in exosomes, was proposed as pivotal regulator of CSC differentiation.

**AIM:** To identify the role of prion protein on the intracellular mechanisms controlling CSC differentiation toward both the invasive phenotype (epithelial-to-mesenchymal transition) and the non-tumorigenic state.

**Scientific disciplinary sector:** BIO/14 FARMACOLOGIA

**Place:** Dipartimento di Medicina Interna e Specialità Mediche (DIMI)

**Required degree:**

Dottorato di ricerca in Neuroscienze, o Dottorato di ricerca in Neurofisiologia e Neurofarmacologia.

**Subjects of the interview:**

- Prion protein.
- Cancer cell stem.
- EMT.

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 26.4.2018 at 14.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI) – Sezione Farmacologia, Viale Benedetto XV 2, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 26.4.2018 at 17.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI) – Sezione Farmacologia, Viale Benedetto XV 2, Genova.

**The interview will be held on 26.4.2018 at 17.05** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI) – Sezione Farmacologia, Viale Benedetto XV 2, Genova.

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

**Scientific coordinator:** Prof. Tullio FLORIO

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

**Title:** Modulation of cellular mechanisms that control neuronal proteostasis as novel pharmacological strategy to counteract neuronal death occurring during brain amyloidosis.

**Description:** Amyloidosis of central nervous system, regardless their incidence, etiology, symptomatology, clinical course and susceptibility to conventional therapies, recognize as unifying pathogenic trait: protein misfolding and amyloid deposition through a process that generates neurotoxic and pro-inflammatory soluble oligomers. This project is aimed to define the neuroprotective role of neuronal proteostasis, focusing on the interactions between proteosomal/autophagic pathways and apoptosis control machinery; it is also directed to evaluate if pharmacological modulation of intracellular proteostasis may suggest innovative strategies for neuroprotection.

**Scientific disciplinary sector:** BIO/14 FARMACOLOGIA

**Place:** Centro di Eccellenza per la Ricerca Biomedica (CEBR)

**Required degree:**

Dottorato di ricerca in Neuroscienze, o Dottorato di ricerca in Neurofisiologia e Neurofarmacologia.

**Subjects of the interview:**

- Pathogenesis of cerebral amyloidosis, control of proteostasis and neuronal cell death.
- Control of neuroinflammation: role of astrocytes and microglial cells.

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

**RESEARCH PROGRAM NO. 16**

**The assessment criteria for the qualifications and the interview will be affixed on 27.4.2018 at 9.30** 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 27.4.2018 at 12.30** in Dipartimento di Scienze della Salute (DISSAL), Via A. Pastore 1, Genova.

**The interview will be held on 27.4.2018 at 14.30** 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: € 34.898,00**

**Title:** A statistical approach to assessing patient-specific response to treatment in multiple sclerosis.

**Description:** The aim of the project is the application of an innovative statistical approach, devoted to develop strategies that identify the patient population with the highest benefit from a drug.

This methodology provides a systematic, efficient procedure for the management of future patients, so that treatment may be targeted toward those who would receive non-trivial benefits to compensate for the risk or cost of the new treatment. The aim of the proposed project is to implement this approach to MSBase registry data and to apply the described method to couples of drugs. The expected results are a series of scores, specific for each patient, to be used to identify the best drug for each patient according to his/her baseline profile.

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

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

**Required degree:**

Dottorato di ricerca in Metodologie innovative applicate a malattie trasmissibili e cronico-degenerative: epidemiologia, statistica, prevenzione, management e nursing.

**Subjects of the interview:**

- Main outcome in Multiple Sclerosis.
- Statistical methodology applied to SM.



## **RESEARCH PROGRAM NO. 17**

**The assessment criteria for the qualifications and the interview will be affixed on 3.5.2018 at 9.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI) – Amministrazione, Viale Benedetto XV 6, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 3.5.2018 at 12.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI) – Amministrazione, Viale Benedetto XV 6, Genova.

**The interview will be held on 3.5.2018 at 12.30** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI) – Amministrazione, Viale Benedetto XV 6, 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. Alessio NENCIONI

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

**Title:** Evaluation of the efficacy of a fasting-mimicking diet for treating HR+ breast cancer.

**Description:** The candidate should apply to the evaluation of the efficacy of a fasting-mimicking diet for treating HR+ breast cancer through in vitro experiments and in vivo studies in breast cancer xenograft models.

**Scientific disciplinary sector:** MED/09 MEDICINA INTERNA

**Place:** Dipartimento di Medicina Interna e Specialità Mediche (DIMI)

**Required degree:**

Laurea Specialistica delle classi: 6/S Biologia, o 9/S Biotecnologie mediche, veterinarie e farmaceutiche, o 46/S Medicina e chirurgia.

Laurea Magistrale delle classi: LM-6 Biologia, o LM-9 Biotecnologie mediche, o LM-41 Medicina e chirurgia.

**Subjects of the interview:**

- Effects of fasting-mimicking diets in oncology.
- Biology of HR+ breast cancer.
- Mouse breast cancer models.

## **RESEARCH PROGRAM NO. 18**

**The assessment criteria for the qualifications and the interview will be affixed on 2.5.2018 at 9.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI), Viale Benedetto XV 6, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 2.5.2018 at 12.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI), Viale Benedetto XV 6, Genova.

**The interview will be held on 2.5.2018 at 14.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI), Viale Benedetto XV 6, 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 GOBBI

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

**Title:** Innovative therapies for multiple myeloma.

**Description:** The project proposal is to collect clinical, laboratoristic and instrumental data from patients affected by multiple myeloma treated with novel anticancer agents with innovative mechanisms of actions (monoclonal antibodies, immunomodulators, proteasome inhibitors, nuclear export inhibitors), in order to improve the prognostic evaluation and to ensure optimal therapeutic choices. Specifically, the main objective consists of collecting and processing data on the safety and efficacy of these agents in terms of response rate, progression-free survival, overall survival and rate of hematologic and non-hematologic adverse events.

**Scientific disciplinary sector:** MED/11 MALATTIE DELL'APPARATO CARDIOVASCOLARE

**Place:** Dipartimento di Medicina Interna e Specialità Mediche (DIMI)

**Required degree:**

Dottorato di ricerca in Biologia molecolare e cellulare.

**Subjects of the interview:**

Biological activity of new drugs in Multiple Myeloma.

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 27.4.2018 at 9.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI), Viale Benedetto XV 6, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 27.4.2018 at 12.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI), Viale Benedetto XV 6, Genova.

**The interview will be held on 27.4.2018 at 13.00** in Dipartimento di Medicina Interna e Specialità Mediche (DIMI), Viale Benedetto XV 6, 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 Mara BOSCHETTI

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

**Title:** Vitamin D deficiency in patients with neuroendocrine neoplasia: prevalence and prognostic implications.

**Description:** Hypovitaminosis D in patients with neuroendocrine neoplasia (NEN) has been only marginally investigated, while there are a lot of data in literature in favor of a significant association between vitamin D deficiency (<20 ng/mL), poor prognosis and decreased survival in patients with other tumors, such as cancer of the colon, breast, prostate, bladder and melanoma.

The aim of the present study is to determine the prevalence of hypovitaminosis D in a cohort of patients with NEN from different primitive tumor origin (gastro-intestinal, pancreatic, lung, occult) and to evaluate a possible correlation between vitamin D levels, presence of metastatic disease and disease progression.

**Scientific disciplinary sector:** MED/13 ENDOCRINOLOGIA

**Place:** Dipartimento di Medicina Interna e Specialità Mediche (DIMI)

### **Required degree:**

Specialization in Endocrinology and Metabolic Diseases and adequate scientific production attested by papers published in quoted journal with impact factor, participation as investigator or co-investigator in clinical trials, and oral communications at national and international conferences.

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

- Neuroendocrine tumours.
- Vitamin D.

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

**RESEARCH PROGRAM NO. 20**

**The assessment criteria for the qualifications and the interview will be affixed on 26.4.2018 at 11.00** in Dipartimento di Ingegneria 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 2.5.2018 at 11.00** in Dipartimento di Ingegneria Civile, Chimica e Ambientale (DICCA), Via Montallegro 1, Genova.

**The interview will be held on 3.5.2018 at 11.00** in Dipartimento di Ingegneria 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.**

*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. Giovanni Solari on the phone number +39 0103532940 or via the email address: giovanni.solari@unige.it.*

**Scientific coordinator:** Prof. Giovanni SOLARI

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

**Title:** Transient aerodynamics and aeroelasticity.

**Description:** In Wind Engineering, the aerodynamics and aeroelasticity of structures implicitly assume that wind is a stationary phenomenon. This derives from the fact that these disciplines are based on the assumption that the action of wind on structures can be traced back to synoptic-scale cyclonic phenomena. The most recent studies, in which the ERC project related to this request is placed, show that most of the wind damage to structures derives from mesoscale thunderstorms that give rise to strongly transient wind fields. This requires an innovative reassessment and reformulation of the principles underlying aerodynamics and aeroelasticity.

**Scientific disciplinary sector:** ICAR/09 TECNICA DELLE COSTRUZIONI

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

**Required degree:**

Dottorato di ricerca in Ingegneria civile.

**Subjects of the interview:**

- Wind Engineering.
- Structural Dynamics, Aerodynamics and Aeroelasticity.
- Theory of Probability and Processes.
- Thunderstorms and Non-Synoptic Winds.

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

## **RESEARCH PROGRAM NO. 21**

**The assessment criteria for the qualifications and the interview will be affixed on 27.4.2018 at 8.00** in Dipartimento di Ingegneria 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 27.4.2018 at 15.00** in Dipartimento di Ingegneria Civile, Chimica e Ambientale (DICCA), Via Montallegro 1, Genova.

**The interview will be held on 27.4.2018 at 17.00** in Dipartimento di Ingegneria 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.ssa Serena CATTARI

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

**Title:** Seismic vulnerability assessment for risk analysis at national scale.

**Description:** The analytical and empirical approaches addressed to the seismic vulnerability assessment of existing buildings constitute the support for prevention and risk mitigation policies at large scale. They are based on few parameters, in some case already available (e.g. ISTAT data) or that can be integrated with speed surveys. The object of the research is the development of models belonging to such approaches and the evaluation of their reliability following a probabilistic approach. The attention will be focused on existing masonry buildings. The calibration of parameters which these methods are based on and their validation is carried out by detailed nonlinear analyses on prototype structures. Moreover, the statistical processing of data on the damage occurred in Italy in earthquakes of the last 50 years, as integrated in the DaDo database of by the Italian Civil Protection, will support the robust validation of methods developed.

**Scientific disciplinary sector:** ICAR/09 TECNICA DELLE COSTRUZIONI

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

**Required degree:**

Laurea V.O. in: Ingegneria Civile, o Ingegneria edile – Architettura.

Laurea Specialistica delle classi: 4/S Architettura e ingegneria edile, o 28/S Ingegneria civile.

Laurea Magistrale delle classi: LM-4 Architettura e ingegneria edile-architettura, o LM-23 Ingegneria civile, o LM-24 Ingegneria dei sistemi edilizi, o LM-26 Ingegneria della sicurezza.

**Subjects of the interview:**

Seismic response of existing masonry buildings; methods for the vulnerability assessment at large scale; procedures for the seismic assessment of existing masonry buildings, with particular reference to nonlinear methods. Experiences of the Candidate that testify previous activities related to vulnerability assessment at large scale and expertise in the modelling and analysis will be properly assessed, together with research activities carried out abroad on similar topics.

## **RESEARCH PROGRAM NO. 22**

**The assessment criteria for the qualifications and the interview will be affixed on 2.5.2018 at 14.00** in Dipartimento di Architettura e Design (DAD), Stradone Sant'Agostino 37, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 2.5.2018 at 17.00** in Dipartimento di Architettura e Design (DAD), Stradone Sant'Agostino 37, Genova.

**The interview will be held on 2.5.2018 at 17.15** in Dipartimento di Architettura e Design (DAD), Stradone Sant'Agostino 37, 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 Giovanna FRANCO

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

**Title:** Studies and researches on needs and requirements of the library of the future. Problems of adaptation of existing structures and spaces even monumental.

**Description:** Studies and research on the evolution of spaces structures of libraries, on new requirements and needs, also in relation to current legislation, as well as on the possible role of digital and multimedia technologies in their future. Research and analysis of examples already realized. Theoretical-methodological framework on the theme of the adaptation of existing spaces and structures, even historical-monumental, to the function of a library, with specific reference to real cases in the Genoese area. Identification of compatibility criteria among new requirements and conservation of the existing material, constructive and architectural characteristics.

**Scientific disciplinary sector:** ICAR/12 TECNOLOGIA DELL'ARCHITETTURA

**Place:** Dipartimento di Architettura e Design (DAD)

**Required degree:**

Laurea V.O. in Architettura.

Laurea Specialistica della classe: 4/S Architettura e ingegneria edile.

Laurea Magistrale della classe LM-4 Architettura e ingegneria edile-architettura.

**Subjects of the interview:**

- Digital culture and innovation in the architectural design process and role of ICT in renovating built heritage.
- Technology and constructive analysis of traditional and contemporary buildings.
- Recovery of existing buildings and architectural and urban values.
- Analysis of diseases and disruptions of traditional and contemporary architecture.
- Methodological framework on renovation processes.
- Consolidation techniques.

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

**RESEARCH PROGRAM NO. 23**

**The assessment criteria for the qualifications and the interview will be affixed on 3.5.2018 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 3.5.2018 at 12.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Montallegro 1, Genova.

**The interview will be held on 3.5.2018 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 0103532389 or via the email address: 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 numerical simulations using OpenFOAM for the calm-water resistance prediction of semi-displacing and planning hulls.

**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).
- Multiphase fluids.
- Development of dedicated solvers in OpenFOAM environment.

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 3.5.2018 at 14.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Scuola Politecnica, 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 3.5.2018 at 17.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Scuola Politecnica, Via Montallegro 1, Genova.

**The interview will be held on 4.5.2018 at 9.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Scuola Politecnica, 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.ssa Paola Gualeni on the phone number +39 0103531428 or via the email address: [paola.gualeni@unige.it](mailto:paola.gualeni@unige.it).*

**Scientific coordinator:** Prof.ssa Paola GUALENI

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

**Title:** The design of innovative submarines: methodological and specialist issues with particular attention to naval architecture aspects.

**Description:** The aim of the activity is to further strengthen and deepen the fundamental knowledge about innovative submarines design that can be developed from a general perspective on the design process and from specific perspective on specialist subject, but in any case in strong relation with the mission and the operational profile of the unit. Investigations will be carried out about design methodologies able to create a rational link between operative scenarios and submarine technical specification. A system thinking based approach will be developed to analyses the design constraints originating from the relation between payload and submarine general characteristics, with specific attention to weights and their distribution and their impact on of both underwater and on the surface navigation.

**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:**

Ship design, naval architecture with specific reference to submarines.

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 4.5.2018 at 9.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, 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 4.5.2018 at 12.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, Via Montallegro 1, Genova.

**The interview will be held on 4.5.2018 at 14.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, 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. Tomaso Gaggero on the phone number +39 0103532389 or via the email address: tomaso.gaggero@unige.it.*

**Scientific coordinator:** Prof. Tomaso GAGGERO

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

**Title:** Advanced techniques for marine traffic management.

**Description:** In the framework of the European research project Interreg Italia- Francia Marittimo SICOMAR+, the researcher will be involved in the study of ship motions due to waves in order to develop an instrument to evaluate the ship responses to different weather conditions. The researcher will use large-scale weather forecast data jointly with shipping traffic data to produce statistical maps of hazards for navigation specific for different ship typologies and dimensions.

**Scientific disciplinary sector:** ING-IND/02 COSTRUZIONI E IMPIANTI NAVALI E MARINI

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

**Required degree:**

Laurea V.O. in: Ingegneria Navale, o Ingegneria civile, Ingegneria per l'ambiente e il territorio  
Laurea Specialistica della classe: 28/S Ingegneria civile, o 37/S Ingegneria navale, o 38/S Ingegneria per l'ambiente e il territorio  
Laurea Magistrale della classe: LM-23 Ingegneria civile, o LM-24 Ingegneria dei sistemi edilizia, o LM-26 Ingegneria della sicurezza, o LM-34 Ingegneria navale, o LM-35 Ingegneria per l'ambiente e il territorio

**Subjects of the interview:**

- Ship motions calculation.
- Wave loads.
- Reliability assessment.

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 2.5.2018 at 9.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, 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 2.5.2018 at 12.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, Via Montallegro 1, Genova.

**The interview will be held on 2.5.2018 at 14.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, 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. Tomaso Gaggero on the phone number +39 0103532389 or via the email address: tomaso.gaggero@unige.it.*

**Scientific coordinator:** Prof. Tomaso GAGGERO

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

**Title:** Ship harbour noise monitoring.

**Description:** In the framework of the European research project Interreg Italia- Francia Marittimo MON ACUMEN, the researcher will be involved in the monitoring of airborne noise emitted by ships in the harbour environment, The researcher will carry out analysis of the monitoring data coming from the other partners of the project. Moreover he will carry out numerical simulations aimed at realising noise maps following European rules not yet applied in the port areas.

**Scientific disciplinary sector:** ING-IND/02 COSTRUZIONI E IMPIANTI NAVALI E MARINI

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

**Required degree:**

Laurea V.O. in: Ingegneria Navale, o Ingegneria elettrica

Laurea Specialistica della classe: 31/S Ingegneria elettrica, o 37/S Ingegneria navale

Laurea Magistrale della classe: LM-28 Ingegneria elettrica, o LM-34 Ingegneria navale

**Subjects of the interview:**

- Numerical and experimental analysis of airborne noise emitted by ships.
- Acoustics.

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

## RESEARCH PROGRAM NO. 27

**The assessment criteria for the qualifications and the interview will be affixed on 2.5.2018 at 17.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, 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 2.5.2018 at 19.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, Via Montallegro 1, Genova.

**The interview will be held on 3.5.2018 at 9.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, 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. Cesare Mario Rizzo on the phone numbers +39 0103532272 or +39 3204248071 or via the email address: cesare.rizzo@unige.it.*

**Scientific coordinator:** Prof. Cesare Mario RIZZO

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

**Title:** Modeling methods for the mechanical characterization of HSLA steels in shipbuilding

**Description:** Among solutions that a designer may adopt to reduce the stress levels of a ship structure, there is the use of high strength steels. However, this solution is limited by rules of classification societies, as the use of such innovative steels (i.e. HSLA) is not explicitly considered.

Therefore, the research aims at evaluating the potential of using HSLA steels in shipbuilding and, at large, to contribute to the development of shipbuilding rules, taking into account recent advancements of metallurgy. Such process is particularly challenging because of peculiarities of the shipbuilding industry, which since centuries adopt a semi-empirical approach in design.

**Scientific disciplinary sector:** ING-IND/02 COSTRUZIONI E IMPIANTI NAVALI E MARINI

**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:**

- Numerical and experimental analysis of ship structures.
- Rules and regulations for shipbuilding.

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

## RESEARCH PROGRAM NO. 28

**The assessment criteria for the qualifications and the interview will be affixed on 3.5.2018 at 9.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, 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 3.5.2018 at 12.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, Via Montallegro 1, Genova.

**The interview will be held on 3.5.2018 at 14.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Polo Navale, Sala riunioni, 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. Cesare Mario Rizzo on the phone numbers +39 0103532272 or +39 3204248071 or via the email address: cesare.rizzo@unige.it.*

**Scientific coordinator:** Prof. Cesare Mario RIZZO

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

**Title:** Robotics Technology for Inspection of Ships.

**Description:** In the framework of the European research project Robotics Technology for Inspection of Ships (ROBINS), the successful candidate will be involved in the development of the criteria to evaluate the performances of remoted assisted inspection systems of ship structures.

He will also collaborate in the preliminary and detailed design of the equipment of the testing facility as planned in the ROBINS project, which is going to be built in the Marine Structures Testing Lab e Drives and Experimental Automation for Marine Systems Lab of the University of Genova.

**Scientific disciplinary sector:** ING-IND/02 COSTRUZIONI E IMPIANTI NAVALI E MARINI

**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:**

- Numerical and experimental analysis of ship structures.
- Rules and regulations for shipbuilding.

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

## RESEARCH PROGRAM NO. 29

**The assessment criteria for the qualifications and the interview will be affixed on 3.5.2018 at 17.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Scuola politecnica, 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 3.5.2018 at 19.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Scuola politecnica, Via Montallegro 1, Genova.

**The interview will be held on 4.5.2018 at 14.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Scuola politecnica, 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. Cesare Mario Rizzo on the phone numbers +39 0103532272 or +39 3204248071 or via the email address: cesare.rizzo@unige.it.*

**Scientific coordinator:** Prof. Cesare Mario RIZZO

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

**Title:** The design of innovative submarines: methodological and specialist issues with particular attention to marine vehicle structures and on board systems.

**Description:** The aim of the activity is to further strengthen and deepen the fundamental knowledge about innovative submarines design that can be developed from a general perspective on the design process and from specific perspective on specialist subject, but in any case in strong relation with the mission and the operational profile of the unit. The activity will focus on the selection of the submarine energy production system and propulsion plant, by comparison of different design solutions based also on energy efficiency performance. Furthermore advanced criteria for the submarine structural lay –out selection and relevant scantlings will be identified.

An innovative methodology will be developed for decision support when dealing with survivability issues.

**Scientific disciplinary sector:** ING-IND/02 COSTRUZIONI E IMPIANTI NAVALI E MARINI

**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:**

Ship design, ship structures and on board systems with specific reference to submarines.

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

## **RESEARCH PROGRAM NO. 30**

**The assessment criteria for the qualifications and the interview will be affixed on 4.5.2018 at 9.00** in Dipartimento di Ingegneria 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 4.5.2018 at 12.30** in Dipartimento di Ingegneria Civile, Chimica e Ambientale (DICCA), Via Montallegro 1, Genova.

**The interview will be held on 4.5.2018 at 14.30** in Dipartimento di Ingegneria 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.**

*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. Andrea Mazzino on the phone number +39 0103532489 or via the email address: andrea.mazzino@unige.it.*

**Scientific coordinator:** Prof. Andrea MAZZINO

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

**Title:** Meteorological modeling for advanced techniques for maritime traffic assistance.

**Description:** As part of the European research project Interreg Italia Francia marittimo SICOMAR +, the research fellow will be involved in the development of chains of limited-area meteorological modelling whose outputs will be assimilated by models for the study of ship motions aimed at evaluating the response of the ship to weather and sea conditions.

**Scientific disciplinary sector:** ING-IND/06 FLUIDODINAMICA

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

**Required degree:**

Laurea V.O. in: Ingegneria Meccanica, o Ingegneria Aerospaziale, o Ingegneria Civile, o Fisica.

Laurea Specialistica della classe: 20/S Fisica, o 25/S Ingegneria aerospaziale e astronautica, o 28/S Ingegneria civile, o 36/S Ingegneria meccanica, o 37/S Ingegneria navale, o 50/S Modellistica matematico-fisica per l'ingegneria.

Laurea Magistrale della classe: LM-17 Fisica, o LM-20 Ingegneria aerospaziale e astronautica, o LM-23 Ingegneria civile, o LM-33 Ingegneria meccanica, o LM-34 Ingegneria navale, o LM-35 Ingegneria per l'ambiente e il territorio, o LM-44 Modellistica matematico-fisica per l'ingegneria.

**Subjects of the interview:**

Verification of the basic knowledge of numerical modelling of geophysical fluids, of the mechanics of geophysical fluids and of the validation techniques of meteorological models.

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

## RESEARCH PROGRAM NO. 31

**The assessment criteria for the qualifications and the interview will be affixed on 2.5.2018 at 9.30** in Dipartimento di Ingegneria 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 2.5.2018 at 14.00** in Dipartimento di Ingegneria Civile, Chimica e Ambientale (DICCA), Via Montallegro 1, Genova.

**The interview will be held on 2.5.2018 at 15.00** in Dipartimento di Ingegneria 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.**

*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. Alessandro Bottaro on the phone number +39 0103532540 or via the email address: [alessandro.bottaro@unige.it](mailto:alessandro.bottaro@unige.it).*

**Scientific coordinator:** Prof. Alessandro BOTTARO

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

**Title:** Advanced numerical modelling for the design of heavy duty axial compressors.

**Description:** The state of the art for the fluid-dynamic design of axial compressors of modern gas turbines consists of multistage RANS (Reynolds-Averaged Navier Stokes equations) calculations. Proper modeling requires the resolution of highly three-dimensional and complex flow structures that include phenomena such as:

1. tip clearance flows;
2. corner separation;
3. shroud leakage modeling through the stator rings;
4. shock wave/ turbulent boundary layer interactions (on transonic blades).

These issues require a thorough knowledge of both fluid dynamics and numerical calculations. The task to be tackled concerns the search for the most effective, robust and accurate numerical modeling for the calculation of a multistage transonic compressor. The main focus will be on aerodynamic efficiency and pumping margin.

**Scientific disciplinary sector:** ING-IND/06 FLUIDODINAMICA

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

**Required degree:**

Laurea Magistrale della classe: LM-33 Ingegneria meccanica

**Subjects of the interview:**

- Computational fluid dynamics (CFD).
- Aero- and gas-dynamics.
- Fluid machines.

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 3.5.2018 at 9.00** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), Sezione MASET, 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 3.5.2018 at 12.00** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), Sezione MASET, Via Montallegro 1, Genova.

**The interview will be held on 3.5.2018 at 12.30** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), Sezione MASET, 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. Daniele SIMONI

**NO.1 research fellowship - Duration 1 year – Annual pre-tax amount: € 31.015,00**

**Title:** Application of modal decomposition techniques to experimental data for the identification of loss source in turbine blades for aeroengine applications.

**Description:** The activity will be focused on the development of new post-processing tools for the modal decomposition of the unsteady flow field characterizing the operation of turbine cascades for aeroengine applications. Measurements will be carried out by means of LDV and PIV, in order to generate the snapshots to be processed. FFT and Proper Orthogonal Decomposition (POD) will be applied in order to identify the subspace where the different dynamics can be projected, with the aim of isolating the different sources responsible for loss generation.

**Scientific disciplinary sector:** ING-IND/08 MACCHINE A FLUIDO

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

**Required degree:**

Dottorato di ricerca in Ingegneria delle Macchine a Fluido

**Subjects of the interview:**

- Analysis and acquisition of the flow field in turbomachinery components by means of LDV and PIV.
- Modal decomposition techniques and POD application to large dataset.



## **RESEARCH PROGRAM NO. 33**

**The assessment criteria for the qualifications and the interview will be affixed on 4.5.2018 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 4.5.2018 at 11.45** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), Via Opera Pia 15A, Genova.

**The interview will be held on 4.5.2018 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 +39 3204382160 or via the email address: 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 and integration of a robotized cell for production of gold sheets.

**Description:** Analysis of the production process in use and definition of the method; detailed manufacturing cycle. Cell architecture definition. Programming of the robot for use of the hammering unit as seventh axis of the robot. Acquisition of competence on the physical components of the cell. Setup of the cell as prototype. Run up and tuning. Testing and data collection.

**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 della classe: LM-25 Ingegneria dell'automazione, o LM-32 Ingegneria informatica, o LM-33 Ingegneria meccanica.

**Subjects of the interview:**

- Flexible automation.
- Robot programming.
- Software architectures for robotics.
- Mechanics of robot and physics.

## **RESEARCH PROGRAM NO. 34**

**The assessment criteria for the qualifications and the interview will be affixed on 27.4.2018 at 9.00** 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 27.4.2018 at 13.00** in Dipartimento di Ingegneria Meccanica, Energetica, Gestionale e dei Trasporti (DIME), Via Opera Pia 15A, Genova.

**The interview will be held on 27.4.2018 at 14.00** 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.**

**Scientific coordinator:** Prof. Luigi CARASSALE

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

**Title:** Development of dynamic substructuring techniques with application to experimental measures on scale models of steam-turbine rotor disks.

**Description:** Rotor disks of steam turbines are composed by the assemblage of several components that interact dynamically. Rotor blades are constrained to the disk by shape-matching attachments pre-stressed by the centrifugal force and blades connected each other by snubbers that are forced by the blade untwist. The modeling of such systems can be carried out by dynamic substructuring techniques enabling the combination of submodels having numerical or experimental origin.

The research activity will be developed at the University of Genova, as well as in Ansaldo Energia. The development of the project may involve trips in Italy and foreign countries.

**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 della classe: LM-17 Fisica, o LM-20 Ingegneria aerospaziale e astronautica, o LM-23 Ingegneria civile, o LM-30 Ingegneria energetica e nucleare, o LM-33 Ingegneria meccanica, o LM-34 Ingegneria navale.

**Subjects of the interview:**

Structural dynamics, dynamic substructuring, signal processing.

## RESEARCH PROGRAM NO. 35

**The assessment criteria for the qualifications and the interview will be affixed on 4.5.2018 at 10.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via all'Opera Pia 11A, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 4.5.2018 at 13.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via all'Opera Pia 11A, Genova.

**The interview will be held on 4.5.2018 at 16.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via all'Opera Pia 11A, 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 Pastorino on the phone number +39 3483053872 or via the email address: [matteo.pastorino@unige.it](mailto:matteo.pastorino@unige.it).*

**Scientific coordinator:** Prof. Matteo PASTORINO

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

**Title:** Data analysis and classification from radar sensors in through-the-wall imaging applications.

**Description:** The present project is devoted to the study of data analysis and classification techniques in the framework of the so-called ultra-wide band (UWB) “through-the-wall” imaging for security applications. The target is the development of data processing methods for the treatment and classification of the various values retrieved by radar sensors in placed in proximity of a stratified medium, allowing to “sense” the scenario behind the wall. The project to be developed will include an analysis of the state of the art in the field of data analysis and classification and a phase in which the optimal solutions for the above mentioned problem are defined. Finally, the most promising methods will be implemented and the obtained results will be properly validated.

**Scientific disciplinary sector:** ING-INF/02 CAMPI ELETTRROMAGNETICI

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

**Required degree:**

Laurea V.O. in: Ingegneria Elettronica, o Ingegneria delle Telecomunicazioni, o Ingegneria Informatica, o Ingegneria Biomedica, o Ingegneria Navale.

Laurea Specialistica in: 26/S Ingegneria biomedica, o 29/S Ingegneria dell'automazione, o 30/S Ingegneria delle Telecomunicazioni, o 32/S Ingegneria elettronica, o 35/S Ingegneria informatica, o 37/S Ingegneria navale.

Laurea Magistrale della classe: LM-21 Ingegneria biomedica, o LM-25 Ingegneria dell'automazione, o LM-26 Ingegneria della sicurezza, o LM-27 Ingegneria delle Telecomunicazioni, o LM-29 Ingegneria elettronica, o LM-32 Ingegneria informatica, LM-34 Ingegneria navale.

**Subjects of the interview:**

Analysis and processing of data derived from distributed sensors.

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

## **RESEARCH PROGRAM NO. 36**

**The assessment criteria for the qualifications and the interview will be affixed on 3.5.2018 at 9.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via all'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 3.5.2018 at 12.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via all'Opera Pia 13, Genova.

**The interview will be held on 3.5.2018 at 15.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via all'Opera Pia 13, Genova.

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

**Scientific coordinator:** Prof. Raffaele BOLLA

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

**Title:** Study and analysis of orchestration mechanisms in the context of telecommunications networks using NFV techniques and integrated with distributed computing capacity (Fog and Edge computer paradigms).

**Description:** Telecommunications networks have recently experienced a profound evolution towards an ever-increasing and complete integration between information technology and telecommunications, represented by the English term ICT (Information Communication Technologies). The key elements of this evolution are two: the "softwarization" of the network functions, through the standard approach of Network Function Virtualization, and the integration of the networks with the distributed computing capabilities, obtained by following the paradigms of "Edge computing" and "Fog". In this scenario, the objective of the grant is to support the DITEN research group, headed by the TNT laboratory, to characterize the critical elements of this evolution and to define and propose solutions for the orchestration of network services and possibly also of those concerning the final services offered to users on distributed computing infrastructures.

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

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

**Required degree:**

Dottorato di ricerca in Ingegneria Elettronica, o Informatica, o della Robotica e delle Telecomunicazioni

**Subjects of the interview:**

- Technologies related to modern wired and non-wired telecommunications networks, with in-depth analysis of Software Define Network (SDN) and Network Function Virtualization (NFV) technologies and mobile cellular radio networks.
- Verification of programming skills with particular reference to the C++ language.

## RESEARCH PROGRAM NO. 37

**The assessment criteria for the qualifications and the interview will be affixed on 3.5.2018 at 11.00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Via 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 4.5.2018 at 9.30** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Via Causa 13, Genova.

**The interview will be held on 4.5.2018 at 11.30** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Via 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.**

*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. Gualtiero Volpe on the phone number +39 3204218858 or via the email address: gualtiero.volpe@unige.it.*

**Scientific coordinator:** Prof. Gualtiero VOLPE

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

**Title:** Automatic analysis of motor behavior and social interaction for the development of multimodal interactive systems in educational contexts.

**Description:** The present research activity is aimed at investigating techniques for automatic analysis of motoric behavior and social interaction in groups of primary school children engaged in the interaction with multimodal systems for supporting learning of mathematical concepts. In particular, the work will focus on full-body movement and on real-time detection of affective states, which are relevant in the learning process. Techniques may be implemented as libraries of software modules for the EyesWeb platform and will be assessed by means of appropriate perceptual studies. Research will be carried out at the Casa Paganini – InfoMus research centre of DIBRIS, in a multidisciplinary context where interaction with pedagogues, psychologists, psychophysicists, and teachers is required.

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

**Place:** Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS)

**Required degree:**

Dottorato di ricerca in Matematica e Informatica, o Ingegneria Informatica, o Ingegneria Elettronica, o Informatica

**Subjects of the interview:**

State-of-the-art concerning the existing techniques for real-time analysis of full-body movement, for perceptual validation of automatically computed movement features, for real-time detection and analysis of affective states (affective computing), and of the hardware and software platforms for real-time analysis of multisensory signals, with a particular reference to the EyesWeb platform.

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. 38**

**The assessment criteria for the qualifications and the interview will be affixed on 26.4.2018 at 11.00** in Dipartimento di Italianistica, Romanistica, Antichistica, Arti e Spettacolo (DIRAAS), Via Balbi 2, Genova and on the website <http://www.diraas.unige.it>.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 2.5.2018 at 11.00** in Dipartimento di Italianistica, Romanistica, Antichistica, Arti e Spettacolo (DIRAAS), Via Balbi 2, Genova and on the website <http://www.diraas.unige.it>.

**The interview will be held on 3.5.2018 at 11.00** in Archivio d'Arte Contemporanea Unige, 5° piano, Via Balbi 4.

**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. Leo LECCI

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

**Title:** Albisola as a crossroads of artistic and literary avant-gardes in the twentieth century: investigation and reconstruction of national and international contributions through documentary sources.

**Description:** In the wake of the researches on the MuDA Museo Diffuso Albisola, carried out by DIRAAS in the framework of an agreement with the Municipality of Albissola Marina, the project will contribute to the reconstruction of the contributions that the Albisola cultural environment provided to the national and international artistic developments, through a survey conducted on primary and documentary sources.

**Scientific disciplinary sector:** L-ART/03 STORIA DELL'ARTE CONTEMPORANEA

**Place:** Dipartimento di Italianistica, Romanistica, Antichistica, Arti e Spettacolo (DIRAAS)

**Required degree:**

Dottorato di ricerca in Discipline storico-artistiche o in Digital Humanities.

**Subjects of the interview:**

- Protagonists and supporting actors of the twentieth century Albisola art scene.
- State of the art on the study of national and international relations.
- Main problematic and methodological issues, related to the reconstruction of aspects that have not yet been investigated.

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

**RESEARCH PROGRAM NO. 39**

**The assessment criteria for the qualifications and the interview will be affixed on 3.5.2018 at 9.00** in Dipartimento di Scienze della Formazione (DISFOR), 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 3.5.2018 at 12.00** in Dipartimento di Scienze della Formazione (DISFOR), Corso Podestà 2, Genova.

**The interview will be held on 3.5.2018 at 15.00** in Dipartimento di Scienze della Formazione (DISFOR), 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.**

**Scientific coordinator:** Prof. Mauro PALUMBO

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

**Title:** The skills system's governance and lifelong learning policies: analysis of the skills mismatch through case studies.

**Description:** The project focuses on the governance systems of the demand and supply of the young adults' skills, investigating the match / mismatch between the skills provided by the educational and training system and the skills required by the labour market. The case studies of Genoa and Milan are analysed, two different realities from the socio-economic and political perspectives, in order to: 1. map the actors and their activities; 2. identify the coordination forms among actors; 3. contextualise them within the socio-economic and institutional contexts. The project aims to understand the structural and functional relationships between the educational and training system and the labour market, analysing the local policy making systems and identifying good practices (and their transferability).

**Scientific disciplinary sector:** SPS/07 SOCIOLOGIA GENERALE

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

**Required degree:**

Dottorato di ricerca in Scienze Sociali, Sociologia o Valutazione dei processi e dei sistemi educativi.

**Subjects of the interview:**

Theoretical and empirical references and assessment of the methodological skills.

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