Except from the Rector's decree n. 281/2023

**Call for the selection of n. 11 Junior Research Fellows**

(Under the Italian Law 240/2010 article 24, subparagraph 3, point a)

The University of Pisa announces a call for 11 Junior Fixed-Term Research Fellow for the Department and the scientific area or sector as listed in Annex A.

The fixed-term contract is to carry out research activities, teaching, integrative teaching activities and services for students, for a 350 hours commitment, on a full-time basis.

The Junior Research Fellow is required to perform lectures for a minimum of 36 up to a maximum of 60 hours per academic year, allocated as an institutional assignment for Bachelor's and Master's degree programmes, Specialization Schools and PhD programmes. It is possible to provide a further derogation up to a maximum of 72 hours, in order to avoid an excessive partitioning of teaching modules.

Contract duration: 3 years

Deadline for application: 20/03/2023 1 p.m.

**Admission requirements**

PhD or equivalent academic qualification awarded in Italy or abroad and recognized as eligible for admission.

As for a qualification awarded abroad, equivalency or comparability documentation has to be provided as stated under:

D.Lgs.165/2001, article 38:
http://www.funzionepubblica.gov.it/sites/funzionepubblica.gov.it/files/modulo_equivalenza_Titoli_Accademici.pdf

Or under:

D.P.R. 382/1980, article 74:

https://www.unipi.it/index.php/titoli-accademici-esteri

As for an equivalent or comparable academic qualification, the candidate shall be admitted within the application's deadline and shall provide the qualification equivalency or comparability before the signing of the contract.

No admission to this selection for:

• 	Professors or Research Fellows with permanent position at the university, currently employed or currently retired.

• 	Fixed-term Research Fellowship or Post PhD research grants at the University of Pisa or other Italian universities, either public, private or online, and other public institutions (Under the Italian Law

Italian Law n. 240/2010, articles 22 and 24) for a period that, totaled over this contract, would exceed 12 years altogether, even when not consecutive. As for the duration of the working period mentioned above, parental leave or medical leave, are excluded (under the existing legislation).

**Applications**

Applications are to be submitted online only, using the following link: https://pica.cineca.it/unipi/ric2023pnrr-pe1/ or shall be invalid. It is necessary to have an email address to login and complete the application.

Applicants should fill in all the required data and upload all documents in PDF format.

The system allows saving a draft of the application within the application deadline. The system will register the online application date and send a receipt with an automatic e-mail reply. After deadline, the system will not allow login nor application submission.

In order to be valid, application shall include all the required data, applicant's signature and a valid identification document.

Each application will be assigned a tracking number to be cited in all subsequent communications, together with the selection code provided by the application form.

Applicants undertake to communicate in writing any variations of what declared in the application form.

The communication shall be edited in PDF format, signed and forwarded to the University of Pisa Rector via the Italian certified e-mail system address (P.E.C. Posta Elettronica Certificata): protocollo@pec.unipi.it or via e-mail at: concorsi@adm.unipi.it. Applicant's valid identification document shall be annexed.

For further information on application submission, please refer to concorsi@adm.unipi.it

For any IT malfunctioning please refer to unipi@cineca.it.

Applications shall be completed with the following annexes:

1. A self-attested Curriculum of the personal didactics, teaching and scientific activities, dated and signed;

2. The Publications applicant considers eligible for this selection with the corresponding list dated and signed;

3. A complete list of all Publications, dated and signed;

4. A copy of the fiscal code (if applicable) and identification card/passport, dated and signed;

All publications should not exceed 30 megabyte and are to be submitted in PDF format only, using the specific section of the application form.

**Selection procedure**

A Rector's Decree will appoint the Selection Committee, consisting of three members.

The selection will be made according to a preliminary assessment of the candidates with an accurate and evidenced analytic evaluation of the Curriculum, of qualifications and scientific results, including PhD thesis.

After the preliminary assessment, the candidates that have comparatively proven to be the most meritorious, will be admitted to an open interview; they will represent between 10 and 20 % of the total and will be not less than six. The interview will concern applicant's qualifications and scientific results. In the event the number of applicants is six or less, all candidates are admitted.

Information about date, time, list of candidates admitted, and the conditions of the assessment interview will be published on the University website at the following link: https://bandi.unipi.it/public/Bandi?type=RIC, in the specific section reserved to the selection, on the **27th of March 2023** (with a twenty days' notice guarantee).

The publication on the University website is to be regarded as convocation notice for the participants to the selection, who must show the day and time indicated; no further communications will be published. The failed attendance to the interview will be considered as a voluntary waiver to the selection.

Selection Committee meetings for purposes other than qualifications and publications assessment may be held remotely, in whole or in part, using a video meeting platform, in compliance with the Regulation "Regolamento temporaneo per lo svolgimento delle sedute collegiali in modalità telematica" art. no. 2,3 and 4, referred to in the Rectoral Decree no. 491/2020 of 6 March 2020 and subsequent amendments, as well as with the Rectoral Decree no. 1099/2020 of 7 August 2020, art. 3.

Qualifications and publications assessment will be held "in-presence", pursuant to the Rectoral Decree no. 1099/2020 of 7 August 2020, art. 1, and in compliance with the "Safety Protocol against Covid-19 Spread. Guidelines for in-presence Selection Procedures", issued by the Rectoral Decree no. 1011/2020 of 21 July 2020.

At least one member of the Selection Committee shall be present during the qualifications and publications assessment; the other Committee members can attend the selection procedure either "in-presence" or remotely, in compliance with the Regulation "Regolamento temporaneo per lo svolgimento delle sedute collegiali in modalità telematica".

In the event of "in-presence" selection procedures also attended remotely by one or more Committee member, it shall be specified that the session is held "in-presence", allowing however one or more Committee member to attend remotely and indicating the possible operating procedures for attendance; the selection minutes must include both the names of the members "in presence" and remotely connected, along with the operating platform used.

In order to ensure a limited access to the premises where the qualifications and publications assessment is carried out, auditors shall be allowed in (in compliance with the aforementioned Safety Protocol) only upon written request to be emailed at least two days before the selection procedure to concorsi_ricercatori@unipi.it. Live Streaming will be provided at https://www.unipi.it/index.php/concorsi-gare-e-bandi (see the relevant section) to guarantee the publicity of the qualifications and publications assessment.

Upon the Selection Committee approval, candidates living abroad and therefore unable to attend the "in-presence" interview at the University of Pisa, will be interviewed via web, prior their identification by approved international universities or research centers. The Selection Committee is appointed to assure the duly examination of the candidates and shall collect their ID copy.

Please note that the English version is given as a matter of courtesy, for the only purpose of information. It cannot be legally used in the event of a dispute or a claim arising from the interpretation of this translation and concerning the contents, a possible uncertainty, contradiction or discrepancy. Should this occur, the Italian version of the call shall prevail as the only valid. For full Italian text see: https://bandi.unipi.it/public/Bandi?type=RIC

**A1**

**Dipartimento di Giurisprudenza**

Academic Recruitment Field 12/B2 Diritto del lavoro

Academic Discipline IUS/07 Diritto del lavoro

Nr. of positions available: 1

**Progetto PNRR Partenariato Esteso 1 – FAIR - Intelligenza artificiale: aspetti fondazionali – Spoke n. 1 "Human centered AI"**

Focus of research:
The main object of the research will be the study of the impact of artificial intelligence on employment relationships, with particular regard to the regulation and legal discipline of the phenomena of exercising employer powers through algorithms and machine learning techniques applied to employment relationships. This is an innovative and delicate sector that requires a particular effort to adapt traditional protections to a profoundly changed and automated context with which any labor law scholar cannot fail to deal nowadays

Scientific productivity:
Production of a monographic work or essays and contributions in peer-reviewed journals and collective works related to the research area
Head office:

Head office:
Dipartimento di Giurisprudenza

Teaching activity of the contract:
Frontal teaching for each academic year in courses connected to SSD IUS/07

Candidates will be required to demonstrate an adequate knowledge of **English** language

Candidates may present a maximum number of 12 scientific publications

**Dipartimento di Civiltà e Forme del sapere**

Academic Recruitment Field 11/C3 Filosofia morale

Academic Discipline M-FIL/03 Filosofia morale

Nr. of positions available: 1

**Progetto PNRR Partenariato Esteso 1 – FAIR – Intelligenza artificiale: aspetti fondazionali – Spoke n. 1 "Human centered AI"**

Focus of research:
In accordance with the TP "Ethical and Legal issues" and WP 1.6, "Co-design methodologies for trustworthiness-by-design", the research activity will focus on specific ethical aspects concerning human-centred artificial intelligence (AI). In particular, the research will focus on these 3 points:
1) Deepening of the philosophical and ethical background of trustworthiness, discussing its transformations when moving from inter-human relationships (developed mainly as caring relationships) to relationships between humans and AI-based devices. Insight into the vulnerabilities that emerge in these contexts;
2) Analysis of the AI Act and other EU documents in order to show the efficacy of the ethical values and legal standards contained therein and to understand whether they are able to protect the vulnerabilities of human subjects in their relationship with AI-based devices;
3) Application in bioethics of the results achieved with reference to current developments in medical care in which AI-based devices are used (AI Health, telemedicine, eHealth, mHealth, etc.).

Scientific productivity:
Advancement of the state of the art in Ethics of Artificial Intelligence with results published in journals or proceedings of international conferences of high standing for the reference scientific sector.

Head office:
Dipartimento di Civiltà e Forme del sapere

Teaching activity of the contract:
Teaching activity of scientific sector "M-FIL/03, Moral Philosophy" in accordance with national regulations and according to the teaching requirements of the undergraduate and master's degree programs, with priority on advanced courses on the topics covered by the research activity.

Candidates will be required to demonstrate an adequate knowledge of **English** language.

Candidates may present a maximum number of 12 scientific publications.

**Dipartimento di Civiltà e Forme del sapere**

Academic Recruitment Field 11/B1 Geografia

Academic Discipline M-GGR/02 Geografia Economico-Politica

Nr. of positions available: 1

**Progetto PNRR Partenariato Esteso 1 – FAIR - Intelligenza artificiale: aspetti fondazionali – Spoke n. 1 "Human centered AI"**

Focus of research:
Defining integrated models of spatial analysis aimed at investigating the relationship between Artificial Intelligence (AI) and urban transformations, in its material and immaterial components, through empirical investigations, case studies and pilot projects, along the following research lines:
1) the study of the impact of IoT and AI systems in urban contexts, in connection with other socio-economic and environmental factors, in order to identify inclusion/exclusion, development and/or inequality dynamics;
2) the processing and visualization of geo-spatial data related to flows and urban mobility, through the representation of the spatial distributions of the embedded spatial intelligence;
3) the extrapolation of citizens' opinions on urban experiences and visions using big data and AI applications, with the aim of reflecting about future city models aimed at sustainability and people's livability

Scientific productivity:
Advancement of the state of the art in Artificial Intelligence with results published in journals or proceedings of international and national conferences of high standing for the reference scientific sector

Head office:
Dipartimento di Civiltà e Forme del sapere

Teaching activity of the contract:
Teaching activity of the sector 11/B1 Geography in accordance with national regulations and according to the teaching requirements of the undergraduate and master's degree programs, with priority on courses on the topics covered by the research activity

Candidates will be required to demonstrate an adequate knowledge of **English** language

Candidates may present a maximum number of 12 scientific publications

**Dipartimento di Economia e Management**

Academic Recruitment Field 13/B1 Economia Aziendale

Academic Discipline SECS-P/07 Economia Aziendale

Nr. of positions available: 1

**Progetto PNRR Partenariato Esteso 1 – FAIR - Intelligenza artificiale: aspetti fondazionali – Spoke n. 1 "Human centered AI"**

Focus of research:
The research activity will concern the study of the main organization constituents and of the factors contributing to the long- term economic development of companies, considering profit, non-profit organizations and public administrations, including healthcare organizations. The sector of Business Administration includes two closely linked research fields: the studies of business administration, which involve theories of the firm and of business groups, strategies and business policies, analysis and design of business processes, business ethics, financial statements, business evaluation, auditing and consulting; the studies of Accounting which regard the evaluation, analysis and use of data to support decision and control processes, accounting and financial statements (including financial auditing and financial analysis), accounting for decision making (management accountants, planning and control), accounting history.
Within the research activities of the scientific-disciplinary sector, the research activity will particularly develop along two main dimensions:
1) Investigate and experiment, also by means of case studies and pilots, the impact of adopting dataprocessing logics based on artificial intelligence to support companies' decision-making and control processes (Foundations of AI for Decision-Making);
2) Analyze the dynamics that foster or hinder the use of artificial intelligence and that can contribute to the pervasiveness of this technology in the business environment (Foundations of Pervasive Artificial Intelligence)

Scientific productivity:
A monograph, contributions in volumes and articles published in qualified national and international journals in the field of business administration, with particular reference to an advancement of the state of the art in Artificial Intelligence with results published in journals or proceedings of international conferences of high standing for the reference scientific sector
Head office:
Dipartimento di Economia e Management

Teaching activity of the contract:

Teaching activity of scientific sector "SSD SECS-P/07 Economia Aziendale" in accordance with national regulations and according to the teaching requirements of the undergraduate and master's degree programs.

Candidates will be required to demonstrate an adequate knowledge of **English** language

Candidates may present a maximum number of 12 scientific publications

**Dipartimento di Fisica**

Academic Recruitment Field 02/A1 Fisica Sperimentale delle Interazioni Fondamentali

Academic Discipline FIS/01 Fisica Sperimentale

Nr. of positions available: 1

**Progetto PNRR Partenariato Esteso 1 – FAIR - Intelligenza artificiale: aspetti fondazionali – Spoke n. 1 "Human centered AI"**

Focus of research:
Advancement of the state of the art in Artificial Intelligence (AI) in Experimental Physics (issues reported in the DECLARATORIA of the 'settore concorsuale' 02/A1, SSD FIS/01), with focus on:
- Interaction and collaboration between scientists and AI systems in experimental research;
- Learning for Complex Data with architectures (transformers, graph NN, GANs, autoencoders, …) that can continuously and incrementally learn;
- AI-assisted decision making systems in scientific research (e.g.: analysis optimization, human-machine interactions, analysis description languages, AI-techniques as a tool to communicate physics results, explainable AI)

Scientific productivity:
Gaining of full scientific independence, possibly including the supervision of BSc, MSc, and PhD theses. Publications on peer-reviewed, international journals or in proceedings of conferences relevant to the scientific field. Dissemination of the results of the performed research in national and international conferences

Head office:
Dipartimento di Fisica

Teaching activity of the contract:

Courses on basic physics, specialist courses in experimental physics of fundamental interactions, or advanced courses on the topics covered by the research activity

Candidates will be required to demonstrate an adequate knowledge of **English** language

Candidates may present a maximum number of 12 scientific publications

**Dipartimento di Informatica**

Academic Recruitment Field 01/B1 Informatica

Academic Discipline INF/01 Informatica

Nr. of positions available: 2

**Progetto PNRR Partenariato Esteso 1 – FAIR - Intelligenza artificiale: aspetti fondazionali – Spoke n. 1 "Human centered AI"**

Focus of research:
Building the foundations of **Human-centered Artificial Intelligence** (AI), with associated empirical experiments, case studies and pilots, along three main dimensions:
1) **"human-in-the-loop" machine learning and reasoning**: allowing humans to understand and steer learning and reasoning of AI systems and interact synergistically to solve complex tasks. Specific goals include explainable AI, neuro-symbolic learning and lifelong learning for complex data, all with the "human-in-the-loop";
2) **social-aware AI**: understanding and governing the societal outcomes of large-scale, networked socio-technical systems of humans and AIs, e.g., social media and online marketplaces. Specific goals include modeling such systems and decentralized networked learning;
3) **design of trustworthy AI systems**: the responsible (co-)design, development, validation and use of trustworthy AI systems, including certification, to make sure to incorporate "by-design" European laws, ethical values and human rights

Scientific productivity:
Advancement of the state of the art in Artificial Intelligence with results published in journals or proceedings of international conferences of high standing for the reference scientific sector

Head office:
Dipartimento di Informatica

Teaching activity of the contract:
Teaching activity of scientific sector "SSD INF/01 - Computer Science" in accordance with national regulations and according to the teaching requirements of the undergraduate and master's degree programs, with priority on advanced courses on the topics covered by the research activity

Candidates will be required to demonstrate an adequate knowledge of **English** language

Candidates may present a maximum number of 12 scientific publications

**Dipartimento di Ingegneria dell'Informazione**

Academic Recruitment Field 09/H1 Sistemi di elaborazione delle informazioni

Academic Discipline ING-INF/05 Sistemi di elaborazioni delle informazioni

Nr. of positions available: 2

**Progetto PNRR Partenariato Esteso 1 – FAIR - Intelligenza artificiale: aspetti fondazionali – Spoke n. 1 "Human centered AI"**

Focus of research:
Research activity on Human-centered AI with particular reference to explainable AI, distributed and federated learning, continuous and incremental learning, design of trustworthy AI systems. Research will be supported by experimentation, and relevant case studies and pilots

Scientific productivity:
Advancement of the state of the art in Artificial Intelligence with results published in journals or proceedings of international conferences of high standing for the reference scientific sector

Head office:
Dipartimento di Ingegneria dell'Informazione

Teaching activity of the contract:
Teaching activity in courses of the scientific sector ING-INF/05 – "Information processing systems" in accordance with national regulations and according to the teaching requirements of the undergraduate and master's degree programs.

Candidates will be required to demonstrate an adequate knowledge of **English** language

Candidates may present a maximum number of 12 scientific publications

**Dipartimento di Matematica**

Academic Recruitment Field 01/A3 Analisi matematica, Probabilità e statistica matematica

Academic Discipline MAT/06 Probabilità e statistica matematica

Nr. of positions available: 1

**Progetto PNRR Partenariato Esteso 1 – FAIR - Intelligenza artificiale: aspetti fondazionali – Spoke n. 1 "Human centered AI"**

Focus of research:

Research on the foundations of Artificial Intelligence (AI) using probabilistic and statistical models, with interaction and collaboration between scientists and AI in theoretical research, and with consideration of empirical experiments, developed mainly along the following topics.
1. **Foundations of learning**: investigate the applications of methods from statistical physics and probability to machine learning models, as well as mathematical theories to explain the training dynamics, the reliability and explainability of such models.
2. **Learning in complex dynamic domains**: study how deep learning architectures can push forward the frontier of learning in complex dynamic domains such as time series, trajectories, graphs (possibly time-varying)

Scientific productivity:
Advancement of the state of the art in Artificial Intelligence with probabilistic and statistical models, with results published in journals or proceedings of international conferences of high standing for the reference scientific sector

Head office:
Dipartimento di Matematica

Teaching activity of the contract:
Teaching activity of scientific sector "SSD MAT/06 – Probability and Mathematical Statistics" in accordance with national regulations and according to the teaching requirements of the undergraduate and master's degree programs, with priority on advanced courses on the topics covered by the research activity

Candidates will be required to demonstrate an adequate knowledge of **English** language

Candidates may present a maximum number of 12 scientific publications

**Dipartimento di Ingegneria dell'Energia, dei Sistemi, del Territorio e delle Costruzioni**

Academic Recruitment Field 09/B3 Ingegneria economico-gestionale

Academic Discipline ING-IND/35 Ingegneria economico-gestionale

Nr. of positions available: 1

**Progetto PNRR Partenariato Esteso 1 – FAIR - Intelligenza artificiale: aspetti fondazionali – Spoke n. 1 "Human centered AI"**

Focus of research:
Research activity relevant to the declaratory of the ING-IND/35 SSD - Management Engineering. In particular reference will be made Explainable AI NLP tools for Higher Education. The activity is part of the PNRR project called FAIR - Future AI Research - Spoke 1 Human-centered AI; in particular it is part of the sub-project related to fundamental and applied research on AI methods for the analysis of natural language (Natural Language Processing)

Scientific productivity:
Dissemination of the results in journals and proceedings of international scientific conferences in the field; participation and presentation of results in national and international seminars and conferences. Scientific production must be consistent with the PNRR FAIR project and with the ING-IND 35 SSD

Head office:
Dipartimento di Ingegneria dell'Energia, dei Sistemi, del Territorio e delle Costruzioni

Teaching activity of the contract:
Teaching will be carried out in the framework of the classes for the subject area ING-IND/35 and will include both up-front teaching activities and practical exercises for students, according to the needs of the next teaching plan. Moreover, the candidate will tutor thesis and PhD students. The yearly teaching load foreseen for all teaching activities and student support will be in line with the University regulations

Candidates will be required to demonstrate an adequate knowledge of **English** language

Candidates may present a maximum number of 12 scientific publications