

**Translation of Announcement for 1 research position**  
at the Mathematics Area of SISSA, within the National Recovery and Resilience  
Plan (NRRP)  
Decree No. 290 dated 14 April 2025

**THE DIRECTOR**

Having regard to Law No. 168 of 9 May 1989;  
Having regard to Law No. 241 of 7 August 1990 and all subsequent amendments and additions;  
Having regard to Presidential Decree No. 445 dated 28 December 2000;  
Having regard to Legislative Decree No. 165 of 30 March 2001 and all subsequent amendments and additions;  
Having regard to Legislative Decree No. 196 of 30 June 2003, as amended by Legislative Decree No. 101 of 10 August 2018, which transposes the EU General Data Protection Regulation 2016/679 (GDPR);  
Having regard to Law No. 240 of 30 December 2010, and to Art. 22 in particular, as amended by Law No. 79 of 29 June 2002 and subsequent amendment and additions;  
Having regard to Law No. 183 of 12 November 2011, and to Art. 15 in particular;  
Having regard to the Statute of SISSA, issued by Directorial Decree No. 40 of 18 January 2012, published in the Official Journal No. 36 dated 13 February 2012, in force since 28 February 2012;  
Having regard to SISSA Directorial Decree No. 121 dated 5 March 2012;  
Having regard to Directorial Decree No. 295 of 21 May 2012, establishing SISSA's scientific Areas;  
Having regard to the National Recovery and Resilience Plan (NRRP), submitted to the European Commission on 30 April 2021 pursuant to Article 18 of Regulation (EU) No. 2021/241 and approved by the ECOFIN Council on 13 July 2021, its resolution being notified to Italy by the Council's General Secretariat by means of Note LT161/21 of 14 July 2021. The plan consists of 6 missions and 16 components. Having regard to Mission 4, Component 2 (M4C2) "From Research to Enterprise" in particular, which aims at supporting investment in research and development, promoting innovation and the dissemination of technologies, strengthening skills by fostering the transition to a knowledge-based economy, covering the entire chain of the research and innovation process, from basic research to technology transfer;  
Having regard to the Guidelines defined by the Italian Ministry of University and Research for M4C2 system initiatives, approved by Ministerial Decree No. 1141 of 07 October 2021, shared with the NRRP Education and Research Steering Committee;  
Having regard to Investment 1.2 as foreseen by Mission 4, Component 2 "Funding projects submitted by young researchers," funded by the European Union - NextGenerationEU, which aims to provide new opportunities for young researchers in order to offer them concrete possibilities for professional growth in Italy;

Given the Decree No. 639/2024 of 2 May 2024, issued by the Ministry of University and Research, concerning the determination of scientific-disciplinary groups and their descriptions, as well as the streamlining and updating of scientific-disciplinary sectors, and their reassignment to scientific-disciplinary groups, pursuant to Article 15 of Law no. 240 of 30 December 2010;

Given the ministerial Decree No. 201 of 03.07.2024 on "Public Notice for the submission of project proposals by young researchers," to be funded under Mission 4, Component 2, Investment 1.2 "Funding of projects submitted by young researchers" of the National Recovery and Resilience Plan (NRP) and subsequent amendments and additions;

Given the ministerial Decree No. 47 of 20.02. 2025, "Decree for the Recruitment of International Postdoctoral Researchers," for the submission of a call of interest in the framework of the National Recovery and Resilience Plan (NRP), Mission 4 "Education and Research" - Component 2 "From Research to Enterprise," Investment 1. 2 "Funding of projects presented by young researchers";

Having regard to the resolution of the Board of Directors of SISSA dated 27.02.2025, authorizing the Director to submit, upon consultation with the Area Coordinators, the call of interest referred to in Ministerial Decree No. 47 of 20.02.2025 for the recruitment of young post-doc researchers, as well as to carry out all the necessary measures required by the aforementioned decree;

Having regard to the call of interest submitted by SISSA on 07.03.2025, whereby a commitment was expressed for the recruitment of twenty "young researchers" pursuant to Article 1, paragraph 8 of the aforementioned Notice No. 47 of 20.02. 2025, according to the laws and provisions currently in force;

Having regard to SISSA Regulation for the award of research contracts pursuant to Art. 22 of L.30 .12.2010, no. 240, as amended by L. 29.06.2022 no. 79, issued by Directorial Decree No. 180/2025 of 07.03.2025;

Considering that by Ministerial Decree no. 3866 of 21 March 2025, the Ministry for University and Research published the "List of positions awarded to Central and Northern Italy", granting SISSA the funding of No. 4 "young researcher" positions pursuant to Article 1, paragraph 8 of the aforementioned Decree No. 47 of 20.02.2025, in accordance with the ranking submitted within the aforementioned Call of Interest dated 07.03.2025;

#### DECREES AS FOLLOWS

**Art. 1 - A public selection based on qualifications and research project is hereby announced for 1 research contract in the research field detailed in Annex 1. Full details, admission requirements and duration are listed in Annex 1.**

The research activity shall be carried out on behalf of and shall be funded by the National Recovery and Resilience Plan (PNRR) Mission 4, Component 2, Investment 1.2, under the Italian Ministerial Decree no. 47 of 20.02.2025 – financed by the European Union – NextGenerationEU (Project code (CUP): G93C25000400007; Financing Institution: Italian Ministry of University and Research/European Union; Funding channel: NRRP Funds).

Pursuant to Art. 7, par. 1, of the Italian Legislative Decree No. 165/2001, public administration bodies ensure gender equality and equal opportunities, as well as the absence of any form of direct or indirect discrimination on grounds of gender, age, sexual orientation, ethnicity, disability, religious belief and language, affecting access to employment, working conditions and economic treatment, vocational training, career advancement and workplace safety. Public administration bodies also guarantee a working environment characterised by organisational well-being and undertake to detect, counteract and eliminate any kind of moral or psychological violence in the working environment”.

Art.2 - Eligible candidates must hold a doctoral degree or equivalent degree obtained in Italy or abroad, or be enrolled in the final year of a doctoral program, provided that the degree is expected to be obtained within six months after the date of publication of this call for applications. Applicants must also meet the additional minimum requirements specifically indicated in Annex 1.

Personnel with permanent positions in Italian universities, public research and experimentation institutions, ENEA (Italian National Agency for New Technologies, Energy and Sustainable Economic Development), ASI (Italian Space Agency) or institutions which award scientific degrees equivalent to PhD, in accordance with art. 74, par. 4 of the Italian Presidential Decree No. 382 dated 11.07.1980, are excluded from applying.

In accordance with art. 18 of the Italian Law No. 240/10, candidates having a family relationship or other degree of kinship up to the 4th degree with the following persons are also excluded from applying:

- SISSA Professors belonging to the Area that requested the position;
- Director of SISSA;
- Secretary General of SISSA;
- Member of the Board of Directors of SISSA.

This research position is awarded through a private law contract which does not give any right to be employed by universities, pursuant to Art. 22, par. 1, of the Italian Law No. 240/2010.

Pursuant to Art. 1, par. 8, and Art. 2, par. 3, of the abovementioned Ministerial Decree No. 47 of 20.02.2025, candidates must also meet the following additional requirements:

- having carried out a period of at least 3 months of training and research abroad during their doctoral program. If the degree was awarded outside of Italy, the requirement is deemed to be fulfilled;
- qualify as “young researcher”, i.e. as of 20.02.2025 have not yet reached the age of 41 or, alternatively, have not yet reached the age of 46 and have

completed the PhD program no more than 7 years ago, and fulfill one or more of the following conditions:

- need to gain initial experience as a scientist responsible for the funding and/or for the research activity;
- need to gain experience in leadership and management of a national and/or international research team;
- do not have, or have not had, an ongoing Full Time Equivalent (FTE) contract as a tenured researcher and/or professor.

Art.3 – The contract is drawn up in writing and undersigned by the researcher and the Director.

The employment relationship is for a two-year term, is governed by the individual contract and the current provisions regarding tax, welfare and social security treatment provided for employment income.

The annual amount of the contract, stated in Annex 1, is gross per year and includes charges to be paid by the contractor. The salary shall be paid in monthly arrears. The School shall provide insurance coverage against accidents in the workplace, occupational diseases and for third-party liability.

Art.4 – Research contracts cannot be held simultaneously with any other subordinate employment contract with public and private entities, including part-time and fixed-term employment. They are not compatible with research grants at any University or public research institution, nor with scholarships or research grants awarded by national or foreign institutions, except those exclusively aimed at international mobility for research purposes.

Research contracts are not compatible with the attendance of bachelor, master's, PhD programs, or specialization courses in the medical area, in Italy or abroad. Government employees must be given unpaid leave for the entire duration of the contract.

Notwithstanding all of the above, allowed activities and incompatible activities that are subject to authorization are defined in the Regulations for External Assignments and Activities for Academic Staff. Activities subject to authorization are evaluated and authorized by the Area of affiliation.

Art.5 – To be eligible for the public selection for the award of the research contract referred to in this announcement, candidates must meet the requirements described in Annex 1.

To prove the equivalence of a qualification so as to meet the requirements described in Annex 1, candidates must refer to the list of equivalences available on the website of the Italian Ministry of University and Research (<https://www.mur.gov.it/it/aree-tematiche/universita/equipollenze-equivalenza-ed-equiparazioni-tra-titoli-di-studio/titoli-0>).

Qualifications obtained abroad and declared equivalent by the Italian authority, according to the current legislation, will be accepted for the purposes of the selection procedure.

In the event of a foreign degree that has not already been declared equivalent in Italy according to the law (<https://www.cimea.it/EN/>), the examining board may admit the candidate upon evaluation of his/her study plan and its consistency with the scientific sectors specified in Annex 1. Such evaluation is relevant only for the purposes of this selection procedure.

Art. 6 – The selection is carried out by the Evaluating Committee taking into account the scientific profile of each candidate, as proven by degrees and publications, and according to the evaluation of the research project (if required). The qualifications evaluation criteria, which can be set by the examining board according to internationally recognized parameters, are consistency with the subject of the research program, relevance and quality of the following qualifications and activities:

- proven research activity;
- academic qualifications (University Degree, PhD, specialization degrees or attendance certificates of other postgraduate specialization courses held in Italy or abroad);
- other qualifications;
- the research project submitted by the candidate.

For foreign degrees that have not already been declared equivalent in Italy according to the law, the candidate must attach a translation of the study plan into English and/or Italian.

The scientific qualifications must be relevant to the Area referred to in this announcement or to interdisciplinary subjects relevant to the areas involved.

Art.7 – The examining board is appointed by decree of the Director of SISSA, upon a proposal of the relevant Area Council. It comprises at least three members, of which one shall act as President and one as Secretary. The members of the examining board shall be chosen among professors and researchers of SISSA, other research institutions and universities, or among experts in the subjects referred to in this announcement.

The evaluation criteria are agreed upon in advance, and are summarized in the following Table:

| Qualification  | Evaluation criteria  | Maximum score     |
|--|--|-------------------|
| Research project   | Quality and relevance for the purpose of the research activity | 40 points         |
| University degree (MS, PhD, further degrees etc.)  | Relevance for the purpose of the research activity             | 10 points         |
| Publications and research (software, databases, patents, etc.)   | Quality and relevance for the purpose of the research activity | 40 points         |
| Other qualifications (professional experience, reference letters - if required, other relevant skills, etc.) | Quality and relevance for the purpose of the research activity | 10 points         |
| <b>TOTAL</b>   |  | <b>100 points</b> |

A candidate is eligible if s/he scores at least 70/100.

The examining board may use video conferencing tools to evaluate the applications, identify suitable candidates, draw up the ranking list and draft the minutes in electronic format.

At the end of the evaluations the examining board will draw up a minute, including the evaluation criteria, the total mark obtained by each candidate and a ranking of the eligible candidates.

The minutes of the selection procedure and the ranking are approved by Directorial Decree.

The first eligible candidate will undertake a research contract with SISSA in accordance with Italian Law No. 240/10, Art. 22, as amended by Law No. 79 of 29.06.2022.

Being in the ranking does not give any right in other selection procedures.

**Art.8 - Under penalty of exclusion, the application** for this selection procedure, along with the relevant qualifications held and relevant scientific publications, **shall be submitted online through the electronic application accessible at the following address: <https://pica.cineca.it/sissa/cdr-fe-mate-10-2025>**.

A valid email address is required for the registration process.

Applicants shall upload all personal and professional data as requested by the application procedure. Each attachment may not exceed 30MB.

All fields in the online application form must be filled out. Under penalty of exclusion, the application must contain:

- a curriculum vitae with a complete list of the candidate's scientific and professional activities;



- a valid ID of the candidate, to be uploaded in electronic format.

Candidates accessing the PICA platform using their digital identity (SPID – Public Digital Identity System) will not be required to upload a scan of their personal ID, nor to sign and upload their application.

**Failure to comply with the online application procedure will result in the exclusion of the applicant from the selection.**

Prior to final submission, and within the given deadline for applications submission, the online application procedure allows to modify and save the inserted information in a draft copy. Confirmation of final submission date will be certified by an automatic notification email. Submissions after the given deadline will not be accepted by the system, as the online application procedure won't be accessible.

The online application and submission procedure shall be completed **by 5 May 2025, 11.59 p.m. CEST (Rome time).**

The submission of the online application must be completed and finalized:

- **with the digital signature of the candidate**, by means of smart card, USB token or remote digital signature allowing the applicant to digitally sign electronic documents with a software using a PC or a web portal for Remote Signature, provided by a Certification Service Provider (CSP). Candidates with a smart card or a USB token for digital signature should check the compatibility with the Digital Signature system embedded in our server. In case of compatibility, candidates shall sign the application on the server (e.g. ConFirma);
- **holders of server-incompatible Digital Signature and holders of Remote Digital Signature** who can access a web portal for digitally signing electronic documents shall save the .pdf file generated by the system on their PC. The .pdf file shall not be modified in any way, and it shall be digitally signed in CAdES format: the system will generate a file with .p7m extension. The candidate shall upload the .p7m file on the system. No changes are to be made to the file by the candidates before the Digital Signature, on pain of exclusion from the selection procedure;
- **in case the two above-mentioned options do not apply**, candidates shall save the .pdf file generated by the system on their PC. The .pdf file shall not be modified in any way, on pain of exclusion from the selection procedure. The .pdf shall be printed out, signed on the last page, scanned in .pdf format and uploaded on the system.

For any technical issue regarding the application, candidates may contact the technical support through the link at the bottom of the page: <https://pica.cineca.it/sissa> ("supporto").

The School will verify that all the statements made in the application and accompanying documentation comply with the provisions of Presidential Decree No. 445/2000.

Art.9 – After a budget verification has been carried out, the selected candidate will be formally notified of the award of the research fellowship.

Within 30 days from the start of the research activity at SISSA, Italian and EU candidates and non-EU citizens resident in Italy will have to submit a valid ID and fill out the following documents:

- 1) affidavit attesting birth, citizenship, place of residence and Italian tax code of the applicant;
- 2) affidavit attesting the possession of a University Degree;
- 3) affidavit of the actual or expected date of Ph.D. award. Under the law, the Ph.D. degree has to be awarded within six months from the publication of this notice.

Non-EU citizens authorized to sojourn in Italy owing to conventions between Italy and their own country have to submit the same above-mentioned documents.

Non-EU citizens regularly sojourning in Italy may submit an affidavit according to articles 46 and 47 of Presidential Decree No. 445/2000 exclusively for personal data and events which can be certified and attested by public Italian authorities.

In any other case, the information requested in points 1) and 2) of this article must be notified by means of an affidavit and plain copies of the relevant documents within 30 days from the beginning of the research activity at SISSA. Research fellows are requested to submit certificates and declarations issued by the foreign competent authorities, possibly accompanied by an Italian translation authenticated by the Italian Consulate abroad. The School reserves the right to verify all affidavits.

Should the winner refuse the position, not accept it or fail to submit the above-mentioned documents on time, the research fellowship may be offered to the next eligible candidate in the classification list, following the authorization granted by the Director, at the express request of the Area Coordinator or the scientist responsible for the research activity.

The starting date of the contract shall be agreed with the Area Coordinator or with the scientist responsible for the research project.

**Should the financial coverage not be guaranteed by the funding body, SISSA reserves the right not to activate the research position. The start of the contract will therefore be subject to verification of the necessary financial coverage.**



Art.10 – Holders of research contracts undertake to carry out the research activity as foreseen in this Announcement and in accordance with the research program of the Area. The research activity is carried out following the instructions of the scientific supervisor.

At the end of the second year, contract holders are required to submit a report on their research activity to the relevant Area Council, with the aim of closing the research program and/or for the purpose of a possible renewal or extension of the contract.

Art.11 – The total duration of research contracts, held at one or more Universities or institutions, must not exceed 5 years for each researcher. To this end, the periods of absence due to maternity leave or state of illness are not taken into account.

The renewal or extension of the research contract, if applicable, shall be requested upon the reasoned proposal of the designated scientific supervisor, after an evaluation of the research activity carried out by the contract holder on the research project and the progress of the program itself. The request must be approved by the scientist responsible for the funds covering the cost of the position, and subsequently approved by the relevant Area Council, the Academic Senate of the School and, as far as financial coverage is concerned, by the Board of Directors.

Art. 12 - Termination of employment occurs upon expiry of the contract or withdrawal of one of the parties. If the selection procedure is revoked, the contract is terminated in any case.

Fellowship holders wishing to resign must give an advance notice of at least 30 days, in which case no penalty shall be applied by SISSA. Failure to do so shall result in a penalty involving the recovery or the failure to pay the salary for the period of notice not given.

SISSA shall reserve the right to terminate the contract if the external funding becomes unavailable. In this case SISSA shall give the fellowship holder at least a 60 days' notice. Failure to do so shall result in the payment to the research fellowship holder of an amount equal to the period of notice not given.

The compulsory advance notice shall not be applied during the trial period.

Art. 13 - The Head of procedures is Dr. Alessandra Lucatello, Chief of the Human Resources Area (e-mail: [assegniricerca@sisssa.it](mailto:assegniricerca@sisssa.it)).

Art.14 – All matters regarding data processing and protection are in accordance with the Italian Legislative Decree No. 196/2003 dated 30.06.2003, as amended by Legislative Decree No. 101 dated 10.08.2018, that transposes Regulation (EU) 2016/679 (GDPR). All the data provided to this administration will be processed for

the sole purposes connected with and instrumental to the selection procedure and the eventual drawing up and management of the contract.

THE DIRECTOR  
Prof. Andrea Romanino  
(Italian version signed digitally)

## ANNEX 1

### MATHEMATICS AREA

#### Public selection based on qualifications and research project

#### Research title: Smooth and nonsmooth Lorentzian geometry

Fields of the research activity: Lorentzian geometry, Geometric Analysis, analysis in regular and non-regular spacetimes

Scientific supervisor: Prof. Nicola Gigli

Members of the research group: Prof. Nicola Gigli

Area 01 – Mathematics and Computer Science

Academic recruitment field: 01/MATH-03 Mathematical analysis, probability and mathematical statistics; 01/MATH-02 Algebra and geometry

Academic discipline: MATH-03/A Mathematical analysis; MATH-02/B Geometry

All-inclusive gross annual salary, granted in 13 monthly payments: € 38,986.46

#### Minimum requirements:

Master's degree in: Mathematics or related fields

PhD degree in: Mathematics or related fields

Established experience in at least one of the following: geometric analysis, differential geometry, optimal transport, spectral theory. Moreover, solid expertise is required in at least one of the following: PDEs, functional analysis, control theory, metric spaces, variational methods, Riemannian and subRiemannian geometry, special holonomy, geometric invariants.

Aim of the project is to develop advanced tools for the study of differential geometry on non-smooth spaces, with particular focus on comparison Lorentzian geometry and almost-rigidity results, with implications for General Relativity and singularity formation. Another objective is the study of optimal transport in Carnot groups, studying the effects of congestion and regularity properties of the transport density, with applications to degenerate PDEs and complex geometric models. The project also investigates the structural and spectral properties of singular spaces, focussing on the study of cut-locus in subRiemannian geometry and Weyl's law for differential operators, with implications on spectral theory. Ultimately, nearly parallel G2 manifolds with toric symmetry will be investigated, exploring their geometric and topological properties and the link between curvature and metric properties, with possible connections with the study of 3-manifolds.

Applicants are required to submit a short **research project** (five pages max.), which has to be uploaded on the PICA platform when submitting the application. An abstract may be uploaded as well.

The online application and submission procedure shall be completed **by 5 May 2025, 11.59 p.m. CEST (Rome time)**.

**The research contract must start by 15 May 2025.**

**Evaluation criteria:**

Research project: up to 40 points

University degrees: up to 10 points

Published works and other research products: up to 40 points

Other qualifications: up to 10 points

TOTAL: up to 100 points

The research activity shall be carried out on behalf of and shall be funded by the National Recovery and Resilience Plan (PNRR) Mission 4, Component 2, Investment 1.2, under the Italian Ministerial Decree no. 47 of 20.02.2025 – financed by the European Union – NextGenerationEU (Project code (CUP): G93C25000400007; Financing Institution: Italian Ministry of University and Research/European Union; Funding channel: NRRP Funds).