

Purpose: Public comparative procedure for the recruitment of 27 researchers with a full-time fixed-terms employment contract for three years, pursuant to art. 24 paragraph 3 letter a) (junior) of Law no. 240/2010, as part of the National Recovery and Resilience Plan (PNRR), Mission 4 "Education and Research" - Component 2 "From Research to Business.

## THE DIRECTOR

**WITH REFERENCE TO** the Regolamento UE of February 12th, 2021, no. 2021/241, which established the Dispositivo per la Ripresa e la Resilienza;

- WITH REFERENCE TO the National Recovery and Resilience Plan (PNRR), presented to the European Commission on April 30<sup>th</sup> 2021 pursuant to art. 18 of Regulation (EU) no. 2021/241 and approved by decision of the ECOFIN Council of July 13<sup>th</sup> 2021 notified to Italy by the General Secretariat of the Council with note LT161 / 21 of July 14<sup>th</sup> 2021, which plan consists of 6 missions and 16 components, and in particular considering the Mission 4 Component 2 (M4C2) "From Research to Business" which aims to support investments in research and development, to promote innovation and the diffusion of technologies, to strengthen skills by promoting the transition to a knowledge-based economy , covering the entire supply chain of the research and innovation process, from basic research to technology transfer;
- **WITH REFERENCE TO** the Projects approved under the PNRR and related to the following notices:

«Public notice for the presentation of intervention proposals for the Strengthening of research structures and creation of "national samples" of R&D on some Key Enabling Technologies to be financed under the National Recovery and Resilience Plan», announced with Directorial Decree n.3138 of 16<sup>TH</sup>12/2021 (socalled National Championships Announcement);

«Notice for the presentation of intervention proposals for the creation and strengthening of innovation ecosystems», announced with Directorial Decree no. 3277 of 30<sup>th</sup> December, 2021 (so-called Innovation Ecosystems Call);

«Public notice for the presentation of project proposals for "Strengthening and creation of Research Infrastructures"» to be funded under the NRP, announced with Directorial Decree no. 3264 del 28<sup>th</sup> December, 2021 (so-called Research Infrastructure Call);







	«Public notice for the presentation of intervention proposals for the creation of "Partnerships extended to universities, research centers, companies for the financing of basic research projects"», announced with Directorial Decree no. 341 of 15th March 2022, hereinafter "Extended Partnership Notice";
WITH REFERENCE TO	the notice published in the Official Gazette - 4th special series of 8 <sup>th</sup> November 2022 with which the University of Bologna has published a call for the assignment of fixed-term research contracts of type a), pursuant to law no. 240, art. 24, paragraph 3, letter a) (RTDA) to be applied to PNRR resources
WITH REFERENCE TO	the rules referred to in Article 13 of the present call for application;
WITH REFERENCE TO	the resolutions and decrees issued in September and October 2022 by the Departments for which the positions are activated;
WITH REFERENCE TO	the resolutions of Board of Governors of 27 <sup>th</sup> September 2022 and 24 <sup>th</sup> October 2022;

#### ORDERS

#### Art. 1 – Purpose

Procedures of comparative evaluation by qualifications and public discussion are called for the recruitment of 27 researchers with a full-time fixed-term employment contract for three-year pursuant to art. 24 paragraph 3 letter a) (junior) of Law no. 240/2010.

An annual gross salary equal to  $\in$  36.840,00 will be corresponded. The annual increase in this amount will be calculated according to the existing procedure for non-contracted personnel.

The contracts are activated with resources from the National Recovery and Resilience Plan (PNRR).

The specific elements of each position are defined in the relative attachment. In the case of procedures for the selection of several positions, the specific elements of each of them will be specified in the relative attachment.

In the following articles, where there are specific elements of each selection, reference is made to the attachments.

#### Art. 2 – Activities to be performed

The researchers will have to carry out 350 hours of supplementary teaching and assistance to students, for each academic year covered by the contract.

The hours of frontal teaching on annual basis are indicated in each attachment.

If required by each attachment, the researchers will perform medical care service in line with the methods defined by the hospital for all contracted university research staff.







In this regard, Articles 5 and 6 of Italian Legislative Decree 517/99 and amendments are applied, as well as regional laws and local agreements.

The medical activity will be related to the research projects described in this call for applications.

Concerning the provisions of art. 10 of the Reg. regarding fixed term researchers, issued by Rectoral Decree no. 344 of March 29<sup>th</sup> 2011 and amendments, the project that each winner will have to develop and the scientific productivity objectives are explained in the relative attachment.

## Art. 3 – Admission requirements

The selection is also open to those who come from non-EU countries.

Each attachment specifies the necessary requirement to be able to participate in the relative selection.

In particular, either the possession of the PhD or, for the sectors concerned, of a medical specialization diploma may be required, obtained in Italy or abroad, as well as the authorization to practice medicine in Italy.

In any case, applicants must be in possession of qualification at the date of the deadline for the submission of applications to the present selection.

In case of PhD obtained abroad, please include a statement of equipollence with the Italian PhD title pursuant to art. 74 of D.P.R. 382/1980 or the statement of equivalence with the Italian PhD title pursuant to art. 38 of Legislative Decree. N. 165/2001.

In case of High School of Specialization obtained abroad, please include a statement of equivalence with the Italian title pursuant to art. 38 of Legislative Decree. N. 165/2001, or art. 74 of D.P.R. 382/1980.

In both cases, pending the release of the only result of equivalence by the designated offices, it is possible to produce the delivery receipt of the request instance of the same (for the release procedure, see page:

http://www.cimea.it/it/servizi/procedure-di-riconoscimento-dei-titoli/riconoscimento-nonaccademico.aspx).

In any case the proof of the equivalence of the foreign qualification must be produced to the administration prior to beginning service.

Applications from professors, associate professors, or researchers with tenure will not be accepted, even if the applicant is not in service.

The selection is not open to any persons who are related by blood up to the fourth degree, to a professor working in the Department that proposed the activation of the single contract, or to the Rector, Director General or a member of the Board of Governors of the University. Furthermore, the selection is not open to anyone who has had research fellowship or fixed-term researcher contracts at the University of Bologna or any other state-funded, private-funded or distance-learning Italian university pursuant to articles 22 and 24 of Italian Law 240/2010, or with any other body listed in paragraph 1 of Art. 22 of Italian Law 240/2010 for a period which, summed to the foreseen duration of this contract, exceeds a total of 12







years, even if not consecutive. For the purposes of the duration of the above-described periods, in compliance with the laws in force any periods of maternity or sick leave shall not be calculated.

State employees may on unpaid leave for the entire duration of the contract, thus occupying a non-tenure position without pay or social security contributions, in cases where such a position is allowed by the structure of origin, likewise without pay or social security contributions.

#### Art. 4 – Application procedure

The submission of the applications for participation in the selections must be made exclusively via electronic procedure by accessing the following link:

## https://personale.unibo.it

# Regarding all procedures, the deadline is the following: 24<sup>th</sup> November 2022 at 12:00 (noon, Italian Time).

The application must be submitted at the same time with the insertion of all the attached documentation required.

The following documents shall be enclosed to the electronic application form (preferably files: PDF, other supported files: JPG, BMP, PNG):

- 1. identification document scanned (10MB max);
- 2. curriculum vitae with indication of the scientific-professional activity (10MB max);
- 3. reference letters, if any. Letters can be submitted directly by the candidate uploading it during the application, in case of possession (10MB max), or can be submitted by the referee. In this case candidates should provide the referee e-mail address. When the application is closed, the system will send an automatic request to the referee, referring to the candidate and the procedure. The referee must submit his letter through the link into the e-mail. At this address he/she will upload his/her letter by the application deadline in order to be considered as part of the candidate's application.
- 4. scientific publications (other supported files are TIFF and PS, 20MB max each document) which are already printed at the date of the call of application deadline, or scientific publications accepted for printed, together with the editor acceptance letter. While uploading each document will be asked to indicate the title, the authors' names, the editor, the year of publication. Optional information are the month, the ISBN code, the DOI code, the booklet number.

Pursuant to Ministerial Decree 243/11, the PhD thesis is considered a publication, and thus if presented by the candidate it shall be included in the maximum number of publications indicated in each attachment.

While applying, applicants shall declare under their own responsibility:

- 1. surname and name;
- 2. place and date of birth;
- 3. citizenship;
- 4. residence address;







- 5. (if Italian citizens) registration to electoral rolls. If any, the reasons why he/she is not registered or cancelled from them;
- 6. that there have not been any criminal proceeding against them or current criminal proceedings; otherwise, applicants shall specify the proceedings against them (the date of the measure and the judicial authority that issued it) and pending penal proceedings. The existence of a previous criminal conviction is not in itself an impediment to hiring, unless it is a conviction for a crime that prevents the establishment of the employment relationship with the public administration as it derives from the interdiction from public office, o the inability to contract with the public administration, or the termination of the employment relationship (articles 28, 29, 32ter, 32-quater, 32-quinquies of the Criminal Code, articles 3,4, 5, L. 97 of March 27, 2001). In other cases, the Administration will ascertain the gravity of the criminally relevant facts committed by the person concerned, for the purposes of access to public employment. This check is carried out with the aim of ascertaining the existence of the fiduciary element which constitutes the fundamental prerequisite of the relationship between employer and worker, as well as for the purpose of assessing the existence of the requisites of moral suitability and aptitude to carry out activities as a public employee;
- 7. to have or not to have benefited of non-voluntary leave periods due to maternity/paternity compulsory abstention or for serious health reasons, indicating the periods in case
- 8. possession of the qualification required pursuant to Art. 3 of this call for application and the mark obtained, if any;
- 9. to be fit to the employment the selection refers to;
- 10. that they are not, nor have been, professors, associate professors or researchers with tenure, even if not in service;
- that they are not related by blood up to the fourth degree, to any professor working in the Department that proposed the activation of the single contract, or to the Rector, Director General or a member of the Board of Governors of the University of Bologna;
- 12. elected e-mail address for the purpose of the participation in this contest;
- 13. Foreign citizens shall also declare to have a proper knowledge of Italian and to enjoy civil and political rights also in their origin countries or the reasons for loss of enjoyment.

Any modification shall be timely communicated to the Ufficio Ricercatori a tempo determinato.

In case of technical problems, contact the support: <a>assistenza.cesia@unibo.it</a> .

## Art. 5 – Applicants' obligations

The penalty of exclusion from the selection shall apply in the following cases:

• Non compliance with the terms and procedures for submitting the application form indicated in article 4 of this call for applications;







• Lack of the qualification required to participate in the selection indicated in each attachment.

All applicants shall be admitted to the contest and the Administration reserves the right to check that they actually are in possession of the requirements necessary to apply for the selections; the Administration may, at any time and even after the exams, order the exclusion from the selection hereto.

## Art. 6 – Selection Board

With regard to each procedure, the Selection Board will be appointed upon administration resolution and is composed of three full or associate professors belonging to the competition Scientific sector or, alternatively, to the same competition macro-sector for which the procedure is announced or of equivalent role in the case of components not coming from national universities, identified by the Department that proposed the activation of the contract.

Two of the members, external to the University, are drawn with the methods provided by the art. 8-bis of the "Regolamento per la disciplina delle chiamate dei Professori di Prima e Seconda fascia" in application of articles 18 and 24 of the Law 240/2010 issued with DR 977/2013 and s.m. A third component is identified by the Department Council among the professors inside or outside the University. As envisaged by art. 57 of Legislative Decree 165/2001, in order to guarantee equal opportunities between men and women for the access to work and work treatment, generally, at least one member is female.

The Commission appoints a president and a recording secretary between their members. Notice of the appointment of each Commission will be published on Alma Mater Studiorum - University of Bologna website.

#### Art. 7 – Selection procedure

With regard to each procedure, the selection procedure is carried out by the Board after a preliminary evaluation of each candidate's qualifications, curriculum and scientific production, including the doctoral thesis, according to the criterion identified by the MUIR in D.M. 243/2011.

The candidates chosen in the preliminary evaluation based on their comparative merits - between 10 and 20% of the number of applicants and not less than 6 - will then be called for interview. The interview will consist of a discussion of the candidate's qualifications and scientific production and may take the form of a seminar open to the public. If the total number of candidates is 6 or less all candidates will be interviewed.

Any reference letters produced by the candidates will also be considered.

The discussion will take place in the language indicated in each attachment.

With regard to each procedure, the public discussion with the Commission will take place starting from 12<sup>th</sup> December 2022, and it will be carried out in public form and electronically using the audio and video teleconferencing tool via the Teams platform (the workstation from which candidates will take do the interview must be equipped with a webcam - essential for the recognition of the candidate - microphone and headphones and/or audio







speakers), according with the legislative and regulatory provisions regarding the containment and management of the epidemiological emergency from COVID-19 and also considering the evolution of the health emergency.

With reference to each procedure, the notice of the day and time in which the public discussion will take place will be announced together with the publication of the list of admitted candidates on the University website at: <u>https://bandi.unibo.it/docenti/rtd</u>.

The publication on the University website will constitute official notification to all applicants, without any obligation for any further communication.

The publication will be communicated by e-mail to the address indicated by the candidates in the application.

The Alma Mater Studiorum - University of Bologna does not assume any responsibility for the non-receipt or the not-read of the e-mail.

It is up to candidates to keep themselves informed by consulting the University website page to find necessary information about selection.

Candidates attending the interview must bring a valid identification document with them.

EU citizens shall bring their passport or an identity document issued by their country of origin. Non-EU citizens shall bring their passport.

## Art. 8 – Ranking List and recruitment

With regard to each procedure, after the exams, the Board shall prepare the general final list based on the merits.

On equal merits, priority will be allocated according to date of birth and the youngest one shall prevail.

In the event that a procedure is announced for two or more positions and for two or more research projects or separate locations are envisaged, the candidate placed first in the ranking will have the right to choose the research project to be developed or the location (in the event that the project is unique, but there are two or more locations). The second candidate in the ranking will have to choose from the remaining projects or locations, and so on up to the last candidate usefully placed in the ranking, to whom the remaining project or location will be assigned.

The list based on merits is approved pursuant to the administration resolution and will be published in Alma Mater Studiorum – University of Bologna Official Bulletin.

The terms to raise any appeal shall start from the date of publication of said notice in case the resolution has not been otherwise disclosed.

The use of the final candidate list is strictly bound to study and research needs related to the scientific sector provided for each procedure.

The Department that activated the single position will propose recruitment by a majority vote of the professors and associate professors of the Department and approved by the Board of Governors. The Department will also propose the start date of the employment relationship.







## Art. 9 – Employment procedures

Following the conclusion of the recruitment procedure referred to in art. 9, the candidates will be asked to sign a fixed-term contract of full-time or defined-time employment.

The employment relationship is governed by a personal contract, statutory laws and EC regulations.

In the event that the research project is in the medical field and provides for the performance of medical activity, the latter is governed by the national collective agreement for medical staff and by the specific appointment conferred by the hospital facility where the researcher will carry out the activity.

The personal contract shall specify any reasons for which it might be terminated, as well as the relevant periods of notice. In any case the contract will be terminated immediately and without notice in the event of the cancellation of the recruitment procedure to which it is inalienably linked.

The trial period shall last three months. At the end of the period, unless the employment relationship has been terminated by either of the parties, the employee is confirmed for service and the whole period worked from the beginning of the contract shall be calculated for seniority purposes.

# Art. 10 – Documentation required for the participation in the public selection and for hiring purposes

For the purposes of participation in the public selection, documents and qualifications in English, French, German and Spanish can be produced in the language of origin. Documents and qualifications written in other languages must be presented in the original language with an Italian or English translation attached. The translation must be true and correct, written by an Italian consular, a qualified diplomatic representative, or an official translator.

Regarding the documentation necessary for hiring purposes, all the documents written in any foreign language shall be accompanied by a true and correct translation into Italian, written by an Italian consular, a qualified diplomatic representative, or an official translator.

## Art. 11 – Rights and duties of a researcher with a fixed-term contract of employment

In accordance with the rights and duties of public employees prescribed by the Italian civil code, on signing the contract the researcher will be expected to perform all those activities mentioned for each position in the relative attachment as well as to carry out the research periods in the company and abroad (the latter only where applicable).

In the event that medical assistance services are provided, the researcher will also assume rights and duties related to this activity.







These activities will be carried out in respect of the existing hierarchy and in coordination with existing programmes and research projects.

The researchers will perform the requested activities in person, substitution is not permitted. Existing Italian laws concerning maternity, injury and illness will be applied.

The researcher undertakes to fulfill the obligations of conduct prescribed by the code of conduct, issued by DPR 62/2013.

## Art. 12 – Processing of personal data and person in charge for the contest

Information about the processing of personal data (provided during the application process) are available at the link: <u>www.unibo.it/privacy</u> (Notice for participants in contests and selections published by the University).

The person in charge of the contest is Mr. Gianfranco Raffaeli, Responsabile dell'Ufficio Ricercatori a tempo determinato - Piazza Verdi n. 3 - 40126 Bologna.

For further information, please contact: Ufficio Ricercatori a tempo determinato dell'Alma Mater Studiorum - Università di Bologna – Piazza Verdi n. 3 - Tel. +39 051 2099617 – 2098958 - 2098972, Fax 051 2086163; e-mail: <u>apos.ricercatoritempodeterminato@unibo.it</u>.

## Art. 13 – Reference Regulations

The present notice is issued based on the following regulations:

- Art. 24 of Law no. 240 dated December 30th, 2010;
- D.P.R. (Decree of the President of the Republic) no. 445 dated December 28th, 2000;
- Leg. Decree no. 165 dated March 30th, 2001;
- Law 241/1990;

Regulation for fixed-term researchers of Alma Mater Studiorum – University of Bologna,
(link:

http://www.normateneo.unibo.it/NormAteneo/Regolamento\_ricercatori\_a\_tempo\_determin ato.htm).

For the Director of Area del Personale f.to digitalmente Giovanni Longo







#### Attached documents:

- Summary table of activated positions
- Att. 1 Dep. of Biological, Geological, and Environmental Sciences BiGeA, SSD BIO/03, 1 position;
- Att. 2 Dep. of Biological, Geological, and Environmental Sciences BiGeA, SSD BIO/05, 1 position;
- Att. 3 Dep. of Chemistry "Giacomo Ciamician" CHIM, SSD CHIM/12, 1 position;
- Att. 4 Dep. of Civil, Chemical, Environmental, and Materials Engineering DICAM, SSD ICAR/08, 1 position;
- Att. 5 Dep. of Civil, Chemical, Environmental, and Materials Engineering DICAM, SSD ING-IND/22, 1 position;
- Att. 6 Dep. of Civil, Chemical, Environmental, and Materials Engineering DICAM, SSD ING-IND/24, 1 position;
- Att. 7 Dep. of Physics and Astronomy "Augusto Righi" DIFA, SSD FIS/05, 1 position;
- Att. 8 Dep. of Agricultural and Food Sciences DISTAL, SSD AGR/03, 1 position;
- Att. 9 Dep. of Agricultural and Food Sciences DISTAL, SSD AGR/07, 1 position;
- Att. 10 Dep. of Agricultural and Food Sciences DISTAL, SDD AGR/08, 1 position;
- Att. 11 Dep. of Agricultural and Food Sciences DISTAL, SSD AGR/013, 1 position;
- Att. 12 Dep. of Civil, Chemical, Environmental, and Materials Engineering DICAM, SSD ICAR/02, 1 position;
- Att. 13 Dep. of Civil, Chemical, Environmental, and Materials Engineering DICAM, SSD ICAR/07, 1 position;
- Att. 14 Dep. of Civil, Chemical, Environmental, and Materials Engineering DICAM, SDD ICAR/09, 2 positions;
- Att. 15 Dep. of Experimental, Diagnostic and Specialty Medicine DIMES, SSD BIO/11, 1 position;
- Att. 16 Dep. of Experimental, Diagnostic and Specialty Medicine DIMES, SSD MED/07, 2 positions;
- Att. 17 Dep. of Agricultural and Food Sciences DISTAL, SDD AGR/15, 2 positions;
- Att. 18 Dep. of Medical and Surgical Sciences DIMEC, SSD MED/09, 1 position;
- Att. 19 Dep. of Medical and Surgical Sciences DIMEC, SSD MED/13, 1 position;
- Att. 20 Dep. of Medical and Surgical Sciences DIMEC, SSD MED/17, 1 position;
- Att. 21 Dep. of Medical and Surgical Sciences DIMEC, SSD MED/43, 1 position;







- Att. 22 Dep. of Experimental, Diagnostic and Specialty Medicine DIMES, SSD MED/06, 1 position;
- Att. 23 Dep. of Cultural Heritage DBC, SSD L-FIL-LET/07, 1 position;
- Att. 24 Dep. of Sociology and Business Law SDE, SSD SPS/09, 1 position;

Department	Call	CUP	Project	Project Code	Academic Recruitment Field	Academic Discipline	nr. Positions	Campus
Biological, Geological,		001	110,000	110,000,0000		BIO/03 - Environmental		Gampus
and Environmental Sciences - BiGeA	CN	J33C22001190001	BIODIV	CN00000033	05/A1 – Botany	and Applied Botany	1	Bologna
Biological, Geological, and Environmental Sciences - BiGeA	CN	J33C22001190001	BIODIV	CN00000033	05/B1 - Zoology and Anthropology	<u>BIO/05 - Zoology</u>	1	Bologna
Chemistry "Giacomo Ciamician" - CHIM	ECO	J33C22001240001	ECOSYSTER	ECS00000033	03/A1 - Analytical Chemistry	<u>CHIM/12 - Chemistry for</u> <u>The Environment and</u> <u>for Cultural Heritage</u>	1	Bologna
Civil, Chemical, Environmental, and Materials Engineering - DICAM	CN	J33C22001120001	MOBILITY	CN00000023	08/B2 – Structural Mechanics	ICAR/08 – Structural Mechanics	1	Bologna
Civil, Chemical, Environmental, and Materials Engineering - DICAM	CN	J33C22001120001	MOBILITY	CN00000023	09/D1 - Materials Science and Technology	ING-IND/22 - Materials Science and Technology	1	Bologna
Civil, Chemical, Environmental, and Materials Engineering - DICAM	ECO	J33C22001240001	ECOSYSTER	ECS00000033	09/D2 – Systems, Methods and Technologies of Chemical and Process Engineering	<u>ING-IND/24 -</u> <u>Fundamentals of</u> <u>Chemical Engineering</u>	1	Bologna
Physics and Astronomy "Augusto Righi" - DIFA	IR		STILES	IR0000034	02/C1 - Astronomy, Astrophysics, Earth and Planetary Physics	FIS/05 – Astronomy and Astrophysics	1	Bologna
Agricultural and Food Sciences - DISTAL	CN	J33C22001150008	AGRI	CN00000022	07/B2 – Arboriculture and Forest Systems	AGR/03 – Arboriculture and Fruitculture	1	Bologna
Agricultural and Food Sciences - DISTAL	CN	J33C22001150008	AGRI	CN00000022	07/E1 – Agricultural Chemistry, Agricultural Genetics and Pedology	AGR/07 – Agricultural <u>Genetics</u>	1	Bologna
Agricultural and Food Sciences - DISTAL	CN	J33C22001150008	AGRI	CN00000022	07/C1 – Agricultural, Forest and Biosytems Engineering	AGR/08 – Agricultural Hydraulics and Watershed Protection	1	Bologna
Agricultural and Food Sciences - DISTAL	CN	J33C22001150008	AGRI	CN00000022	07/E1 – Agricultural Chemistry, Agricultural Genetics and Pedology	AGR/13 – Agricultural Chemistry	1	Bologna
Civil, Chemical, Environmental, and Materials Engineering - DICAM	PE	J33C22002840002	PE3 - RETURN	PE00000005	08/A1 – Hydraulics, Hydrology, Hydraulic and Marine Constructions	ICAR/02 – Hydraulic Structures, Maritime Engineering and Hydrology	1	Bologna
Civil, Chemical, Environmental, and Materials Engineering - DICAM	PE	J33C22002840002	PE3 - RETURN	PE00000005	08/B1 – Geotechnics	ICAR/07 – Geotechnics	1	Bologna
Civil, Chemical, Environmental, and Materials Engineering - DICAM	PE	J33C22002840002	PE3 - RETURN	PE00000005	08/B3 – Structural Engineering	ICAR/09 – Structural Engineering	2	Bologna
Experimental, Diagnostic and Specialty Medicine - DIMES	PE	J33C22002920006	PE6 - HEAL ITALIA	PE0000019	05/E2 - Molecular Biology	<u>BIO/11 - Molecular</u> <u>Biology</u>	1	Bologna
Experimental, Diagnostic and Specialty Medicine - DIMES	PE	J33C22002870005	PE13 - INF-ACT	PE0000007	06/A3 - Microbiology and Clinical Microbiology	MED/07 - Microbiology and Clinical Microbiology	1	Bologna
Experimental, Diagnostic and Specialty Medicine - DIMES	PE	J33C22002870005	PE13 - INF-ACT	PE0000007	06/A3 - Microbiology and Clinical Microbiology	MED/07 - Microbiology and Clinical Microbiology	1	Forlì
Agricultural and Food Sciences - DISTAL	PE	J33C22002860001	PE10 - ONFOOD	PE0000003	07/F1 – Food Science and Technology	AGR/15 – Food Science and Technology	1	Bologna
Agricultural and Food Sciences - DISTAL	PE	J33C22002860001	PE10 - ONFOOD	PE0000003	07/F1 – Food Science and Technology	AGR/15 – Food Science and Technology	1	Cesena
Medical and Surgical Sciences - DIMEC	PE	J33C22002860001	PE10 - ONFOOD	PE0000003	06/B1 - Internal Medicine	<u>MED/09 - Internal</u> Medicine	1	Bologna
Medical and Surgical Sciences - DIMEC	PE	J33C22002860001	PE10 - ONFOOD	PE0000003	06/D2 - Endocrinology, Nephrology, Food and Wellness Science	MED/13 - Endocrinology and Metabolism	1	Bologna
Medical and Surgical Sciences - DIMEC	PE	J33C22002870005	PE13 - INF-ACT	PE0000007	06/D4 - Skin, Infectious and	MED/17 - Infectious	1	Bologna
Medical and Surgical Sciences - DIMEC	PE	J33C22002970002	PE12 - MNESYS	PE000006	Gastrointestinal Diseases 06/M2 - Forensic and Occupational Medicine	<u>Diseases</u> <u>MED/43 - Forensic</u> <u>Medicine</u>	1	Bologna
Experimental, Diagnostic and Specialty Medicine - DIMES	PE	J33C22002920006	PE6 - HEAL ITALIA	PE0000019	06/D3 - Blood Diseases, Oncology and Rheumatology	<u>MED/06 - Medical</u> <u>Oncology</u>	1	Bologna
Cultural Heritage - DBC	PE	J33C22002850006	PE5 - CHANGES	PE0000020	10/D2 - Greek Language and Literature	<u>L-FIL-LET/07 -</u> Byzantine Civilization	1	Ravenna
Sociology and Business Law -SDE	PE	J33C22002900006	PE8 - AGE-IT	PE0000015	14/D1 – Economic Sociology, Sociology of Work, Urban and Environmental Sociology	<u>SPS/09 - Economic</u> Sociology and Sociology of Work and Organizations	1	Forlì







# ATTACHMENT 1

- Department: Department of Biological, Geological, and Environmental Sciences BIGEA
- SC: 05/A1 Botany
- SSD: BIO/03 Environmental and Applied Botany
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found Call CN BIODIV "National Biodiversity Future Center", Code CN00000033
- **CUP:** J33C22001190001
- Project manager: Alessandro Chiarucci
- Project title: Planning area-based conservation for maximizing plant species protection in Europe
- Duration of contract: 36 months
- Brief description of the project: Activities foreseen in the declaration of the national Scientific Field BIO/03 Environmental and Applied Botany, with special reference to research and teaching in the field of the investigation of the distribution of vascular and non vascular plants, as well as their assemblages, in the geographic space, for the goal of developing analyses and scenarios to maximize the conservation planning strategies. In particular, large amount of plant occurrence and co-occurrence data stored in national and international databases, will be investigated by using specialized analytical techniques, to compare the present distribution of species diversity gradients at different spatial scales, in relation to the geographic, climatical, ecological and land use gradients, to produce predictions based on future scenarios. One strategic objective is to produce scenarios for the expansion of protected areas, as foreseen by the European Biodiversity Strategy 2030
- **Objective of the research project:** Over the three-year period, the researcher's scientific productivity objectives are to publish at least 6 publications in international peer reviewed journals, of which at least 3 as the lead author, in addition to the presentation of the obtained results at national and/or international scientific conferences. The researcher is also expected to play an active role in the conceptualization and writing of project proposals and to participate to national and international research projects
- Admission requirement: PhD







- Maximum number of publications: 14
- Language in which the interview will take place: English
- Foreign language: /







# ATTACHMENT 2

- Department: Department of Biological, Geological, and Environmental Sciences BiGeA
- SC: 05/B1 Zoology and Anthropology
- SSD: BIO/05 Zoology
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found Call CN BIODIV "National Biodiversity Future Center" – Code CN00000033
- **CUP:** J33C22001190001
- Project manager: Marco Musiani
- Project title: Research and teaching activities in the disciplinary science field BIO/05 for the Bologna Campus
- Duration of contract: 36 months
- Brief description of the project: Activities foreseen in the nationally-stated foci of the Scientific Field BIO / 05 –Zoology- with particular attention to the scientific and teaching training activities in the study of groups, such as Insecta, which include the greatest number of Animalia species. Study of the various levels of organization, also including organization of populations, species, and communities. In particular, the research could investigate aspects of behavior, intra and interspecific interactions and interactions with the environment, and of biogeography, and systematics. These studies could have applications towards animal biodiversity monitoring, environmental impact assessment and towards fostering conservation goals. In particular, data on occurrence and co-occurrence of insects could be analyzed or modeled, possibly leading to prediction of future scenarios. A likely strategic goal is that of informing potential expansion of protected areas, as envisaged by the European Biodiversity Strategy 2030
- **Objective of the research project:** Over the three-year period, the researcher will achieve scientific productivity by publishing at least 4 papers in international peer reviewed journals, of which at least 3 as lead author. She/he will also present the results thus obtained at national and/or international academic conferences. The researcher is also expected to play an active role in the design, writing and submission of research proposals and to collaborate in national and international research projects







- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







# ATTACHMENT 3

- Department: Department of Chemistry "Giacomo Ciamician" CHIM
- SC: 03/A1 Analytical Chemistry
- SSD: CHIM/12 Chemistry for The Environment and for Cultural Heritage
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 40
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found Call ECO Project Ecosyster "Ecosystem for Sustainable Transition in Emilia-Romagna", Code ECS00000033
- **CUP:** J33C22001240001
- Project manager: Laura Tositti
- **Project title:** Multidisciplinary approach for aerosol characterization and applications to sustainable production processes
- Duration of contract: 36 months
- Brief description of the project: The research project will focus on the study of atmospheric aerosols from remote and anthropized environments applying both experimental and computational advanced methodologies for source apportionment. The experimental part will be based on consolidated analytical methods for aerosol characterization namely chromatographic and spectrophotometric methods, PIXE (Proton Induced Xray Emission), Aerosol size spectrometry based on laser scattering, High-resolution gamma-ray spectrometry, smart sensors. The obtained databases will be elaborated by means of advanced chemometric tools (basically PMF, SOM, AirSPEC, PLS) and physico-atmospherical (Back trajectory analysis e remote sensing). This multidisciplinary approach will be linked also to feasibility studies concerning sustainable building materials (geopolymers) and recovery of air moisture by means of water harvesting
- Objective of the research project: The targets of scientific productivity will be aimed, over three years, to disseminate the results in at least 5 scientific publications on peer-reviewed international journals provided with bibliometric indicators, 3 contributions to national or international congresses
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







# ATTACHMENT 4

The specific elements of this procedure are as follows:

- **Department:** Department of Civil, Chemical, Environmental, and Materials Engineering DICAM
- SC: 08/B2 Structural Mechanics
- SSD: ICAR/08 Structural Mechanics
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found CN Project MOBILITY "Sustainable Mobility Center", code CN00000023
- **CUP:** J33C22001120001
- Project manager: Alessandro Marzani
- **Project title:** Hybrid Structural Health Monitoring (SHM) approaches for structures and infrastructures via heterogeneous data and artificial intelligence techniques
- Duration of contract: 36 months
- Brief description of the project: The research activity will mainly focus on methodologies and technologies for Health Monitoring (SHM) of structures and infrastructures also aimed at assessing the resilience of transportation networks. Innovative hybrid methodologies will be developed based on the integration of heterogeneous data coming from satellite radar, e.g. obtained through the Differential Interferometry Synthetic Aperture Radar technique, and local monitoring data, gathered for instance via inclinometers, accelerometers, LVDT, etc. Data fusion and feature extraction will be based on both traditional and artificial intelligence techniques.

The teaching activity will concern the courses of the scientific academic sector ICAR08. This activity will be carried out within the study programs offered by the School of Engineering and Architecture

- **Objective of the research project:** 3 papers in peer reviewed international journals
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







# ATTACHMENT 5

- **Department:** Department of Civil, Chemical, Environmental, and Materials Engineering DICAM
- SC: 09/D1 Materials Science and Technology
- **SSD:** ING-IND/22 Materials Science and Technology
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- **Costs indication:** 36.840,00 gross euros per year
- **Financial coverage:** PNRR Found Call CN Project MOBILITY, "Sustainable Mobility Center (Centro Nazionale per la Mobilità Sostenibile)" Codice CN00000023
- **CUP:** J33C22001120001
- Project manager: Paola Fabbri
- **Project title:** New materials and additives from renewable resources for the development of plastic and composite solutions for the mobility sector
- Duration of contract: 36 months
- Brief description of the project: The research will be developed in the field of polymers and composites, for the implementation of new sustainable solutions that integrate components and additives coming from renewable resources, that fulfill the needs of mobility and vehicle sectors. The RTD will develop new chemical structures starting from renewable raw materials, usable as modifiers of product properties and processability. These additives will impart new functionalities to the polymer matrices (plasticizers, stabilizers, antimicrobial agents, compatibilizers, surface modifiers, and more). The new solutions will be partially based on bio-based biodegradable plastics, and composites will contain fillers from renewable resources (vegetal fibers, wood flour and fibers, biochar). The end on life of the new materials will be evaluated in terms of mechanical, chemical, thermal recyclability, in order to fulfill the criteria of circular economy, and to maximize the materials value in every stage of the life cycle
- **Objective of the research project:** The requirements of scientific productivity will be the publication of at least 6 papers on international peer-reviewed journals on the topics of the research activity and fully coherent with the scientific sector (ING-IND/22). The presentation of contributions to at least 3 (national or international) conferences is also required
- Admission requirement: PhD







- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







- **Department:** Department of Civil, Chemical, Environmental, and Materials Engineering DICAM
- SC: 09/D2 Systems, Methods and Technologies of Chemical and Process Engineering
- SSD: ING-IND/24 Fundamentals of Chemical Engineering
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found ECO Project Ecosyster "Ecosystem for sustainable transition in Emilia-Romagna", Code ECS00000033"
- **CUP:** J33C22001240001
- Project manager: Ferruccio Doghieri
- **Project title:** Study of the barrier and transport properties of gases and vapors in sustainable materials and composites
- Duration of contract: 36 months
- Brief description of the project: The activity of the researcher during the three years of appointment will be focused on the study of the thermodynamic and mass transport properties of polymer-based materials and composite systems in view of various applications spanning from sustainable packaging solutions to membranes separation processes. The activity will be mainly experimental. It will be aimed at the characterization of existing materials and at the development of novel materials with properties customized for the selected applications. In particular, solutions focused on high barrier materials can be addressed as well as controlled release systems for active packaging application or CO2 selective materials for the production of carbon capture membranes
- **Objective of the research project:** Within the three-year contract, the researcher is expected to finalize as an author at least 3 peer-reviewed publications dealing with the project activities, and participation in at least 3 scientific national or international conferences to disseminate project results. In addition, the involvement of the researcher in the formalization of at least one proposal in calls for competitive research project is expected
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







# ATTACHMENT 7

- Department: Department of Physics and Astronomy "Augusto Righi" DIFA
- SC: 02/C1 Astronomy, Astrophysics, Earth and Planetary Physics
- SSD: FIS/05 Astronomy and Astrophysics
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found IR Project STILES "Strengthening the Italian leadership in ELT and SKA", Code IR0000034
- CUP:/
- Project manager: Lauro Moscardini
- **Project title:** Development of optical alignment and integration techniques for MORFEO, a key instrument for the innovative astronomical infrastructure ELT
- Duration of contract: 36 months
- Brief description of the project: The planned research activities are part of the MORFEO project (formerly known as MAORY), the Adaptive Optics module for ELT, the largest terrestrial telescope currently under construction. The research activity aims at consolidating the optical integration and alignment procedures of the MORFEO instrument through optical performance simulations and development of innovative alignment procedures. The job is set within an international research and technological development context for which a good team spirit as well as independent initiatives are required
- **Objective of the research project:** Within the 3-year period of the contract, the researcher is expected to publish at least three papers on refereed international journals relevant for the area of activity (FIS/05), and to participate to at least 2 international conferences
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian or English by candidate's choice
- Foreign language: English







# **ATTACHMENT 8**

- Department: Department of Agricultural and Food Sciences -DISTAL
- SC: 07/B2 Arboriculture and Forest Systems
- **SSD:** AGR/03 Arboriculture and Fruitculture
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: Not required
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found CN Project AGRI "National Research Centre for Agricultural Technologies", Code CN00000022
- **CUP:** J33C22001150008
- Project manager: Luca Corelli Grappadelli
- **Project title:** Monitoring system for tailoring pre- and post-harvest inputs to increase sustainability of orchard and vineyard high-quality production
- Duration of contract: 36 months
- **Brief description of the project:** The successful candidate will carry out activities aimed at assessing relevant traits in response to agronomic management of orchards/vineyards to be fed to the Decision Support Systems that will integrate traits to be monitored such as, but not limited to, dry matter, soluble carbohydrates, mineral elements, macronutrients (e.g., fibers, proteins, lipids), micronutrients and anti-oxidants profile and content, acidity, firmness, textural properties, colour. The effect of pre-harvest strategies will be also linked with post-harvest performance. Quality evolution during post-harvest or processing will be monitored by state of the art technologies. Interactions will include feeding data from these trials to the developers of static as well as dynamic model-based systems, acquired on the field as input, and resulting in predicting qualitative crop indexes as output







- **Objective of the research project:** Within the three years of activity, the successful candidate will author at least 3 papers on ISI/Scopus indexed Journals and will present his/her results at least at 3 national/international symposia (either oral or poster)
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







# **ATTACHMENT 9**

- Department: Department of Agricultural and Food Sciences -DISTAL
- SC: 07/E1 Agricultural Chemistry, Agricultural Genetics and Pedology
- **SSD:** AGR/07 Agricultural Genetics
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 30
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found CN Project AGRI "National Research Centre for Agricultural Technologies", Code CN00000022
- CUP: J33C22001150008
- Project manager: Silvio Salvi
- **Project title:** Genetics and genomics of morpho-physiological traits linked with stress resilience in crops
- Duration of contract: 36 months
- Brief description of the project: Plant breeding and genetic improvement offers great opportunities to address the sustainability and resilience of agricultural production systems. In this project the candidate will use up-to-date genomics, bioinformatics and molecular biology tools (e.g. NGS sequencing and assembly of genomes and transcriptomes, QTL analysis including GWAS, use of reverse-genetics and gene editing) in order to study the genetic and molecular basis of traits related to tolerance to biotic and/or abiotic stress and plant development. The ultimate goal is to contribute knowledge and methods that can be used in plant breeding
- **Objective of the research project:** The researcher will have to carry out structural and functional genomic analyzes aimed at genetic mapping also through the use of markers, genes and/or loci in cereals and other crop species for resistance to abiotic stress (e.g. drought, with particular emphasis on the genetics of root development) and/or biotic (e.g. fungal diseases). Quantifiable target: 3 scientific publications in peer-reviewed journals indexed in ISI / SCOPUS
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian or English at the candidate's choice
- Foreign language: English







## ATTACHMENT 10

- **Department:** Department of Agricultural and Food Sciences DISTAL
- SC: 07/C1 Agricultural, Forest and Biosytems Engineering
- SSD: AGR/08 Agricultural Hydraulics and Watershed Protection
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 40
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found CN Project AGRI "National Research Centre for Agricultural Technologies", Code CN00000022
- **CUP:** J33C22001150008
- Project manager: Attilio Toscano
- Project title: Optimisation of treatment technologies for irrigational reuse of reclaimed water
- Duration of contract: 36 months
- Brief description of the project: The project will focus on the technologies for agricultural reuse of treated domestic wastewater in order to mitigate the negative effects of water scarcity. In specific, the research will concentrate on the optimisation of technologies for treatment and application of domestic wastewater to decrease their costs and increase the efficiency, allowing the effluent reuse according to the legislations in force. It will comprise development and management of pilot scale plants (both for treatment and irrigation), optimisation for different types of influent and for various operational parameters (e.g. hydraulic loading rate), including also monitoring of treatment and irrigational processes in order to enable the safe and efficient agricultural reuse of treated wastewater. In particular, the application of nature-based solutions (e.g. constructed wetlands) either alone or combined with other technologies will be evaluated
- Objective of the research project: The goal of the scientific productivity of the researcher over the three-year period will be 4 (four) scientific manuscripts published in the international journals indexed by ISI/SCOPUS and the participation in at least 2 (two) national and/or international conferences where the achieved results will be presented
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







## ATTACHMENT 11

- Department: Department of Agricultural and Food Sciences DISTAL
- SC: 07/E1 Agricultural Chemistry, Agricultural Genetics and Pedology
- **SSD:** AGR/13 Agricultural Chemistry
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found CN Project AGRI "National Research Centre for Agricultural Technologies", Code CN00000022
- **CUP:** J33C22001150008
- Project manager: Claudio Ciavatta
- **Project title:** Sustainable solutions for the assessment and protection of soil fertility and quality
- Duration of contract: 36 months
- Brief description of the project: Research activities will focus on the assessment and protection of soil fertility and quality, which are crucial for food security and soil ecological functions maintenance. This goal will be achieved by developing a multifactorial soil quality index to monitor and evaluate the efficiency and resilience of this natural resource in different agricultural soil management systems. Solutions for evaluating soil organic carbon stock and its management will be selected, assessed, and adopted at the farm and basin levels using physical, chemical, and biochemical methods, and modeling. Results obtained will contribute to addressing strategies to protect and prevent soil pollution, loss of soil fertility, and biodiversity. Data from monitoring activity using traditional and smart technologies, with real-time and sensor based-application, will be used for modeling and as forecasting tools for the assessment and protection of soil fertility and quality
- Objective of the research project: Publication at least of 3 scientific papers in peer-reviewed journals Scopus, Web of Science; Attendance of national and international meetings; Development of a multifactorial soil quality index able to monitor and evaluate the efficiency and resilience of this natural resource in different agricultural soil management systems. Evaluation of soil organic carbon stock and of its management at the farm and basin levels using physical, chemical, biochemical, and microbiological methods, and modeling







- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







- **Department:** Department of Civil, Chemical, Environmental, and Materials Engineering DICAM
- SC: 08/A1 Hydraulics, Hydrology, Hydraulic and Marine Constructions
- **SSD:** ICAR/02 Hydraulic Structures, Maritime Engineering and Hydrology
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- **Financial coverage:** Fondi PNRR Bando PE Progetto PE3 RETURN, "Multi-risk science for resilient communities under a changing climate" Code PE00000005
- **CUP:** J33C22002840002
- Project manager: Elena Toth
- **Project title:** Operational scenarios of future climate for the assessment of the hydrological impact of climate change
- Duration of contract: 36 months
- Brief description of the project: Analysis and generation of climatic and hydrological scenarios for water resources management and mitigation of hydraulic and hydrological risk. In particular the available climatic scenarios will be first analysed and validated, then, when needed, a bias-adjustment procedure will be carried out in the basis of ground observations. Such climatic scenarios will be used in input to hydrological rainfall-runoff models, to obtain hydrological scenarios that will be used in order to optimise water resource management and to mitigate hydraulic and hydrological risks. The teaching activity will be carried out within the ICAR/02 disciplinary area
- Objective of the research project: 5 papers in peer reviewed international journals
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







- **Department:** Department of Civil, Chemical, Environmental, and Materials Engineering DICAM
- SC: 08/B1 Geotechnics
- SSD: ICAR/07 Geotechnics
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- **Financial coverage:** Fondi PNRR Bando PE Progetto PE3 RETURN, "Multi-risk science for resilient communities under a changing climate" Code PE00000005
- CUP: J33C22002840002
- Project manager: Guido Gottardi
- **Project title:** Analysis and advanced modelling of critical issues associated to river embankments, for the mitigation of flood risks and in relation to climate change effects.
- Duration of contract: 36 months
- Brief description of the project: The research activities that shall be developed during the 3-yearscontract concern a wide range of typical themes of Geotechnical Engineering, with particular reference to the physical and mechanical characterization of soils, also under partially saturated conditions, and to the monitoring of the response of critical flood embankments at different scales of investigation. The relevant data will be then suitably interpreted and used for the calibration of advanced behavioural models, also by means of non-deterministic approaches, with the aim of defining appropriate strategies of mapping and mitigation of the associated risks
- **Objective of the research project:** The main objectives of scientific productivity of the researcher, during the 3-years contract, will be aimed at the achievement of at least 3 scientific papers published in peer reviewed international journals and at the attendance of at least three international scientific conferences, concerning the research activities carried out and relevant to the specific scientific field
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







- **Department:** Department of Civil, Chemical, Environmental, and Materials Engineering DICAM
- SC: 08/B3 Structural Engineering
- SSD: ICAR/09 Structural Engineering
- Number of positions: 2
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- **Financial coverage:** PNRR Found Call PE Project PE3 RETURN, "Multi-risk science for resilient communities under a changing climate" Code PE00000005
- **CUP:** J33C22002840002
- Project manager: Marco Savoia
- Title: Multi-risk resilience of critical infrastructures and Urban/metropolitan settlements
- **Duration of contract:** 36 months
- Brief description of the project: Research activity mainly within the SPOKE TS2 Multi-Risk Resilience of (Assessment on) Critical Infrastructures of the project, and limitedly for the SPOKE TS1 - Urban and metropolitan settlements. In the first case, resilient management measures of existing critical infrastructures will be studied: assessment tools also at the territorial level (fragility curves), adoption of intelligent tools for monitoring and maintenance; adoption of resilient structural solutions; the development of innovative regulatory criteria that take into account the specific context of multi-risk conditions. In the second case, structural problems related to the resilience of cities and metropolitan areas will be addressed, both in relation to seismic events and hydrogeological risks, exploring the possibility of adopting integrated solutions for risk mitigation and improvement of the energy efficiency of buildings
- **Objective of the research project:** The scientific productivity objectives to be achieved over the duration of the contract are at least n. 3 publications in international journals with peer review and participation in at least n. 3 international scientific conferences
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







# **ATTACHMENT 15**

- Department: Department of Experimental, Diagnostic and Specialty Medicine DIMES
- SC: 05/E2 Molecular Biology
- SSD: BIO/11 Molecular Biology
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 8
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- **Financial coverage:** Fondi PNRR Bando PE Progetto PE6 HEAL ITALIA "Health Extended Alliance for Innovative Therapies, Advanced Lab-research, and Integrated Approaches of Precision Medicine", Code PE0000019
- **CUP:** J33C22002920006
- Project manager: Gabriele Matteo D'Uva
- **Project title:** Development of novel therapeutic strategies for cardiac regeneration
- Duration of contract: 36 months
- Brief description of the project: The research project will be in the field of molecular cardiology and will focus on the development of novel molecular strategies aimed to promote the proliferation of cardiac muscle cells (cardiomyocytes) and heart regeneration following severe damages, for example induced by myocardial infarction. In particular, the role and pharmacologic modulation of hormones, growth factors and cytokines, as well as downstream signaling transduction pathways, in the regulation of regenerative plasticity of cardiomyocytes will be matter of investigation. Comparative approaches between different stages of postnatal life in mouse models will be employed, namely at birth, when cardiomyocyte regeneration spontaneously occurs, and in adulthood, when it does not. The project involves the use of a combination of molecular and cellular biology techniques for the analysis of the state of cell differentiation and proliferation
- **Objective of the research project:** During the project the researcher must publish at least 1 article in peer-reviewed journals and attend at least 1 national or international meeting relevant for the subject of the project.
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







The specific elements of this procedure are as follows:

- Department: Department of Experimental, Diagnostic and Specialty Medicine DIMES
- SC: 06/A3 Microbiology and clinical microbiology
- SSD: MED/07 Microbiology and clinical microbiology
- Number of positions: 2
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found Call PE Project PE13 INF-ACT "One Health Basic and Translational Research Actions addressing Unmet Needs on Emerging Infectious Diseases", Codice PE0000007
- CUP:
- J33C22002870005
- Duration of contract: 36 months
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English
- Description of the projects and their specific elements:
  - 1) **Project 1 Title:** Sentinel surveillance on emerging and re-emerging viral diseases at the human/animal/environment interface
  - Main place of employment: Bologna
  - Number of hours of frontal teaching per year: 60
  - Project manager: Tiziana Lazzarotto
  - **Brief description of the project:** The project aims to create a tracking strategy for sentinel events in humans, by both a syndromic and a genomic surveillance, aimed at an early identification of emerging or re-emerging disease-causing viral agents (with preferential focus on respiratory viruses and zoonotic viruses) through the following steps:

1. selection of biological samples from clinical forms of presumed viral etiology, not identified through current target-oriented methodologies;

2. study of human virome with innovative metagenomic technologies such as Next Generation Sequencing (NGS);

3. analysis of clinical, demographic, and socioeconomic characteristics, occupational risk factors, and environmental determinants (zoonotic risk exposure)







- **Objective of the research project:** During the project the researcher must publish at least 4 articles in peer-reviewed journals and attend at least 4 national or international meetings relevant for the subject of the project.
- 2) **Project 2 Title:** Development of syndromic point of care panels for vector-borne arboviruses and analysis of virulence factors by NGS andML to estimate risk of dangerous infectious diseases in humans and dissemination to animals and environment in One-Health perspective
- Main place of employment: Forlì
- Number of hours of frontal teaching per year: 60
- Project manager: Vittorio Sambri
- Brief description of the project: The planning steps of the project will be:
  - Collection of biological samples from patients with suspected arboviral infection and creation of a biobank with anonymized data.

- Development of new point of care syndromic panels with innovative technologies in order to promote rapid diagnosis of acute diseases and to reduce the environmental and veterinary spread of arboviruses. These syndromic panels will allow to define more precisely the local epidemiology and to improve interventions which aim to reduce environmental and animal spread in a One Health-perspective

- The project also aims to sequence arboviruses by NGS in order to identify new virulence marker and prognostic factors, through algorithms and machine learning, to stratify the risk of developing severe or long-lasting disease in humans and to favour the animal and environmental spread through vectors

• **Objective of the research project:** During the project the researcher must publish at least 6 articles in peer-reviewed journals and attend at least 6 national or international meetings relevant for the subject of the project.







## ATTACHMENT 17

- Department: Department of Agricultural and Food Sciences DISTAL
- SC: 07/F1 Food science and technology
- SSD: AGR/15 Food science and technology
- Number of positions: 2
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: PNRR Found Call PE Project PE10 ONFOOD, "Research and innovation network on food and nutrition Sustainability, Safety and Security – Working ON Foods" – Code PE0000003
- **CUP:** J33C22002860001
- Duration of contract: 36 months
- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English
- Description of the projects and their specific elements:
- 1) Project 1 Title: Sensory evaluations to determine the quality of foods
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 30
- Project manager: Tullia Gallina Toschi
- Brief description of the project: Activities will include: i) Sensory characterization and consumers acceptance of innovative, sustainable and healthy foods; ii) descriptive sensory analysis of food products and definition of the sensory attributes that can be enhanced on the label; iii) verification of the chemical and sensory quality of fresh food products, extracts and edible oils and during the shelf-life; iv) study of the evolution of the sensory properties of foods, in relation to different packaging possibilities and storage conditions; v) organization and implementation of sensory tests and questionnaires to investigate the preference sand liking of foods (even for food design), by specific groups of consumers
- **Objective of the research project:** The scientific productivity objectives will be aimed, over the three-year period, at the publication as author of 3 ISI/Scopus publications and 3 participations in conferences with oral or poster presentation of the research activity







- 2) **Project 2 Title:** Development and application of advanced analytical/instrumental procedures to assess the food quality
- Main place of employment: Cesena
- Number of hours of frontal teaching per year: 30
- Project manager: Alessandra Bendini
- Brief description of the project: Selected food products related to relevant categories in the national context and corresponding analogues implemented(e.g. extra virgin olive oils vs flavored olive oils), by the setting-up and application of advanced analytical methods and innovative and rapid instrumental solutions (flavoromics), will be assessed for: i) quality aspects with relation to compositional variations in formulation ii) profile in components of the volatile fraction responsible for aroma characteristics iii) main qualitative/compositional degradations due to technological processing and storage parameters iv)possible changes that occur to the volatile fraction during the shelf -life of the product
- **Objective of the research project:** The scientific productivity objectives will be aimed, over the three-year period, at the publication as author of 3 ISI/Scopus publications and 3 participations in conferences with oral or poster presentation of the research activity.







# ATTACHMENT 18

- Department: Department of Medical and Surgical Sciences DIMEC
- SC: 06/B1 Internal Medicine
- SSD: MED/09 Internal Medicine
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 20
- Medical assistance services, if required: Medical care service to be performed at the hospital facility of Internal Medicine – prof. Barbara – IRCCS Azienda Ospedaliero Universitaria Policlinico Sant'Orsola Bologna
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: Fondi PNRR Bando PE Progetto PE10 ONFOOD, "Research and innovation network on food and nutrition Sustainability, Safety and Security – Working ON Foods", Code PE0000003
- **CUP:** J33C22002860001
- Project manager: Giovanni Barbara
- **Project title:** Diet-microbiota interactions in hepatic and gastrointestinal disease
- Duration of contract: 36 months
- **Brief description of the project:** The research activity will focus on the complex interactions existing between dietary habits and the intestinal ecosystem with particular regard to the intestinal microbiota in subjects suffering from chronic hepato-metabolic and gastrointestinal diseases. The effect of modulating the microbiota with different nutritional, nutraceutical or pharmacological approaches will also be evaluated in order to establish preventive and therapeutic intervention paradigms. The research activity will mainly involve the recruitment of patients, the collection of clinical and multiomic data such as sequencing of the 16SrRNA gene, shotgun metagenomics, metatrascriptomics and metabolomics
- **Objective of the research project:** During the project the researcher must publish at least 5 articles in peer-reviewed journals and attend at least 3 national or international meetings relevant for the subject of the project.
- **Admission requirement:** Residency (post-graduate training) in Internal Medicine or Diseases of the Digestive System (or equivalent) obtained in Italy or abroad, as well as the authorization to practice medicine in Italy
- Maximum number of publications: 15
- Language in which the interview will take place: Italian
- Foreign language: English







## **ATTACHMENT 19**

- Department: Department of Medical and Surgical Sciences DIMEC
- SC: 06/D2 Endocrinology, nephrology, food and wellness science
- SSD: MED/13 Endocrinology and metabolism
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 30
- Medical assistance services, if required: Medical care service to be performed at the hospital facility of UO Endocrinology and Diabetes Prevention and Treatment – IRCCS Azienda Ospedaliero Universitaria Policlinico Sant'Orsola Bologna
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: Fondi PNRR Bando PE Progetto PE10 ONFOOD, "Research and innovation network on food and nutrition Sustainability, Safety and Security – Working ON Foods", Code PE0000003
- CUP: J33C22002860001
- **Project manager:** Umberto Pagotto
- **Project title:** Role of steroids, nutrients and vitamins in the development and maintenance of primary and secondary osteoporosis
- Duration of contract: 36 months
- Brief description of the project: The incidence of primary and secondary osteoporosis has markedly increased during the last years. Data from Italy reported that 3.5 million women and 1 million men have osteoporosis. A further dramatic increase will likely be achieved in the next future due to the parallel increase of the italian population above 65 years. Despite the recent advances on the knowledge on the pathogenetic mechanisms of bone degradation, the management of osteoporosis still presents several uncertainties. The aim of the project is to improve the management of patients affected by primary and secondary osteoporosis. Specific aims are: i) define the role of minor steroids by using novel tools to identify them in biological fluids; ii) evaluate the protective role of nutrients and vitamins by monitoring their metabolites in biological fluids iii) stratify the fracture risk according to the biomarkers identified in fluids of patients affected by primary or secondary osteoporosis.
- **Objective of the research project:** During the project the researcher must publish at least 3 articles in peer-reviewed journals and attend at least 3 national or international meetings relevant for the subject of the project







- **Admission requirement:** Residency (post-graduate training) in Endocrinology and Metabolic Diseases (or equivalent) obtained in Italy or abroad, as well as the authorization to practice medicine in Italy
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







#### **ATTACHMENT 20**

- Department: Department of Medical and Surgical Sciences DIMEC
- SC: 06/D4 Skin, infectious and gastrointestinal diseases
- **SSD:** MED/17 Infectious diseases
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 20
- **Medical assistance services, if required:** Medical care service to be performed at the hospital facility of UOC Infectious diseases IRCCS Azienda Ospedaliero Universitaria Policlinico Sant'Orsola Bologna
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: Fondi PNRR Bando PE Progetto PE13 INF-ACT "One Health Basic and Translational Research Actions addressing Unmet Needs on Emerging Infectious Diseases", Code PE0000007
- **CUP:** J33C22002870005
- Project manager: Pierluigi Viale
- **Project title:** Clinical relevance of "Target and Tailored" therapies
- Duration of contract: 36 months
- Brief description of the project: To carry out a multicentre study aimed at developing predictive models based on AI and Machine Learning techniques, to identify the optimal empirical antimicrobial therapy, defined as the narrowest appropriate therapy at culture finalization, and the optimal early administration schedule, defined as PK/PD target attainment (PTA) within 72 hours from infection onset/diagnosis, in patients with bloodstream infection and hospital acquired pneumonia with etiological diagnosis stratified by preestablished settings (i.e. unit with high prevalence of MDR, critically ill patients, SOT recipients, haematological patients, paediatric population). Results obtained from this study will be used to design and conduct a pilot multi-centre pragmatic adaptive multi-arm randomized controlled trial to assess the impact of an optimized therapeutic management using previously obtained scores on clinical and microbiological outcomes
- Objective of the research project: During the project the researcher must publish at least EIGHT articles in peer-reviewed journals and attend at least TEN national or international meetings relevant for the subject of the project.







- **Admission requirement:** Residency (post-graduate training) in Infectious Diseases (or equivalent) obtained in Italy or abroad, as well as the authorization to practice medicine in Italy
- Maximum number of publications: 20
- Language in which the interview will take place: Italian
- Foreign language: English







ALMA MATER STUDIORUM Università di Bologna

# ATTACHMENT 21

- Department: Department of Medical and Surgical Sciences DIMEC
- SC: 06/M2 Forensic and occupational medicine
- SSD: MED/43 Forensic medicine
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: Fondi PNRR Bando PE Progetto PE12 MNESYS "A multiscale integrated approach to the study of the nervous system in healt and disease" – Codice PE000006
- CUP: J33C22002970002
- Project manager: Susi Pelotti
- **Project title:** Ultrastructural morphological investigation of cellular components and intracellular organelles, at the basis of the maincellular and molecular pathways altered in the early stages of the disease
- Duration of contract: 36 months
- **Brief description of the project:** The project involves multidisciplinary research in the field of ultrastructural microscopy, forensic medicine and forensic sciences for the study of the cellular and molecular response to disease and of cellular targets responsive to the action of psychotropic xenobiotics. The researcher will be included in an interdisciplinary group including the pathological-forensic field for the collection of a large number of post-mortem samples. The methodology of the study will consist of an analysis which, starting from the terminal alterations detected on cadaveric samples and through experimental studies on cell cultures, will reconstruct the molecular pathways and ultrastructural markers identifying the early stages of the disease
- **Objective of the research project:** During the project the researcher must publish at least 5 articles in peer-reviewed journals and attend at least 5 national or international meetings relevant for the subject of the project.
- Admission requirement: Residency (post-graduate training) in Legal Medicine (or equivalent) obtained in Italy or abroad, as well as the authorization to practice medicine in Italy
- Maximum number of publications: 12







ALMA MATER STUDIORUM Università di Bologna

- Language in which the interview will take place: Italian
- Foreign language: English







## ATTACHMENT 22

- Department: Department of Experimental, Diagnostic and Specialty Medicine DIMES
- SC: 06/D3 Blood diseases, oncology and rheumatology
- SSD: MED/06 Medical oncology
- Number of positions: 1
- Main place of employment: Bologna
- Number of hours of frontal teaching per year: 20
- Medical assistance services, if required: Medical care service to be performed at the hospital facility of UO Medical oncology – IRCCS Azienda Ospedaliero Universitaria Policlinico Sant'Orsola Bologna
- Costs indication: 36.840,00 gross euros per year
- **Financial coverage:** Fondi PNRR Bando PE Project PE6 HEAL ITALIA "Health Extended Alliance for Innovative Therapies, Advanced Lab-research, and Integrated Approaches of Precision Medicine", Code PE0000019
- **CUP:** J33C22002920006
- Project manager: Maria Abbondanza Pantaleo
- **Project title:** Identifying predictors of benefit from immunotherapy
- Duration of contract: 36 months
- **Brief description of the project:** This project will be part of the Task 1 of the Spoke 8, HEAL Project. in which omics and functional data from cancer tissue and patients will be used for assessing responses to treatment, in order to optimize personalized treatment benefits in definite tumours. In this project the researcher will study the correlation of immunological, clinical and molecular data with therapeutic response in patients on immunotherapy
- **Objective of the research project:** During the project the researcher must publish at least 15 articles in peer-reviewed journals and attend at least 6 national or international meetings relevant for the subject of the project
- Admission requirement: Residency (post-graduate training) in Medical Oncology (or equivalent) obtained in Italy or abroad, as well as the authorization to practice medicine in Italy
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







Alma mater studiorum Università di Bologna

#### **ATTACHMENT 23**

The specific elements of this procedure are as follows:

- **Department:** Department of Cultural Heritage DBC
- SC: 10/D2 Greek language and literature
- SSD: L-FIL-LET/07 Byzantine civilization
- Number of positions: 1
- Main place of employment: Ravenna
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- Costs indication: 36.840,00 gross euros per year
- Financial coverage: Fondi PNRR Bando PE Project PE5 CHANGES, "Cultural Heritage Active Innovation for Next-Gen Sustainable Society" – Code PE0000020
- **CUP:** J33C22002850006
- Project manager: Salvatore Cosentino
- **Project title:** The hidden legacy. Byzantine seals of exarchal age in Italian museum collections
- Duration of contract: 36 months
- Brief description of the project: The candidate will be in charge of reviewing, cataloguing, studying and publishing in the SigiDoc language Byzantine seals datable between the 6th and 8th centuries found in Italy or preserved in an Italian museum institution (or other preservation institutions). The collection of seals will take the form of a digital collection informed by the principles of accessibility, interoperability and reusability. Its structure, in fact, will be conceived to be implemented through the inclusion of both Byzantine and medieval seals relating to periods after the Exarchal Age, thus providing a model for the repertorisation and enhancement of medieval sphragistics. The database will help museums in promoting in heritage communities the knowledge and valorisation of these small artefacts rich in historical information; at the same time, the collection will potential the research tools available to scholars and academics

#### - Objective of the research project:

1) (scientific productivity goals of the project): first year: review of the sigillographic material and preparation of the database for digitising the data; second year: digital reproduction (where possible) of the seals, data entry activities contextual to an initial analysis of the seals; third year: accurate description of the artefacts, their historical commentary and final database preparation.







2) (Candidate's scientific productivity goals): In addition to carrying out the project activities and teaching activities, the candidate will have to produce at least four articles to be presented in band A journals over the three-year period

- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English







UNIVERSITÀ DI BOLOGNA

#### ATTACHMENT 24

- **Department:** Department of Sociology and Business Law SDE
- SC: 14/D1 Economic sociology, sociology of work, urban and environmental sociology
- **SSD:** SPS/09 Economic sociology and sociology of work and organizations **Number of positions:** 1
- Main place of employment: Forlì
- Number of hours of frontal teaching per year: 60
- Medical assistance services, if required: Not required
- **Costs indication:** 36.840,00 gross euros per year
- Financial coverage: Fondi PNRR Bando PE Progetto PE8 AGE-IT "A novel publicprivate alliance to generate socio-economic, biomedical and technological solutions for an inclusive Italian ageing society" – Codice PE0000015
- **CUP:** J33C22002900006
- Project manager: Marco Alberio
- **Project title:** Aging and mobilities between new cultural models and forms of precarization
- Duration of contract: 36 months
- Brief description of the project: Cooperate in the different activities for the realisation of the research funded in the call, that contributes to the general theme of social transformation and aging for an inclusive society. In particular, the aim is to understand if and how in the current society aging and mobility (including migrations) have stopped to be conceived a supposed and have become an imperative also at later stages of life. After a reconstruction of the theoretical-conceptual debate on inequalities, ageing and mobility, the RTD will have to deal specifically with contacting seniors and employees of different institutions (INPS, specialized real estate agencies, municipalities), preparing research tools etc., carrying out field research, coordinating the quantitative research with the company that will collect data, data analysis (both quantitative and qualitative) and scientific dissemination within and outside the scientific community, in Italy and abroad.
- Objective of the research project: Publication of at least one monographic book of scientific relevance or publication of three articles in a Class A journals (according to ANVUR classification) for SSD SPS/09 and one article in a journal or book of recognised scientific value. Knowledge transfer through participation in at least three national and international conferences. Preparation of research mobilisation material (experience guide and best practices) and organisation of at least two events (e.g. seminars and workshops for







knowledge dissemination) aimed at the stakeholders directly and indirectly involved in the project.

- Admission requirement: PhD
- Maximum number of publications: 12
- Language in which the interview will take place: Italian
- Foreign language: English