Summary of the Rector’s Decree no. 615 of October, 5, 2021

CALL FOR APPLICATIONS FOR SIX ASSISTANT PROFESSOR POSITIONS


The Sant'Anna School of Advanced Studies - Pisa (Sant’Anna School) announces a call for the recruitment of six assistant professors (ricercatori a tempo determinato) with full time temporary contract pursuant to Italian Law no. 240/2010, art. 24 paragraph 3 letter A. These positions will be recruited in the frame of the interventions included in the PON (National Operative Programme) Programme “Research and Innovation” 2014-2020 – DM 1062/2021.

INNOVATION intervention

Academic Class of Experimental and Applied Sciences

One position at the Institute of Mechanical Intelligence in the Academic recruitment field 02/B1 Experimental physics of matter - Academic discipline FIS/01 Experimental physics for the development of the research project: Development of integrated optical fiber sensors and their interrogation units for applications in automotive, aerospace, transportation and energy.

Supervisor: Professor Fabrizio Di Pasquale

Research activities: The assistant professor will be involved in optical fiber sensing technologies to develop innovative photonic sensing systems, also in integrated form, for application in the automotive, aerospace, transportation and energy industrial fields. The activity will also be focused on technology transfer in cooperation (at least for 6 months) with Brembo S.pA. and/or participated companies. The assistant professor will contribute to teaching activities within the Scuola Superiore Sant’Anna teaching programs (Undergraduate, Master, Seasonal Schools and Ph.D. students)

GREEN intervention

Academic Class of Experimental and Applied Sciences

Two positions at the Institute of Communication, Information and Perception Technologies in the Academic recruitment field 09/F2 Telecommunications - Academic discipline ING-INF/03 Telecommunications

POSITION A for the development of the research project Microwave photonics" systems to support the "green" transition.

Supervisor: Prof. Antonella Bogoni

Research activities: The research activity consists in the design of innovative photonic systems for microwave communications and sensors and the design of high-performance technological solutions for the implementation of such systems on chip, with particular
regard to the reduction of power consumption and form factor. The activities will focus on the use of these systems in new areas such as environmental and traffic monitoring, automotive and meteorology. The assistant professor will contribute to teaching activities within the Scuola Superiore Sant’Anna teaching programs (Undergraduate, Master, Seasonal Schools and Ph.D. students. Six months of the assistant professor’s time will be spent with Elettronica S.P.A.

**POSITION B** for the development of the research project *5G- and Edge Cloud-based platform for supporting uncrewed shipping for harbor water monitoring (5G-ECO)*.

**Supervisor:** Prof. Luca Valcarenghi

**Research activities:** The goal of The assistant professor's activity will be to develop and test a platform based on 5G network and edge computing for the detection and monitoring of port area environmental parameters (e.g., the water quality) through the use of images acquired by cameras and sensors on board Unmanned Maritime Systems (UMS) fleet. Therefore, the platform will have the dual role of processing the acquired data in real time and of guiding, based on the obtained results, the UMS fleet to inspect specific areas. The required expertise are related to 5G mobile networks, network function virtualisation, hardware acceleration platform, image processing, advanced programming, Artificial Intelligence and Machine Learning.

The assistant professor will contribute to teaching activities within the Scuola Superiore Sant’Anna teaching programs (Undergraduate, Master, Seasonal Schools and Ph.D. students.

From six to twelve months of the assistant professor’s time will be spent with Sma-RTy Italia SRL

**One position at the Institute of Mechanical Intelligence in the Academic recruitment field 09/A2 Applied Mechanics - Academic discipline ING-IND/13 Applied Mechanics** for the development of the research project *Intelligent Mobility through Robotic Tools for Advanced Diagnostics and Predictive Maintenance for Railway Infrastructures.*

**Supervisor:** Prof. Antonio Frisoli

**Research activities:** The assistant professor will work for a period of three years to design, develop and test new Robotics and Artificial Intelligence tools for Advanced Diagnostics and Predictive Maintenance in the Railway sector in collaboration with Trenitalia within the advanced Railway Robotics laboratory at the Institute of Mechanical Intelligence and Artes 4.0@SSSA. It is expected that The assistant professor will carry out a six-month research period within Trenitalia spa for the integration of the technologies developed for the maintenance and management processes of the rolling stock.

The candidate will develop new generation robotic systems that allow the acquisition of data through distributed sensors and Artificial Intelligence algorithms for the prediction of line failures, the decrease in consumption of organs subject to wear, the reduction of internal movements for the maintenance.
The candidate for his teaching activity will provide support for the development of robotics and design for control courses, as well as for laboratory activities on the topics of advanced sensors. The assistant professor will contribute to teaching activities within the Scuola Superiore Sant’Anna teaching programs (Undergraduate, Master, Seasonal Schools and Ph.D. students).

**One position at the Institute of Life Sciences in the Academic recruitment field 07/B1 Agronomy and Field, Vegetable, Ornamental cropping - Academic discipline AGR/02 Agronomy and Field cropping** for the development of the research project *Optimisation of the use of planned biodiversity to increase on-farm resource use efficiency in agroecosystems through digital technologies.*

**Supervisor:** Prof. Paolo Barberi

**Research activities:** In strict collaboration with farmers and key companies in agricultural and digital innovation, The assistant professor will plan and implement diversified, high knowledge-based cropping systems where the co-development of ad hoc digital technologies will boost the provision of agroecosystem services linked to functional biodiversity. Farmers and companies will be fully engaged in the planning, development, testing and fine-tuning of innovations through participatory action-research. This would facilitate prompt adoption of innovations, downplaying the importance of technology transfer.

The project will develop cutting edge agroecological and digital innovations and will give rise to a series of high level scientific papers to be published in top ranked journals. The assistant professor will also be involved in teaching at post-graduate and PhD level on advanced numerical analysis, frontier research methodologies (including participatory action-research), and on the application of functional biodiversity in agroecological systems.

Nine months of the assistant professor’s time will be spent with AEDIT SRL.

---

**Academic Class of Social Sciences**

**One position at the Institute of Management in the Academic Recruitment Field 13/B2 Management - Academic Discipline SECS-P/08 Management** for the development of the research project *Supporting the governance of decarbonisation: key performance indicators for the measurement and monitoring of decarbonisation roadmaps.*

**Supervisor:** Prof. Marco Frey

**Research activities:** Within the SUM Laboratory, The assistant professor will have to carry out the study activity necessary for the development of an original theoretical framework for the definition of a system for measuring and monitoring the decarbonisation process of companies’ business model (MB), based on single performance indicators and on the calculation of aggregate indices. To this end, The assistant professor must have a tracked research experience in the analysis and measurement of the sustainability performance of companies, the tools for assessing the environmental impact of
organizations (relevant standards and guidelines), the development of performance indicators in the context of corporate sustainability.

The assistant professor will be responsible of developing the mathematical model (algorithm) for the calculation of the aggregate performance indices and for the development of an application for the compilation of the indicators and the monitoring of performance. The aggregate indices must provide an indication of the progress of the company with respect to its improvement objectives over a given period of time (annual, two-year, five-year), and in relation to the individual dimensions of the MdB (procurement, production, distribution, disposal etc.), and the overall goal of decarbonising the business. The assistant professor must therefore demonstrate the ability to develop and apply performance indicators in the field of sustainability and environmental management, and a solid knowledge of the topic of decarbonization (reference regulatory frameworks and European objectives), of the relevant academic literature, organizational responses to climate change, to the operational aspects of companies with the greatest impact in terms of climate-altering emissions, and the related mitigation actions.

The assistant professor will contribute to teaching activities within the Scuola Superiore Sant’Anna teaching programs (Undergraduate, Master, Seasonal Schools and Ph.D. students)

Six months of the assistant professor’s time will be spent with Sammontana S.P.A

**Duration of the contracts:** three years.

**Salary:** 36,344.02 € gross per year.

**Admission Requirements:**

Candidates must satisfy the following requirements:

- to hold a PhD or equivalent

If the PhD degree or equivalent qualification has been awarded abroad, candidates must provide the documents which certify that these qualifications are considered equivalent according to the Italian law in force (equipollence/equivalence-recognition of degrees). If candidates do not comply with the requirement while submitting the application, they will be admitted to the selection under condition and, if winners, they have to submit all necessary documents certifying that their qualifications are considered equivalent according to the Italian law in force by the date of the signature of the contract.

---

1 In order to know how to obtain the equipollence/equivalence-recognition of PhD degrees or of equivalent qualification, please refer to these web sites:

- hubmiur.pubblica.istruzione.it/web/universita/dottorato-di-ricerca for the Equipollenza (equipollence recognition) given by Ministero dell’Istruzione, dell’Università e della Ricerca which states for all the selections procedures;

- (http://www.funzionepubblica.gov.it/sites/funzionepubblica.gov.it/files/modulo_equivalenza_LAUREA_Ministero_UNIVERSITA_0.pdf) for the Determina di Equivalenza del Titolo (Equivalence-recognition of degrees) given by Dipartimento della Funzione Pubblica, which states only for the specific selection procedure
• to have an excellent knowledge of both written and spoken English.

Others Requirements
Candidates must supply:
• their PhD thesis
• no more than 12 publications

Who Can’t Apply
• Those who, at the date of the deadline for application, are or have been professors or assistant professors who achieved tenure.
• Those who, at the date of the application deadline, are related, within the fourth degree, by blood or by marriage or by civil union or are married to professors of Sant’Anna School, or to the Rector (Rettore) or to the Managing Director (Direttore Generale), or to a member of the Board of Directors (Consiglio di Amministrazione) of Sant’Anna School.

Application
Candidates are requested to apply online at the web page: https://pica.cineca.it/santanna/2021-rtda-03/

Deadline: OCTOBER, 20, 2021

For technical support for the application please contact CINECA support via the link you find at the bottom of the page https://pica.cineca.it/santanna

For further information about the call, please contact the Personnel Department Office (Tel. +39-050-883.575/258, e-mail infodicenti@santanapisa.it).

The following documents must be supplied as pdf files during the on line application:
1) Curriculum Vitae signed and dated
2) Copy of Identification Document (e.g. passport);
3) copy of your PhD thesis
4) copy of your publications, not exceeding the number of 12 and list of the submitted publications
5) all academic and professional qualifications, other accomplishments, awards and any additional information which can be useful for the evaluation of the applicant. All documents, certificates and letters submitted should be saved in .pdf format;

To apply candidates need have a mail address, a printer and a scanner because they have to print, sign and upload the scanned copy of the application. They will be able to withdraw their application until the deadline. If they need to change a submitted application, they have to withdraw it and submit a new one.

the candidates intend to apply to; in this case the candidates must specify the selection procedure they intend to apply to in the form.
Selection process and calendar:
The evaluation committee will be appointed by the Director of the Scuola Sant’Anna for each selection. A restricted number of applicants, to be admitted to a final interview, will be selected by the committee, on the basis of cv’s, publications and qualifications.

The date of the interview between the Committee and the list of the admitted candidates will be announced in this web page https://www.santannapisa.it/it/selezioni-e-concorsi/selezioni-pubbliche-la-stipula-di-sei-contratti-di-ricercatoretrice-tempo

According this calendar

<table>
<thead>
<tr>
<th>Academic Recruitment Field</th>
<th>Academic Discipline</th>
<th>Position</th>
<th>Date of publication of the candidates admitted to the interview</th>
<th>The date of the interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>02/B1 Experimental physics of matter</td>
<td>FIS/01 Experimental physics</td>
<td></td>
<td>03/11/2021</td>
<td>12/11/2021</td>
</tr>
<tr>
<td>09-F2 Telecommunications</td>
<td>ING-INF/03 – Telecommunications</td>
<td>Position A</td>
<td>03/11/2021</td>
<td>12/11/2021</td>
</tr>
<tr>
<td>09-F2 Telecommunications</td>
<td>ING-INF/03 – Telecommunications</td>
<td>Position B</td>
<td>05/11/2021</td>
<td>12/11/2021</td>
</tr>
<tr>
<td>07/B1 - Agronomy and Field, Vegetable, Ornamental cropping</td>
<td>AGR/02 - Agronomy and Field cropping</td>
<td></td>
<td>04/11/2021</td>
<td>11/11/2021</td>
</tr>
<tr>
<td>13/B2 Management</td>
<td>SECS-P/08 Management</td>
<td></td>
<td>03/11/2021</td>
<td>16/11/2021</td>
</tr>
</tbody>
</table>

No further information will be given to candidates

If necessary, the HR Department will contact applicants only via the email address designated on applications.

We inform that under the article 13 of the EU General Data Protection Regulation n. 679/2016 and the Italian Legislative Decree 30 June 2003 ("Privacy Code regarding the protection of personal data"), Sant'Anna School of Advanced Studies (hereinafter the
“School”) is a registered Data Controller. On its behalf, the internal processor is the Human Resources Department Head, e-mail: privacy@santannapisa.it. Personal data will be processed by other instructed, therefore authorized, School employees. Applicants are due to read the Privacy Notice published on the web site www.santannapisa.it/privacy

Fixed term employment contracts are enforced under the Law 240/2010, art. 24, par. 3, lett. b)
The contracts will start by January, 1, 2022.

For further information about the Institute of Mechanical Intelligence please refer to https://www.santannapisa.it/en/institute-mechanical-intelligence
For further information about the Institute of Communication, Information and Perception Technologies please refer to https://www.santannapisa.it/en/institute/tecip/tecip-institute
For further information about the Institute of Life Sciences please refer to https://www.santannapisa.it/en/istituto/scienze-della-vita/istituto-di-scienze-della-vita
For further information about the Institute of Management please refer to https://www.santannapisa.it/en/institute/management/institute-management

DISCLAIMER: Please note that the English version is a courtesy and office translation for information purposes only and you cannot derive any rights from the translated version(s). In the event of a dispute about the contents or interpretation of relevant terms or in the event of ambiguity, inconsistency or discrepancy, the Italian version shall apply, prevail, be conclusive and binding. The Italian version only shall be used in legal proceedings. For further details, please refer to webpage: https://www.santannapisa.it/en