



**Directorial Decree**                      **Subject:**                      **Call for applications concerning a public competition, with qualifications and interview assessments, for the award of n. 1 type b) research fellowships for the conducting of research activities at the Università di Pavia's Department of Earth and Environmental Sciences – deadline June 6<sup>th</sup>, 2022 at 12 a.m.**

**Title:** III      **class:** 13

## THE DIRECTOR

- CONSIDERING** Law dated 30 December 2010, n. 240, concerning 'Regulations governing the organisation of universities, academic personnel and recruitment, as well as government, in order to improve the quality and efficiency of the university system', and in particular art. 22 concerning the award of research fellowships for the conducting of research activities;
- CONSIDERING** D.L. dated 31 December 2014, n. 192, converted with modifications by Law dated 27 February 2015, n. 11, which extended for two years the total duration of the grants established pursuant Art. 22 Law n. 240/2010 prolonging it from four to six years;
- CONSIDERING** the Ministerial Decree. 09.03.2011, n. 102, recorded by the Court of Audit on 13 May 2011;
- CONSIDERING** the University Regulations regarding the assignation of research fellowships pursuant Art. 22 of Law n. 240/2010, emanated by D.R. n. 1148 – prot. n. 21281 dated 31.05.2011, published on the University's official noticeboard on 06.06.2011, in force from 07.06.2011, subsequently modified with the DD.RR. n. 1146 - prot. n. 22064 of 11.05.2015 and n. 767 - prot. n. 30545 of 09.03.2020 and with the resolutions of the governing bodies and subsequent notes that approved, also for the academic year 2021/2022 and 2022/2023, the amendment of art. 17 paragraphs 1 and 2;
- CONSIDERING** in particular articles 3, 4 and 7 of the said Regulations concerning the establishment of type B research fellowships with funds provided wholly by the University grant and/or co-financed;
- CONSIDERING** the Department Board resolution of Earth and Environmental Sciences dated April 27h, 2022 (rep. n. 147/2022) that approved the establishment of type b) research fellowships based on the requests presented by University teaching staff;
- CONSIDERS IT APPROPRIATE** to emanate a call for applications concerning a public competition, with qualifications and interview assessments, for the award of n. 1 b)-type research fellowships for research activities at the Università di Pavia's Department of Earth and Environmental Sciences

### DECREES

#### Art. 1

#### *Subject*

1. The Università di Pavia's Department of Earth and Environmental Sciences announces a

public competition, with qualifications and interview assessments, for the award of n. 1 b)-type research fellowships for the conducting of research activities specified below:

PICA COMPETITION CODE		RESEARCH PROGRAMME	
<b>dista-2022-b03</b>		Effects of vineyard management practices on soil hydrology and shallow landslide occurrence	
NUMBER OF RESEARCH FELLOWSHIPS: 1		RESEARCH TEAM LEADER: <b>PROF. CLAUDIA MEISINA</b>	
SCIENTIFIC-DISCIPLINARY SECTOR	DURATION IN YEARS:	DEPARTMENT:	
<b>GEO/05 – Applied Geology</b>	<b>1 (rinnovabile o no)</b>	<b>Earth and Environmental Sciences</b>	

2. The aim of research fellowships is to allow qualified candidates to conduct research at the University.
3. The grant, including eventual renewals, cannot exceed six years in duration except during periods in which the grant has been has been utilised concurrently with a research doctorate without a scholarship, within the established duration of the relative course. Eventual renewals are dependent upon a positive evaluation of the research activities by the Department Board, as well as an availability of funds.

## Art. 2

### **Participation requirements**

1. Research fellowships are destined to those who possess a degree (with a course duration of not less than 4 years, as referred to in the pre-existing academic regulations pursuant to D.M. n. 509/1999) or master's degree (pursuant to D.M. n. 509/1999 and to n. 270/2004) or equivalent qualifications **preferably in Geology, Civil Engineering, Environmental Engineering**, awarded overseas, accompanied by adequate professional scientific experience in conducting research activities. Research doctorate (PhD), or equivalent qualifications awarded overseas, are considered **preferential, such as Earth and Environmental Sciences, Engineering** namely specialist qualifications in the medical field together with adequate scientific productions in the chosen research sector. The educational qualification has to concern the research theme.
2. Candidates in possession of a qualification awarded overseas but which has yet to be recognised pursuant to the laws currently in force, should attach to their application the documents that will allow the examining board to assess the qualifications for the sole purpose of the selection procedure only.
3. Candidates must be in possession of the required qualifications at the application deadline.
4. Selected candidates are provisionally admitted subject to the selection procedure. The administration office reserves the right, at any time and with motivated provision, to exclude candidates who do not meet the established requirements. These decisions will be communicated to the interested party.
5. Research fellowships cannot be awarded to staff at the University, at public bodies and research and testing institutions, at the national agency for new technologies and the development of sustainable economic development (ENEA) and at the Italian Space Agency (ASI), as well as at institutions whose post-graduate scientific qualification has been recognised as equivalent to a research doctorate pursuant to Art. 74, comma 4, of D.P.R. 11 July 1980 n. 382.

6. Research fellowships may be assigned to personnel at public institutions other than those listed in the previous comma provided they are on leave and do not receive a grant from their place of work per the entire period of the contract referred to in article 10 of this call for applications.
7. Research fellowships cannot be awarded to those enrolled, for the duration of the contract as referred to in article 10 of this call for applications, on degree courses, specialist degree courses, short masters' degrees, funded research doctorates or medical specialisations, in Italy or overseas, or on university Master's course.
8. Pursuant to Art. 18, comma 1, lett. b) and c) of Law n. 240 dated 30 December 2010, research fellowships cannot be awarded to those related by marriage, consanguinity or affinity, up to fourth degree relations, to teaching staff from the department/research centre or institution that is proposing to offer the contract, the Dean, the Director General or member of the University Administration Board.
9. Research fellowships cannot be awarded to those who have signed contracts, pursuant to Art. 22 (*Research fellowship*) and Art. 24 (*Temporary research positions*) of Law n. 240 dated 30 December 2010, with other universities and/or other subjects outlined in comma 5 of the present article, whose duration together with that of the contract outlined in this call for applications, exceeds 12 years (including 6 years of research fellowships, except during periods in which the grant has been utilised concurrently with a research doctorate without a scholarship, within the established duration of the relative course), even when non-continuous, as set out in Art. 22, comma 9 of the cited Law; maternity leave and sick leave are not taken into consideration when calculating the time limit.

### **Art. 3**

#### ***Research grant amounts***

1. The gross amount of the research fellowship is **€ 19.367,00**, inclusive of all the taxes to be borne by the recipient of the grant. Financial coverage: Meisina LIFE DRIVE and Meisina Contributi 2018-2019.
2. The research fellowship is paid in monthly instalments.
3. From 2011, grants for research activities will be subject to: article 4 of Law 13 August 1984, n. 476 (concerning tax); article 2, comma 26 and successive commas, of Law 8 August 1995 n. 335 and successive modifications (regarding social security); Labour and Social Security Ministerial decree of 12 July 2007, published in the G.U. n. 247 dated 23 October 2007 (regarding obligatory suspension from work during maternity); and art. 1, comma 78, of Law 27 December 2006, n. 296, and successive modifications (regarding sick leave). During the period of compulsory maternity leave, benefits from INPS, pursuant to art. 5 of the cited decree dated 12 July 2007, will be assimilated by the university until the full research fellowship amount is reached.

### **Art. 4**

#### ***Application and deadline for submissions***

1. The application for admission to the selection procedure, together with any documents and publications deemed useful for the purposes of assessment, must be submitted electronically, under penalty of exclusion,

**by and no later than June 06, 2022 at 12:00 a.m.**

by connecting to the following web page:

<https://pica.cineca.it/unipv>

clicking on "Assegni di ricerca", and then choosing the relevant call for applications.

It is possible to access the computer application through **SPID - Sistema Pubblico di Identità Digitale [Italian Public System of Digital Identity]** (choosing from the page of available federations the institution "Università degli Studi di Pavia") or by Registering to the system with an e-mail address or by the accounts LOGINMIUR, REPRISE and REFEREES.

Following the guidelines published in the procedure, the candidate must enter all data required for submitting the application and attach all support documents electronically in .PDF format.

The admission form can be submitted only if all the mandatory fields have been filled in.

Until the deadline for the submission of applications, the procedure allows candidates to save any data entered in "draft" mode.

Before the deadline, it is possible to withdraw the application and to submit a new application within the deadline. If the candidate has not completed the procedure for submitting the application, he can modify it, following the guidelines.

Upon expiry of the deadline, the application for admission to the procedure must be completed in a definitive manner and, after being dated, signed and uploaded to the system, it must be submitted electronically; the system will thereafter not permit access and, therefore, changes and/or document integration will not be allowed.

Once the application dated and signed has been submitted and uploaded, the candidate may ask Italian or foreign experts to upload one or more letters of reference (max 3) using the online procedure before the peremptory deadline of the call for applications; it is therefore recommended, when compiling and closing applications, that candidates take into consideration the time needed to complete the process, the penalty for which could be the inadmissibility of their references. Reference letters directly attached to the online application submitted by the applicant are not allowed.

Once the application dated and signed has been submitted and uploaded, candidates with disabilities and/or invalidity pursuant to Law n. 104 of February 5, 1992 and subsequent modifications and additions, or those candidates diagnosed being DSA (i.e., having specific learning disabilities) according to Law n. 170 of October 8, 2010, can request - by filling out a separate online application form and by providing appropriate certification issued by the public health facility or accredited facility - aids or additional time for their interview. This request must be submitted before the peremptory deadline for the call for applications; therefore, it is recommended, when completing and closing applications, that candidates take into consideration the time needed to complete the process, the penalty for which could be the inadmissibility of their request.

The date on which the application is submitted electronically will be certified by the computer system through a special receipt issued automatically and sent via e-mail to the candidate. Each application will be given a numerical identifier which, together with the selection announcement code, must be specified in any communication relating to the procedure.

**In case of access through SPID, no signature will be required when submitting the application. In case of access to the system differently, the submission of the application must be completed and concluded as said before:**

- by digital signature, using a smart card, a USB token for digital signature, or remote signature, all of which permit the holder to sign documents digitally:
- in the case of a Smart card or USB token for digital signature, compatibility with the digital signature device of the ConcorsiOnLine system must be verified. If it is compatible, the holder can sign the application directly on the server (e.g. ConFirma);
- should candidates not have a digital signature device compatible with the ConcorsiOnLine system or not be the holder of a remote signature with access to a portal for the subscription of generic documents, the .PDF file generated by the system must be saved on their computer and, without being altered in any way, must be signed digitally in CADES format: a file with a .p7m extension will be generated and this must be uploaded to the system. Any changes made to the file before the digital signature/remote signature will prevent the automatic verification of the correspondence between the content of this document and the original, and will result in the exclusion of the application.

In the event that it is impossible to effectuate one of the above two options:

- candidates must save the PDF file generated by the system on their computer and, without making any changes, print it and affix their full handwritten signature to the last page of the printout. This document must then be scanned and uploaded to the system.

**Undated and/or unsigned applications will be rejected, except for those submitted via SPID for which neither date nor signature are required.**

The IT procedure could be occasionally subject to interruptions owing to technical requirements. **In case of technical issues, please contact the support service via the link at the bottom of the page <https://pica.cineca.it/unipv>.**

2. When applying to participate, candidates must declare under their own responsibility and pursuant to articles 46 and 47 of Presidential Decree n. 445, December 28, 2000:
  - a) their participation in the research project;
  - b) their personal details, date and place of birth, citizenship, tax file number if Italian citizens, residential address and the address chosen for the purposes of the selection (including postcode), mobile phone number, e-mail address and, if applicable, PEC and/or Skype address;
  - c) to be in possession of a degree (course of study lasting no less than 4 years, provided for by the didactic regulations prevailing under Ministerial Decree No. 509/1999) or an master's degree (pursuant to Ministerial Decree No. 509/1999 respectively and No. 270/2004), indicating the mark obtained, the title of the thesis, the name of the supervisor, the date, as well as the name of the University where the degree, or the equivalent academic qualification obtained abroad was conferred. *In the event that the foreign qualification has not been deemed equivalent*, the candidate must make a request for equivalence, for the sole purpose of participating in the selection, accompanied by: 1) if the qualification had been obtained in an EU country: a list of the exams taken with the relative assessment and the legal duration of the course; 2) if the

qualification has been obtained in a non-EU country: certificates of the university degrees translated into Italian or English, the list of exams taken with the relative assessment, and the legal duration of the course.

Candidates must also present any other useful documentation (e.g., a Diploma Supplement, a certificate of equivalence of qualification issued by the local authority, etc.) so as to allow the Commission to ascertain equivalence solely for the purposes of participation in the selection procedure.

- d) if they hold a PhD degree, providing details regarding the title of their thesis, the name of their coordinator, as well as their date of graduation, their final mark/assessment, and the University responsible for their PhD programme – to be documented according to the procedure outlined in letter c) above;
- e) any research fellowship(s) that is/are currently or was/were previously held and which does/do not exceed a maximum time period of twelve years, even non-consecutive, considering the total duration of the contracts referred to in art. 22 (*research fellowships*) and art. 24 (*fixed-term researchers*) of Law n. 240, December 30, 2010, even undertaken in conjunction with other universities and/or with the other parties referred to in art. 2 paragraph 5, together with the duration of the contract referred to in this call for applications;
- f) any other qualifications obtained (specialization diplomas and certificates of attendance at post-graduate specialization courses obtained either in Italy or abroad, involvement in recognised research activity with public or private parties through the provision of contracts, scholarships or work assignments, both in Italy and abroad, etc.) - documented according to the methods set out in paragraphs 3 and 4 below, and letter c) of the present paragraph;
- g) to undertake a proficiency test of the English language;
- h) any dependence on a public administration referred to in paragraph 6, art. 2 of the present call for applications;
- i) to have read the regulations of the call for applications.

Candidates undertake to communicate promptly any change in their position as well as changes of residency, address or other details stated in the application;

3. Pursuant to art. 40, paragraph 1, D.P.R. 445/2000, no certificate issued by a public administration can be attached to the application form. If attached, the document will not be taken into account when evaluating the application.
4. Only qualifications issued by individuals and/or private organizations can be submitted.
5. Candidates must attach to the application form:
  - their own scientific-professional curriculum, duly dated and signed (except for those submitted via SPID for which neither date nor signature are required), in which each element useful for assessing qualifications and for carrying out any necessary checks on the veracity of self-certified data is specified in an analytical and precise manner;
  - any scientific publications deemed useful for selection (with up to a maximum of 30 contributions);
  - any documentation pursuant to art. 4 - paragraph 2 - letter c) of the present announcement and any other documentation useful for evaluation purposes;
  - a valid identity document and, if required, the Italian tax code.

Files in .pdf format must be free of macro-instructions and executable codes, and must have a maximum capacity of 30 MB;

6. It is forbidden to submit to documents and publications that have already been submitted for participation in other selection procedures organized by the University of Pavia.

7. Applications that are not signed, not dated and do not meet the necessary requirements will not be considered. Candidates whose application has been declared inadmissible will be duly notified of their exclusion from the selection.

8. The Administration is in no way responsible for the dispersal of communications due to incorrect details on the part of candidates regarding their residency and address, or due to missing or late communication regarding changes to residency and address, or for any technical problems encountered in the online procedure.

### **Art. 5** **Examining board**

1. Once the deadline for the presentation of applications for selection has passed, the Director of the Department of Earth and Environmental Sciences will nominate the examining board. The formal act of nomination will be published on the website of the Department.
2. The examining board is composed of three teaching staff designated by the Department Board.
3. The examining board must conclude its task within sixty days of the nomination date.
4. Examining board members are not remunerated.

### **Art. 6** **Selection procedure**

1. Selection of candidates is based on a joint comparative evaluation of the qualifications presented and an interview, together with a language test.
2. The examining board, in their comparative evaluation, can assign 100 points: 50 for the qualifications held and 50 for the interview.

The 50 points reserved for qualifications are divided on the basis of specific criteria defined in the table below:

TITOLO	PUNTEGGIO
Degree - Master's degree in Geological Sciences, Civil Engineering, Environmental Engineering or equivalent foreign degree	Up to 10 <90=2 90-99=3; 100-105=5; 106-109=8 >109=10
PhD qualification: major or minor Relevance to the subject of the research activity - (PhD in Earth and Environmental Sciences or Engineering is considered preferential)	Up to 10 points doctoral attendance or doctoral degree not related to the research activity=1 doctoral degree relevant to the research activity = 5 doctoral degree relevant to the subject of the research activity =10
Ability to perform geotechnical laboratory tests	Up to 20 points No experience = 0 limited experience = 1 point good experience = 10 points very good experience = 20 points

Participation in congresses and courses related to the research topic	Up to 5 points Participation in congresses and/or courses related to the topic of the research activity: 2 points (0,5 points/course) Participation in congresses as speaker: 3 points (1 point/congress)
- Publications in international journals related to the topic of the research	Up to 5 points (1 point per publication)

3. The evaluation of qualifications must, in any case, take place before the interviews begin.
4. The results of the evaluation of qualifications will be posted on the noticeboard of the relevant department on **June 13th, 2022 at 16:45** and communicated via telephone on +39 0382 985751.
5. Candidates who achieve an evaluation of qualifications of not less than thirty-five points are admitted to the interview. **The interview will take place on June 27th, 2022 at 09:00 through zoom mode.** The publication of the interview schedule will be considered as constituting notification to candidates who do not receive any other communication from the University administration office.

The 50 points reserved for the interview are divided on the basis of specific criteria defined in the table below:

ARTICOLAZIONE DEL COLLOQUIO ORALE	PUNTEGGIO
Discussion of the candidate's scientific production	Up to 15 points
Ability to conduct research on the topic of the grant	Up to 20 points
Research experience in the execution of geotechnical laboratory tests	Up to 15 points
Knowledge of the English language (example: reading text);	eligibility

6. The examining commission will evaluate, through an assessment of the qualifications and interview, that the candidate possesses the necessary knowledge to carry out the research. The board will also assess candidates' language knowledge English
7. Candidates will be considered to have passed the interview if they score more than 35 points.
8. In order to be admitted to the competition tests, candidates must present one of the following, valid, identity documents:
  - a) identity card;
  - b) driving licence;
  - c) passport.
9. Candidates who fail to appear for the admission tests will be considered to have withdrawn from the competition.
10. At the end of the interview session, in the test room, the President of the examining board will affix a list of the candidates who have taken the test and their relative score or, in the event of telematic interview, the results will be available at the secretariat of the structure, by contacting the following addresses (phone number:+39 0382 985065\_ email: marisa.scottini@unipv.it).
11. The examining board will draw up a report of the evaluation criteria, individual



assessments, candidates' overall scores and the ranking list.

#### **Art. 7**

##### ***Formation of the ranking list***

1. The ranking list is drawn up, in descending order, based on the total scores obtained by each candidate in the evaluation of qualifications and the interview. In instances where two or more candidates have the same score, the youngest candidate will prevail.
2. The Department Director, by decree, will ascertain the validity of the competition procedures and approve the ranking list. Candidates who place in the top positions of each ranking list will be considered as winners, subject to confirmation that they meet the requirements for participating in the selection procedure.
3. The winners' ranking list will be come into effect immediately and will be published on the noticeboard of the department where the competition was held as well as on the University's official online noticeboard at <http://www-5.unipv.it/alboufficiale/> and on the website of the Department of Earth and Environmental Sciences.  
The day successive to the publication of the ranking list on the University's online noticeboard will be taken as the period start date for any eventual appeals.
4. Should a winner withdraw, the candidate not meet the selection participation requirements or in cases where research activities have not commenced within the established period, research fellowships will be awarded to candidates who meet the criteria, in strict ranking list order.
5. A position on a competition winners' ranking list does not imply any priority for future selection procedures.

#### **Art. 8**

##### ***Publication of the competition procedure guidelines***

1. The University will make public the examining board's evaluation of each candidate.
2. Assessment results will be published on the noticeboard of the department where the competition test was held and/or available at the secretariat of the department.

**Art. 9**  
**Acceptance of research fellowships**

1. Winners should send to the Department of Earth and Environmental Sciences – Palazzina di Geologia - Via Ferrata 1 – 27100 Pavia the following documents within the final deadline indicated in the letter of communication:
  - a) a declaration of formal acceptance of the research fellowship via the form available at <http://www-assegni.unipv.it/modulistica-assegnisti/>;
  - b) a photocopy of a valid identity document;
  - c) photocopy of the Italian fiscal code;
  - d) copy of insurance form with the receipt of payment;
  - e) form for tax and social security declarations and indication of the bank details.

Winners must also provide a declaration that adheres to articles 46 and 47 of Presidential Decree dated 20 December 2000, n. 445 that includes the:

- a) date of birth, residency and citizenship;
- b) degree certificate (course duration not less than 4 years, as established by the teaching regulations in D.M. n. 509/1999) or a Master's degree/specialisation (pursuant to D.M. n. 509/1999 and n. 270/2004).

Winners - Italian, EU and non-EU citizens - in possession of a qualification awarded overseas (in a non-EU state), must provide a photocopy of their degree certificate, translated and legally validated, together with a declaration of value, certified, translated and legally validated, complete with an indication of the examinations taken, relative marks and course duration.

The declaration of value legal is issued by the competent Italian diplomatic representatives in the country where the institution that made the award is based.

- c) The (eventual) research doctorate obtained, specifying whether the candidate benefited from a scholarship during the course and the duration of the scholarship (as set out in the preceding lett. b);
- d) candidates should not be in receipt of another research fellowship for conducting a research, nor be contracted to collaborate in research activities;
- e) candidates should not hold concurrently the research fellowship and any form of scholarship or research fellowship unless they are awarded by national and overseas institutions for the purposes of supplementing, during an overseas assignment, the research activities;
- f) candidates should not hold a substitute teaching position in the schools; the research fellowship will be suspended in such case;
- g) candidates should be committed, if they intend to undertake an occasional work activity, to require, subject to complete fulfilment of their tasks and provided the conditions of art. 18 paragraph 5 of the grants' Regulation, the prior written authorisation of the teacher in charge of research, and of the Director of the structure where the research will be developed;
- h) candidates should not be enrolled, for the entire duration of the contract referred to in article 10 of this call for applications, on degree courses, specialist or short Master's course, doctorate courses benefiting from a scholarship or medical specialisations, in Italy or overseas, or on University Master's degree courses;
- i) candidates should not be related by marriage, consanguinity or affinity, including fourth degree relations, to teaching staff from the department/research centre or institution that is proposing to offer the contract, the Dean, the Director General or member of the University Administration Board pursuant to art. 18, comma 1, lett. b) and c) of Law n. 240 dated 30 December 2010;
- j) candidates should state whether they are employed at a public body referred to in comma 6, art. 2 of this call for applications and, if they are employed in such a

capacity, to request being placed on leave without remuneration for the entire duration of the contract for which they receive a research fellowship.

2. Candidates who have successfully passed the selection procedure but who do not express a desire to accept the research fellowship for the conducting of research activities by the deadline indicated at comma 1, will forfeit their right to the fellowship.
3. The Administration office reserves the right to check the veracity of that contained in winners' declarations. Should such declarations prove to be false, the candidate will forfeit all the benefits arising from the use of said documents and false declarations will be annulled.

#### **Art. 10**

##### ***Conferment of the research fellowship***

1. Research fellowships for the conducting of research activities are awarded under private law contracts in which contractual rights and obligations are stated. The contract will be stipulated within three months of acceptance. This type of contract does not constitute, in any way, a wage labour relationship.
2. Successful candidates will establish a participatory relationship with the University focused on the conducting of research activities. This relationship does not form part of the institutional structure of university teaching and the role of university researchers and cannot be considered useful in terms of gaining employment in Italian universities and university institutes.
3. Research fellowships, without exception, become effective from the first day of the month that succeeds that in which the contract was stipulated.
4. Deferments from this start date will only be authorised for successful candidates who can document that they were pregnant, recovering from giving birth or suffering from a serious illness on the date they were notified of the awarding of the research fellowship.
5. Candidates who are allowed to defer the start of their research activities must present to the Administration office a medical certificate in support of their claim for deferral. Candidates awarded research fellowships must begin their research activities on the first day of the months that succeeds the end of the deferral period.
6. Successful candidates who do not begin their research within the established deadline will forfeit their right to a fellowship.

#### **Art. 11**

##### ***Conducting research***

1. The activities of research fellows will be overseen by a team leader, appointed by the relative department, and will focus on activities closely related to a research programme, or a phase of this programme, and will not be concerned with the mere providing of technical support for the conducting of the research programme. Research activities will be defined in collaboration with the team leader and attached to the contract, referred to in article 10, of which it will be an integral part.
2. Research fellows will normally undertake their activities in the department where the team leader is based, making use of the instruments and services available there. Provided the team leader gives his/her consent, research activities may also be conducted in other University departments or at other qualified Italian or overseas centres.
3. Under motivated proposal of the Department, in accordance with the research Leader, holders of research fellowships related to scientific-disciplinary fields of medical-clinic

area, may undertake an assistance activity in support of the teacher in charge of the project, only if it is directly functional to the needs of the research project. This activity will take place in the manner and within the limits stipulated in the contract and, in the case of activities in Heath Companies, by special agreements between the University and the Companies themselves.

**Art. 12**  
***Mobility of research fellows***

1. The Director of the department that has offered the contract may, prompted by the project team leader, authorise research fellows to carry out study missions in Italy or overseas aimed at the establishment of research programmes and/or presentations to scientific conferences.

**Art. 13**  
***Evaluation of research activities***

1. Research fellows must, at least 30 days before the end of each year of activity, present to the Board of the department where the research is conducted a written report of the research undertaken, together with the team leader's appraisal. The Board will evaluate the merits of the research activities.

**Art. 14**  
***Insurance cover of research fellows***

The University of Pavia provides its research fellows with:

1. adequate protection INAIL against accidents through the mechanism of "management on behalf of the State" under D.P.R. dated 30 May 1965, n. 1124;
2. Insurance coverage for risks arising from Civil Responsibility.
3. The research fellows must provide, under their responsibility:
  - The insurance coverage for accidents, as recommended by the University;
  - The Civil Professional Responsibility insurance coverage related to health care, for holders of research fellowships related to the scientific-disciplinary sectors of medical-clinic area who perform assistance activities in support of the teacher responsible for the project.

**Art. 15**  
***Research fellows' teaching activities***

1. Subject to the scientific manager's authorisation, teaching assignments may be conferred to the research fellows in possession of research doctorates or specialist qualifications in the medical field pursuing Art. 23 of Law dated 30.12.2010, n. 240, with limit of 36<sup>1</sup> hours per academic year.
2. Subject to the team leader's authorisation, research fellows may conduct teaching activities/tutoring with limit of 36<sup>2</sup> hours per academic year.

---

<sup>1</sup> Also for the academic year 2021/2022, just resolutions of the governing bodies of the University and subsequent notes, the limit set by art. 15, paragraph 1, is raised to 60 hours and for the academic year 2022/2023 is raised to 48 hours.

<sup>2</sup> Also for the academic year 2021/2022, just resolutions of the governing bodies of the University and subsequent notes, the limit set by art. 15, paragraph 2, is raised to 60 hours and for the academic year 2022/2023 is raised to 48 hours.

3. Subject to the team leader's authorization, the research fellow may also collaborate with students in the research carried out for degree or doctoral theses concerning a topic related to the research covered by the collaboration agreement.
4. Research fellows' teaching activities must not interfere with their research.

**Art. 16**  
***Incompatibility***

1. Research fellowships cannot be granted to candidates who already hold other research grants or grants of collaboration to the research activity.
2. Research fellowships are incompatible with enrolment for the entire duration of the contract referred to in this call for applications, on degree courses, specialist or short Masters course, doctorate courses benefiting from a scholarship or medical specialisations, in Italy or overseas, or on University Master's degree courses;
3. Research fellowships cannot be awarded to candidates related by marriage, consanguinity or affinity, including fourth degree relations, to teaching staff from the department/research centre or institution that is proposing to offer the contract, the Dean, the Director General or member of the University Administration Board;
4. Research fellowships cannot be held concurrently with any form of scholarship or for research activities unless they are awarded by national or overseas institutions for the purposes of supplementing, during an overseas assignment, the research activities;
5. Research fellows may not accept a substitute teaching position in the schools; the research fellowship will be suspended in such case.
6. Subject to the team leader and Department Director's written authorisation, research fellows may accept occasional working contracts if:
  - these do not interfere with their research activities;
  - these are compatible with the research activities;
  - these do not involve a conflict of interest with the research activities.

**Art. 17**  
***Interruptions***

1. Research activities may be interrupted, provided notification is given, should research fellows fall pregnant, need to recover after giving birth or suffer from a serious illness
2. The overall duration covered by the research fellowship cannot be reduced because of interruptions referred to in the previous comma.
3. The research fellowship will be suspended during periods when research activities are interrupted.

**Art. 18**  
***Termination of the contractual arrangement***

1. The contract between the University and the research fellow will be terminated, without notice, in the following cases:
  - a) unjustified delay to commencing research activities;
  - b) violating the current incompatibility regulations concerning the awarding of research fellowships for research activities;
  - c) a negative evaluation of the research activities by the board of the department where the research is conducted, in instances of multi-year grant awards.

2. The team leader may communicate serious shortcomings, in writing, to the research fellow. The department board may decide to terminate the contract if the research fellow's justifications are deemed unsatisfactory.

**Art. 19**  
***Withdrawals***

1. Research fellows who wish to withdraw from the contract should communicate their decision to the department in order for the subsequent measures to be taken.

**Art. 20**  
***Return of certificates***

1. Candidates should arrange, at their own expense, for their degree certificates and published works presented during the selection process to be returned once three months have passed since the publication of the ranking list.
2. Once six months have passed since the publication of the ranking list, the University cannot in any way be held responsible for the documents and published works presented by the candidates during the selection process.

**Art. 21**  
***Handling of personal data***

1. The personal data provided by the candidates in their applications, pursuant to General Data Protection Regulation – Regulation (EU) 2016/679, shall be processed for the purposes of managing the selection procedure and the contract. Selection procedure manager is the Director of Department of Earth and Environmental Sciences, Prof. Graziano Rossi.

Candidates are entitled to the rights stated in the decree mentioned above regarding access to personal data, its modification, updating, integration, cancellation or regarding inaccurate, incomplete or illegally-collected data, as well as reserving the right to oppose any use of the data other than the institutional purposes stated above.

**Art. 22**  
***Head of administrative procedures***

1. Pursuant to article 5 of the Law dated 7 August 1990, n. 241 and subsequent modifications and integrations, the Head of Administrative Procedures overseeing the individual competition tests referred to in this call for applications is Doctor Alessandro Cespi Polisiani – Department of Earth and Environmental Sciences - Palazzina di Geologia – Via Ferrata 1 – 27100 Pavia Tel. 0382985751

**Art. 23**  
***Reference regulations***

1. Though not explicitly stated in this call for applications, current laws and the University's own internal regulations will be applied.

The english language translation does not have legal value in itself, and thus does not supersede the italian version of the call announcement (bando).

Only the Italian version of this call for applications will be binding in case of controversies.

Pavia, protocol date

THE DIRECTOR  
Prof. Graziano Rossi  
(digitally signed document)

## State of the art

Severe drought is known to be very detrimental to both grape yield and wine quality and, therefore, conducive to higher use of irrigation water. Viticulture developed at higher altitudes under variable slopes identifies the main environmental problem that DRIVE plans to address—that is, how to tackle the issue of concurrent meteorological drought and water scarcity, finding solutions for improved vineyard ecosystems resilience. In such areas, water scarcity associated to a lack in the “culture” of grapevine water relations (e.g. knowledge on if, why, how and when a significant water stress develops in the vineyard) fosters land abandonment and all related environmental problems (e.g shallow landslides).

Pilot sites of DRIVE are located in two large grape districts (Oltrepò Pavese in Lombardy and Colli Piacentini in Emilia Romagna) where the raised environmental problem has become very serious. Six demo farms were selected as test-sites, in order to represent the different geological, geomorphological and land use features of the territory.

Different management practices were implemented in demo farms: Green manure, Nitrofert, Humusfert, Stratus, Rolling, Swath.

In each demo farm, a set of monitoring tools were installed to measure in time the trends of the main meteorological (rainfall, air temperature, air humidity, atmospheric pressure, wind speed and direction, solar radiation) and soil hydrological (soil water content, soil electrical conductivity, soil temperature) parameters.

The post doc project is part of the actions B2 of the project LIFE DRIVE. The main objectives of Action B2 “Demonstration in vineyards” are:

- *To test monitoring tool (MT) in demo-vineyards and achieve increased storage and improved use of natural water resources in vineyard with limited or no availability of supplemental water for irrigation. This objective will be pursued, in each demo vineyard, through comparisons between local practice and a “water resilient management” where more techniques are demonstrated.*
- *To asses benefits rising from the use of the MT and, through farmers' feedbacks, provide information for improved fine tuning.*

## Post-doc project objectives

- *to evaluate the effect induced by different management practices in vineyards on hydrological behaviors of the soil, in particular relating to the dynamics in soil water content SWC in different seasons.*
- *to develop a method to determine the bulk density through SWC and its variation with the time*
- *to study the effects of “water resilient management” on slope stability.*

## Description of the work

*WP1 - Study of soil hydrological behaviors in the different management practices in vineyards, through the analysis of the monitoring station data. Soil water content dynamics monitored by the sensors will allow to highlight differences in terms of soil hydrological responses, occurrence of water stress conditions, amount of stored soil water content during wet and dry periods.*

*WP2 - Measurement of the main hydraulic and hydrological properties of the soils will be carried out in the test sites. Saturated hydraulic conductivity, at different depths of the soil profile, will be measured in the field through a constant head permeameter device. Furthermore, infiltration capacity will be determined in the field by an infiltrometer. Soil water retention curves will be measured in the laboratory for undisturbed soil samples taken at different depths in the soil profiles*

*WP3 - Development of a methodology for the measure of the bulk density, that is generally very*



difficult to determine *in situ*, through soil water content measures (SWC)

- i. measures of *in situ* water content with TDR in demo farms (at the same time undisturbed samples will be collected for the bulk density SBD and soil water content SWC determination).
- ii. Reconstruction at the Laboratory of Engineering Geology and Geotechnique of the University of Pavia of samples with different SWC and SBD apply and improve the new algorithm implemented into a software by Bittelli et al 2021 for simultaneous measurement of SWC and SBD using TDR.

WP4 - Hydrological models (e.g.Criteria3D (Bittelli et al., 2010)) will be used to solve the equations of water transport on surface and within the soil in a 3D domain, coupled with the plant transpiration and soil evaporation. Phenology model has to compute the plant development during both dormancy and growing season, while plant growth model has to estimate plant's water uptake. This model will allow for computation of soil water balance in 3D at vineyard slope scale. The model provides spatially- and temporally-distributed data about soil moisture, hydraulic heads and flow fields. The results of the model will be used for shallow landslide hazard assessment.

WP5 - Evaluation of the impact of different vineyards soil management on shallow landslides triggering and temporal occurrence through simplified and physically-based methods

WORK PACKAGE	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12
WP1 - Study of soil hydrological behaviors in the different management practices in vineyards, through the analysis of the monitoring station data												
WP2 - Measurement of the main hydraulic and hydrological properties of the soils												
WP3 - Development of a methodology for the measure of the bulk density												
WP4 - Hydrological models												
WP5 - Evaluation of the impact of different vineyards soil management on shallow landslides												

The WP1 may be carried out in smart working. The other WP's must be developed in presence at the Department of Earth and Environmental Sciences of the University of Pavia.