

<b>SCIENTIFIC DISCIPLINARY AREA: MATHEMATICS AND INFORMATICS</b>
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**RESEARCH PROGRAM NO. 1**

**The assessment criteria for the qualifications and the interview will be affixed on 31.10.2017 at 9.30** 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 31.10.2017 at 13.00** in Dipartimento di Informatica, Bioingegneria, Robotica e Ingegneria dei Sistemi (DIBRIS), Via Dodecaneso 35, Genova.

**The interview will be held on 31.10.2017 at 14.30** 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.**

**Scientific coordinator:** Prof. Manuela CHESSA

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

**Title:** Natural interaction in Augmented Reality environments.

**Description:** Augmented reality (AR) allows us to build complex and interactive environments, where people can “live” different situations, as if they were real. The considered AR hardware devices take into account both optical see-through devices (e.g. Meta Vision) and video see-through ones (e.g. Google Cardboard). In particular, the idea is to develop methods and techniques to build AR applications that allow people (i) to manipulate real objects enriched by virtual contents (the occlusions have to be handled to obtain a natural manipulation), and (ii) to walk in enriched environments, where the users can interact with virtual contents both on the ground and on real objects (the motion cues have to be considered to obtain an ecological interaction).

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

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

**Required degree:**

Laurea Magistrale delle classi: LM-18 Informatica, o LM-21 Ingegneria Biomedica, o LM-25 Ingegneria dell'automazione, o LM-32 Ingegneria Informatica.

**Subjects of the interview:**

- Fundamentals of Virtual and Augmented Reality;
- algorithms and techniques for camera pose estimation;
- visual features extraction and tracking;
- object-oriented programming (C++ and/or C# and/or Java) and game engines (Unreal engine and/or Unity3D).

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

**RESEARCH PROGRAM NO. 2**

**The assessment criteria for the qualifications and the interview will be affixed on 27.10.2017 at 8.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 27.10.2017 at 11.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The interview will be held on 27.10.2017 at 12.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

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**Scientific coordinator:** Prof. Giovanni CAPPONI

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** An integrated approach (geological, geophysical and radiometric) for the study of the structural architecture and tectonic evolution of the Rennick Graben (northern Victoria Land, Antarctica).

**Description:** The research activity of this project is focused on some aspect of the Rennick Graben:

- 1) the combined interpretation of geological and geophysical data;
- 2) the achievement of radiometric time constraints;
- 3) the numerical modeling.

The first aspect will be treated in collaboration with the BGR (the German Polar Institute, in Hannover) and with the BAS (British Antarctic Survey, UK); the second aspect in collaboration with the IGG (Istituto di Geoscienze e Georisorse), CNR, Pisa, Italy. The third aspect in collaboration with Prof. Taras Gerya, Institut für Geophysik - ETH di Zurigo (CH).

**Scientific disciplinary sector:** GEO/03 STRUCTURAL GEOLOGY

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

**Required degree:**

Dottorato di ricerca in Scienze della Terra.

**Subjects of the interview:**

- Geodynamic models.
- Numerical modeling.
- Tectonic evolution of the paleopacific margin of Gondwana.
- Geology of northern Victoria Land.

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

**The assessment criteria for the qualifications and the interview will be affixed on 6.11.2017 at 9.30** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 6.11.2017 at 12.30** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The interview will be held on 6.11.2017 at 16.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

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**Scientific coordinator:** Prof. Marco FERRARI

**NO.1 research fellowship - Duration 2 – Annual pre-tax amount: € 19.367.00**

**Titolo:** MAREGOT Project (MANagement des Risques de l'Erosion cotière et actions de GOuvernance Transfrontalière) Italia – Francia Marittimo. Coastal risk erosion management and cross-border actions. Activity T2-3 – Sediment dynamics.

**Descrizione:** Coastal erosion is a natural process constituting the coastal morphogenetic system but nowadays this process is heavily affected by human works (interventions) carried out on coastal territory and not only. Sediment moves from the mountains to the sea through rivers that, working as a conveyor belt, connect far portions of the same system. With this in mind, the research fellow will be part of activities focused on the sediment continuum analysis from inland to the sea through an integrated approach at catchment scale. The main purpose of the project is providing useful information to mitigate and prevent geomorphological risks coming from coastal erosion and to carry out an effective and sustainable land management.

**Settore scientifico-disciplinare:** GEO/04 PHYSICAL GEOGRAPHY AND GEOMORPHOLOGY

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

**Titolo di studio richiesto:**

Laurea V.O. in: Scienze Geologiche, o Scienze Naturali.

Laurea Specialistica delle classi: 68/S Scienze della natura, o 86/S Scienze geologiche.

Laurea Magistrale delle classi: LM 60 Scienze della natura, o LM 74 Scienze e tecnologie geologiche.

**Argomenti del colloquio:**

- Sediments continuity from inland to the sea.
- Coastal morphodynamics.
- Survey methods and data acquisition about fluvial hydromorphology and river sediment transport.
- Data analysis in GIS environment.

<b>SCIENTIFIC DISCIPLINARY AREA: BIOLOGY</b>
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**RESEARCH PROGRAM NO. 4**

**The assessment criteria for the qualifications and the interview will be affixed on 30.10.2017 at 10.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 30.10.2017 at 14.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The interview will be held on 6.11.2017 at 9.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

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**Scientific coordinator:** Prof. Luigi MINUTO

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** Species Distribution Models for the study and conservation of biodiversity of endemic species of South-western Alps.

**Description:** The project is aimed to apply species distribution model to increase the knowledge about processes that have affected and that will affect in the future the distribution of biodiversity in South-western Alps. The project will enable to identify past and future refugia and understand the role played by climatic stability in establish the current distribution pattern of endemic plant species in the main centre of endemism in the Alps. In addition, this study will enable to understand any relationship between past and future processes in affecting species distribution. This knowledge is useful to improve conservation strategies taking into account for evolutionary processes.

**Scientific disciplinary sector:** BIO/02 SYSTEMATIC BOTANY

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

**Required degree:**

Laurea Specialistica della classe 68/S Scienze della natura.

Laurea Magistrale della classe LM-60 Scienze della natura.

**Subjects of the interview:**

Knowledge about species distribution models techniques. Basic knowledge about Biogeography. Knowledge about Alpine flora and in particular about plant endemic specie of SW Alps. The skills of the candidate in working autonomously will be evaluated together with his experience in innovative scientific techniques. The capacity to interact with a working group will be evaluated together the ability in managing the job.

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

## **RESEARCH PROGRAM NO. 5**

**The assessment criteria for the qualifications and the interview will be affixed** on **2.11.2017** at **12.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed** on **3.11.2017** at **12.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

**The interview will be held** on **3.11.2017** at **14.00** in Dipartimento di Scienze della Terra, dell'Ambiente e della Vita (DISTAV), Corso Europa 26, Genova.

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

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Giorgio Bavestrello on the phone number +39 0103538031 or via the email address: [giorgio.bavestrello@unige.it](mailto:giorgio.bavestrello@unige.it).*

**Scientific coordinator:** Prof. Giorgio BAVESTRELLO

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** Characterisation of the Ligurian coralligenous habitat and evaluation of its conditions.

**Description:** The proposed research activities aim to an updating of the available information about the presence, distribution and characteristics of the Ligurian coralligenous habitat, with particular focus for the vertical rocky cliff up to 100 m depth. The study is aimed not only at defining what are the parameters and indexes related to the state of health and pressures affecting this habitat (diversity indices, anthropic activity, bio-construction/ bio-erosion ratio) but also to seek innovative methods based on techniques of remote sensing to test the state of the assemblage on the basis of its biological complexity.

**Scientific disciplinary sector:** BIO/05 ZOOLOGY

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

**Required degree:**

Laurea Magistrale della classe LM-75 Scienze e tecnologie per l'ambiente e il territorio.

**Subjects of the interview:**

- Coralligenous habitat.
- Marine and coastal environment conservation.
- Photogrammetry techniques.
- Spatial analysis.
- Underwater scientific methodologies.

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 6.11.2017 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 6.11.2017 at 15.00 in Dipartimento di Medicina Sperimentale (DIMES), Fisiologia, Viale Benedetto XV/3, Genova.

**The interview will be held** on 7.11.2017 at 14.00 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.**

*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. Fabio Benfenati on the phone number +39 0103538189 or via the email address: [afassio@unige.it](mailto:afassio@unige.it).*

**Scientific coordinator:** Prof. Fabio BENFENATI

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** The proton pump v-atpase is a hub for neural development and synaptic transmission: pathogenic role in early onset epileptic encephalopathy.

**Description:** Vacuolar-type H<sup>+</sup>-ATPases (v-ATPases) are multimeric protein complexes responsible for acidification of intracellular organelles, such as lysosomes, endosomes, Golgi apparatus and secretory granules. In neurons, v-ATPase subunits are expressed at disproportionately higher level compared to non-neural tissues, possibly reflecting a uniquely high acidification need, higher turnover and additional neuron-specific roles. At the level of synaptic vesicles, v-ATPase is responsible for the establishment of the electrochemical gradient that allows neurotransmitter loading for synaptic transmission.

Through whole exome sequencing, we identified three distinct de novo mutations in the ATP6V1A gene in children with developmental encephalopathy, featuring cognitive impairment and seizures. The aim of the project is to understand the pathophysiological role of v-ATPase components in synaptic formation and function.

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

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

**Required degree:**

Laurea Magistrale delle classi: LM-6 Biologia, o LM-9 Biotecnologie mediche, veterinarie e farmaceutiche, o LM-13 Farmacia e farmacia industriale, o LM-41 Medicina e chirurgia.

**Subjects of the interview:**

Master thesis, research experiences and laboratory skills.

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

## **RESEARCH PROGRAM NO. 7**

**The assessment criteria for the qualifications and the interview will be affixed on 30.10.2017 at 16.30** in Dipartimento di Medicina Sperimentale (DIMES), Sezione di Fisiologia Umana, Viale Benedetto XV/3, 16132 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 31.10.2017 at 9.30** in Dipartimento di Medicina Sperimentale (DIMES), Sezione di Fisiologia Umana, Viale Benedetto XV/3, 16132 Genova.

**The interview will be held on 31.10.2017 at 10.30** in Dipartimento di Medicina Sperimentale (DIMES), Sezione di Fisiologia Umana, Viale Benedetto XV/3, 16132 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. Laura AVANZINO

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

**Title:** The effect of tACS at gamma frequency on working memory performance in patients affected by mild to moderate Huntington's disease.

**Description:** Here we propose to conduct a study that aims to set the basis for the potential use of tACS for cognitive rehabilitation in HD patients. In this project we will investigate the effect of  $\gamma$ -tACS on performance of tasks of increasing Working Memory (WM) load in a sample of 25 patients affected by mild to moderate HD and healthy controls and we will compare the effect to those of a placebo stimulation (sham tDCS).

Further, the objective of the present research project will also to explore, by means of high-density electroencephalography (hdEEG) (i) activity in the gamma frequency band (~30-120 Hz) across the cognitive network during tasks of increasing WM load in patients with HD and (ii) the potential plasticity of the cognitive network as a result of the intervention.

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

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

**Required degree:**

Laurea Magistrale della classe LM/SNT2 Scienze riabilitive delle professioni sanitarie.

**Subjects of the interview:**

- Huntington disease: motor and cognitive symptoms.
- Non-invasive brain stimulation techniques: transcranial electrical stimulation.

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 2.11.2017 at 9.30** in Dipartimento di Medicina Sperimentale (DIMES), Sezione Biochimica, Viale Benedetto XV/1, 16132 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 2.11.2017 at 12.30** in Dipartimento di Medicina Sperimentale (DIMES), Sezione Biochimica, Viale Benedetto XV/1, 16132 Genova.

**The interview will be held on 2.11.2017 at 15.00** in Dipartimento di Medicina Sperimentale (DIMES), Sezione Biochimica, Viale Benedetto XV/1, 16132 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. Santina Bruzzone on the phone number +39 0103538161 or via the email address: [santina.bruzzone@unige.it](mailto:santina.bruzzone@unige.it).*

**Scientific coordinator:** Prof. Santina BRUZZONE

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** New therapeutic strategy: P2X7 and SIRT6.

**Description:** The post-doc will verify the efficacy and mechanism of action of inhibitors of two new therapeutic targets (P2X7 and SIRT6), in different models of diseases. Both the P2X7 receptor and the enzyme SIRT6 play an important role in inflammation.

The therapeutic efficacy of P2X7 inhibition will be evaluated in a murine model of muscle dystrophy (LGMD2D), an inherited disorder characterized by skeletal muscle degeneration and premature death. This pathology is worsened by inflammatory processes. Moreover, the effects of extracellular ATP, the P2X7 agonist, will be characterized on myoblasts isolated from patients with LGMD2D.

Moreover, a number of SIRT6 inhibitors will be optimized and tested on models of pathologies with an inflammatory component.

**Scientific disciplinary sector:** BIO/10 BIOCHEMISTRY

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

**Required degree:**

Laurea Magistrale delle classi: LM-6 Biologia, o LM-9 Biotecnologie mediche, veterinarie e farmaceutiche, o LM-13 Farmacia e farmacia industriale, o LM-54 Scienze chimiche.

**Subjects of the interview:**

- Physiopathology of P2X7 and SIRT6.
- Techniques of cellular biology, molecular biology and biochemistry.

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 **27.10.2017** at **14.00** in Dipartimento di Medicina Sperimentale (DIMES), Laboratorio di Medicina Rigenerativa, Centro di Biotecnologie Avanzate (CBA), 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 **27.10.2017** at **17.00** in Dipartimento di Medicina Sperimentale (DIMES), Laboratorio di Medicina Rigenerativa, Centro di Biotecnologie Avanzate (CBA), Largo Rosanna Benzi 10, Genova.

**The interview will be held** on **30.10.2017** at **15.00** in Dipartimento di Medicina Sperimentale (DIMES), Laboratorio di Medicina Rigenerativa, Centro di Biotecnologie Avanzate (CBA), 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. Sara TAVELLA

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** Effects of gravitational force changes on the skeleton.

**Description:** Gravitational force changes have important effects on organisms (e.g. skeleton) that adapts itself acting on tissue homeostasis. Our intent is to study those genes that feel gravitational changes like lipocalin-2 that has a pleiotropic effects on the organism. In particular, we will use a transgenic mouse model overexpressing lipocalin-2 already available in our laboratory. Moreover, gene expression analyses will be performed on a 3D cell culture system that reproduces bone microenvironment and that will be maintained in microgravity for a month. Finally hyper gravity effects on the organism will be studied as a possible countermeasure to bone loss observed in different pathologies.

**Scientific disciplinary sector:** BIO/13 EXPERIMENTAL BIOLOGY

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

**Required degree:**

Dottorato di ricerca in Biologia.

**Subjects of the interview:**

Technical and scientific expertise of the candidate regarding the study of the physiopathology of the skeleton.

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

<b>SCIENTIFIC DISCIPLINARY AREA: MEDICINE</b>
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**RESEARCH PROGRAM NO. 10**

The assessment criteria for the qualifications and the interview will be affixed on **2.11.2017** at **8.30** in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 Genova.

The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on **2.11.2017** at **11.30** in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 Genova.

The interview will be held on **2.11.2017** at **11.45** in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 Genova.

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

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Alberto Ballestrero on the phone number +39 0103538667 or via the email address: [maurizio.gallo@unige.it](mailto:maurizio.gallo@unige.it); [aballestrero@unige.it](mailto:aballestrero@unige.it).*

**Scientific coordinator:** Prof. Alberto BALLESTRERO

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** Evaluation of prognostic and predictive molecular markers in circulating tumor DNA samples of patients affected by breast and colorectal cancer.

**Description:** In the plasma of patients with breast cancer and colorectal cancer you can detect the presence of circulating tumor DNA (ctDNA), even small amounts of it. The analysis of ctDNA allows, through simple blood tests (liquid biopsy), to identify biomarkers with prognostic and predictive power able to define better the prognosis of patients and to modify the schedule of therapies. From the plasma of serial samples we will extract the ctDNA to search for tumor-specific molecular alterations previously found in the primary tumor. This type of analysis will allow to see the microscopic disease, below the threshold of radiology, in order to monitor the response to therapy and the eventual relapse.

**Scientific disciplinary sector:** MED/09 INTERNAL MEDICINE

**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 14/S Farmacia e farmacia industriale.

Laurea Magistrale delle classi: LM-6 Biologia, o LM-9 Biotecnologie mediche, veterinarie e farmaceutiche, o LM-13 Farmacia e farmacia industriale.

**Subjects of the interview:**

- Knowledge of molecular biology: extraction of nucleic acids from human tissue, Real-Time PCR, Sanger sequencing, next generation sequencing (NGS).
- Personal attitude to scientific research.
- Argumentation about curricular personal experiences (grant writing experiences and presentation of studies during national or international meeting or conferences; previous experience in diagnosis and molecular research on solid tumors; abroad experience at recognized laboratories).

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 30.10.2017 at 8.30 in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 Genova.

The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 30.10.2017 at 11.30 in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 Genova.

The interview will be held on 30.10.2017 at 11.45 in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 Genova.

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

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Alberto Ballestrero on the phone number +39 or 0103538667 via the email address: [maurizio.gallo@unige.it](mailto:maurizio.gallo@unige.it); [aballestrero@unige.it](mailto:aballestrero@unige.it).*

**Scientific coordinator:** Prof. Alberto BALLESTRERO

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** IT management and coordination according to Good Clinical Practice of clinical and pre-clinical studies in the field of onco-haematological clinical trials in patients with breast cancer and colorectal cancer enrolled in clinical-translational research programs.

**Description:** Coordination of phase II-III clinical trials and CRF completion. Coordination and IT management of a spontaneous phase II, prospective, single-arm, multicenter, clinical trial in patients with locally advanced rectal adenocarcinoma (cT3-4 and / or N +), operable. Database compilation with prospective collection of clinical and pathological data of patients with breast cancer and colorectal cancer in early and / or advanced stages, followed at our center.

Retrospective update of clinical and pathological data of the cohort of patients with a history of breast and colorectal cancer, in order to schedule clinical studies and / or clinical-translational research programs.

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

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

**Required degree:**

Laurea Specialistica della classe 92/S Statistica per la ricerca sperimentale.

Laurea Magistrale delle classi: LM-6 Biologia, o LM-9 Biotecnologie mediche, veterinarie e farmaceutiche, o LM-13 Farmacia e farmacia industriale, o LM-18 Informatica, o LM-41 Medicina e Chirurgia.

**Subjects of the interview:**

- Knowledge of methodology of clinical trials, Good Clinical Practice, monitoring of clinical trials and data management.
- Personal attitude to scientific research.

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 **27.10.2017** at **9.30** in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed** on **27.10.2017** at **12.30** in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 Genova.

**The interview will be held** on **27.10.2017** at **12.45** in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 Genova.

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**Scientific coordinator:** Prof. Antonino PICCIOTTO

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

**Title:** Chronic kidney disease incidence in liver transplanted patients treated with tacrolimus or ciclosporin.

**Description:** Immunosuppression of liver transplanted patients is based on tacrolimus or ciclosporin. These drugs induce renal toxicity, expressed with acute or chronic damage, by mean of vasoconstriction. Aim of the study is to evaluate, retrospectively, liver transplanted patients on immunosuppressive therapy with tacrolimus or ciclosporin these endpoints:

- 1) Evaluation of patient clinical characteristics;
- 2) Incidence of CKD at 6 months and at 1, 3, 5 years post a LT;
- 3) Comparison of CKD incidence related to eGFR respectively calculated by CKD-EPI and MDRD.

**Scientific disciplinary sector:** MED/12 GASTROENTEROLOGY

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

**Required degree:**

Laurea V.O. in Scienze biologiche.

**Subjects of the interview:**

- Side effects of calcineurin inhibitors.
- Evaluation of renal function in liver transplanted patients.

## **RESEARCH PROGRAM NO. 13**

**The assessment criteria for the qualifications and the interview will be affixed on 6.11.2017 at 9.00** in Dipartimento di Medicina interna e Specialità mediche (DIMI), primo piano avancorpo, stanza 118, Viale Benedetto XV/6, 16132 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 6.11.2017 at 12.00** in Dipartimento di Medicina interna e Specialità mediche (DIMI), primo piano avancorpo, stanza 118, Viale Benedetto XV/6, 16132 Genova.

**The interview will be held on 6.11.2017 at 15.00** in Dipartimento di Medicina interna e Specialità mediche (DIMI), primo piano avancorpo, stanza 118, Viale Benedetto XV/6, 16132 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. Diego FERONE

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

**Title:** Effect of new mono- and bi-specific somatostatin analogue (SSA) compounds and effect of SS/DA chimeric compounds in neuroendocrine tumors (NET) and pituitary adenomas.

**Description:** Medical treatment of neuroendocrine tumors (NETs) and pituitary adenomas provides for the use of somatostatin and dopamine analogs (SSAs, DAs) due to the characteristic of these tumors to express specific receptors for both peptides (SSRs and DRs).

Depending on the receptor expression profile, this study will evaluate the role of new mono- and bi-specific SSA compounds as well as SS/DA chimeric compounds on hormonal secretion and cell proliferation in primary cultures of post-surgical NETs and functioning and non-functioning pituitary adenomas.

Moreover, the study will evaluate the in vivo anti-angiogenic and anti-migratory effects of all compounds in the zebrafish embryo animal model expressing fluorescent endothelial cells after injection of post-surgical tumor cells followed by embryo treatment with sperimental compounds.

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

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

**Required degree:**

Dottorato di ricerca in Fisiopatologia Endocrina, Clinica e Sperimentale.

**Subjects of the interview:**

Histological features of neuroendocrine tumors (NET) and pituitary adenomas with in particular regard to GH-secreting pituitary adenomas; diagnosis and treatment of NET and acromegaly; physiopathology of somatostatin and dopamine receptors; somatostatin and dopamine analogs (SSAs, DAs) commonly used in clinical practice and new mono- e bi-specific SSA and SS/DA chimeric compounds; cell culture techniques with particular regard to the preparation and setting of primary cultures isolated from post-surgical NET and pituitary adenoma fragments; immunoblot and immunohistochemical techniques, qRT-PCR, immunometric assays (RIA, IRMA, ELISA), cell-tissue protein extraction techniques.

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

## **RESEARCH PROGRAM NO. 14**

**The assessment criteria for the qualifications and the interview will be affixed** on **30.10.2017** at **9.00** in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV, 10, 16132 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed** on **30.10.2017** at **12.00** in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV, 10, 16132 Genova.

**The interview will be held** on **30.10.2017** at **14.00** in Dipartimento di Medicina interna e Specialità mediche (DIMI), Viale Benedetto XV/6, 16132 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. Maurizio CUTOLO

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

**Title:** Systemic sclerosis: immune-vascular aspects and clinical correlations.

**Description:** Aim of the study will be to evaluate through an in vitro study, the influence of alteration of immune system cells (classically activated/alternatively activated macrophages: M1/M2 ratio) and vascular cells (endothelial circulating cells) on systemic sclerosis (SSc) pathogenesis and phenotypes. The cited parameters will therefore be correlated with clinical parameters and organ involvement, especially with microvascular damage analysed through nailfold videocapillaroscopy.

At least sixty patients affected by SSc according to EULAR/ACR criteria and 30 healthy volunteers (matched for age and sex) will be clinically and instrumentally evaluated.

**Scientific disciplinary sector:** MED/16 RHEUMATOLOGY

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

**Required degree:**

Specialty in Allergy and Clinical Immunology with adequate scientific production concerning "Systemic sclerosis and, in particular, immune-pathogenetic aspects, organ involvement and disease follow up through development of microcirculation and biomarkers (ENA, D hormone) analysis".

**Subjects of the interview:**

Immune-inflammatory and microvascular damage mechanisms in systemic sclerosis.

## **RESEARCH PROGRAM NO. 15**

**The assessment criteria for the qualifications and the interview will be affixed on 30.10.2017 at 9.00** in Dipartimento di Neuroscienze, Riabilitazione, Oftalmologia, Genetica e Scienze Materno-infantili (DINOEMI), primo piano, ufficio del Prof. Uccelli, Largo Paolo Daneo 3, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 30.10.2017 at 12.30** in Dipartimento di Neuroscienze, Riabilitazione, Oftalmologia, Genetica e Scienze Materno-infantili (DINOEMI), primo piano, ufficio del Prof. Uccelli, Largo Paolo Daneo 3, Genova.

**The interview will be held on 30.10.2017 at 16.00** in Dipartimento di Neuroscienze, Riabilitazione, Oftalmologia, Genetica e Scienze Materno-infantili (DINOEMI), primo piano, ufficio del Prof. Uccelli, Largo Paolo Daneo 3, Genova.

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

**Scientific coordinator:** Prof. Antonio UCCELLI

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

**Title:** Dissection of the distinct susceptibility of hematopoietic precursors and immune cells to cladribine.

**Description:** The objective of this project is to assess the effect of cladribine, a drug under evaluation for the treatment of multiple sclerosis, on different selected immature and mature cellular subsets including hematopoietic stem (HSCs) and progenitor cells of the lymphoid and myeloid lineage, T and B cells. This study will focus on the analysis of the expression of the enzymatic markers responsible for the cladribine cell metabolism through the use of molecular biology techniques. Later we will evaluate the influence of cladribine on HSCs clonogenic and differentiation properties, using cellular biology techniques. This study will allow understanding the different susceptibility of immune cells to cladribine thus improving its clinical use.

**Scientific disciplinary sector:** MED/26 NEUROLOGY

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

**Required degree:**

Dottorato di ricerca in Immunologia.

**Subjects of the interview:**

- Elements of neuroimmunology and hematology with special focus on pathogenic mechanisms of multiple sclerosis and biology of hematopoietic stem cells;
- Evaluation of the knowledge of the Cellular and Molecular Biology methods.

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 30.10.2017 at 8.00** in Dipartimento di Scienze Chirurgiche e Diagnostiche Integrate (DISC), padiglione 4, Ospedale S. 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 30.10.2017 at 11.00** in Dipartimento di Scienze Chirurgiche e Diagnostiche Integrate (DISC), padiglione 4, Ospedale S. Martino, Largo Rosanna Benzi 10, Genova.

**The interview will be held on 30.10.2017 at 12.30** in Dipartimento di Scienze Chirurgiche e Diagnostiche Integrate (DISC), padiglione 4, Ospedale S. Martino, 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. Paolo PERA

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** Immediately loaded dental implants: clinical evaluation of factors affecting the outcome.

**Description:** The aim of the present research is to clinically evaluate the factors affecting the survival and the success of partial and full-arch immediate loading rehabilitations.

Patients rehabilitated with the partial or full-arch Columbus Bridge immediate loading rehabilitation (Tealdo T et al. 2014) of the lower or upper jaw at the Implant Prosthodontic Division of Genoa University (Dep. DISC) will be included.

The variables evaluated will be: different implant morphologies and different prosthetic designs and materials.

The follow-up appointment will include the recording of the parameters of health of peri-implant soft tissue (PD, BOP e IP) and the radiographic evaluation of peri-implant bone level.

Possible biologic or technical complications will be recorded.

**Scientific disciplinary sector:** MED/28 ORAL DISEASES AND DENTISTRY

**Place:** Dipartimento di Scienze Chirurgiche e Diagnostiche Integrate (DISC)

**Required degree:**

Laurea V.O. in Odontoiatria e Protesi Dentaria.

Laurea Specialistica della classe 52/S Odontoiatria e protesi dentaria.

Laurea Magistrale della classe LM-46 Odontoiatria e protesi dentaria.

**Subjects of the interview:**

- Physiopathology of the stomatognathic system.
- Implant prosthodontic rehabilitation of partial and completely edentulous patients.

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



## **RESEARCH PROGRAM NO. 17**

**The assessment criteria for the qualifications and the interview will be affixed** on **27.10.2017** at **9.30** in Dipartimento di Scienze della Salute (DISSAL), Polo Alberti, terzo piano, Via L. B. Alberti 4, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed** on **27.10.2017** at **12.30** in Dipartimento di Scienze della Salute (DISSAL), Polo Alberti, terzo piano, Via L. B. Alberti 4, Genova.

**The interview will be held** on **27.10.2017** at **14.00** in Dipartimento di Scienze della Salute (DISSAL), Polo Alberti, terzo piano, Via L. B. Alberti 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. Giacomo GARLASCHI

**NO.1 research fellowship - Duration 1 – Annual pre-tax amount: € 19.367.00**

**Title:** Screening for the prevention of abdominal aortic aneurysm complications in the area of ASL 5.

**Description:** The project consists in screening a high risk population group by ultrasound examination to detect abdominal aortic aneurysm; male subjects at the age of 65 years living in the territory of ASL 5 will be enrolled. The screening will be performed in adjunct to rectal cancer screening, already existing, and using the same data and economic resources. The aim of this project is to create a database of the incidence of this pathology in the territory, reduce related mortality, diagnose risk conditions not known, follow up or therapeutic management of patients.

**Scientific disciplinary sector:** MED/36 DIAGNOSTIC IMAGING AND RADIOTHERAPY

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

**Required degree:**

Laurea V.O. in Medicina e Chirurgia.

Laurea Specialistica della classe 46/S Medicina e Chirurgia.

Laurea Magistrale della classe LM-41 Medicina e Chirurgia.

**Subjects of the interview:**

Imaging in screening and diagnosis of cardiovascular disease.

## **RESEARCH PROGRAM NO. 18**

**The assessment criteria for the qualifications and the interview will be affixed on 30.10.2017 at 11.30** in Dipartimento di Scienze della Salute (DISSAL), Via A. Pastore 1, 16132 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 30.10.2017 at 14.30** in Dipartimento di Scienze della Salute (DISSAL), Via A. Pastore 1, 16132 Genova.

**The interview will be held on 30.10.2017 at 14.45** in Dipartimento di Scienze della Salute (DISSAL), Via A. Pastore 1, 16132 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 DURANDO

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

**Title:** Prevention of injuries in the healthcare setting: epidemiological analysis, evaluation of the current knowledge and innovative programs in students and graduates in specialist training at the University of Genoa.

**Description:** The study of the phenomenon of accident in health care setting requires, due to its amplitude and complexity, continuity of analysis and design for the preparation of intervention tools. In this context, an accurate epidemiological assessment is needed to identify the main associated determinants. The present project provides for: (a) epidemiological assessment of injuries in the healthcare setting at the international, national and regional level; (b) assessment of the current knowledge, beliefs and attitudes of the target population in relation to the specific dangers and risks involved as well as in relation to their epidemiological impact and the available preventative measures and strategies of proven effectiveness.

**Scientific disciplinary sector:** MED/44 OCCUPATIONAL MEDICINE

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

**Required degree:**

Laurea V.O. in Medicina e Chirurgia.

Laurea Specialistica della classe 46/S Medicina e Chirurgia.

Laurea Magistrale della classe LM-41 Medicina e Chirurgia.

**Subjects of the interview:**

- Risk factors in the healthcare setting.
- Biological risk prevention.
- Evidence Based Occupational Health: operational tools.

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 27.10.2017 at 9.00 in Campus di Savona, Palazzina Marchi, Via Magliotto 2, 17100 Savona.~~  
on 6.11.2017 at 8.00 in Campus di Savona, Palazzina Marchi, Via Magliotto 2, 17100 Savona. \*

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed**

~~on 27.10.2017 at 13.00 in Campus di Savona, Palazzina Marchi, Via Magliotto 2, 17100 Savona.~~  
on 6.11.2017 at 11.00 in Campus di Savona, Palazzina Marchi, Via Magliotto 2, 17100 Savona. \*

**The interview will be held**

~~on 27.10.2017 at 15.30 in Campus di Savona, Palazzina Marchi, Via Magliotto 2, 17100 Savona.~~  
on 6.11.2017 at 11.15 in Campus di Savona, Palazzina Marchi, Via Magliotto 2, 17100 Savona. \*

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

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Luca Ferraris on the phone number +39 019230271 or via the email address: [info@cimafoundation.org](mailto:info@cimafoundation.org).*

**Scientific coordinator:** Prof. Luca FERRARIS

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

**Title:** Extreme rains in complex orography areas: high resolution meteorological modelling on heterogeneous computing architectures (high performance computing, cloud computing, grid computing).

**Description:** The specific goal of this research is to support the characterization of extreme precipitations phenomena on complex topography areas and of the climatic conditions that favor their occurrence, through high-resolution meteorological simulations on heterogeneous computing infrastructures, aiming at improving skills of operational hydro-meteorological warning systems. The topic will be focused on the a) execution of high-resolution meteorological simulations on high performance computing, cloud computing, and possibly grid computing solutions b) identification of optimal setup as a compromise between predictive capability skills and computing efficiency; c) adoption of standard based solutions for modelling results post-processing, and further chaining with hydrologic and impact models.

**Scientific disciplinary sector:** ICAR/02 HYDRAULIC AND MARINE CONTRUCTIONS AND HYDROLOGY

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

**Required degree:**

Dottorato di ricerca in Informatica.

**Subjects of the interview:**

- Computational fluid dynamics.
- High-performance computing.
- Cloud computing.
- Grid computing.
- Hydro-meteorological forecasting.
- E-Infrastructures.
- Models interoperability and coupling.

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

*\* Timetable for exams modified with Chancellor Decree n. 3826 dated 12/10/2017*

## **RESEARCH PROGRAM NO. 20**

**The assessment criteria for the qualifications and the interview will be affixed on 31.10.2017 at 10.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Sezione MASET, Via Montallegro 1, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 31.10.2017 at 13.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Sezione MASET, Via Montallegro 1, 16145 Genova.

**The interview will be held on 31.10.2017 at 14.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Sezione MASET, Via Montallegro 1, 16145 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. Davide GIGLIO

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

**Title:** Design and configuration of an urban area for the field test of mobility optimization and control algorithms and city logistics strategies.

**Description:** The activity has the objective of defining an urban area that can be used as a “laboratory” for the test of algorithms aimed at optimizing and controlling public and especially private mobility, and for the experiment of city logistics strategies aimed at optimizing freights deliveries within cities. The activity includes also the definition of the ICT configuration that the laboratory-area should have in order to make possible to apply all ITS (Intelligent Transportation Systems) paradigms as well as new paradigms in the field of logistics such as the Physical Internet one.

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

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

**Required degree:**

Dottorato di ricerca in Logistica, Trasporti e Territorio.

**Subjects of the interview:**

- Intelligent Transportation Systems.
- Management of urban mobility.
- City logistics.

## **RESEARCH PROGRAM NO. 21**

**The assessment criteria for the qualifications and the interview will be affixed on 31.10.2017 at 14.00** 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 31.10.2017 at 17.00** in Dipartimento di Ingegneria Civile, Chimica e Ambientale (DICCA), Via Montallegro 1, Genova.

**The interview will be held on 31.10.2017 at 17.15** 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. Bianca FEDERICI

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

**Title:** Innovative procedure to support the real-time evaluation of intense meteorological precipitation.

**Description:** The research team has developed an innovative GIS-based procedure to atmosphere monitoring, based on GNSS satellite positioning technology, able to locate particularly intense rainfall events. The candidate is required to extend the procedure, now applied in terms of post event analysis, to near real time monitoring by providing automatic acquisition and archiving of input data into a dedicated Geographic DataBase, by automating and optimizing the procedure and by realizing a prototype of GeoWebService service for sharing the results of the procedure, as a tool for nowcasting analysis of potential hazardous situations arising from intense rainfall.

**Scientific disciplinary sector:** ICAR/06 TOPOGRAPHY AND CARTOGRAPHY

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

**Required degree:**

Laurea Specialistica delle classi: 28/S Ingegneria civile, o 38/S Ingegneria per l'ambiente e il territorio.

Laurea Magistrale delle classi: LM-18 Informatica, o LM-23 Ingegneria civile, o LM-24 Ingegneria dei sistemi edilizi, o LM-26 Ingegneria della sicurezza, o LM-35 Ingegneria per l'ambiente e il territorio.

**Subjects of the interview:**

- Geographic Information Systems (GIS);
- Geographic Database and GeoWebService, with particular attention to OpenSource tools, open standards, and interoperability.

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

## **RESEARCH PROGRAM NO. 22**

**The assessment criteria for the qualifications and the interview will be affixed on 31.10.2017 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 31.10.2017 at 12.00** in Dipartimento di Ingegneria Civile, Chimica e Ambientale (DICCA), Via Montallegro 1, Genova.

**The interview will be held on 31.10.2017 at 12.15** 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. Domenico SGUERSO

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

**Title:** Analysis of GPS/GNSS meteorological data on the Roia basin.

**Description:** The research team has developed an innovative GIS-based procedure to atmosphere monitoring, based on GPS/GNSS satellite positioning technology, integrated with pressure and ground temperature measurements. The candidate is required to carry out an analysis of the historical evolution of the zenith tropospheric delay (ZTD) on the cross-border area centered on the Roia basin and apply the above procedure to produce maps of potentially precipitable water vapor content (PWV).

**Scientific disciplinary sector:** ICAR/06 TOPOGRAPHY AND CARTOGRAPHY

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

**Required degree:**

Laurea Specialistica delle classi: 20/S Fisica, o 28/S Ingegneria civile, o 38/S Ingegneria per l'ambiente e il territorio.

Laurea Magistrale delle classi: LM-17 Fisica, o LM-23 Ingegneria civile, o LM-24 Ingegneria dei sistemi edilizi, o LM-26 Ingegneria della sicurezza, o LM-35 Ingegneria per l'ambiente e il territorio.

**Subjects of the interview:**

- GNSS satellite positioning, with particular attention to Permanent Station Networks;
- physics of the atmosphere, with particular reference to tropospheric models.

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 3.11.2017 at 8.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Montallegro 1, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 3.11.2017 at 11.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Montallegro 1, 16145 Genova.

**The interview will be held on 3.11.2017 at 12.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Montallegro 1, 16145 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. Michele Martelli on the phone number +39 0103536521 or via the email address: [michele.martelli@unige.it](mailto:michele.martelli@unige.it).*

**Scientific coordinator:** Prof. Michele MARTELLI

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

**Title:** Study and development of control logic for automatic navigation decision support system.

**Description:** The research project will cover the topic of control logic and navigation support. The project will begin with the analysis of the state of the art regarding the automatic navigation control logic, with particular attention to PIM-Track and collision avoidance maneuvers, that will be the principal object of the study. Subsequently, the synthesis of controllers controlling the actuators of marine vehicles will take place. The different controllers will be studied with stability criteria. The operating limits of the regulators will also be studied, depending on the constraints of the machinery. In the final part of the project, the developed algorithms will be implemented and verified, through simulation, and the performance of the regulators in different realistic scenarios will be assessed.

**Scientific disciplinary sector:** ING-IND/02 SHIP STRUCTURES AND MARINE ENGINEERING

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

**Required degree:**

Dottorato di ricerca in Ingegneria matematica e simulazione, o Dottorato di ricerca in Scienze e tecnologie per l'ingegneria elettrica, l'ingegneria navale, i sistemi complessi per la mobilità - curriculum ingegneria navale.

**Subjects of the interview:**

- Mathematical models used for simulation in marine engineering field.
- Dynamic behavior and performance evaluation of a ship propulsion plant.
- Techniques and methodologies of control theory for the synthesis of automatic regulators suitable for dynamic positioning.

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 3.11.2017 at 14.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Montallegro 1, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 3.11.2017 at 17.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Montallegro 1, 16145 Genova.

**The interview will be held on 3.11.2017 at 17.30** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Montallegro 1, 16145 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. Michele Martelli on the phone number +39 0103536521 or via the email address: [michele.martelli@unige.it](mailto:michele.martelli@unige.it).*

**Scientific coordinator:** Prof. Michele MARTELLI

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

**Title:** Study and development of a time domain simulator for a marine surface vehicle.

**Description:** The aim of the present research is to develop a simulation platform, in the time domain, that can emulate the dynamic behavior of a ship and its performance. It will need to develop a “virtual bridge” with the possibility to interact in real time with the simulator. The study and modeling of the actuators and their drive, especially the prime movers (thermal and electric), and the study of the factors that affect the overall ship dynamics will be the central activity of the project. In the case of availability of experimental data, the simulator will be calibrated and tested to perform and to verify its accuracy and robustness.

**Scientific disciplinary sector:** ING-IND/02 SHIP STRUCTURES AND MARINE ENGINEERING

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

**Required degree:**

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

Laurea Specialistica delle classi: 30/S Ingegneria delle telecomunicazioni, o 31/S Ingegneria elettrica, o 32/S Ingegneria elettronica, o 37/S Ingegneria navale.

Laurea Magistrale delle classi: LM-27 Ingegneria delle telecomunicazioni, o LM-28 Ingegneria elettrica, o LM-29 Ingegneria elettronica, o LM-34 Ingegneria navale.

**Subjects of the interview:**

- State of art of methodologies and Simulation Techniques used in the marine field.
- Mathematical modeling of marine propulsion plants.
- Regulation and protection logics for both thermal engine e transmission line.

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 31.10.2017 at 10.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 31.10.2017 at 13.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova

**The interview will be held on 31.10.2017 at 13.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

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

**Scientific coordinator:** Prof. Carlo CRAVERO

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

**Title:** Development of design approaches for turbomachinery design.

**Description:** The research activity is aimed at the development of design methods for high performance turbomachinery. The study is focused on radial compressors or blowers. A fundamental aspect of the research is the development of parametric design tools for each turbomachinery component (impeller, diffuser and volute) and their interface with simulation platforms commercially available or developed in previous research activity by the research unit. Design optimisation or soft-computing strategies and tools could be integrated into the design suite. The turbomachinery performance at design condition and off-design are considered in order to increase the operating range or lower the noise emission.

**Scientific disciplinary sector:** ING-IND/08 FLUID MACHINERY

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

**Required degree:**

Dottorato di Ricerca in Ingegneria Energetica, o Dottorato di Ricerca in Ingegneria delle Macchine a Fluido.

**Subjects of the interview:**

- Turbomachinery (fans, compressors and blowers).
- Computational fluid dynamics.
- Design methods.

## RESEARCH PROGRAM NO. 26

**The assessment criteria for the qualifications and the interview will be affixed on 2.11.2017 at 14.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 2.11.2017 at 17.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

**The interview will be held on 2.11.2017 at 18.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

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

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Alberto Traverso on the phone number +39 0103532455 or via the email address: [alberto.traverso@unige.it](mailto:alberto.traverso@unige.it).*

**Scientific coordinator:** Prof. Alberto TRAVERSO

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

**Title:** Advanced control concept for fuel cell hybrid systems and polygeneration plants.

**Description:** Advanced controls such as Model Predictive Control (MPC) are the ideal control approach for innovative energy systems, as they optimise the present control action estimating the future response of the system, subject to constraints. Therefore, if a validated real-time dynamic model of the system is available, the control algorithm can minimise thermal gradients, pressure variations, fuel consumption, properly balancing such constraints with the need to follow the load required by the grid. The real-time model and control concept will be developed and tested in the laboratory test rigs to allow innovative energy systems, such as microturbines and microturbine fuel cell hybrids, to perform rapid load variations and to serve, according to a cyberphysical approach, the needs of a real polygeneration microgrid.

**Scientific disciplinary sector:** ING-IND/09 ENERGY SYSTEMS AND POWER GENERATION

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

**Required degree:**

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

**Subjects of the interview:**

- Dynamics and control of energy systems.
- Advanced energy systems.
- Measurements and data acquisition in energy plants.

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

## RESEARCH PROGRAM NO. 27

**The assessment criteria for the qualifications and the interview will be affixed on 2.11.2017 at 8.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 2.11.2017 at 11.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

**The interview will be held on 2.11.2017 at 12.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

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

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Alberto Traverso on the phone number +39 0103532455 or via the email address: [alberto.traverso@unige.it](mailto:alberto.traverso@unige.it).*

**Scientific coordinator:** Prof. Alberto TRAVERSO

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

**Title:** Innovative solutions for the enhancement of combined cycle flexibility.

**Description:** Natural Gas fueled Power Plants are foreseen by the European Union as the bridging technology (till the horizon of the 2050) to a decarbonized scenario (from 50% to 80% renewable electrical production ), thanks to their reduced carbon footprint and fast response in terms of grid stabilization. On the other side, power market evolution is heavily influencing combined cycle operation: load factor and annual efficiency reduce, number of start-up increases, with a direct effect on the profitability of assets, often leading to mothballing or closure of these plants. This work aims at investigating innovative solutions for enhancing flexibility of combined cycles exploiting: the untapped performance modulation potential via the ambient conditions control, the operational flexibility for multi-product power plant, and time optimal shift management with thermal energy storage.

**Scientific disciplinary sector:** ING-IND/09 ENERGY SYSTEMS AND POWER GENERATION

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

**Required degree:**

Laurea Specialistica della classe 38/S Ingegneria per l'ambiente e il territorio.

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

**Subjects of the interview:**

- Design under uncertainty.
- Robust design of energy systems, advanced energy systems.
- Fuel cell gas turbine hybrid systems.

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 **27.10.2017** at **8.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed** on **27.10.2017** at **11.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

**The interview will be held** on **27.10.2017** at **12.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 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. Aristide Massardo on the phone number +39 010 3532400 or via the email address: [massardo@unige.it](mailto:massardo@unige.it).*

**Scientific coordinator:** Prof. Aristide MASSARDO

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

**Title:** Development of an innovative concept for low temperature energy harvesting and utilization in districts.

**Description:** Energy districts often show large surfaces and facades where low temperature heat can be conveniently extracted and processed for the district usage itself. However, the different temperature levels required and the mismatch between energy availability and energy demand requires the development of innovative solution for heat upgrading and storage. Such thermal process needs to be coordinated with the production of other conventional renewable power sources, such as wind and photovoltaic. The work consists in developing a new compact concept for thermal energy harvesting, upgrading and storing in a single plant concept, which needs to be integrated with an energy district.

**Scientific disciplinary sector:** ING-IND/09 ENERGY SYSTEMS AND POWER GENERATION

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

**Required degree:**

Laurea V.O. in Ingegneria meccanica.

Laurea Specialistica della classe 36/S Ingegneria meccanica.

Laurea Magistrale della classe LM-33 Ingegneria meccanica.

**Subjects of the interview:**

- Transient behaviour simulation and control of traditional and advanced energy systems.
- Operating parameter measurements and data acquisition systems.

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 27.10.2017 at 14.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 27.10.2017 at 17.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 Genova.

**The interview will be held on 27.10.2017 at 18.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via Montallegro 1, 16145 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. Loredana Magistri on the phone number +39 010 3532455 or via the email address: [loredana.magistri@unige.it](mailto:loredana.magistri@unige.it).*

**Scientific coordinator:** Prof.ssa Loredana MAGISTRI

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

**Title:** Time-dependent thermoeconomic analysis of advanced energy systems with energy storage.

**Description:** In a continuous increase of energy demand, the world energy scenario of the future envisages a deeper and deeper penetration of renewable resources (RES) production into the electrical grid, such as wind, solar, hydro, biomass. Unfortunately, wind and PV are not programmable in nature. For such a reason, electrical energy storage is considered a key enabling technology for a larger fraction of RES to be exploited by the grid. At the present, the electrical grid stability at European level is ensured mainly by the dispatchable energy sources, such as gas fired and coal fired power plants. However, the current situation is already causing severe limitations to further penetration of RES. To reach the 2030 EU targets without further concern about grid adequacy and stability, a massive enhancement of electrical system flexibility and storage capability is required. This work focuses on the thermoeconomic analysis and optimisation of an innovative concept of power-to-fuel to store excess electrical power from the grid into chemicals, which may be used by industries.

**Scientific disciplinary sector:** ING-IND/09 ENERGY SYSTEMS AND POWER GENERATION

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

**Required degree:**

Laurea V.O. in Ingegneria meccanica.

Laurea Specialistica della classe 36/S Ingegneria meccanica.

Laurea Magistrale della classe LM-33 Ingegneria meccanica.

**Subjects of the interview:**

- Thermoeconomic analysis of innovative systems.
- Transient simulation of power plants.
- Management and optimisation of energy systems fed by fossil fuels and RES.

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 3.11.2017 at 9.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via All'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 3.11.2017 at 13.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via All'Opera Pia 15a, Genova.

**The interview will be held on 3.11.2017 at 14.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), Via All'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. Luigi Carassale on the phone number +39 010 353 2226 or via the email address: [luigi.carassale@unige.it](mailto:luigi.carassale@unige.it).*

**Scientific coordinator:** Prof. Luigi CARASSALE

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

**Title:** Setup and execution of experimental mechanical tests for the characterization of mechanical components of gas and steam turbines.

**Description:** The research is in the field of structural dynamics and vibration applied to mechanical components of gas and steam turbines, with particular reference to rotor disks and blades.

The objective is the definition of innovative strategies for design and optimization of mechanical components through the combination of experimental and numerical results.

The activity is essentially experimental and will be carried out in the Blade Dynamics laboratory at Ansaldo Energia, as well as at the University of Genova.

**Scientific disciplinary sector:** ING-IND/13 APPLIED MECHANICS

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

**Required degree:**

Laurea Magistrale delle classi: 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.
- Signal processing.
- Turbomachinery.

## **RESEARCH PROGRAM NO. 31**

**The assessment criteria for the qualifications and the interview will be affixed on 7.11.2017 at 9.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), sezione MIG, Via All'Opera Pia 15, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 7.11.2017 at 12.00** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), sezione MIG, Via All'Opera Pia 15, 16145 Genova.

**The interview will be held on 7.11.2017 at 16.30** in Dipartimento di Ingegneria meccanica, energetica, gestionale e dei trasporti (DIME), sezione MIG, Via All'Opera Pia 15, 16145 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. Flavio TONELLI

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

**Title:** Digital transformation of the Italian industrial system and advanced manufacturing tools.

**Description:** With the advent of digitization, the reality of the factory is radically changed and is based on a decentralized configuration with complex architecture where management and control design require analytical and simultaneous synthesis capabilities. The key figure is the system plant engineering or (system integrator) capable of blending the various ingredients such as technologies, production processes, procedures and practices that are in place and integrate them. We are talking about Digital Factory where the traditional flow of physical manufacturing is associated with a virtualized flow, the only system possible today to manage the complexity of manufacturing companies in all parts of the world. Today, however, the challenge is no longer on the single machine or on multiple machines, but on its integration into the overall system or plant, even in the light of the recent Industry 4.0 paradigm.

**Scientific disciplinary sector:** ING-IND/17 INDUSTRIAL MECHANICAL PLANTS

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

**Required degree:**

Laurea Specialistica della classe 34/S Ingegneria gestionale.  
Laurea Magistrale della classe LM-31 Ingegneria gestionale.

**Subjects of the interview:**

- Production Technologies.
- Industrial plants.
- Simulation techniques.
- Enabling technologies Industry 4.0.
- Industrial Sustainability.
- Industrial performance measurement.
- Cost Benefit Analysis and value analysis.

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 30.10.2017 at 9.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 30.10.2017 at 12.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The interview will be held on 30.10.2017 at 15.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

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

**Scientific coordinator:** Prof. Laura PASTORINO

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

**Title:** Development and characterization of polymeric and bio polymeric films engineered for the controlled release of bioactive molecules.

**Description:** The development and engineerization of polymeric films is of particular interest in the field of systems for the controlled release of bioactive substances, with possible repercussions on different application areas. Specifically, these systems can find application in pharmaceutical, cosmetic and food industries. The aim of this project is the development of biocompatible and biodegradable systems for the controlled release of naturally occurring antioxidant substances. Such systems will be based on biopolymer hydrogels, obtained by ionotropic gelation, or polymeric membranes, obtained by electrospinning technique. The developed systems will be characterized by a morphological, mechanical and functional point of view.

**Scientific disciplinary sector:** ING-IND/34 INDUSTRIAL BIOENGINEERING

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

**Required degree:**

Laurea Magistrale della classe LM-21 Ingegneria biomedica.

**Subjects of the interview:**

- Hydrogels.
- Electrostatic self assembly technique.
- Techniques for the chemical-physical characterization of biomaterials.

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

## **RESEARCH PROGRAM NO. 33**

**The assessment criteria for the qualifications and the interview will be affixed on 27.10.2017 at 10.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11a, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 27.10.2017 at 13.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11a, 16145 Genova.

**The interview will be held on 27.10.2017 at 16.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11a, 16145 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. Mirco RAFFETTO

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

**Title:** Techniques for the reduction of the geometrical dimensions of cavity filters in the VHF band.

**Description:** The purpose of this research project is to study the techniques which can be exploited to reduce the geometric dimensions of cavity filters in the VHF band. After a preliminary part in which the state-of-the-art of the topic of interest is analyzed, the study will focus on the techniques which guarantees the best results in terms of insertion loss, constructive simplicity of filters and reduction of geometric dimensions of cavities. A significant part of the research activity will be devoted to the numerical simulation of filters. The outcome of this part will also be evaluated in terms of the capability of the techniques to give filters which can be reliably simulated by using low-performance computers.

**Scientific disciplinary sector:** ING-INF/02 ELECTROMAGNETIC FIELDS

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

**Required degree:**

Laurea V.O. in Ingegneria Elettronica.

Laurea Specialistica della classe 32/S Ingegneria Elettronica.

Laurea Magistrale della classe LM-29 Ingegneria Elettronica.

**Subjects of the interview:**

- Theory of electromagnetic guided waves.
- Resonant cavities.
- Filters.

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

## RESEARCH PROGRAM NO. 34

### **The assessment criteria for the qualifications and the interview will be affixed**

~~on 27.10.2017 at 9.00 in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11, 16145 Genova.~~

on 6.11.2017 at 13.00 in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11, 16145 Genova. \*

### **The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed**

~~on 27.10.2017 at 12.45 in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11, 16145 Genova.~~

on 6.11.2017 at 16.00 in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11, 16145 Genova. \*

### **The interview will be held**

~~on 27.10.2017 at 16.15 in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11, 16145 Genova.~~

on 6.11.2017 at 16.15 in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11, 16145 Genova. \*

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

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Gabriele Moser on the phone number +39 0103532190 or via the email address: [gabriele.moser@unige.it](mailto:gabriele.moser@unige.it).*

**Scientific coordinator:** Prof. Gabriele MOSER

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

**Title:** Supervised change detection techniques for multisensor SAR/multispectral high-resolution data in urban and agricultural areas for the assessment of damage caused by natural disasters.

**Description:** In the framework of environmental risk management, the candidate shall conduct an analysis of the state of the art and shall develop novel methodologies for supervised change detection with multisensor remote sensing data within the following applications:

- monitoring of post-disaster recovery. The technique to be developed will be framed within multitemporal and multisensor (optical/radar) data fusion at very high spatial resolution.
- support to the monitoring of the global indicators in groups C and D of the Sendai Framework for Action. The method will be an extension of the previous one and will be aimed at the discrimination of element-at-risk classes and of their temporal transitions in the area of interest, in order to contribute to the evaluation of their vulnerability.

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

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

### **Required degree:**

Laurea V.O. in: Ingegneria delle telecomunicazioni, o Ingegneria informatica, o Ingegneria elettronica, o Ingegneria biomedica.

Laurea Specialistica delle classi: 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.

Laurea Magistrale delle classi: 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.

**Subjects of the interview:**

- Image processing.
- Pattern recognition.
- Radar remote sensing.
- Multispectral remote sensing.
- Change detection using remote sensing.
- Damage assessment.

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

*\* Timetable for exams modified with Chancellor Decree n. 3826 dated 12/10/2017*

## RESEARCH PROGRAM NO. 35

**The assessment criteria for the qualifications and the interview will be affixed on 2.11.2017 at 9.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 2.11.2017 at 13.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11, 16145 Genova.

**The interview will be held on 2.11.2017 at 17.00** in Dipartimento di Ingegneria Navale, Elettrica, Elettronica e delle Telecomunicazioni (DITEN), Via Opera Pia 11, 16145 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. Carlo Regazzoni on the phone number +39 0103532792 or via the email address: [carlo.regazzoni@unige.it](mailto:carlo.regazzoni@unige.it).*

**Scientific coordinator:** Prof. Carlo REGAZZONI

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

**Title:** Modeling and classification of trajectories of moving objects.

**Description:** Nowadays, the increased demand of security is a particularly relevant need of our society. Therefore, systems able to automatically interpret interactions, both among people and between people and the environment, represent an actual domain of research, which still lack efficient solutions and open problems.

The crowd phenomenon has recently increasingly attracted the attention of worldwide researchers. Different implications related to crowd behavior analysis can be considered, since both technical and social aspect is still under researchers' investigation.

The main objective of the research activity is to study and develop novel signal processing techniques for automatic modeling and classification of trajectories of moving objects.

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

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

### **Required degree:**

Laurea V.O. in: Fisica, o Informatica, o Ingegneria informatica, o Ingegneria biomedica, o Ingegneria delle telecomunicazioni, o Ingegneria elettronica.

Laurea Specialistica delle classi: 20/S Fisica, o 23/S Informatica, o 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 100/S Tecniche e metodi per la società dell'informazione.

Laurea Magistrale delle classi: LM-17 Fisica, o LM-18 Informatica, o LM-21 Ingegneria biomedica, o LM-25 Ingegneria dell'automazione, LM-26 Ingegneria della sicurezza, o LM-27 Ingegneria delle telecomunicazioni, o LM-29 Ingegneria elettronica, o LM-32 Ingegneria informatica, o LM-66 Sicurezza informatica, o LM-91 Tecniche e metodi per la società dell'informazione.

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

- Signal processing techniques.
- Telecommunication systems.
- Artificial intelligence.
- C++ programming language.

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 **31.10.2017** at **8.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed** on **31.10.2017** at **14.30** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The interview will be held** on **31.10.2017** at **15.30** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

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

**Scientific coordinator:** Prof. Enrico SIMETTI

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

**Title:** Development and real time implementation of a control architecture for an autonomous underwater vehicle for deep sea mining exploration.

**Description:** The Interuniversity Research Center ISME is involved in the H2020 ROBUST project that has the aim of developing an autonomous robotic system for the exploration of the deep sea mining sites. In particular, the main objective of the project is the development of a system capable of executing a survey of the seabed, locating the most promising zone and proceeding to an in-situ analysis of possible minerals exploiting a laser induced spectroscopy sensor. The aim of the contract is the development of the control algorithms, their simulation and testing on matlab and finally their implementation within the real time software architecture of the project.

**Scientific disciplinary sector:** ING-INF/04 SYSTEMS AND CONTROL ENGINEERING

**Place:** Centro interuniversitario di ricerca di Sistemi integrati per l'ambiente marino (ISME)

**Required degree:**

Laurea Magistrale delle classi: LM-25 Ingegneria dell'automazione, o LM-32 Ingegneria informatica

**Subjects of the interview:**

- Excellent knowledge of C/C++ programming languages.
- Soft and hard real-time operating systems.
- Concurrent process programming and networked systems.
- Good knowledge of Matlab/Simulink.
- Basic knowledge of robotics.
- Cooperative robotics.
- Guidance & navigation & control schemes.
- Localization schemes.
- Task priority based control techniques.

## RESEARCH PROGRAM NO. 37

**The assessment criteria for the qualifications and the interview will be affixed on 30.10.2017 at 11.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Viale Francesco 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 31.10.2017 at 14.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Viale Francesco Causa 13, Genova.

**The interview will be held on 31.10.2017 at 16.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Viale Francesco 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](mailto:gualtiero.volpe@unige.it).*

**Scientific coordinator:** Prof. Gualtiero VOLPE

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

**Title:** Multimodal interactive systems for supporting arithmetic and geometry learning in primary school.

**Description:** The research activity will concern the design, development, and evaluation of multimodal interactive systems for supporting learning of mathematical concepts (arithmetic and geometry) by primary school children. In the framework of some serious games, such systems will analyse in real-time the motor behaviour of the children and will generate an auditory and/or visual feedback communicating the mathematical concepts the games address. 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. Moreover, research can also encompass the development of systems that can adapt to the reduced capabilities of visual impaired children.

**Scientific disciplinary sector:** ING-INF/05 INFORMATION PROCESSING SYSTEMS

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

**Required degree:**

Laurea V.O. in Ingegneria Informatica.

Laurea Specialistica della classe 35/S Ingegneria informatica.

Laurea Magistrale della classe LM-32 Ingegneria Informatica.

**Subjects of the interview:**

State-of-the-art in multimodal interactive systems, techniques for real-time analysis of human full-body movement, techniques for real-time analysis of intra- and interpersonal synchronization in motoric tasks, hardware and software platforms for real-time analysis of multisensory signals, with particular reference to the EyesWeb XMI platform.

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

## **RESEARCH PROGRAM NO. 38**

**The assessment criteria for the qualifications and the interview will be affixed on 30.10.2017 at 8.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 30.10.2017 at 14.30** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, 16145 Genova.

**The interview will be held on 30.10.2017 at 17.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, 16145 Genova.

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

**Scientific coordinator:** Prof. Fulvio MASTROGIOVANNI

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

**Title:** Methods and algorithms for human-robot cooperation in industry settings.

**Description:** The aims of this research activity are the design and development of techniques for human-robot cooperation in industry settings. The selected candidate will have to design knowledge-based and planning systems allowing a robot and a human to cooperate in order to meet a given objective, e.g., a cooperative assembly of a given piece. The work to be done will include:

1. The design and the implementation of human-robot cooperation models.
2. The unfolding and the monitoring of such cooperation using appropriate sensing and knowledge representation techniques.
3. The adaptation of such cooperation models over time.

**Scientific disciplinary sector:** ING-INF/05 INFORMATION PROCESSING SYSTEMS

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

**Required degree:**

Laurea Magistrale delle classi: LM-25 Ingegneria dell'automazione, o LM-32 Ingegneria Informatica.

**Subjects of the interview:**

- Knowledge representation techniques.
- Ontologies.
- Automated reasoning systems.
- Software architectures for robots.

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 27.11.2017 at 9.00 in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, 16145 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed** on 27.11.2017 at 13.00 in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, 16145 Genova.

**The interview will be held** on 27.11.2017 at 14.00 in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, 16145 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. Pierpaolo BAGLIETTO

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

**Title:** Design and development of computer platforms for data and service distribution and mashup in the domain of the Logistics.

**Description:** The research will be organized in the following activities:

1. Study of the state of the art and in the field of Computer Platforms for the deployment and management of data composition, data distribution, service and data mashup in the domain of Logistics.
2. Analysis and specification of case studies in related to the Port of Genoa Logistic Hub and to the Italian “National Platform for Logistics”.
3. Execution of tests and trials of the Computer Platform in order to validate it both at the functional and performance levels.

**Scientific disciplinary sector:** ING-INF/ INFORMATION PROCESSING SYSTEMS

**Place:** Centro Interuniversitario sull’Ingegneria delle Piattaforme Informatiche (CIPI)

**Required degree:**

Laurea Magistrale delle classi: LM-27 Ingegneria delle telecomunicazioni, o LM-29 Ingegneria elettronica, o LM-32 Ingegneria informatica.

**Subjects of the interview:**

Java programming in the JEE and JSLEE frameworks. Design and development of distributed software applications based on SIP protocols and Web Services. Standards and paradigms for system integration at the application level. Open Protocols, platforms and standards in the field of Internet of Things and of the Service Composition. Platforms for virtualization and their scalability issues.

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

## **RESEARCH PROGRAM NO. 40**

**The assessment criteria for the qualifications and the interview will be affixed** on **31.10.2017** at **8.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed** on **31.10.2017** at **12.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The interview will be held** on **31.10.2017** at **15.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

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

**Scientific coordinator:** Prof. Mauro GIACOMINI

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

**Title:** Advanced therapy monitoring system for HIV+ patients and support system for antiretroviral medication prescription.

**Description:** The project relates to HSSP-based services for automated sharing of clinical data to monitor the therapeutic efficacy /adverse events of anti-HIV drugs. A prescription support system will be developed to suggest the most appropriate therapy to physicians, according to international guidelines applied to patient clinical data. The clinical data of interest will be made available in a standardized way by the major regional collectors. Another application to be developed is the monitoring of vaccine coverage of immunodepressive patients. The system will connect to the vaccine registry to have a complete list of all vaccinations made by patients in real time. The platform will have to manage the rescue of individual patient vaccinations through the management of anonymous identification.

**Scientific disciplinary sector:** ING-INF/06 ELECTRONIC AND INFORMATICS BIOENGINEERING

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

**Required degree:**

Laurea V.O. in Ingegneria biomedica.

Laurea Specialistica della classe 26/S Ingegneria biomedica.

Laurea Magistrale della classe LM-21 Ingegneria biomedica.

**Subjects of the interview:**

- Standard elements in medical informatics.
- Modelling instruments for web services.
- Instruments for design and setting up of coordinated groups of standard services according to the HSSP schema.

## **RESEARCH PROGRAM NO. 41**

**The assessment criteria for the qualifications and the interview will be affixed** on **27.10.2017** at **9.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed** on **27.10.2017** at **12.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The interview will be held** on **27.10.2017** at **12.30** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

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

**Scientific coordinator:** Prof. Vittorio SANGUINETI

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

**Title:** Robot rehabilitation inspired by the mechanisms of physical interpersonal interaction.

**Description:** During a rehabilitation exercise, therapist and patient establish a form of collaboration based on physical (sensorimotor) interaction. Collaboration aims at maximising recovery while keeping therapist's contribution to a minimum. This situation can be modelled in terms of shared control and game theory. To model such interaction would allow to build a physical replica (a robot capable of establishing optimal forms of collaboration). The objective of this research is to model the process through which two individuals develop optimal forms of collaboration, and to translate it into a control scheme aimed at developing a robot with comparable 'collaborative' capabilities.

**Scientific disciplinary sector:** ING-INF/06 ELECTRONIC AND INFORMATICS BIOENGINEERING

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

**Required degree:**

Laurea V.O. in Ingegneria biomedica.

Laurea Specialistica della classe 26/S Ingegneria biomedica.

Laurea Magistrale della classe LM-21 Ingegneria biomedica.

**Subjects of the interview:**

- Computational models of motor control and of physical interpersonal interaction.
- Differential game theory, Nash equilibria and fictive play.
- Programming of robotic systems and haptic interfaces.

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

## RESEARCH PROGRAM NO. 42

**The assessment criteria for the qualifications and the interview will be affixed on 6.11.2017 at 9.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 6.11.2017 at 12.00** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

**The interview will be held on 6.11.2017 at 12.30** in Dipartimento di Informatica, bioingegneria, robotica e ingegneria dei sistemi (DIBRIS), Via Opera Pia 13, Genova.

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

*As regards candidates, who are not resident or domiciled in Italy, and those, who are resident or habitually domiciled at a distance of more than 300 Km from the selection centre, the interview, if requested, can also be held by electronic means (SKYPE video conference call), promptly contacting Prof. Paolo Massobrio on the phone number +39 0103532761 or via the email address: [paolo.massobrio@unige.it](mailto:paolo.massobrio@unige.it).*

**Scientific coordinator:** Prof. Paolo MASSOBRIO

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

**Title:** Advanced software tools for data analysis of multi-well high-density MEA system.

**Description:** The research is part of wider project for the development of a multi-well device for non-invasive in-vitro drug discovery. The tool will consist of 24 wells, each integrating the 3Brain's high-resolution chip featuring 4096 microsensors capable to record spiking activity from thousands of neurons. Wells will host neuronal networks obtained from human-derived iPS cells and forming a so-called "mini-brain", a simplified model of the brain that can be studied to find treatments for neurodegenerative diseases. The current research package focuses on developing sophisticated software tools to acquire electrophysiological data from neurons and to provide statistical and data reduction methods that extrapolate meaningful information.

**Scientific disciplinary sector:** ING-INF/06 ELECTRONIC AND INFORMATICS BIOENGINEERING

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

**Required degree:**

Laurea Magistrale delle classi: LM-17 Fisica, o LM-18 Informatica, o LM-21 Ingegneria biomedica, o LM-32 Ingegneria informatica, o LM-44 Modellistica matematico-fisica per l'ingegneria.

**Subjects of the interview:**

- Multi-channels acquisition systems.
- Methods and software techniques for data management and neural signal analysis.
- Information theory and statistical inference.

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

**RESEARCH PROGRAM NO. 43**

**The assessment criteria for the qualifications and the interview will be affixed on 27.10.2017 at 9.00** in Dipartimento di Economia (DIEC), Via Vivaldi 5, 16126 Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 27.10.2017 at 12.00** in Dipartimento di Economia (DIEC), Via Vivaldi 5, 16126 Genova.

**The interview will be held on 27.10.2017 at 12.30** in Dipartimento di Economia (DIEC), Via Vivaldi 5, 16126 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. Barbara CAVALLETTI

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

**Title:** Cost-Benefit analysis and economic evaluation of ecosystem services in Marine Protected Areas.

**Description:** According to the Millennium Ecosystem Assessment, in the last fifty years humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history. These changes, partly necessary to meet the rapidly growing demand for goods and services, have brought about gains in human well-being and economic development, but at growing costs in the form of degradation of many ecosystem services.

The research project is aimed at identifying procedures and fundamentals to carry out an environmental accounting analysis, capable of accounting for the economic value of an environmental asset and of those ecosystems that can preserve it, with a special reference to the Natural Marine Reserves in Italy. The final objective is to define an instrument that, using cost/benefit analysis methods and taking into account local peculiarities, could suggest optimal management policies.

**Scientific disciplinary sector:** SECS-P/03 PUBLIC ECONOMICS

**Place:** Dipartimento di Economia (DIEC)

**Required degree:**

Dottorato di ricerca in Economia e finanza pubblica.

**Subjects of the interview:**

- Methodological aspects of evaluation techniques for environmental accounting with specific reference to the evaluation of the ecosystem services (SE) of a Marine Protected Area.
- Shared and social value of ES and public policy alternatives. Analysis of the SE in terms of market failures in the presence of externalities related to the mismatch between private and public benefits (or costs).
- Appropriate valuation approach in different contexts to guide policy decision process that integrates ecosystem services into it (Contingent Valuation, Choice Experiment and Deliberative techniques).

## **RESEARCH PROGRAM NO. 44**

**The assessment criteria for the qualifications and the interview will be affixed on 30.10.2017 at 10.00** in Dipartimento di Scienze Politiche (DISPO), P.le Brignole 3, cancello, Genova.

**The results of the qualification assessment as well as the names of the candidates admitted to the interview will be affixed on 30.10.2017 at 13.00** in Dipartimento di Scienze Politiche (DISPO), P.le Brignole 3, cancello, Genova.

**The interview will be held on 30.10.2017 at 14.00** in Dipartimento di Scienze Politiche (DISPO), P.le Brignole 3, cancello, 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. Luca GANDULLIA

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

**Title:** Theoretical and experimental investigation of public subsidies for charitable giving.

**Description:** The research project aims to analyse, theoretically and by using the experimental methodology, the effects of subsidy schemes for charitable contributions. Specifically, the project investigates on the rebate scheme versus the matching scheme. Under the former scheme, the policy maker makes a refund to the donor. The matching scheme implies instead an additional contribution to the giver's donation by the policy maker. Several recent studies compared the two subsidy types in laboratory experiments and found that they do not produce equivalent results (Eckel e Grossman, 2003, 2006). The project compares the two subsidy schemes in order to quantify the individual and total donation, and to measure any significant difference in the donors' decisions to contribute to the public good.

**Scientific disciplinary sector:** SECS-P/03 PUBLIC ECONOMICS

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

**Required degree:**

Dottorato di ricerca in Economia.

**Subjects of the interview:**

- Public goods.
- Experimental economics.
- Charitable giving.

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