

Rector Decree n. 4203

THE RECTOR

CONSIDERING the Statute of the University of Bari Aldo Moro;

CONSIDERING the Law of 3 July 1998, No. 210, in particular Art. 4;

CONSIDERING the Legislative Decree of April 11, 2006, No. 198 "Code of Equal Opportunities between men and women";

CONSIDERING the Law of December 30, 2010, No. 240;

CONSIDERING the D.M. No. 226 of 14 December 2021 "Rules on accreditation of doctoral venues and programmes and criteria for the institution of doctoral programmes by accredited bodies";

CONSIDERING the Ethical Code of this University;

CONSIDERING the Regulations of the University of Bari on PhDs, issued by D.R. No. 1867 of 17 May 2022;

CONSIDERING the Didactic Regulations of the University of Bari Aldo Moro;

CONSIDERING the Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 (General Regulation on Data Protection);

CONSIDERING the Italian Ministerial Decree No. 247 dated 23 February 2022, which set at €16.243,00 the annual amount of the doctoral scholarship, starting from 1 July 2022;

CONSIDERING note no. 301 of 22 March 2022 by which the Ministry transmitted the new Guidelines for the Accreditation of doctoral programmes;

CONSIDERING the resolutions adopted by the Academic Senate and the Board of Directors in their respective meetings held on: 27-28 April 2022, 10 May 2022 and 16 May 2022;

CONSIDERING Furthermore, the deliberations of the aforementioned Academic Senate and the Board of Directors taken in the sessions: 28 October 2022 and 17 November 2022;

RESERVED the provisions of the Ministry of Universities and Research, on the assent of ANVUR, on the request for accreditation for the establishment and/or activation of the PhD programmes of the XXXVIII cycle for which the University of Bari Aldo Moro is administrative headquarters;

CONSIDERING the National Recovery and Resilience Plan – NRRP

CONSIDERING the Public call for the presentation of Proposals for Intervention for the Strengthening of research facilities and the creation of R&D "national champions" on some Key Enabling Technologies to be financed under the National Recovery and Resilience Plan, Mission 4 Component 2 Investment 1.4 "Strengthening research facilities and creation of "National R&D Champions" on some Key Enabling Technologies" funded by the European Union - NextGenerationEU (DM MUR n.3138 of 16.12.2021);

CONSIDERING The Directive Decree MUR No. 1031 of 17.06.2022 granting funding to the National Research Centre HPC, Big Data and Quantum Computing - CN HPC;

CONSIDERING The Directive Decree MUR No. 1032 of 17.06.2022 granting funding to the National Research Centre for Agricultural Technologies - Agritech;

CONSIDERING The Directive Decree MUR No. 1035 of 17.06.2022 granting funding to the National Research Centre – "Developing Gene Therapy and Medicines with RNA Technology";

CONSIDERING the Public Call for the submission of project proposals for "Strengthening and creation of Research Infrastructures" to be financed under NRRP Mission 4, "Education and Research" - Component 2, "From research to enterprise" - Investment line 3.1, "Fund for the realization of an integrated system of infrastructures of search and innovation", financed by the European Union - NextGenerationEU (D.M. n. 3264 of 28.12.2021);

CONSIDERING The Ministerial Decrees No. 120 and No.125 of 21.06.2022 of admission to funding respectively of the project proposal entitled "Strengthening of the Italian RI for Metrology and Open Access Data in support to the Agrifood and the project proposal entitled "Cherenkov Telescope Array Plus", ESFRI area "Physical Science and Engineering";

CONSIDERING The Public Call for the presentation of Proposals for action for the creation of "Partnerships extended to universities, research centers, companies for the financing of basic research projects" - under the National Recovery and Resilience Plan, Mission 4 "Education and Research" - Component 2 "From research to enterprise" - Investment 1.3, financed by the European Union - NextGenerationEU (DM No. 341 of 15.03.2022);

CONSIDERING	The Directorial Decrees MUR No. 1152, 1153, 1154, 1156, 1158, 1160 of 11.10.2022 for admission to funding of the Extended Partnerships;
CONSIDERING	The minutes Phase of Negotiation drafted by the Evaluation Committee of Phase 2 and in particular for the Extended Partnership (EP) "Age-It" with proposing subject the University of Florence;
HAVING REGARD	to the obligations to ensure the achievement of targets and milestones and the financial targets set out in the NRP;
CONSIDERING	the need to adhere to the envisaged cross-cutting principles from NRP, such as, inter alia, the principle of contribution to the objective climate and digital (so-called tagging), the principle of gender equality and the obligation to protect and enhance young people;
CONSIDERING	also the need to comply with Article 17 EU Regulation 2020/852 defining environmental objectives, including the principle of not causing significant harm (DNSH, "Do no significant harm");
ACKNOWLEDGING	that the approved projects provide, among other things, for the activation of PhD scholarships to be allocated to the 38th cycle, and that the allocation of the same must take place taking within a short period of time, into account the 36-month deadline set by the Ministry of University and Research for the realization of the same;
CONSIDERING	the agreement, currently being formalized, between this University and the National Research Council - Institute of Biomedical Technologies - Milan recipient of funding related to spoke 7 "BioComputing" in the context of the "National Center for Gene Therapy and Drugs based on RNA Technology, for the financing of n. 1 scholarship within the PhD course in COMPUTER SCIENCE AND MATHEMATICS cycle XXXVIII - A.A. 2022/2023;
CONSIDERING	the "Guidelines for reporting for those implementing the Mission 4 Component 2 system initiatives" of the MUR;
ASCERTAINED	the availability of financial resources;
ALLOWING FOR	to contract the winners of the scholarships only after the completion of the acts of obligation with the MUR;
ALLOWING FOR	any eventual changes and/or additions to this notice that will be published exclusively at: https://www.uniba.it/it/ricerca/dottorati/38-ciclo-2022-2023 and on the website of each PhD course, whose link can be found on the single profiles

DECREES PART I

CALL FOR THE ASSIGNMENT OF PHD SCHOLARSHIPS XXXVIII CYCLE FUNDED BY NEXTGENERATIONEU UNDER THE NATIONAL RECOVERY AND RESILIENCE PLAN(NRRP) MISSION 4, COMPONENT 2 "FROM RESEARCH TO ENTERPRISE" A.Y. 2022/2023

Art.1 - SELECTION AND POSITIONS

The University of Bari announces a public selection for the assignment of 54 PhD positions with scholarship within the framework of the National Recovery and Resilience Plan (NRRP), Mission 4, Component 2 "From Research to Enterprise", funded by the European Union NextGenerationEU for PhD Courses of the XXXVIII cycle (a.y.2022/23).

The above positions with scholarship are for the following PhD Courses of the University of Bari Aldo Moro and are distributed as follows:

- No. 25 within the "National Centers" (NC), of which No. 1 scholarship funded by the National Research Council - Institute of Biomedical Technologies;
- No. 27 under the "Extended Partnerships" (EP);
- No. 2 under the "Strengthening and Creation of Research Infrastructure" (IR).

N	DOCTORAL PROGRAMME	DOCTORAL SCHOLARSHIPS			TOTAL
		CN	PE	IR	
1	BIODIVERSITY, AGRICULTURE AND THE ENVIRONMENT	3			3
2	BIOSCIENCES AND BIOTECHNOLOGIES	5	1		6
3	RIGHTS AND PROTECTION IN GLOBALIZED MARKETS		1		1
4	MEDITERRANEAN RIGHTS, ECONOMIES AND CULTURES		1		1
5	ECONOMICS AND FINANCE OF PUBLIC ADMINISTRATIONS		2		2
6	ECONOMICS AND MANAGEMENT		1		1
7	PHYSICS	4		1	5
8	GENDER STUDIES		2		2
9	GEOSCIENCES		4		4
10	SUSTAINABLE LAND MANAGEMENT	2	1	1	4
11	COMPUTER SCIENCE AND MATHEMATICS	3*	1		4
12	METABOLISM, AGING AND SOCIAL MEDICINE	2	1		3
13	APPLIED NEUROSCIENCES	1	1		2
14	MEDITERRANEAN ARCHAEOLOGICAL, HISTORICAL ARCHITECTURAL AND LANDSCAPE HERITAGE: INTEGRATED SYSTEMS OF KNOWLEDGE, PLANNING, PRESERVATION AND PROMOTION		2		2
15	HISTORICAL AND PHILOSOPHICAL HERITAGE FOR SUSTAINABLE INNOVATION		1		1
16	ANIMAL HEALTH AND ZOOSES	1	1		2
17	PHARMACEUTICAL SCIENCES	1	2		3
18	SOIL AND FOOD SCIENCES	3			3
19	HUMAN RELATION SCIENCES		3		3
20	ORGANS AND TISSUES TRANSPLANTATION AND CELLULAR THERAPIES		2		2
TOTAL		25	27	2	54
* n. 1 scholarship funded by the National Research Council - Institute of Biomedical Technologies - Milan					

In accordance with D.M. 226/2021, the aforementioned positions with scholarship are banned pending final ministerial approval, will be activated "sub-conditions" of accreditation of the doctoral course and will be awarded subject to the granting of the relevant funding; positions with scholarship funded by the National Research Council - Institute of Biomedical Technologies of Milan, will be attributed only following the conclusion of the agreement with which the research foundation funder transfers the funds to the University of Bari.

Therefore, the assignment of the positions put out to tender as well as the awarding of scholarships are subject to ministerial approval and the signing of the Acts of Obligation relating to the projects involved; in the event that the MUR does not pay the funding for the coverage of the aforementioned scholarships, the same will not be disbursed, with consequent forfeiture of the positions attributed to the winning candidates.

The selection and assignment of scholarships will take place exclusively on related topics for the description of which please refer to the attached forms, which are an integral part of this decree, containing information also on the methods and dates of completion of the admission tests.

The submission of the application for admission, according to the procedures referred to in art. 3 shall entail acceptance by candidates of the rules contained in this notice. The absence of the candidate, whatever the cause, will therefore be considered as a waiver of the concourse.

This call is to be notified in full. Therefore, candidates are required to comply with the information specified in the PhD sheet attached to this decree for the completion of tests.

There are no positions without scholarship or supernumerary admissions; therefore the doctoral course will be automatically resolved in case of withdrawal of the scholarship.

The Doctoral Courses have a three-year duration, which is scheduled to start on 1 February 2023.

The use of the male gender has no discriminatory character but, understood as gender neutral, it responds only to needs of more immediate communication.

Any changes, updates or additions to the content of the call will be announced, exclusively, with publication on the website: <https://www.uniba.it/it/ricerca/dottorati/38-ciclo-2022-2023> and on the website of each PhD course. The link can be found on the individual profiles.

Art. 2 - ADMISSION REQUIREMENTS

Candidates holding one of the following qualifications are eligible regardless of their citizenship and age:

- degree awarded under the system "vecchio ordinamento" in place prior to the one introduced by Ministerial Decree(D.M.) no. 509 of 03 November 1999, amended by Ministerial Decree (D.M.) no. 270 of 22 October 2004; "laurea specialistica" or "laurea magistrale" (second cycle degree); second-level academic qualification ("titoli accademici di secondo livello") awarded by Institutions belonging to the AFAM ("Alta Formazione Artistica e Musicale") sector;
- master's degree awarded abroad, recognised as such solely for the purpose of admission to the competition.

A) Admission to the selection for the candidates with an academic degree conferred abroad

Those in possession of a degree from a foreign university which has not yet been declared equivalent to an Italian degree will have to apply for their equivalence solely for the purposes of admission to the Ph.D. programme for which they intend to apply.

In such case, in order to allow for assessment of the qualification, application for participation must be accompanied, by the following documentation:

- **(In the case of Italian and EU citizens)** Self-certification, according to D.P.R. 445/2000 and subsequent modifications, of the academic qualification obtained with details of examinations, the relative results and the legal duration of the programme.
- **(Non-EU citizens)** A certificate attesting to the academic qualification obtained with details of examinations, the relative results and the legal duration of the programme together with a translation into Italian and/or english. The translation must be signed under the applicant's own responsibility in order to allow the qualification to be recognized.

The suitability of qualifications obtained abroad will be evaluated by the Judging Commission in accordance with the regulations in force in Italy and in the country where the qualification was obtained and relative treaties and international agreements on the recognition of qualifications for the continuation of studies.

In case of admission to the Ph.D. programme, applicants must submit, within 60 days from the date of registration, the following documentation:

- Curricular qualifications translated into Italian and legalized by the relevant Italian diplomatic or consular representations abroad;
- “Certificate of equivalence of qualification” of the foreign qualification issued by the relevant diplomatic or consular representations abroad. Alternatively, the Certificate of comparability of the foreign university qualification issued by the ENIC-NARIC centre in Italy (CIMEA) may be presented, containing all the information necessary for the assessment of the qualification.

For the purposes of entry into Italy, citizens of non-EU countries resident abroad must register on the University portal and apply for an entry visa (post-graduate visa type D) to the Italian Embassy or Consulate competent for the territory.

In case of doubts about the qualification validity, the University also reserve the right to request the “Certificate of equivalence of qualification” to those who have obtained a qualification in a European Union country.

B) Admission to the selection for candidates who have not yet received the degree

Candidates who are going to obtain the qualification necessary for entry to the Ph.D. programme may also apply if they are to obtain their qualification by and no later than **January, 31 2023**. Failure to gain the relevant qualifications by this date will result in exclusion from the call.

These candidates will be admitted sub condizione and no later than January 31, 2023 must send by PEC universitabari@pec.it the self-certification (or certification in the case of qualifications obtained abroad) with date and handwritten signature, accompanied by a copy of a valid photo identification document indicating:

- the name of the university issuing the qualification;
- date of completion of the qualification;
- type of qualification (specialist/master/old cycle degree, second level academic degree issued by institutions belonging to AFAM);
- final result.

Candidates who, for whatever reason, do not communicate the obtainment of the relevant qualification by the deadlines indicated or who send incomplete, incorrect applications, by different means or to different addresses other than those indicated above will be excluded from the call.

Those who have already benefited, even partially, from a scholarship for attending a doctoral course will also be excluded from participation.

Art. 3 - APPLICATION AND ENTRY TO THE CALL

The application for participation in the selection must be submitted using only the appropriate procedure made available to <https://pica.cineca.it/uniba/dottorati38-pnrr/> no later than **19 December 2022 at 12.00** (Italian time CET), under penalty of exclusion from the selection.

Access to the procedure takes place on the PICA portal (Integrated University Competition Platform) which can be accessed upon registration or with SPID credentials, as indicated in the Guidelines. Applications received in a different way will be considered invalid.

The registration fee for the competition is € 50.00; for foreign applicants residing abroad, no payments due. The entry fee is non-refundable for any reason.

The candidate must pay the fee by clicking on the "Paga con Pago PA" button and choosing as the payment method:

- Credit/debit card: for card payment
- Current account: for direct debiting your account
- Other payment methods: such as PayPal or Satispay

Candidates wishing to participate in more than one call must submit multiple applications each showing the relevant qualifications and necessary attachments along with payment for each individual application made.

Candidates may apply only for one doctoral scholarship about a specific topic, under penalty of exclusion.

All candidates are admitted to the competition.

The procedure for completing and submitting applications online can be carried out on any computer connected to

the network.

Please note that any technical issues regarding the completion of call applications should be notified by sending a message [Supporto](#).

Applicants are invited to complete the application for participation in the call with sufficient time prior to the deadline of this call.

It is the responsibility of candidates to verify the correct conclusion of the procedure. Complaints will not be considered in the case of the malfunctioning of the IT system due to application overloads near the deadline.

The payment of the €50,00 call fee does not constitute right to admission to the call in the absence of a formal application, even if made by the deadline of the call notice.

To the application form must be attached, in pdf format, the documents required by the profile of the chosen course as well as:

1. substitute self-certification Statement relating to degree certificates:

- for graduate candidates: self-certification statement (Art. 46 TU - DPR No. 445 of 28 December 2000) signed and dated, specifying the qualification type (old degree cycle/specialist/Master degree etc.), the date of award, the final result and the indication of the university issuing the qualification;

- for candidates who are to obtain their qualification:

self-certification statement (Art. 46 TU - DPR No. 445 of 28 December 2000), signed and dated indicating the university at which they are enrolled, the qualification type (old degree cycle/specialist/Master degree etc.), the name of the degree program, the list of the examinations taken along with their relative results and the expected graduation date. The same self-certification must also specify the weighted average of the marks of all exams taken up to the expiry date of this call (the weighted average is obtained by multiplying each result by the corresponding examination credits, adding the results obtained and dividing that sum by the total credits earned through exams with results);

2. signed and dated curriculum vitae;

3. numbered, signed and dated list of qualifications deemed useful for the call attached to the application;

4. numbered, signed and dated list of publications deemed useful for the call attached to the application;

5. qualifications the candidate considers relevant to the call;

6. single copy of scientific publications, numbered progressively; publications listed but not uploaded will not be considered;

7. photocopy of a valid ID document of the applicant;

8. **research project**, relating to the bound theme chosen by the candidate, of a maximum of 3500 words (unless otherwise indicated in the PhD profile attached to this notice) which must include:

- scientific assumptions and related bibliographic data;
- purpose, methodologies and expectations of the research;
- where necessary, experimental and data analysis methodologies.

The application is to be considered in all respects by law as a self-certification, pursuant to Art. 46 and 47 of DPR 445/2000 and ss.mm.ii., the data contained therein and in the documents annexed thereto.

Once completed, the application must be printed, signed and reloaded in the procedure following the indications described in the online procedure. The lack of signature and/or ID is a reason for exclusion from the selection.

In the case of authentication with the use of SPID (Public Digital Identity System) credentials, it will not be necessary to sign the application.

The application is submitted to the University automatically with the definitive closure of the online procedure. Therefore, no delivery or shipment of paper material to the Offices should be made.

At the end, the application will be registered and the submission confirmed by e-mail by the system.

The University may, at any time, on the basis of a reasoned decision by the Rector, exclude an application due to failure to meet the prescribed requirements, submission without the required signatures and/or for the lack of chosen curricula where required in the profiles.

Candidates with sensory and motor impairments as recognized in accordance with Law 104/1992 and successive modifications, candidates with a disability percentage of 66% or more in accordance with Law 68/1999 and candidates with recognized learning disabilities ("DSA") in accordance with Law 170/2010 may, depending on their situation, apply for the support auxiliaries necessary for the carrying out of the call examination and/or additional time. Interested candidates must submit to this University, **by the deadline of December 19, 2022 at 12.00 p.m. (CET Italian time)** the request completed on the application accompanied by appropriate medical certification issued by the competent health authorities. The necessary aids cannot be guaranteed if the application is received after the deadline of this call. It should be noted that for candidates qualifying as having "DSA" learning disabilities and candidates with sensory and motor impairments in accordance with ex-Law 104/1992, the certification attached

must have been issued within the last three years by organisations accredited by the national health service. Additional time will be granted upon request as governed by current legislation. Call administration assumes no responsibility for misdirected communications due to the improper indication of addresses by the applicant, missing or late notification of a change of address indicated in the application, or for any postal or delivery issues attributable to third parties, due to either accident or force majeure.

Art.4 – JUDGING COMMISSION

The Judging Commission for the Ph.D. programme call will be nominated through a Decree by the Rector in compliance with rules governing research Ph.D. programs at the University of Bari Aldo Moro.

In the case of industrial curricula or industrial/intersectoral PhD educational programmes, the commission may be completed with an expert having proper knowledge, for each external body; the expert expresses a non-binding opinion on the theme appropriateness of the candidates.

The composition of individual Commissions will be published on the site following the deadline for the call at: <https://www.uniba.it/it/ricerca/dottorati/dottorato-di-ricerca-38degciclo-a-a-2022-2023>.

Art.5 – THE CALL SELECTION PROCEDURE BASED ON QUALIFICATIONS AND EXAMS: CRITERIA FOR THE ASSESSMENT OF QUALIFICATIONS

With regard to the call based on qualifications and exams, a total score of 20 points will be awarded for qualifications. The categories of qualifications will be evaluated in terms of their relevance to the Ph.D. programmes and for which you apply, the maximum score attributable to each is as follows:

◆ Graduation assessment up to a maximum of **10 points** determined as follows:

Up to 100	0 points
101-104	4 points
105-107	6 points
108-110	8 points
110 with honours	10 points

For candidates who are to obtain their qualification by **January 31, 2023**, assessment will be calculated based on the weighted average of the results of all exams up to the expiry date of this call. If the candidate holds more than one degree, relevant to the course for which he wishes to compete, he must indicate the title to be taken into account for the evaluation by the Judging Commission.

- ◆ Up to a maximum of **4 points** may be awarded for scientific qualifications relevant to the subjects covered by the Ph.D. programme for which application is made:
 - Scientific publications (monographs, articles in scientific journals)
 - Minor Publications (national and international dissemination conferences, specific volume contributions, etc.)
- ◆ Up to a maximum of **4 points** may be awarded for academic and study qualifications relevant to the subjects covered by the Ph.D. programme for which application is made:
 - 1st or 2nd Level University Master, post-graduate specialization qualifications, specialised diploma qualifications;
- ◆ Up to a maximum of **2 points** may be awarded for:
 - Documented research activities at qualified Italian and foreign institutions relevant to the subjects covered by the PhD programme for which application is made.

The evaluation of the qualifications, after identification of the criteria, will be carried out before the evaluation of the project in the case of procedure B.

Documents and certificates must be produced on unstamped paper according to Article 1 of Law No. 370 of 23 August 1988; if produced in a foreign language they must be accompanied by a certified Italian translation in accordance with the foreign text, produced by the competent diplomatic or consular representation or by an official translator. Reference to documents and publications already submitted to this University is not permitted for any reason. Documents, qualifications or publications received by this University after the deadline for applications will not be considered in the call.

ART. 6 – THE CALL SELECTION PROCEDURE BASED ON QUALIFICATIONS AND EXAMS: EXAM PROCEDURES

With regards to the call based on qualifications and exams, the admission test consists of a proper test in order to ensure a comparative evaluation and to ascertain the aptitude of the candidates for scientific research.

Without prejudice to the assessment of qualifications under art. 5, the exam procedures, specified in the doctoral profile attached to this call, involve one of the following modalities: B) evaluation of the research project and oral examination; C) oral examination.

In the case of the exam procedure referred to in letter B), as well as where it is explicitly required in the annexed doctoral programme profile, the research project must be attached to the application, under penalty of exclusion.

The scores related to the various tests are given as follows:

	B)	C)
Qualifications score*	20	20
Research project score	40	
Oral examination score**	40	80

* Up to 10 for the graduation mark

** It includes the examination of the knowledge of English/other foreign language as well as the research project evaluation where required in the profile.

The subjects covered within the examinations relate to scientific disciplinary sectors which make reference to the Ph.D. programme.

In order to be admitted to the examination, candidates must have one of the following validation documents: National ID card, passport, driving license, boat license, weapons license, identification document, provided they include photographs and stamps or other equivalent marks issued by a state administration.

For foreign applicants, the oral test may, upon prior request, be carried out in English or in any of the other foreign languages specified in the Ph.D. programme.

An examination of the knowledge of at least one foreign languages indicated by the applicant is included in the oral examination from among those listed in the Ph.D. programme profile.

B) Evaluation of the research project and oral examination

Each Commission, for the evaluation of each candidate, in addition to the qualifications score, may award up to forty points for the project evaluation and up to forty points for the oral examination.

The Judging Commission will formulate the list of candidates admitted to the oral test. Before the oral examination, candidates will be informed of the scores obtained in the evaluation of qualifications and in the evaluation of the project.

Candidates obtaining a score of no less than 27/40 in the project evaluation will be admitted to the oral examination. The oral examination will be considered passed in cases in which the candidate has scored no less than 27/40.

At the end of each oral examination session, the Judging Commission will formulate the list of candidates examined with an indication of results awarded.

This list, signed by the President and the Secretary of the Commission, will be posted on the same day on the notice board of the exam venue or published on the PhD web page specified in the profile.

C) Oral examination

Each Commission, for the evaluation of each candidate, in addition to the qualifications score, may award up to eighty points for the oral examination.

Before the oral examination, candidates will be informed of the scores obtained in the evaluation of qualifications. Where stated in the single PhD programme profile, the oral examination may also be a discussion of a research project. The oral examination will be considered passed in cases in which the candidate

has scored no less than 54/80.

At the end of each oral examination session, Judging Commission will formulate the list of candidates examined with an indication of results awarded.

This list, signed by the President and the Secretary of the Commission, will be posted on the same day on the notice board of the exam venue or published on the PhD web page specified in the profile.

ONLINE EXAMINATION

The examination may be taken online. In such cases, the email address specified by the candidate will be used by the Judging Commission to invite the candidate to join a “team” created via MICROSOFT TEAMS platform or other digital platform and thus allow him/her to take the exams. The operational indications will be provided close to the test and at least three days before, by public notice on the PhD programme web page specified in the profile of the doctoral course the candidate is interested in. Candidates are required to verify admission to the test on the date set for the communication of the results of the research project and, in the event that the examination is online, they must connect on the day and at the time specified in order to take it by videoconferencing via MICROSOFT TEAMS platform or similar, they must install the specified platform software on their own device and equip themselves with a webcam to allow for their identification before the test.

Foreign candidates who are resident or domiciled abroad and all candidates who prove, giving an adequate reason, the impossibility of being in person at the place and time scheduled for the oral examination may require to take such examination online. In such cases, the candidate must submit a written request to be sent to the PEC address of the Department which is the administrative headquarters of the Course, specified in the single PhD programme profile as well as to the email address dottorato@uniba.it, by and no later than the second day before the examination date.

Art.7–RANKING MERIT LIST FOR THE ADMISSION TO THE PhD PROGRAMME

Having carried out the call examinations, the Commission will compile a general merit ranking based on the sum of the results awarded to each candidate in each examination.

At the end of the call procedure, the Rector, having ascertained procedure regularity, will approve the call acts and the relevant merit ranking and declare the successful candidates.

The merit ranking will be produced according to the order of the overall points for each candidate in the examinations and in the evaluation of qualifications.

The rankings of the candidates suitable for each scholarship with a tied theme will flow into a single general ranking that will give title to access, possibly divided according to the curricula. The winners will be the candidates who have reported the highest score for each themed scholarship.

Successful call candidates will be declared, according to the limits imposed by the number of positions available, according to best performance in the merit rankings. Scholarships will be approved by Rector's Decree in accordance with the general merit ranking of each Ph.D. program. In any case, the specific provisions indicated in each Ph.D. programme profile will remain valid.

In the case of parity in the merit ranking lists for positions with scholarship, the evaluation of the economic condition prevails, determined in accordance with the D.P.C.M. 9.4.2001 and D.P.C.M. 5.12.2013 n. 159.

In this case the candidate must declare his/her economic and patrimonial status (ISEE Dottorato di Ricerca). This declaration must be received within 20 days from the date of the publication of the ranking list. After the aforementioned 20 days, the candidate will be placed in the least favourable position in the merit ranking list. The candidate can present the ISEE declaration on his/her restricted family in accordance with D.P.C.M. n. 5.12.2013 n. 159.

In the event that there are scholarships that have not been optioned in the competition phase, it will be possible to assign, subject to the resolution of the Board of Teachers of the doctoral course concerned, the aforementioned place(s) with scholarship to those who are usefully placed in the general ranking according to the order in which it flows.

The decrees approving the acts and the relative rankings will be made public by publication in the online Praetorian Register and on the website at the following address: <https://www.uniba.it/it/ricerca/dottorati/dottorato-di-ricerca-38degiciclo-a-a-2022-2023>.

This publication shall be valid in all respects as official notification to the successful candidates. No home communications will be sent.

Art. 8 – ADMISSION TO THE PhD PROGRAMME

Candidates will be declared successful according to the call merit rankings and according to the number of positions made available for each Ph.D. programme.

In the case of withdrawal by successful call candidates, the call administration will proceed to nominate the next most successful candidate according to the order of the merit ranking. In such cases the nominated candidate must register within three working days otherwise the nomination will be void.

In the case of a candidate being declared successful in more than one ranking, the candidate must select one Ph.D. programme.

A successful candidate who already holds a Ph.D. title may be admitted to attend a second Ph.D. degree programme different to that already attended. In the case of parity of merit, candidates applying for the first time will be awarded priority.

In case the positions with scholarships and the positions without scholarship will not be assigned to graduates at foreign Universities, they will be awarded to the students in the ranking of ordinary positions.

All candidates are admitted to the call subject to the verification of self-certified declarations under D.P.R. 445/2000 and subsequent modifications.

Art. 9 - SCHOLARSHIPS

The scholarships available in accordance with the profiles attached to this call, as well as those potentially added in accordance with Article 1, will be awarded with the Rector Decree in order of the merit ranking lists of each PhD course.

The annual scholarship is of € 16.243,00 subject to INPS social security contributions. The duration of the scholarship is equal to the entire duration of the programme.

The scholarship will be paid in deferred monthly instalments and the maximum total annual gross income limit necessary in order to qualify for a scholarship is set at € 16.000,00 (sixteentousand/00).

The determination of this income limit includes income from property and assets as well as income of any other nature. Exceeding the income limit will lead to the loss of the right to the scholarship for the year in which the excess occurs and obliges the repayment of any monthly payments already received.

The scholarship cannot be combined with other scholarships or grants, except for those intended to supplement research during stays abroad.

The scholarship cannot be awarded in the case of a suspension of more than thirty days, or exclusion from the programme. During the programme the doctoral candidate may, for research needs, be authorized by the Coordinator for periods of up to six months, or by the Academic Board (Collegio dei Docenti), for periods of more than six months, to complete a period of study in Italy and/or abroad or to carry out an internship with either public or private bodies.

The amount of the scholarship is increased by 50% in the case of periods spent abroad.

Those entitled to a scholarship must, at the time of application, submit a declaration of expected gross personal income as well as declaring the absence of any eventual incompatibilities as outlined in the present article. Scholarship beneficiaries will be required to set up an INPS contribution profile, enrolling in the "Gestione separata" scheme of that Institute.

Scholarships shall be subject to tax relief provisions in accordance with Art. 4 of Law 13.08.1984 No. 476.

In any case the special provisions in each specific financing agreement for the scholarship, remain valid.

It is understood that, if a scholarship is declared ineligible for funding following verification by the competent ministerial office, the candidate registered in the post corresponding to that scholarship will be declared forfeited.

Art. 10 – Ph.D. COURSES AND MEDICAL SPECIALIZATION SCHOOLS

If successful in the selection process for a PhD, students enrolled at medical Specialisation Schools will be allowed to enrol in a PhD Course in compliance with the following conditions:

- a) compatibility, also in consideration of the distance between the seats, of the activities and commitment envisaged by the Specialization School and the PhD Course, certified by the Board of the Specialisation School and by the Academic Board of the PhD Course;
- b) incompatibility between the PhD grant and the emoluments, however denominated, received in relation to the activities of the specialization school.

Taking into account that the objective of this call for selection is the allocation of places with scholarships within the PNRR, the university medical specialization residents, winners of the selection procedure, who intend to enrol in the doctoral course must accept the place with a scholarship waiving the fees, however denominated, received in relation to the activities of the specialization school, as incompatible with the doctoral scholarship, pursuant to Article 7 of Ministerial Decree no. 226/21.

In cases of joint attendance, the request for a reduction in doctoral activities is approved by the Academic Board of the PhD Course, after a positive assessment of the consistency of the research activities already carried out in the medical Specialization course with the doctoral project. In order to accept the application referred to in this paragraph, the opinion of compatibility, expressed by the Board of the Specialization School, of the doctoral project with the didactic purposes of the Specialization School is also required. If the application referred to in this paragraph is accepted, the PhD Course will have in any case a duration of no less than two years.

Art. 11 – ENROLMENT

Successful call applicants will have to enroll by the dates to be announced at the time of the publication of the merit rankings.

Notification will not be sent to successful call applicants regarding the deadline of enrolment.

Failure to enroll within the terms of each Ph.D. programme will be considered withdrawal from the call and the position will be awarded to the next candidate on the basis of merit ranking order.

The application for enrolment and its attachments must be uploaded to the Esse3 platform during enrolment, with the following documentation:

1. signed photocopy of a valid ID document;
2. receipt of payment of the regional tax for the right to University Study to be made by following the instructions on the ADISU web site at the link: <http://w3.adisupuglia.it/pagamenti-pa>;
3. photocopy of fiscal code card (codice fiscale);
4. a passport-sized photographs signed on the rear;
5. a payment of € 16,00 for duty fee through PagoPA on the Esse3 platform;

Non-EU citizens must submit a valid permit of stay or a copy of the required application to the competent authorities as well as an Italian fiscal code document (codice fiscale).

Foreign nationals not resident in Italy must submit the following certificates within 30 days of enrolment:

- a) birth certificate;
- b) certificate of citizenship;
- c) certificate of civil and political rights status in the state of origin or provenance;
- d) a certificate equivalent to the general certificate of judicial records issued by the competent authority of the state of which the foreign candidate is a citizen.

Certificates issued by the competent authorities of the state of which the foreign applicant is a citizen must comply with the provisions in force in that state and signatures must be legalized by the competent Italian consular authorities. Foreign language translations must be accompanied by a certified Italian translation of the foreign text produced by the competent diplomatic and consular representation or by an official translator. Documentation relating to the above-mentioned requirements will also be made available online at the website: <https://www.uniba.it/it/ricerca/dottorati/dottorato-di-ricerca-38degciclo-a-a-2022-2023>

Art. 12 – TAXES AND FEES

Ph.D. students with disabilities with a recognized disability of 66% or more, even if already in possession of an academic degree, are exempted from taxes and fees.

All doctoral students are required to pay the regional tax for the right to university study except doctoral students with a disability of at least 66%.

All doctoral students are required to pay the Regional Tax, determined on the basis of the income of their family unit (ISEE Module), according to the amounts indicated in the table below:

ISEE REGIONAL TAX

from € 0 to € 23.626,32 = € 120,00

from € 23.626,33 to € 47.252,64 = € 140,00

over € 47.252,64 = € 160,00

Students who do not present the ISEE declaration are placed in the maximum band of the regional tax.

This sum for ADISU must be paid by following the instructions on the ADISU web site at the link: <http://w3.adisupuglia.it/pagamenti-pa>.

Doctoral students who do not renew enrolment for the years following the first year of the programme will be excluded from the Ph.D. programme.

In all cases, the sum of € 67,60 is payable per diploma, in addition to the duty stamp in force in a given period. Late payments will incur a penalty of € 20,00 for payments made within 30 days of the payment deadline, € 40,00 for

payments made within 60 days of the payment deadline and € 80,00 for payments made more than 60 days after the payment deadline.

PART II SUPPLEMENTARY INFORMATION

Art. 13 - TRANSLATION AND LEGALIZATION OF DOCUMENTS

Acts and documents in a foreign language must be translated and certified by the relevant Italian diplomatic or consular representations in the foreign state in question and must comply with the provisions in force in that State.

Art. 14 – INSURANCE COVER

The University guarantees insurance cover for civil liability and accident for the entire duration of the programme for activities strictly related to the Ph.D. programme itself and will arrange the stipulation of the relevant policy.

Art. 15 – RIGHTS AND OBLIGATIONS OF DOCTORAL STUDENTS

Without prejudice to the rights and obligations and constraints provided for by the current University Regulations on PhD and by Ministerial Decree no. 226/21, the acceptance of scholarships from PNRR funds implies compliance with the related obligations.

The activities connected with the realization of the funded doctoral path project must be completed within 36 months from the date of launch of the doctoral scholarship and may include a period abroad. In order to comply with the expenditure commitments and reporting obligations established by the Community regulations on PNRR, the start of the courses is mandatorily scheduled for 1 February 2023. PhD students are obliged to attend courses and to continuously carry out study and research activities within the structures intended for this purpose according to the procedures that will be established by the Board of Professors of the doctoral course, with an exclusive and full-time commitment, equal to 1500 hours per year. This commitment is confirmed by the compilation of a register of activities.

This commitment is confirmed by the compilation of a register of activities. PhD students are also required to comply with all the rules and regulations in force of the University and are obliged to produce the documents established by the "Guidelines for reporting for the subjects implementing the Mission 4 Component 2 system initiatives":

- report indicating the time commitment;
- periodic summary of the main activities carried out countersigned by the scientific manager;
- annual report;
- documentation certifying the activity carried out;
- payment documentation.

They must also ensure compliance with the obligations regarding communication and information provided for by art. 34 of Regulation (EU) 2021/241, indicating in the project documentation that the Programme is funded under the PNRR, with explicit reference to funding by the European Union and the NextGenerationEU initiative (e.g. using the phrase "funded by the European Union – NextGenerationEU"), reporting in the project documentation the emblem of the European Union in line with the provisions of the PNRR Communication Strategy. The annual positive evaluation by the Board of Teachers involves the passage to the next year of the course, or admission to the final exam in the case of students enrolled in the last year. The Board of Teachers may propose by reasoned resolution, after hearing the interested party, that a PhD student be temporarily suspended from the course, or that he be excluded, with consequent partial or total loss of any scholarship in enjoyment, in case of:

- negative opinion by the Board of Teachers during the annual verification of the activity;
- unjustified and prolonged absences;
- behaviors contrary to the rules of incompatibility.

The interventions provided for by Legislative Decree no. 68 of 29 March 2012 are extended to doctoral students, in accordance with the procedures regulated therein. Doctoral students are subject to the provisions for maternity protection set out in the Decree of the Minister of Labour and Social Security of 12 July 2007, published in the Official Gazette no. 247 of 23 October 2007. The University regulations ensure that doctoral students are represented in the Doctoral Board for the treatment of didactic and organizational problems. Attendance at the doctoral course may be suspended, **subject to the resolution of the Board of Teachers e preventive Ministerial approval**, up to a maximum of one year, eventually maintaining the rights to scholarship in enjoyment, unless interruption of the relative provision, with subsequent recovery at the resumption of attendance, in cases of maternity, military service or civil service, serious and documented illness. The enjoyment of the scholarship for attendance at the doctorate is compatible with other income, also received continuously in the calendar year in which the scholarship is received, provided that they do not exceed

the maximum limit established by the legislation in force. If the income limit is exceeded, the scholarship is considered revoked for the entire year. The interested party is required to declare annually the income received and to report any exceeding of the prescribed limit.

Art. 16 – CONFIDENTIALITY AND INTELLECTUAL PROPERTY

In the case in which a doctoral student has, during the Ph.D. programme, developed research products which may qualify for the granting of industrial rights or intellectual property, or for which it may be possible to obtain the designation of industrial property, such as inventions (whether patentable or not), know-how, utility models, designs and drawings, software, data or data collections, these will be regulated in accordance with current university inventor regulations and University of Bari regulations, without prejudice to particular agreements concluded on the basis of particular types of relationships.

The doctoral candidate must undertake a specific commitment to confidentiality and the recognition of industrial and/or intellectual property rights in relation to confidential information, data, and documents that the doctoral student should become familiar with in the course of his or her activities, including those carried out by a company, an Institution or an University.

The doctoral student is, in any case, given the opportunity to perform standard publishing activities as foreseen by the programme, which will take place in compliance with the commitment to confidentiality assumed with the University for their work including that carried out within a company, as well as any specific agreements concluded on the basis of particular types of relationships.

Art. 17 – AWARDING OF TITLE

The title of Doctor of Research (Dott. Ric) or Ph.D. is awarded following positive evaluation of a research thesis that contributes to the advancement of knowledge or methodologies in the chosen field of enquiry. The doctoral thesis, accompanied by a summary in Italian and in English, may be written in either Italian or English or, with prior permission from the Academic Board (Collegio dei Docenti), in another language.

The examining Commissions for the final exam will be formed and nominated, for each Ph.D. programme, according to the doctoral regulations. The examination may not be resit.

Art. 18 – BACKGROUND CHECKS

The University carries out the necessary background checks on the authenticity of the substitute statements made by the candidate. In case the audit establishes falsehoods in the content of such statements, the candidate is excluded from applying to the call or, if already enrolled as a successful call candidate, withdrawn from the programme subject to the criminal penalties provided for in Art. 76 of Law no. 445/2000.

Art. 19 - TREATMENT OF PERSONAL DATA AND RIGHT OF ACCESS

The personal data contained in the application form (and in the curriculum) will be processed for the purposes of the management of this procedure and in application of the current regulations concerning the processing of personal data. The data will be processed - by the parties authorized to process it - with manual, computer tools and telematic tools within and for the purposes specified above, in compliance with the security measures adopted by the University and in compliance with the provisions of EU Regulation no. 2016/679 on the protection of individuals with regard to the processing of personal data and the free movement of such data, as well as legislative decrees to adapt the national legislation to the provisions of the afore mentioned Regulation. The Data Controller is the University of Bari Aldo Moro, with registered office in Piazza Umberto I, n. 1, 70121

- BARI. The designated Data Protection Officer can be contacted at the e-mail address rpdp@uniba.it.

The full text of the information is available at:

<https://www.uniba.it/ateneo/privacy/informative/informative-selezioni/view>

The documents of the selection are public. The candidates may exercise the right of access the documents of the selection according to the legislation in force.

Art. 20 – RESPONSIBLE PARTIES FOR CALL PROCEDURE

Pursuant to Law No. 241/1990 subsequent modifications and integrations, the Head of Call Proceedings is Dr. Maria Luisa Loiudice - Head of U.O. – Doctoral Research (PhD Office).

Any clarifications may be requested at the following e-mail address: dottorato@uniba.it.

Art. 21 – LAWS OF REFERENCE

For any specific issues not provided for in the present notice, reference should be made to the current legislation in force and, in particular, to University of Bari Regulations on doctoral research published at www.uniba.it. Foreign students may obtain more information at <http://www.studiare-in-italia.it/studentistranieri/>.

This call notice translated into English is to be considered informative in nature. In the event of any dispute, the original Italian version of this call notice will prevail.

Art. 22 – PUBLICATION

The notice of the announcement of this call was submitted to the Ministry of Justice for publication in the Official Journal of the Italian Republic - 4th Special Series - Calls.

This decree will be ratified by the Governing Bodies in their next assemblies.

Bari, November 18th, 2022

THE RECTOR
Signed Prof. Stefano BRONZINI

ANNEX 1)

PROFILE

PhD PROGRAMME IN BIODIVERSITY, AGRICULTURE, AND ENVIRONMENT

CUN Scientific Area: 07 - Agricultural and Veterinary Sciences; 05 - Biological Sciences

Scientific Subject Code: AGR/01, AGR/02, AGR/03, AGR/04, AGR/05, AGR/07, AGR/11, AGR/12, AGR/17, AGR/19, BIO/03, BIO/04, BIO/05, BIO/07, CHIM/12 and ICAR/03

Coordinator: Prof. Enrico de Lillo

Administrative office: Dipartimento di Scienze del Suolo, della Pianta e degli Alimenti (DiSSPA)

PEC: disspa@pec.uniba.it

Duration: 3 years

Curricula:

- 1) Genetics and Plant Biotechnology (Scientific Subject Code: AGR/07);
- 2) Environmental Sciences (Scientific Subject Codes: BIO/03, BIO/04, BIO/05, BIO/07, CHIM/12 and ICAR/03);
- 3) Mediterranean Sustainable Agriculture (Scientific Subject Codes: AGR/01, AGR/02, AGR/03, AGR/04, AGR/05, AGR/17 and AGR/19);
- 4) Crop Protection (Scientific Subject Codes: AGR/11 and AGR/12).

Total number of positions with fellowships n. 3

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D "National Champions" on Key enabling technologies" D.D. n. 3138 DEL 16.12.2021 – Next Generation EU

Project Name: Agritech National Research Centre for Agricultural Technologies (CUP: H93C22000440007 Cod: CN00000022)

Curriculum 1

Thematic title: Plant, animal and microbial genetic resources and adaptation to climatic changes

Project Scholarship title: *De novo* and *in silico* exploration of crop biodiversity to advance genetics and breeding of Mediterranean crops

Research activity description: Recent advances in sequencing technologies allow exploring genomic variation at relatively moderate costs. In addition, a progressively larger amount of digital sequence information (DSI) is being made available to the scientific community. The research project hereby presented aims at the collection of DNA sequence and phenotypic data for several crop species widespread in the Mediterranean area (pea, lentil, almond), using both *de novo* and *in silico* approaches. Targeted elaboration of data will be carried out to gain insights on the crop genetic structure and evolutionary history, identify marker-trait associations, and define genes putatively underlying phenotypic variation.

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D "National Champions" on Key enabling technologies" D.D. n. 3138 DEL 16.12.2021 – Next Generation EU

Project Name: Agritech National Research Centre for Agricultural Technologies (CUP: H93C22000440007 Cod: CN00000022)

Curriculum 3

Thematic title: Plant, animal and microbial genetic resources and adaptation to climatic changes

Project Scholarship title: Plant-Based Indices to assess and monitor the fruit tree functionality under the threat of climate change

Research activity description. Fruit tree crops accumulate the effects of climate change stresses along their long life. Furthermore, in order to evaluate the effect of such cross-breeding programs, it is necessary to wait the fruiting period

on these species. The rapid and accurate screening of plant functionality may help to perform a preliminary selection of those genotypes more performing under the threat of climate change. The present project aims at: (i) studying the ecophysiology of the fruit tree crops; (ii) developing a pool of Plant Based Indices (PBI) to monitor the plant status when subjected to climate change stresses (mainly abiotic) in an accurate and rapid way; (iii) using the developed PBI for phenotyping studies and to evaluate the performance of genotypes under the threat of climate change.

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D "National Champions" on Key enabling technologies" D.D. n. 3138 DEL 16.12.2021 – Next Generation EU

Project Name: Agritech National Research Centre for Agricultural Technologies (CUP: H93C22000440007 Cod: CN00000022)

Curriculum 4

Thematic title: Enabling Technologies and sustainable strategies for the smart management of agricultural system and their environmental impact

Project Scholarship title: Innovative and ready-to-use diagnostic tools for phytopathogens detection

Research activity description: Human activities contribute significantly to spreading phytopathological adversities. Early detection of pathogen using fast, precise, and inexpensive diagnostic techniques is a relevant goal in managing plant health, especially for emerging diseases or pathogens that spread with asymptomatic plants. The research activity will be developed involving biological, biotechnological and plant pathology expertise, with the aim of improving and making available portable, easy-to-use, and IoT based sensors for detecting early and univocally plant pathogens or the presence of toxic metabolites to human health. In this context, portable systems based on miniaturized molecular approaches, the analysis of hyperspectral data, and the Internet of Things are sectors of interest and constantly evolving.

Admission mode:

The selection will be made following the art. 6, typology B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

Admission tests for foreigners:

The videoconference interview of foreign candidates will be in English.

Admission interview:

Qualification: December 28, 2022

Proposed project: December 29, 2022

Oral interview: January 3, 2023 at 9:00 am.

Location: Aula Ciccarone – Agricultural Building, Via Amendola, 165/A – Bari

For more information see the website:

<https://www.uniba.it/ricerca/dipartimenti/disspa/dottorato-di-ricerca/biodiversita-agricoltura-e-ambiente>

ANNEX 2)

PROFILE

PhD PROGRAMME IN BIOSCIENCES AND BIOTECHNOLOGIES

CUN Scientific Areas: CUN: 05- Biological Science, 06- Medical Sciences, 07-Agricultural and Veterinary Sciences, 03- Chemical Sciences

Scientific Subject Codes: _ AGR/17, BIO/04, BIO/05, BIO/06, BIO/07, BIO/09, BIO/10, BIO/11, BIO/12, BIO/13, BIO/16, BIO/17, BIO/18, BIO/19, CHIM/11, MED/04, VET/10

Coordinator: Prof. Giovanna Valenti

Administrative office: Department of Biosciences, Biotechnology and Environment

PEC: direzione.bioscienze@pec.uniba.it

Duration: 3 years

Curricula:

1. Biomolecular Sciences and Bioinformatics (Scientific disciplinary sectors: BIO/10 and BIO/11)
2. Cellular and Molecular Physiology and Biotechnology (Scientific disciplinary sectors: BIO/09, BIO/17, VET/10, AGR/17, MED/04)
3. Biochemical Sciences and Cell Biology (Scientific disciplinary sectors: BIO/10, BIO/12, BIO/13, BIO/14, BIO/16, CHIM/11)
4. Genetics, Microbiology and Molecular Evolution (Scientific disciplinary sectors: BIO/18, BIO/19)
5. Morphofunctional Biology (Scientific disciplinary sectors: BIO/04, BIO/05, BIO/06, BIO/07)

Total number of positions with fellowships n. 6:

Project: Gene Therapy and RNA Drug technology, ID code CN00000041, CUP H93C22000430007

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on some Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU, topic CN3 "Development of gene therapy and RNA drug technology"

Title Scholarship: RNA/DNA-based therapies for diseases associated with mutations in nuclear genes encoding mitochondrial proteins. (Curriculum 3)

Research activity description: The project aims at the generation of cellular models of human diseases associated with mutations of nuclear genes encoding mitochondrial transporters (SLC25A family) as biological platforms to define the cellular pathogenic mechanisms and to perform genome editing studies for gene mutation replacement in vitro and in vivo.

Months abroad: 3

Project: Gene Therapy and RNA Drug technology, ID code CN00000041, CUP H93C22000430007

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on some Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU, topic CN3 "Development of gene therapy and RNA drug technology".

Title Scholarship: In vitro production of genetically engineered gametes and embryos of animal models for mitochondrial pathologies of nuclear origin (curriculum 2)

Research activity description: Mitochondrial disorders can be determined by pathogenic variants of nuclear DNA encoding genes, relevant for mitochondrial functions. Genetically engineered (GE) animal models of human diseases could contribute to biomedical research progress. The aim of this project is to produce GE oocytes and embryos of animal models for mitochondrial diseases caused by mutations at nuclear DNA level. Mutations will be induced by injecting CRISPR/Cas9 components into oocytes fertilized in vitro to generate heterozygous embryos. Alternatively,

homozygous embryos will be obtained by gene-editing of zygotes or cell lines to use for Somatic Cell Nuclear Transfer (SCNT). Control and GE embryos will be validated and used to develop diagnostic and therapeutic strategies.

Months abroad: 6

Project: Gene Therapy and RNA Drug technology, ID code CN00000041, CUP H93C22000430007

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on some Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU, topic CN3 "Development of gene therapy and RNA drug technology".

Title Scholarship: Analysis of the functional role of circular RNAs in tumorigenesis and malignant progression in human organotypic 3D cultures (curriculum 2)

Research activity description: CircRNAs are stable RNAs involved in several human cancers, as they affect the expression of genes regulating cell proliferation and apoptosis. Artificial exogenous circRNAs can be also used as oncogenic miRNA sponges with therapeutic potential. However, both circRNA function in malignant progression and their eventual transfer through a new form of cell-cell communication, the tunneling nanotubes (TNTs), are poorly explored. To better understand these aspects, we will (i) use (fluorescent) siRNAs/shRNAs to knockdown tumorigenic circRNAs and (ii) artificial circRNAs sponging oncogenic miRNAs to analyze both their dynamics in the TNTs and their role in tumor growth, invadopodia-driven invasion and vasculogenic ability in 3D organotypic cultures representative of the tumor microenvironment.

Months abroad: 3

Project: Gene Therapy and RNA Drug technology, ID code CN00000041, CUP H93C22000430007

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on some Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU, topic CN3 "Development of gene therapy and RNA drug technology".

Title Scholarship: Development of novel gene therapy approaches based on programmable RNA editing (curriculum 1)

Research activity description: RNA editing is one of the most relevant epitranscriptome mechanisms by which cellular RNAs are modified in specific localizations in a not-transient fashion. In human, RNA editing involves the deamination of cytosine in uridine by APOBEC enzymes and, most frequently, the conversion of adenosine in inosine by the ADAR family of enzymes. A-to-I editing in non-coding regions is important in modulating the innate immune response, while modifications in protein coding genes has several functional and physiological implications. The aim of this PhD project is to develop RNA editing deaminase-based constructs to correct pathological mutations at RNA level in human cells, mainly in quiescent cells, in which the CRISPR-Cas technology cannot be applied.

Months abroad: 6

Project: Gene Therapy and RNA Drug technology, ID code CN00000041, CUP H93C22000430007

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on some Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU, topic CN3 "Development of gene therapy and RNA drug technology".

Title Scholarship: Development of new bioinformatics methodologies to support gene therapy approaches and the design of RNA based drugs (curriculum 1)

Research activity description: In the era of omics sciences and precision medicine, novel computational tools are needed to formulate hypotheses whose predictions can be tested to advance our knowledge and drive the design of new RNA-based therapeutic products. The aim of this PhD project is to develop and employ consolidated and novel algorithms and software for handling short and long-read sequencing data to comprehensively investigate post-transcriptional mechanisms such as alternative splicing and RNA editing, aimed at identifying neoantigens and disease targets for the design of innovative RNA-based drugs.

Months abroad: 6

Project: A multiscale integrated approach to the study of the nervous system in health and disease, acronym PE MNESYS, ID code PE0000006, CUP H93C22000660006

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centers, companies and research project funding DD MUR N. 341 of 15/03/2022 funded by the European Union - NextGeneration EU, theme PE12 " Neuroscience and neuropharmacology ".

Title Scholarship: Genetics and pharmacogenetics of psychiatric diseases: the substances use disorders and their comorbidities (curriculum 4)

Research activity description: Substance use disorders are complex multifactorial disorders triggering a series of adverse effects on affected individuals, society and the healthcare system. Multiple investigations have now clarified that virtually all substance use disorders have a genetic component and are often correlated with the occurrence of psychiatric disorders, such use the association between cannabis use and schizophrenia liability. Furthermore, innovative studies have stressed that many of these disorders may have been, at least in part, the result of maladaptation caused by evolutionary trade-offs. Here, starting from genetics data and biological samples, we will characterise the genetics profile of substance addiction, evaluating the comorbidity with psychiatric phenotypes and developing predictive tools for susceptibility, severity and pharmacogenomics traits that will be further improved by evolutionary history knowledge.

Months abroad: up to 6

Admission procedures:

The selection will be made following the art. 6 typology B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

Admission tests for foreigners:

The videoconference interview of foreign candidates will be in English.

Admission exam dates and time:

Qualification : 28 December 2022

Proposed project: 29 December 2022

Oral interview: 3 January 2023, Department of Biosciences, Biotechnology and Environment -Seminar Room, IV Floor. 9.00 a.m.

In case the interview is in remote mode, it will be done following the art. 6 of the call.

For more information see the website:

<http://www.uniba.it/ricerca/dipartimenti/bioscienze-biotecnologie>

PROFILE

PHD PROGRAMME IN RIGHTS AND PROTECTION IN GLOBALIZED MARKETS

CUN Scientific Areas: 12 – Legal Sciences; 13b – Economics and business sciences

Scientific Subject Codes: IUS/01, IUS/02, IUS/03, IUS/04, IUS/05, IUS/07, IUS/13; IUS/14; IUS/15; IUS/17; IUS/20; SECS-P/07

Coordinator: Prof. Vito Sandro Leccese

Administrative office: Department of Law

PEC: direzione.giurisprudenza@pec.uniba.it

Duration: 3 years

Curricula: NO

Total Available PhD positions with scholarship **n. 1:**

- **Project:** Extended Partnership n.9: Economic-financial sustainability of systems and territories, Project "GRINS – Growing Resilient, INclusive and Sustainable", **CUP:** H93C22000650001, **CODE:** PE0000018
- **Call for proposal:** NRRP- Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to
- universities, research centers, companies and research project funding DD MUR N. 341 of 15/03/2022 funded by the European Union - NextGeneration EU, PE n.9. Economic and financial sustainability of systems and territories
- **Scholarship thematic title:** "Open Finance and Financial Inclusion"
- **Scientific contact:** Prof. Maria-Teresa Paracampo (IUS / 05) and Prof. Francesca Vessia (IUS / 04)
- **Description of research activities:** The PhD project is part of the activities of the "Growing Resilient INclusive and Sustainable (GRINS)" project, and, in particular, of the topic "Digital Finance, inclusion and green / young entrepreneurship". As part of the ongoing process of digitization of the financial sector and, in particular, of data-driven innovation, both strengths of the European strategy for digital finance, the research activity is aimed at both identifying risks and opportunities of Open Finance and the sharing of data (personal and non-personal) of customers and potential customers, both to define financial inclusion solutions for consumers and for small and medium-sized enterprises (SMEs), with difficulties in accessing financial services provided in the traditional context. It is scheduled a study period abroad of 6 months.

Admission test:

The selection will take place in accordance with art. 6 lett. B of the call, by qualifications, research project and interview. The oral exam will be based on the discussion of an original research project on the topic of the call, previously sent by the candidate (maximum 10000 characters including spaces) together with the admission application under penalty of exclusion, to be assessed in relation to its originality, rigor methodological and consistency with the topic covered by the call. The oral exam will also be based on verifying the maturity and knowledge, skills and aptitude for scientific research of each candidate in relation to the sector (or sectors) to which the research refers, as well as the English language. The oral exam will be held in person.

Admission tests for foreigners:

Foreign candidates can choose to take the admission exam in Italian or English; they can also ask to sit the oral exam remotely in accordance with the methods and terms established by art. 6 of the competition notice.

Admission exam dates and time:

Qualification: December 27th, 2022, h. 11.00

Proposed project: December 27th, 2022, h. 16.00

Oral exam: December 28th, 2022, h. 10.00 – Venue: Meeting Room Private Law– 1st floor – Department of Law –
Corso Italia, 23 - Bari

For more information please see:

<https://www.uniba.it/it/ricerca/dipartimenti/lex/post-laurea/dottorati-di-ricerca/dottorato-di-ricerca-38deg-ciclo-in-diritti-e-tutele-nei-mercati-globalizzati>

ANNEX 4)

PROFILE

PHD PROGRAMME IN MEDITERRANEAN RIGHTS, ECONOMIES AND CULTURES

CUN Scientific Areas: 11a Historical, philosophical and pedagogical sciences, 12 - Legal sciences, 13 - Economic and statistical sciences

Scientific Subject Code: IUS/01, IUS/02, IUS/03, IUS/04, IUS/05, IUS/06, IUS/07, IUS/10, IUS/11, IUS/12, IUS/13, IUS/16, IUS/17, IUS/21, SECS-P/01, SECS-P/06, SECS-P/07, SECS-P/08, SECS-P/11, SECS-P/13, SECS-S/01 e M-PED/01

Coordinator: Prof. Alessandro Rubino

Administrative office: Dipartimento Jonico in "Sistemi Giuridici ed Economici del Mediterraneo: società, ambiente, culture"

PEC: segreteria.djsge@pec.uniba.it

Duration: 3 years

Curricula: NO

1) Scientific Subject Code: 1) Settore Scientifico-disciplinare: SECS-P/13 Scienze Merceologiche

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project Name: Sostenibilità economico-finanziaria dei sistemi e dei territori -progetto "GRINS – Growing Resilient, INclusive and Sustainable (CUP H93C22000650001 code: PE0000018)

Title Scholarship: National and regional LCI dataset for some Italian agri-food products

Research activity description: As part of the activities of Enlarged Partnerships “Sostenibilità economico-finanziaria dei sistemi e dei territori -progetto GRINS – Growing Resilient, INclusive and Sustainable”, coordinated for Uniba by Prof. Angela S. Bergantino in particular of the Spoke 1, WP 3 "To increase firms' efficiency in circular resource management along the whole value chain" e with the aim of the partial achievement of the milestone "Set-up of LCI national and regional datasets for the main Italian production systems that will be part of AMELIA" and of the Target "LCI national and regional dataset for the main Italian production systems" a Ph.D. scholarship entitled: "National and regional LCI dataset for some Italian agri-food products" is activated.

Total number of positions with fellowships n. 1:

Admission Criteria:

The selection will be made following the art. 6 typology B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

Admission tests for foreigners:

The videoconference interview of foreign candidates will be in English.

Admission exam dates and time:

Qualification: 27th december

Proposed project: 27th december

Oral interview: 28th december, ore 10, First floor meeting room of the Department of Economics, Management and Business Law, Largo Abbazia Santa Scolastica, 53 - Bari.

For more information see the website: <https://www.uniba.it/ricerca/dipartimenti/sistemi-giuridici-ed-economici/postlaurea/dottorato-di-ricerca>

ANNEX 5)

PHD COURSE IN ECONOMICS AND FINANCE OF PUBLIC ADMINISTRATIONS

CUN Scientific Areas: 13a – Economic and statistical science; 12 - Law; 02 –Physical sciences; 13b - Economics and business sciences

Scientific Subject Codes: SECS-P/01, SECS-P/02, SECS-P/03, SECS-P/06, SECS-P/07, IUS/05, IUS/09, IUS/10, IUS/12, IUS/21, SEC-S/01, SEC-S/06, FIS/01, FIS/07

Coordinator: Prof. Nicola Daniele Coniglio

Administrative Unit of the PhD course: Dipartimento di Economia e Finanza, Università degli Studi di Bari Aldo Moro

PEC: direttore.dsem@pec.uniba.it

Duration: 3 years

Total PhD positions for this Call for Applications **n.2:**

Curricula: NO

Project: Extended Partnership n.9: Economic-financial sustainability of systems and territories, Project "GRINS – Growing Resilient, INclusive and Sustainable", **CUP:** H93C22000650001, **CODE:** PE0000018

Call for proposal: NRRP- Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centers, companies and research project funding DD MUR N. 341 of 15/03/2022 funded by the European Union - NextGeneration EU, PE n.9. Economic and financial sustainability of systems and territories

PhD scholarships will be awarded on the following 2 research topics:

N.	Title of the scholarship	Brief description / keywords	Expected period in foreign University and/or research centre
1	<i>Statistics and data analytics for territorial attractiveness and resilience</i>	The focus of the research project is to propose statistical methods and stochastic models suitable to measure and assess the gaps in infrastructure and service endowments, in order to promote actions to increase the sustainability of territories. Reference to the local level offers the opportunity to develop statistical methods for integrated national databases, useful for the evaluation of government policies. The growing availability of information from official sources, geographic information systems, and geospatial data, translates into a great opportunity for spatial planning. The analysis of these data requires the use	6 months

		of appropriate spatial statistical methodologies to take into account the intrinsic complexity of the information deriving from georeferenced data (e.g. multi-source, different measurement scales, high dimensionality). Pilot case studies will provide the contents for a web-based dashboard showing the potentialities of advanced data analytics to drive informed decision-making.	
2	<i>Measuring and addressing inequality</i>	The measurement of inequality, inter-generational mobility and inequality of opportunities in education, income, consumption and wealth, and their evolution overtime and over the life cycle.	10 months

*PNRR is the acronymous for National Plan for Recovery and Resilience

Admission requirements:

Applicants with a degree in the following areas of study (or equivalent if obtained in foreign universities) are eligible: all Masters Degrees

Selection criteria:

Evaluation of academic titles + PhD project on one of the 2 listed topics to be submitted with the application + oral exam for the discussion of the PhD project (art. 6 point B of the Call for Applications)

The selection of PhD candidates will be carried out considering the academic titles/professional experiences of the applicants as well as an interview. During the interview (oral exam), applicants will also discuss their PhD project (max 4 pages). The candidates are required to submit the PhD project together with the application form. The interview will also be finalized to test proficiency in English language. The interview might be done in videoconference.

Foreign candidates might decide to take the written test and the interview in Italian or in English.

Selection dates:

Evaluation of titles and research projects: 28/12/2022(9.30 am)

Oral exam/Interview: 28/12/2022(11.30 am)

Location: Biblioteca 'Etta Chiuri' (2nd floor), Dipartimento di Economia e Finanza, Università degli Studi di Bari Aldo Moro, Largo Abbazia Santa Scolastica, 70124 Bari (Italy).

For further information: <https://www.uniba.it/ricerca/dipartimenti/dse/dottorato>

ANNEX 6)

PROFILE

PhD PROGRAMME IN ECONOMICS AND MANAGEMENT

CUN Scientific Areas: 13 Economics and statistics.

Scientific Subject Codes: SECS-P/01, SECS-P/03, SECS-P/05, SECS-P/06, SECS-S/06, SECS-P/07, SECS-P/11, SECS-P/13 and SECS-S/04

Coordinator: Prof. Angela S. Bergantino

Administrative office: Dipartimento di Economia, Management e Diritto dell'Impresa

PEC: direzione.demdi@pec.uniba.it

Duration: 3 years

Curricula:

1. Economics (Scientific Subject Codes: SECS-P/01, SECS-P/02, SECS-P/03, SECS-P/05, SECS-P/06 and SECS-S/06)
2. Management and technology (Scientific Subject Codes: SECS-P/07, SECS-P/11, SECS-P/13 and SECS-S/04)

• **Project: Economic-financial sustainability of systems and territories - "GRINS - Growing Resilient, INclusive and Sustainable" Project (coordinated for UNIBA by Prof. Angela Stefania Bergantino), ID Code PE0000018, CUP H93C22000650001**

• **Call for proposal:** PNRR Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centers, companies and research project funding DD MUR N. 341 of 15/03/2022 funded by the European Union - NextGeneration EU, theme PE9 "Economic and financial sustainability of systems and territories"

• **Scholarship thematic title:** Econometric Methods and Data Science for Sustainable Finance (curr. 1-SECS-P / 05)

• **Description of research activities:** The PhD project is part of the activities of the "Growing Resilient, INclusive and Sustainable (GRINS)" project, to achieve the milestones "Definition of ESG Augmented Credit Ratings" and "Optimal combination of financial and hedging instruments for SMEs ". The research work will be aimed at improving understanding of the impact on non-financial companies of both climate and environmental change and the transition to an increasingly digital economy oriented towards environmental sustainability. This objective will be pursued by measuring the impact of the evolution of exposure to risks generated by these changes on the financial and investment choices of companies. The study will focus on the one hand, on improving methodologies, also developing innovative ones, for measuring the sustainability of corporate policies (ESG scores/ratings) and for measuring exposures to the risks and, on the other hand, on the inference on the impact of these exposures on the financial and investment choices of companies and on how this impact is mediated by measures of the sustainability of corporate policies. The project will make use of "big data" on the possible sources of financing available to companies, and on the economic and financial conditions of the context in which the companies operate. The project will combine methodological approaches typical of econometrics, data science and artificial intelligence (AI) with models of the economics of corporate finance choices. It will focus, though not exclusively, on less studied companies, including small and medium-sized unlisted companies.

Admission requirements:

Candidates in possession of all master's degrees or equivalent qualifications can participate

Period abroad: at least 6 months

Admission procedures:

The selection will take place pursuant to art. 6 lett. B.

The selection will be made by evaluating the qualifications, the research project and an interview. The oral exam will

be based on the evaluation of a research project concerning the topic covered by the call, previously sent by the candidate (maximum of 4 pages) together with the admission application under penalty of exclusion, and on the verification of intellectual maturity and previously acquired knowledge. from each candidate as well as from the English language. The oral exam for the discussion of the research project can be carried out electronically at the request of the candidates.

Methods of carrying out the tests for foreign candidates:

Foreign candidates can choose to take the entrance exam in Italian or English and remotely.

Admission exam calendar and location:

Evaluation of qualifications: 27/12/2022 at 9.00

Evaluation of the research project: 27/12/2022 at 11.00

Oral exam: 28/12/2022 at 9.00

Exam location: Department of Economics, Management and Business Law, University of Bari Aldo Moro, Largo Abbazia Santa Scolastica, 70124 Bari.

For more information see the website:

<https://www.uniba.it/ricerca/dipartimenti/demdi/ricerca/dottorato-di-ricerca-1>

ANNEX 7)

PROFILE

PhD PROGRAMME IN PHYSICS

in collaboration with ISTITUTO NAZIONALE di FISICA NUCLEARE, FRASCATI - ROMA

CUN Scientific Area: 02 – Physical sciences

SSD: FIS/01, FIS/02, FIS/03, FIS/04, FIS/07

Coordinator: Prof. Giuseppe Gonnella

Administrative office: Dipartimento Interateneo di Fisica

PEC: direzione.fisica@pec.uniba.it

Scholarship duration: 3 years

Total number of positions with Scholarship n. 5:

2 Scholarships on:

- National Centre on HPC, Big Data and Quantum Computing, RRNP- Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU; ID code CN000000013, CUP H93C22000450007 ; Spoke 10)

- **Scholarship title: Quantum computation, simulation and control**

- **Research activity description:**

The research activity will be related to the following research lines:

- Quantum simulation of many-body physics and complex systems. Real time-simulations of closed and open systems. Quantum thermalization, non-ergodicity effects, and evolution from metastability.
- Quantum algorithms and quantum optimisation protocols. Efficient implementation of gates through effective discrete-time quantum evolution, Floquet and Trotterization.
- Quantum control techniques, based on strong coupling and adiabatic decoupling, aimed at protecting the computational subspace from decoherence and suppressing undesired interactions terms. Use of entangled states in quantum computational tasks and information encoding.

1 Scholarship on:

- National Centre on HPC, Big Data and Quantum Computing, RRNP- Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU; ID code CN000000013, CUP H93C22000450007 ; Spoke 2)

- **Scholarship title: High Performance Computing for Fundamental Research**

- **Research activity description:**

The relevant scientific area of the PHD programme are fundamental theoretical and experimental physics, in applications such as high-energy or high-intensity collisions, theoretical studies of fundamental interactions, astroparticle physics and cosmology, physics of complex systems. Possible research activities are: the development of algorithms, codes and computational strategies for the simulation of physical theories and models in theoretical and experimental physics, collider physics phenomenology, astroparticle physics, nuclear physics, physics of complex systems; experimental high energy and astroparticle physics data selection, simulation and reconstruction; boosting the computational performance of Theoretical and Experimental Physics algorithms and porting of applications to GPUs.

1 Scholarship on:

- National Centre on HPC, Big Data and Quantum Computing, RRNP-Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on Key enabling

technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU; **ID code CN000000013, CUP H93C22000450007 ; Spoke 5)**

- Scholarship title: **Development of machine learning models for environment data analysis**

- Research activity description:

In the context of the activities planned in spoke 5, the research will be based on the analysis, performed by machine learning techniques, of the environment data coming from the 8 institution participating to the project.

1 Scholarship on:

- Project: **Cherenkov Telescope Array Plus (CTA+)** , ID CODE: IR0000012, CUP: C53C22000430006

- Call: **INFRASTRUTTURE DELLA RICERCA - D.D. MUR n. 3264 del 28.12.2021**

- Scholarship title: **Study of Very High Energy Gamma ray sources in a multiwavelength and multimessenger approach**

- Research activity description:

Over the last decades, the advancements in the comprehension and detection techniques of Very-High-Energy (VHE, >30 GeV) gamma-rays, Cosmic Rays (CRs), astrophysical neutrinos and Gravitational Waves (GWs) made the multiwavelength (MWL) and multimessenger (MM) approaches strategic to inspect a wide variety of fundamental questions about the origin of CRs, the most extreme environments in the Universe and new frontiers in Physics, concerning the nature of Dark Matter, axion-like particles (ALPs) and Lorentz Invariance Violation (LIV). In the field of TeV astronomy, the network of observatories is reaching increasingly high-levels of performances in terms of sensitivity, angular and energetic resolution and event reconstruction accuracy. Thanks to their high duty cycle and large effective areas, these observatories will be able in the next years to gather unprecedented statistics of photons at the highest energies ever observed. The project aims at the upgrade of the CTA south site placed in Chile with the development of two Large Size Telescopes. Simulated performances will be studied and data analysis of Very-High-Energy sources will be done at different wavelengths and adopting a multimessenger.

Curricula:

1) Nuclear and subnuclear physics (FIS/01, FIS/04);

2) Condensed Matter Physics, Photonics and Quantum Technologies (FIS/01, FIS/03);

3) Applied physics (FIS/01, FIS/07);

4) Theoretical physics (FIS/02).

Admission modalities:

The selection will be made following the art. 6 typology B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

Admission tests for foreigners:

The videoconference interview of foreign candidates will be in English or Italian.

Admission exam dates and time:

Qualification : January 2nd 2023

Proposed project: January 2nd 2023

Oral interview: January 3rd 2023, Dipartimento di Fisica, Aula A, Campus Universitario, via Orabona 4, Bari, Italy

For more information see the website: <https://dottorato.fisica.uniba.it/>

PROFILE

PHD COURSE IN GENDER STUDIES

CUN Scientific Areas: 10 - Ancient History, Philology, Literature and Art History, 11 - Historical, Philosophical and Pedagogical Sciences, 12 – Law, 13 -Economic and Statistical Science, 14 - Politics and Social sciences

Scientific Subject Code: SPS/01 SPS/07 IUS/10 M-PED/02 M-PED/01 M-PSI/04 SPS/02 SPS/08 SECS-S/04 IUS/01 M-FIL/05 M-FIL/06 M-STO/02 M-PED/03 SECS-P/06 IUS/08 L-ART/06

Coordinator: Prof. Francesca R. Recchia Luciani

Administrative Office: Department of Humanistic Research and Innovation -

PEC: dottorato.genderstudies@pec.uniba.it; direzione.dirium@pec.uniba.it

Duration: 3 years

Total number of scholarship places in the competition is n. 2

The following is a list of the topic-bound fellowships with a description of the research project:

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project name: Age-It - Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society (CUP: H33C22000680006 Code: PE0000015)

Scholarship title: Migration, Integration and Ageing

Research project: The project is framed within Area 13, SSD SECS-S/04 Demography.

The project is primarily aimed at monitoring international migration through the development of ad hoc indicators and the drawing up of policy proposals to improve the health of immigrants, their integration and the educational achievements of their children. The research will also be oriented towards measuring the impact of migration on ageing in various territorial contexts by integrating the gender perspective in all phases of the project. This will also be achieved through the elaboration of models and perspectives for the management of flows and will consider the care needs of the elderly population and the care work of immigrant women.

Months abroad: 6

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project name: Age-It - Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society (CUP: H33C22000680006 Code: PE0000015)

Scholarship title: Quality of Life and Territorial Policies for an Age-Friendly Town in a Gender Perspective

Research project: The project is framed within Area 14, SSD SPS/07 Sociology.

The PhD student will carry out an analysis of good practices at a national and international level in the field of active ageing and the involvement of the elderly in cultural and socialisation paths that enhance skills and meet the needs of the 'new elderly'. Subsequently a focus will be conducted on the specificity of these policies and actions in connection with gender, which is also recognised by international documents as a factor that can deeply affect the opportunities and quality of life of the elderly as well.

Months abroad: 6

Admission procedures:

Selection will take place in accordance with Article 6 B) of the notice. The examination will be based on the evaluation of

1. TITLES
2. RESEARCH PROJECT
3. ORAL TEST (including foreign language ENGLISH)

Modalities of the tests for candidates

Candidates may choose to take the entrance examination in ITALIAN or ENGLISH.

Admission examination schedule and location

Evaluation of qualifications: 27th December 2022

Test 28th December at 9:00 a.m.

Exam venue and timetable: 9.00 a.m. - Department of Research and Innovation in the Humanities (DIRIUM), Classroom I on the second floor of the Ateneo.

The oral test will be in person or, at the candidate's motivated choice, remotely via videoconference on a telematic platform.

For further information see: [A.A. 2022/2023 — Ricerca e Innovazione Umanistica \(uniba.it\)](#)

ANNEX 9)

PROFILE

PhD PROGRAMME IN GEOSCIENCE

CUN Scientific Areas:04 - Earth Sciences

Scientific Subject Codes: GEO/01, GEO/02, GEO/03, GEO/04, GEO/05, GEO/06, GEO/07, GEO/08, GEO/09, GEO/10, GEO/11

Coordinator: Prof. Roberto Sulpizio

Administrative office: Dipartimento di Scienze della Terra e Geoambientali

PEC: direttore.geo@pec.uniba.it

Duration: 3 years

Curricula: NO

Total number of positions with fellowships n. 4:

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project Name: RETURN - multi-Risk sciEnce for resilienT commUnities undeR a changiNg climate CUP: H93C22000610002 Code: PE00000005)

Title Scholarship: Assessing the timing of magma rising during explosive eruptions through numerical modelling and machine learning techniques

Research activity description: The project belongs to the “Natural, environmental and anthropic risks” research line. It will contribute to the comprehension of processes accompanying the magma rising during a volcanic eruption and to the dynamics of feeding system during eruptions. The outputs will be achieved through the compositional classification of crystals of various sizes, which will provide the bae for machine learning techniques. This will lead to the rapid interpretation of the processes occurring during magma rising and will help, coupling with numerical models, in the comprehension of the physics of volcanic eruptions. The study might be important for volcanic hazard mitigation plans and to the multirisk cascade. It will also useful for improving communication to the stakeholders and to the general population.

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project Name: RETURN - multi-Risk sciEnce for resilienT commUnities undeR a changiNg climate CUP: H93C22000610002 Code: PE00000005)

Title Scholarship: Building up hazard maps for natural events through numerical simulations and use of supercomputing

Research activity description: The project belongs to the “Natural, environmental and anthropic risks” research line. It will contribute in the construction of hazard maps for natural phenomena, such as volcanic eruptions, landslides and floods. It will be used both proprietary and commercial softwares for the assessment of hazard at local and regional scale. These objectives will be achieved using parallelized numerical model, in order to take advantage from massive supercomputing analysis. The study might be important for volcanic hazard mitigation plans and to the multirisk cascade. It will also useful for improving communication to the stakeholders and to the general population.

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project Name: RETURN - multi-Risk sciEnce for resilienT commUnities undeR a changiNg climate CUP: H93C22000610002 Code: PE00000005)

Title Scholarship: Novel techniques in volcanic gas sensing

Research activity description: The project belongs to the “Natural, environmental and anthropic risks” research line. It will contribute to the development of new sensors for detection and measurement of volcanic gases. This goal is of fundamental importance for improving the input data for numerical simulations of gas dispersal into the atmosphere and for improving the accuracy in quantification of gas species potentially dangerous for human health and environment, or useful for predicting the eruptive behavior of a volcano. The study might be important for volcanic hazard mitigation plans and to the multirisk cascade. It will also be useful for improving communication to the stakeholders and to the general population.

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project Name: RETURN - multi-Risk science for resilient communities under a changing climate CUP: H93C22000610002 Code: PE00000005)

Title Scholarship: Integrated use of geophysical techniques for the identification of seismic-induced landslide susceptibility in urban areas.

Research activity description: The project deals with the use of integrated geophysical techniques (both passive and active, e.g. seismic or geoelectric tomography, ReMi/MASW, H/V advanced analysis of the ambient noise signals) on slopes characterized by complex rock masses (e.g. flysch) for the indirect characterization of the physical and mechanical properties of the slope materials. This will lead to the identification of portions of the slope potentially prone to instability due to ground acceleration provided during earthquakes. The starting point of the research is based on the first result from seismic microzonation carried out in Daunia (financed by Apulian Civil Protection agency). The large database produced will be the starting point for further improvements carried out using innovative techniques and numerical simulations.

Admission rules:

The selection will be made following the art. 6 typology B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

Admission tests for foreigners:

The videoconference interview of foreign candidates will be in English.

Admission exam dates and time:

Qualification: December 29, 2022

Proposed project: December 29, 2022

Oral interview: December 30, 2022. Dipartimento di Scienze della terra e Geoambientali, 9 a.m., or remote connection

For more information see the website: <http://www.geo.uniba.it/dottorato-presentazione>

ANNEX 10)

PROFILE

PhD PROGRAMME IN SUSTAINABLE LAND MANAGEMENT in convention with POLYTECHNIC UNIVERSITY OF BARI

CUN Scientific Areas: 07 – Agricultural and Veterinary Sciences, 08b – Civil Engineering, 02 – Physical sciences, 04 – Earth Sciences, 05 - Biological Sciences, 08b – Architecture, 09 - Industrial and information engineering.

Scientific Subject Codes: AGR/01, AGR/03, AGR/04, AGR/05, AGR/08, AGR/09, AGR/10, AGR/11, FIS/01, FIS/07, BIO/03, GEO/05, ICAR/01, ICAR/02, ICAR/03, ICAR/06, ICAR/07, ICAR/20, ING-IND/16, ING-IND/22, ING-IND/35 e ING-INF/07.

Coordinator: Prof. Francesco Gentile

Administrative office: Dipartimento di Scienze del suolo, della pianta e degli alimenti (Department of Soil, Plant and Food Sciences)
PEC: dispa@pec.uniba.it

Affiliated headquarters: Polytechnic University of Bari

Duration: 3 years

Total number of positions with fellowships n. 4:

Project: AGRITECH - National Center for Agricultural Technologies, ID code CN0000022, CUP H93C22000440007

Call for proposal: PNRR initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creating R&D" national champions "on some Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU, topic CN2 "Agricultural Technologies"

Title of Scholarship: Enabling Technologies and sustainable strategies for the smart management of agricultural system and their environmental impact

Research activity description: The research activity will focus on improving the quality of the degraded agro-environmental ecosystems. Different Nature-based solutions (NBSs) able to improve and restore ecosystem functions will be modeled on some specific areas (e.g., polluted and/or subject to erosive and soil instability phenomena). Specifically, integrated intervention strategies will be hypothesized and modeled at the farm level both for natural and agricultural areas (e.g., buffer strips, soil-bioengineering techniques, renaturalization interventions). The final aim of the activity will be to provide an agro-forestry environment management methodology (study-monitoring-modelling interventions of protection and restoration) applicable to degraded agro-environmental areas.

Project: AGRITECH - National Center for Agricultural Technologies, ID code CN0000022, CUP H93C22000440007

Call for proposal: PNRR initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creating R&D" national champions "on some Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU, topic CN2 "Agricultural Technologies"

Title of Scholarship: Integrated models for the development of marginal areas to promote multifunctional production systems enhancing agroecological and socio-economic sustainability

Research activity description: Activities include the enhancement of forest resources in marginal areas with particular interest in mountain areas. The PhD student will consider one or more study areas, characterizing them from a physical, biotic, social and economic point of view. Specific attention will be paid to forest features with regard to forest types. Both the products that can be supplied (eg biomass) and the ecosystem services (eg landscape, biodiversity, human health) will be analyzed. Research must understand the influence that climate change can exert on these areas and forest resources, trying to focus adaptation strategies in order to preserve their

biodiversity and the ability to create sustainable forestry chains.

Project: Strengthening of the Italian Research Infrastructure for Metrology and Open Access Data in support to the Agrifood (METROFOOD-IT), ID code IR0000033, CUP I83C22001040006

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 3.1, "Fund for the construction of an integrated system of research and innovation infrastructures" DD MUR No. 3264 of 28/12/2021 funded by the European Union - Next Generation EU

Title of Scholarship: ICT and data analysis for food safety

Research activity description: The activity consists of managing, sharing, and integrating knowledge and data on metrological tools for food analysis, focusing on food composition, nutritional content, contaminant levels, and markers. Given the large amount of data to be processed and to achieve real-time evaluation, methods based on explainable artificial intelligence (XAI) will be used for data analysis. This will reduce uncertainty in food classification, improve structural and chemical characterization, and meet the time requirements of processing large data sets. The ultimate goal of the project is to develop a set of methods for assessing the quality of foods and their suitability for human nutrition.

Project: GRINS – Growing Resilient, INclusive and Sustainable - SPOKE 7 “Territorial Sustainability”, ID Code PE0000018, CUP H93C22000650001

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centers, companies and research project funding, DD MUR N. 341 of 03/15/2022 funded by the European Union - NextGeneration EU, theme PE9 - Economic and financial sustainability of systems and territories

Title Scholarship: Use of multi-source remote data for the spatial analysis of sustainability and territorial resilience indicators

Research activity description: Research activities will be aimed at the development of advanced cloud-based methods for the analysis of large amounts of remote multi-source data coming from optical and radar satellite sensors and from airborne platforms (e.g., LiDAR) for semi-automatic extraction of biophysical parameters at landscape-scale (e.g., NDVI, albedo, canopy cover, above-ground volume/biomass, air pollution, land surface temperature, soil sealing) to support the assessment of sustainability and territorial resilience indicators. Research activities will also include the selection of pilot studies within the internal and peripheral areas of the territory on which further analyses will be carried out for the identification of the main factors that limit the achievement of sustainability and for the definition of territorial policies aimed at improvement of social, economic and environmental resilience.

Admission procedure:

The exam procedures will be carried out in accordance with art. 6 lett. C.

The selection will be based on the evaluation of qualifications and an oral test. The knowledge of a foreign language (English) will be evaluated during the oral test. The oral exam will take place face-to-face for Italian candidates, electronically on the Teams platform for foreign candidates.

Upon submitting the application, the candidate must **attach a synthetic research project**, which can be written in Italian or English, of a maximum length of 2500 words. The research project, which must be relevant to the reported topics, will be discussed during the oral test. **Failure to submit the project in the application is under penalty of exclusion from the procedure.**

Methods of examination for foreign candidates:

Foreign candidates can choose to take the oral test in Italian or English.

Admission exam dates and time:

The evaluation of qualifications will take place on December 27, 2022. The oral exam will begin on December 28, 2022 at 9.00 am, with eventual prosecution in the next days until the completion of the evaluation of all candidates. The oral exam calendar and the methods for accessing the Teams platform for foreign candidates will be published on the phd Course website by 27 December 2022 at 10:00 p.m.

The oral exam for Italian candidates will take place at the Department of Soil, Plant and Food Sciences, Room 15.

For further information see the PhD Course website:

<https://www.uniba.it/ricerca/dipartimenti/disaat/dottorato/en>

ANNEX 11)

PROFILE

PHD PROGRAMME IN COMPUTER SCIENCE AND MATHEMATICS

Subject area CUN: 01 Mathematics and Computer Science, 09 Industrial and Information Engineering

Scientific Subject Code: INF/01, ING-INF/05, MAT/02, MAT/03, MAT/04, MAT/05, MAT/06, MAT/07, MAT/08

Coordinator: Prof. Francesca Mazzia

Administrative office: Dipartimento di Informatica – Università degli studi di Bari Aldo Moro

PEC: direzione.di@pec.uniba.it

Duration: 3 years

Curricula:

- 1) COMPUTER SCIENCE (Scientific Subject Code: INF/01, ING-INF/05)
- 2) MATHEMATICS (Scientific Subject Code: MAT/02, MAT/03, MAT/04, MAT/05, MAT/06, MAT/07, MAT/08)

Even if the PhD programme is organized in the two curricula mentioned above, the available positions will be assigned according to the ranking obtained by the applicants, until all positions are covered and by taking into account the reserved positions. Thus, the applicants do not have to provide their choice of the curriculum.

Number of available positions: n. 4

- n. 1 position with scholarship related to:

National Centre on HPC, Big Data and Quantum Computing, RRNP- Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU; **ID code** CN00000013, **CUP** H93C22000450007 ; activity of the **Spoke 5:** "*Environment and Natural Disasters*", for curriculum 2 Mathematics (SSD: MAT/05, MAT/08), with theme bound by title:

Machine learning, Quantum Computing and AI platform to design and exploit Digital Twins

The research activity will be devoted to the development and/or optimization HPC techniques, addressed to the efficient simulation of multi-scale physical models, dynamics of nonlinear (complex) systems, scalable strategies for remote and proximal sensing analyses, with a specific emphasis on theoretical and numerical aspects of the methods employed. The research will also concern the study of ordinary and/or partial differential equations arising from models of interest in the context of the project '*Environment and Natural Disasters*', using analytical, variational and numerical methods.

During the fellowship time it is requested to stay a period from 3 to 6 months in a foreign institution.

- n. 1 position with scholarship related to:

National Centre on HPC, Big Data and Quantum Computing, RRNP- Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU; **ID code** CN00000013, **CUP** H93C22000450007 ; activity of the **Spoke 10:** "*Quantum Computing*", for curriculum 2 Mathematics (SSD: MAT/02, MAT/03, MAT/04, MAT/05, MAT/06, MAT/07, MAT/08), with theme bound by title:

Mathematical Methods for Quantum Computing

The field of research concerns quantum computing, a type of computation whose operations exploit the phenomena of quantum mechanics, such as superposition, interference and entanglement.

In this research project we intend to apply to quantum computing tools and methodologies from the various fields of mathematics. The main objective is to develop innovative mathematical techniques useful for the design and control of quantum algorithms.

During the fellowship time it is requested to stay a period from 3 to 6 months in a foreign institution.

- 1 position with scholarship related to:

project “Age-It: Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society” NRRP- Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centers, companies and research project funding DD MUR N. 341 of 15/03/2022 funded by the European Union - NextGeneration EU (D.D. MUR n. 341 del 15.03.2022); **ID CODE:** PE0000015, **CUP:** H33C22000680006 ; Curriculum 1 Computer Science (SSD: INF/01, ING-INF/05), with theme bound by title:

Explainable computational methods for the analysis of signals (time series and images) related to biometric parameters.

The research activity will involve the analysis of signals related to human-derived biometric parameters using explainable computational methods. The availability of new techniques based on biometric sensors and in-body, on-body, near-body, and far-body monitoring systems allow continuous observation and detailed study of physiological and pathological states of human subjects even outside analytical laboratories. The use of these techniques generates large amounts of data and requires the development of new methods of analysis/decision-making/forecasting that enable researchers engaged in the study to understand the reasons for these findings.

During the fellowship time it is requested to stay a period of 6 months in a foreign institution.

- 1 position with scholarship related to:

Gene Therapy and RNA Drug technology, PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on some Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU, **ID code** CN00000041, **CUP** H93C22000430007, activity of the Spoke 7: “BioComputing”, supported by Consiglio Nazionale delle Ricerche – Istituto di Tecnologie biomediche for Curriculum 1 Computer Science (SSD: INF/01-ING-INF/05) or Curriculum 2 (SSD: MAT/08), with theme bound by title:

Explainable computational methods for the analysis of bioinformatics data produced by high-throughput CRISPR screening

CRISPR/Cas9 technology allows cutting a target region on DNA to perform specific changes to a cell's genome. The versatility of this technique has allowed the development of countless applications in Biomedicine and opens up new scenarios in the treatment of complex pathologies such as genetic diseases and diseases with multiple DNA recombinations, such as tumors. The large amount of data produced while testing the efficacy of this technology requires the definition of innovative analysis methods that provide explainable predictions regarding the possible effects of genomic modifications on cellular systems.

The project will include the study of possible genetic modifications which, induced in pathological cells, can restore their physiological activities. In particular, aspects such as the feasibility of applying the modification, the efficiency of its introduction into the cellular model, the positive and negative effects that the genetic modification can cause in the system will be predicted and evaluated.

During the fellowship time it is requested to stay a period of 6 months in a foreign institution.

Admission procedure:

The applicants will be evaluated on the basis of: a) the documents presented with the application, b) a research project (written in English, max 1000 words), c) an oral exam in which, among other things, they will discuss a research project presented with the application and that will also include the assessment of the applicant's knowledge of the English language. For the applicants to the fellowships with theme bound, the oral exam will concern questions about the related research activity.

Admission exam date and time

Oral exam: January 4, 2023 at 9:30 am.

Exam venue: Sala Consiglio on the seventh floor of the Computer Science Department.

Where it is not possible to do it in person, candidates may ask to do it remotely with a motivated request. The motivated letter of request, together with the copy of an identity document, should be sent via email to the coordinator Prof. Francesca Mazzia at francesca.mazzia@uniba.it and to dottorato.ricerca@uniba.it not later than December 26, 2022 at 23:59, Italian time. It will be the responsibility of the commission to communicate the methods of connection.

For more information, see: <http://dottorato.di.uniba.it>

ANNEX 12)

PROFILE

PHD IN METABOLISM, AGING AND SOCIAL MEDICINE- METABOLISMO, INVECCHIAMENTO E MEDICINA SOCIALE

CUN Scientific Areas: 06 – Medical Sciences; 07 – Agricultural and veterinary sciences.

Scientific Subject Codes: MED/04; MED/09; MED/28; MED/36; MED/43; MED/44; MED/46; MED/50; AGR/15; VET/04.

Coordinator: Prof. Antonio Moschetta

Administrative office: Interdisciplinary Department of Medicine

PEC: direzione.dim@pec.uniba.it

Duration: 3 years

Curricula:

- 1) CLINICAL AND EXPERIMENTAL RESEARCH (Scientific disciplinary sector: MED/09; MED/28; MED/36; MED/43; MED/44)
- 2) TRANSLATIONAL RESEARCH (Scientific disciplinary sector: MED/04; MED/46; MED/50; AGR/15; VET/04)

Total number of positions with fellowships: **n.3**

➤ **N. 2** positions with fellowships on:

- **Project:** National Center for Gene Therapy and Drugs based on RNA Technology, **CUP:** H93C22000430007
ID Code: CN_00000041;
- **Call for proposal:** RRNP Initiative - Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on some Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU,
- **Title Scholarship:** PGC1Beta in the liver: a strategy to improve hepatic outcomes in NASH
- **Research activity description:** Laboratory research activities on cellular and animal models; gene expression and immunohistochemistry studies

➤ **N. 1** positions with fellowships on:

- **Project:** Age-It Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society, **CUP:** H33C22000680006
ID Code: PE0000015.
- **Call for proposal:** RNNP Initiative - Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centers, companies and research project funding DD MUR N. 341 of 15/03/2022 funded by the European Union - NextGeneration EU.
- **Title Scholarship:** Multidimensional intervention to promote healthy aging and prevent functional and cognitive decline in the elderly population.
- **Research activity description:** Analyzed data from large observational studies to identify multidimensional interventions effective in promoting healthy ageing and preventing functional and cognitive decline in elderly home residents stratified by a multidimensional approach; prospectively explored the effectiveness of an intervention to prevent functional and cognitive decline by developing a customized multimodal intervention.

Admission procedures:

The selection will be made following the art. 6 typology B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

Admission tests for foreigners:

The videoconference interview of foreign candidates will be in English.

Admission exam dates and time:

Qualification: 02/01/2023

Proposed project: 03/01/2023

Oral interview: 05/01/2023 - 9,30 am – Frugoni hall - Interdisciplinary Department of Medicine, c/o Chini Palace - Bari Polyclinic, p.zza G. Cesare n.11 – 70124 Bari

For more information see the website:

<https://www.uniba.it/it/ricerca/dipartimenti/dim/dottorato/dottorato-di-ricerca-xxxviii-ciclo-a-a-2022-2023>

ANNEX 13)

PROFILE

PhD PROGRAMME IN APPLIED NEUROSCIENCES

CUN Scientific Areas: 05 -Biological Sciences, 06 -Medical Sciences, 11-History, Philosophy, Pedagogy and Psychology Sciences.

Scientific Subject Codes:

Curricula:

1) Basic Sciences (Scientific Subject Codes: BIO/09, BIO/10, BIO/11, BIO/12, BIO/13, BIO/16, BIO/17 and M-PSI/02);

2) Clinical Sciences: (Scientific Subject Codes: MED/05, MED/10, MED/25, MED/26, MED/27, MED/30, MED/31, MED/33, MED/34, MED/39, MED/48, MED/50, M-PSI/01 and M-EDF/02);

Coordinator: Prof. Domenico Ribatti

Administrative office: Department of Translational Biomedicine and Neuroscience "DiBraiN"

PEC: direzione.dibrain@pec.uniba.it

Duration: 3 years

Curricula: Yes

Curricula:

1) Basic Sciences

2) Clinical Sciences

Total number of positions with fellowships n. 2:

1 position for curriculum # 1

Project name: National Research Center for HPC, Big Data and Quantum Computing (CUP: H93C22000450007 Code: CN00000013)

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D "National Champions" on Key enabling technologies" D.D. n. 3138 DEL 16.12.2021 – Next Generation EU

Title Scholarship: In silico medicine & omics data

Research activity description: Genetic risk for psychiatric disorders is associated with the transcription of DNA into messenger RNA, which can be studied in postmortem brains. In collaboration with the Lieber Institute for Brain Development, this research aims to develop machine learning and deep learning algorithms to predict the relationship between genes and disease so that it can be verified in neurophysiological measures and clinical samples. The Ph.D. student will contribute to transcriptomics analyses from single nuclei, correlations between genomics and other omics, and identifying innovative drug discovery targets for treating psychiatric disorders.

Months abroad: 18

Number 1 position for curriculum # 2

Project name: Age-It - Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society (CUP: H33C22000680006 Code: PE0000015)

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Title Scholarship: Multicomponent interventions to promote healthy ageing and to prevent functional and cognitive decline in community-dwelling older adults

Research activity description:

- 1) Analyse observational data from large studies in order to identify the multicomponent interventions that are effective to promote healthy ageing and to prevent functional and cognitive decline in community-dwelling older people, stratified according to a multidimensional phenotypic approach and biological risk;
- 2) Explore prospectively the efficacy of multicomponent intervention to prevent functional and cognitive decline by developing personalized multi-component interventions.

Months abroad: 6

Arrangements for admission:

The selection will be made following the art. 6 typology B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

Admission tests for foreigners:

Foreign candidates can do the exam in Italian or in English.

Admission exam dates and time:

Oral interview: **WEDNESDAY, DECEMBER 28, 2022 at 10:00 AM**

Classroom "1" - "Psychiatry Unit" – Policlinico Consorziale di Bari – Piazza Giulio Cesare, 11 – Bari – 70124.

For more information see the website:

<http://www.uniba.it/ricerca/dottorati>

<https://www.uniba.it/it/ricerca/dipartimenti/dibrain>

ANNEX 14)

PROFILE

PHD PROGRAMME IN MEDITERRANEAN ARCHAEOLOGICAL, HISTORICAL, ARCHITECTURAL AND LANDSCAPE HERITAGE: INTEGRATED SYSTEMS OF KNOWLEDGE, PLANNING, PRESERVATION AND PROMOTION

IN AGREEMENT WITH THE NATIONAL RESEARCH COUNCIL (CNR), POLYTECHNIC UNIVERSITY OF BARI, UNIVERSITY OF BASILICATA, UNIVERSITY OF FOGGIA, UNIVERSITY OF NAPLES 'FEDERICO II', UNIVERSITY OF PALERMO, UNIVERSITY IUAV OF VENICE

Scientific Areas CUN: 08a – Architecture, 10 - Ancient History, Philology, Literature and Art History, 11 - Historical, philosophical, pedagogical and psychological sciences

Coordinator: Prof. Giuliano Volpe

Administrative office: Department of Humanistic Research and Innovation

PEC: direzione.dirium@pec.uniba.it

Duration: 3 years

Curricula:

1. Archaeological, historical, architectural and landscape heritage: knowledge, methods and techniques (Scientific Subject Code: L-ANT/01, L-ANT/06, L-ANT/07, L-ANT/08, L-ANT/09, L-ANT/10, L-FIL-LET/01, L-ART/01, L-ART/02, ICAR/15, ICAR/18 e ICAR/21)
2. Archaeological, historical, architectural and landscape heritage: project methods and techniques (Scientific Subject Code: ICAR/08, ICAR/14, ICAR/15, ICAR/16, ICAR/18, ICAR/21, L-ANT/07, L-ANT/08 e L-ANT/10,)

Total number of scholarship positions: n.2

Call for Proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project Name: CHANGES - Cultural Heritage Active Innovation for Next-Gen Sustainable Society (CUP: H53C22000860006 Code: PE0000020)

on the following topics:

SPOKE 1 - HISTORICAL LANDSCAPES, TRADITIONS AND CULTURAL IDENTITIES

• **Title Scholarship:** History and Global Archaeology of Stratified Landscapes. Investigation of urban, rural, coastal, wet and underwater landscapes in Apulia with a stratigraphic, contextual and diachronic approach for protection, valorization, inclusion, management and cultural tourism, also focusing on sustainability and climate change.

• **Title Scholarship:** "Innovative Techniques for the Enhancement Project of the Archaeological, Architectural and Landscape Heritage of the Inner Areas of Apulia"

Admission procedure (ordinary positions):

The exam procedures will be carried in accordance with art. 6 lett. B of the Call for applications.

The selection procedure consists of the evaluation of qualifications, of the research proposal by the candidate and of an interview, also aimed at the assessment of the knowledge of one of the following foreign language will be examined: English, French, Spanish.

In support of the research proposal, the candidate may also submit two recommendation letters from established scholars in the proposed research field.

Candidates may choose to compete for one of the PE5 scholarships on specific topics.

There will be a single admission procedure and ranking list for both scientific *curricula*.

The positions available will be allocated between the two scientific *curricula* according to the candidates' ranking in the competition, until all the position are filled.

Scholarships will be assigned primarily in order of ranking. Positions without scholarship will be assigned next, in order of ranking. The PE5 fellowships will be allocated following the single ranking list on the basis of the options made by the candidates.

Admission procedure for foreign candidates:

Foreign candidates can choose to take the interview in Italian, English, French or Spanish.

The exam procedures will be carried out in accordance with the Call for applications.

The selection procedure consists of the evaluation of qualifications, of the research proposal by the candidate and of an interview. Foreign candidates must demonstrate knowledge of a language other than that of their own country and also sufficient knowledge of the Italian language.

The candidate must also submit two recommendation letters from established scholars in the proposed research field in support of the research proposal.

Candidates can choose to take the interview in videoconference, according to the rules illustrated in article 17 of the Call for applications.

Access requirements:

“Laurea specialistica” or “Laurea magistrale” (second cycle university degree, e.g., M.A., M.Sc.) in:

LM-2 Archaeology

LM-3 Landscape architecture

LM-4 Architecture and construction engineering

LM-11 Conservation and restoration of cultural heritage

LM-15 Ancient philology, literature and history

LM-43 Information technology methods for the humanities

LM-48 Regional, urban and environmental planning

LM-84 History

LM-89 Art history

LMR/02 Conservation and restoration of cultural heritage

2/S Archaeology

3/S Landscape architecture

4/S Architecture and construction engineering

10/S Conservation of architectural heritage and environment

12/S Conservation and restoration of cultural heritage

15/S Philology and classical literature

54/S Regional, urban and environmental planning

93/S Ancient history

95/S Art history

97/S Medieval history

98/S Modern history

Degree taken under the old Italian university system (prior to the one introduced by the Italian Ministerial Decree No. 509/99) in Humanities and Architecture

Access requirements for graduates from foreign universities:

Equivalent foreign degree in the same scientific fields

Admission interview date and time:

Candidates can choose, upon reasoned request, to give the interview in videoconference.

Date: January 5, 2023 Time: 9 a.m.

Venue: Sala del Consiglio, Department of Humanistic Research and Innovation, University of Bari ‘Aldo Moro’, Santa Teresa dei Maschi, Strada Torretta (Borgo Antico)

If the examination, due to the ongoing epidemiological emergency, will take place online, it will be carried out in accordance with art. 6 of the Call for applications.

<https://www.uniba.it/it/ricerca/dipartimenti/dirium/postlaurea/dottorati/dottorato-in-patrimoni-archeologici-storici-architetttonici-e-paesaggistici-mediterranei>

ANNEX 15)

PROFILE

Ph.D PROGRAMME IN HISTORICAL AND PHILOSOPHICAL HERITAGE FOR SUSTAINABLE INNOVATION

CUN Areas: 10 Antiquities; Philology; Literary Studies; Art History11 – History, Philosophy, Pedagogy and Psychology; 13 – Economics and Statistics

Academic disciplines list for Italian University Research and Teaching: L-ANT/02; L-ANT/03 ; M-FIL/01 ; M-FIL/02 ; M-FIL/04 ; M-FIL/05 ; M-FIL/06 ; M-FIL/08 ; M-STO/01 ; M-STO/02 ; M-STO/04 ; M-STO/05 ; M-STO/07 ; SECS-P/12

Director: prof.ssa Elisabetta Todisco

Lead Department: Department of Humanistic Research and Innovation

PEC: direzione.dirium@pec.uniba.it

Duration: 3 years

Curricula:

1) PHILOSOPHICAL DISCIPLINES (Academic disciplines list for Italian University Research and Teaching: M-FIL/01 ; M-FIL/02 ; M-FIL/04 ; M-FIL/05 ; M-FIL/06 ; M-FIL/08 ; M-STO/05)

2) HISTORICAL DISCIPLINES (Academic disciplines list for Italian University Research and Teaching: L-ANT/02 ; L-ANT/03 ; M-STO/01 ; M-STO/02 ; M-STO/04 ; M-STO/07 ; SECS-P/12)

Total number of positions with fellowships: **n. 1**

curriculum 1: Philosophical Studies

• **Project:** CHANGES - Cultural Heritage Active Innovation for Next-Gen Sustainable Society (CUP: H53C22000860006 Code: PE0000020)

• **Call for proposal:** NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

• **Title Scholarship:** Natural landscapes, historical landscapes, mental landscapes

• **Research activity description:** “The natural landscape has always been experienced as a cultural landscape, bearing in itself evident traces of the identities of those who organised it, but also the signs of the history and culture that have handed it down. But the natural (and cultural) landscape also implies, most often in a hidden but decisive manner, a mental landscape (*Landscape as Mindscape*), in which various factors come into play: perceptive dynamics, cognitive and conceptual schemes, signs of memory, canons of taste, models of tradition. To which is added the motif of responsibility in the conservation and innovation of a territory, as a mirror and at the same time as the objective of a mindscape. The project aims to reconstruct this plexus of problems as a contribution to a true natural, cultural and mental 'landscape philosophy’”.

Admission criteria:

Selection of candidates will be based on qualifications, research project (to be sent together with the application), oral examination and on the foreign language skills assessment on the basis of what has been indicated in the application (English, French, German or Spanish).

Admission tests for foreigners:

The videoconference interview of foreign candidates will be in English.

Admission exam dates and time:

Qualification: 28 dicembre 2022

Proposed project: 28 dicembre 2022

Oral interview: 28 dicembre 2022, 12:00 A.M., Aula seminari di Filosofia, Palazzo Ateneo, second floor, P.zza Umberto I, 70121 Bari

For more information see the website:

<https://w3.uniba.it/ricerca/dipartimenti/dirium/postlaurea/dottorati/dottorato-in-patrimoni-storici-e-filosofici-per-uninnovazione-sostenibile/a-a-2022-2023-xxxviii-ciclo>

ANNEX 16)

PROFILE

PHD PROGRAMME IN ANIMAL HEALTH AND ZOOSES

CUN Scientific Areas: 07 Scienze Agrarie e Veterinarie, 06 Scienze Mediche

Scientific Subject Codes: VET/02, VET/04, VET/05, VET/06, VET/07, VET/08 and MED/44

Coordinator: Prof.ssa Maria Tempesta

Administrative office: Department of Veterinary Medicine

PEC: direttore.dimev@pec.uniba.it

Duration: 3 years

Curricula: NO

Total no. of fellowships: 2

Project Name: INF-ACT - One Health Basic and Translational Research Actions addressing Unmet Needs on Emerging Infectious Diseases (CUP: H93C22000640007 cod. PE0000007)

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Scholarship Title: Arthropod vectors and vector-borne pathogens

Research activity description: The research aims to generate new scientific knowledge and new tools for the monitoring, surveillance, diagnosis and prevention of vector arthropods and the prevention of pathogens transmitted to animals and humans. The study will be based on a One Health approach to achieve the following objectives: a) implementation of entomological surveillance systems against sand flies and ticks in urban, peri-urban and rural areas; b) epidemiological surveys on VBDs caused by allochthonous and/or autochthonous pathogens in populations at risk (i.e. migrants) or in specific epidemiological contexts with the identification of any exotic pathogen species potentially introduced in the new ecological context; c) assessment of insecticide resistance mechanisms in sand flies and ticks; d) assessment of vector-pathogen relationship.

Project Name: Agritech - National Research Centre for Agricultural Technologies (CUP: H93C22000440007 Cod: CN00000022)

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D "National Champions" on Key enabling technologies" D.D. n. 3138 DEL 16.12.2021 – Next Generation EU

Scholarship Title: FoodtraCeability, aUthentication and Safety by Emerging appRoaches (FOCUSER)

Research activity description: The research program aims to identify and apply technologies and methodologies which will enable the implementation of innovative molecular tracing systems to ensure safety throughout the supply chains for foods of animal origin. Indeed, the resulting authenticity certification may favor the development and consolidation of models to protect and enhance the whole food of animal origin sector. The specific objective of the research program is to identify potential molecular markers, using Omic technologies, to provide advanced analytical solutions to handle tracking and tracing, safety, and authenticity for foods of animal origin.

Admission procedure:

The selection procedures are pursuant to art. 6 comma B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

Admission tests for foreigners:

The videoconference interview (Skype platform) of foreign candidates will be held in English at an agreed time.

Admission exam dates and time:

Evaluation of qualifications: 27th December 2022

Evaluation of Proposed project: 27th December 2022

Oral interview: (date and venue) 28th December 2022 in presence at the Library of the Section of Infectious Diseases of the Department of Veterinary Medicine, Sp 62 km 3 70010 Valenzano (BA) at 9:00 am (CET)

For more information see the website:

<http://www.uniba.it/ricerca/dipartimenti/dipmedveterinaria>

PROFILE

PHD PROGRAMME IN PHARMACEUTICAL SCIENCES

CUN Scientific Areas CUN: 03-Chemical Science, 05- Biological Science

Scientific Subject Codes: CHIM/08 - CHIM/09 - BIO/14 - CHIM/06 - CHIM/01

Coordinator: Prof. Nicola Antonio Colabufo

Administrative office: Dipartimento di Farmacia – Scienze del Farmaco

PEC: direzione.farmacia@pec.uniba.it

Duration: 3 years

Curricula: No

Total number of positions with fellowships n. 3:

1) Project: “A multiscale integrated approach to the study of the nervous system in health and disease”

Acronym MNESYS, ID code PE00000006, CUP H93C22000660006

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research project funding DD MUR N. 341 of 15/03//2022 funded by the European Union - NextGeneration EU, theme PE12 " Neuroscience and neuropharmacology ".

Title of Scholarship: Development of Radiotracers for Neurodegenerative Disorders

Research activity description: The present PhD project will be focused on the development of innovative and reliable radioligands for the early diagnosis of Alzheimer’s disease and other neurodegenerative disorders. On the basis of data from the scientific literature, small-molecule-based radiotracers to be used in particular in PET and SPECT, will be developed. The radiotracers will be designed in order to bind biomarkers known to be dis-regulated in neurodegenerative diseases. In particular, the above small molecules will be built on the basis of P-gp (and other efflux pumps), sigma receptor subtypes (sigma-1 and sigma-2) and Cannabinoid type 2 receptor pharmacophores. Other targetable proteins will be also taken into account if appropriate. The compounds will be obtained through conventional organic or metallorganic chemistry or advanced synthetic methodologies, and characterized in their structures. The compounds will be biologically characterized in cell lines and preclinical animal models.

2) Project: National Centre on HPC, Big Data and Quantum Computing, ID code CN000000013, CUP H93C22000450007

Call for proposal: PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU, topic CN1 “High performance simulations, calculation and analysis of data”

Title Scholarship: DRUG-TARGET INTERACTION STUDIES AND DRUG REPURPOSING

Research activity description: Drug-target interaction is an important research area in the field of drug discovery. It refers to the recognition of interactions between small and large chemicals and biological targets. It can be achieved by combining the traditional wet laboratory experiments with interactions prediction computational methods. Drug repurposing has several advantages over a new drug development: 1) accelerated drug market accesses due to reduction of required clinical trial phases; 2) existing pharmaceutical knowledge will facilitate formulation and production process development of the drug, 3) possibility of combination therapies combining for more effective treatments, 4) repositioned drugs will provide insights of not yet uncovered mechanisms of action of "old" drugs, 5) the removal of “activation barriers” of early research stages can foster the project to advance rapidly into disease-oriented research.

3) Project: Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society, ID code PE0000015, CUP H33C22000680006

Call for Proposal: NRRP- Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centers, companies and research project funding DD MUR N. 341 of 15/03/2022 funded by the European Union - NextGeneration EU, theme PE8 " Consequences and challenges of aging".

Title Scholarship: Efficacy of innovative pharmacological interventions to counteract physical decline

Research activity description: The project is focused on identification of novel druggable target to develop innovative approaches for reducing the physical decline and cellular senescence.

The validation of novel drugs will be pursued on pathways for inter-organs cross talk leading to dysmetabolism and cell death.

Arrangements for admission:

The selection will be made following the art. 6 typology B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

Admission tests for foreigners:

The videoconference interview of foreign candidates will be in English.

Admission exam dates and time:

Oral interview: 4 January 2023, at 12:00

Where: Aula 6 – Dipartimento di Farmacia – Scienze del Farmaco, Campus Universitario E. Quagliariello
Via E. Orabona 4 , 70125 Bari

For more information see the website:

<https://www.uniba.it/it/ricerca/dipartimenti/farmacia/ricerca/dottorati-di-ricerca/dottorato-di-ricerca-in-scienze-del-farmaco/bando-di-concorso-dottorato-di-ricerca-xxxvii-ciclo-anno-accademico-2022-2023/bando-di-concorso-dottorato-di-ricerca-xxxviii-ciclo/view>

ANNEX 18)

PROFILE

PhD PROGRAMME IN SOIL AND FOOD SCIENCES

CUN Scientific Areas: 02 - Physical Sciences, 03 – Chemical sciences, 05 – Biological Sciences, 06 – Medical sciences, and 07 – Agriculture and veterinary sciences.

Scientific Subject Codes: AGR/01, AGR/02, AGR/04, AGR/13, AGR/15, AGR/16, BIO/11, BIO/12, CHIM/01, CHIM/10, FIS/07, MED/09, and MED/38

Coordinator: Prof Fabio Minervini

Administrative office: Department of Soil, Plant and Food Science

PEC: disspa@pec.uniba.it

Duration: 3 years

Curricula:

- 1) Food microbiology, technology, safety, and chemistry (Scientific Subject Code: AGR/01, AGR/04, AGR/15, AGR/16, AGR/19, BIO/11, BIO/12, CHIM/01, CHIM/10, FIS/07, MED/09 and MED/38)
- 2) Agricultural chemistry (Scientific Subject Code: AGR/01, AGR/02 and AGR/13)

Total number of positions with fellowships **n. 3:**

Position n.1:

Project: AGRITech : “National Research Centre for Agricultural Technologies” CUP: H93C22000440007; **CODE:** CN00000022 – **Spoke 7** “Integrated models for the development of marginal areas to promote multifunctional production systems enhancing agroecological and socio-economic sustainability”, within the National Research Centre for Agricultural Technologies”

Call for tender: PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU,

Title Scholarship: High added-value food items from by-products, surplus, and agro-industrial waste materials (curriculum 1: Food microbiology, technology, safety, and chemistry)

Research activity description: The current project aims to valorize by-products, surplus, and agro-industrial waste materials that are abundant in marginal areas, through tailored biotechnological and/or technological processes. Innovative food or dietary supplements will be ideated starting from processed by-products, surplus, and wastes.

Position 2

Project: AGRITech : “National Research Centre for Agricultural Technologies” CUP: H93C22000440007; **CODE:** CN00000022 - **Spoke 7** “Integrated models for the development of marginal areas to promote multifunctional production systems enhancing agroecological and socio-economic sustainability”, within the National Research Centre for Agricultural Technologies”

Call for tender: PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU.

Title Scholarship: Innovative and sustainable solutions for soil management in marginal areas (curriculum 2: Food microbiology, technology, safety, and chemistry)

Research activity description: The activities aim to develop innovative sustainable soil management strategies to improve soil ecosystem services in marginal areas applying principles of circular economy: reduce the risk of erosion, increase organic content and biodiversity and mitigate soil salinization and contamination.

Position 3:

Project: AGRITech : “*National Research Centre for Agricultural Technologies*” CUP: H93C22000440007; CODE: CN00000022 – Spoke 9 “New technologies and methodologies for traceability, quality, safety, measurements and certifications to enhance the value and protect the typical traits in agri-food chains”, within the National Research Centre for Agricultural Technologies”

Call for tender: PNRR Initiative, Mission 4, Component 2, Investment 1.4 "Strengthening research structures and creation of R&D" national champions "on Key enabling technologies" DD MUR N. 3138 of 16/12/2021 funded by the European Union - Next Generation EU.

Title Scholarship: Omics to support food safety, authenticity and/or traceability (curriculum 1: Food microbiology, technology, safety, and chemistry)

Research activity description: Omic methods (genomics, transcriptomics, proteomics, metabolomics, etc...) will be applied to food chains to guarantee food safety, authenticity and/or traceability. Data collected through omics will feed a data hub platform, to lay the basis for creating models to predict food quality, thus preventing frauds, and enhancing the value of the typical traits in agri-food chains.

Application requirements:

The selection will be made following the art. 6 typology B of the call.

The examination will be based on the evaluation of candidate qualification, proposed project, oral interview, and foreign language knowledge checking (English).

The contents and formatting instructions for preparing the research project are available at the following website:

<https://www.uniba.it/it/ricerca/dipartimenti/disspa/dottorato-di-ricerca/scienze-del-suolo-e-degli-alimenti/xxxviii-ciclo/selezione-per-lammissione-al-dottorato>

Admission tests for foreigners:

Foreign candidates can choose Italian or English language for their admission exam.

During the oral exam, applicants should also prove knowledge of the Italian language.

The contents and formatting instructions for preparing the research project are available at the following website:

<https://www.uniba.it/it/ricerca/dipartimenti/disspa/dottorato-di-ricerca/scienze-del-suolo-e-degli-alimenti/xxxviii-ciclo/selezione-per-lammissione-al-dottorato>

The exams will be distinct for each curriculum and the respective rankings will merge into a single final ranking that will give the title to access.

The places available will be assigned, among the various curricula, according to the order in the ranking of merit, until the places are exhausted.

The places, which have not been assigned due to lack of suitable candidates in one curriculum, will be assigned to

candidates found to be suitable for the other curriculum, based on the score obtained in the general ranking.

Admission exam dates and time:

Qualification: 2nd January 2023 h. 12:00 am

Proposed project: 3rd January 2023 h. 9:00 am

Oral interview: 4th January 2023 h. 10:30 am c/o Room X, Department of Soil, Plant and Food Sciences, Giovanni Amendola 165/A. 70126, Bari

For more information see the website:

<https://www.uniba.it/it/ricerca/dipartimenti/disspa/dottorato-di-ricerca/scienze-del-su>

ANNEX 19)

PROFILE

PHD PROGRAMME IN HUMAN RELATION SCIENCES

CUN Scientific Areas: 06 Medical sciences, 10 antiquity, philological-literary and historical-artistic sciences; 11A Historical, philosophical, pedagogical sciences; 11B psychological sciences; 13A - Economic and statistical sciences;; 14 Political and social sciences.

Coordinator: Prof. Andrea Bosco

Administrative Office: Department of Education, Psychology, Communication

PEC: direttore.forpsicom@pec.uniba.it

Duration: 3 years

Curricula:

- 1) Historical and social policies (scientific sectors: M-STO/02, SPS/01, SPS/02, SPS/06, SPS/07, SPS/08, SPS/11, SPS/12, L-LIN/03, L-LIN/10, M-FIL/05, M-FIL/01)
- 2) Educational dynamics and education to politics (scientific sectors: M-PED/01, M-PED/02, M-PED/03, M-PED/04, SECS-S/01)
- 3) Psychology: cognitive, emotional and communicative processes (scientific sectors: M-PSI/01, M-PSI/02, M-PSI/03, M-PSI/04, M-PSI/05, M-PSI/06, M-PSI/08, L-LIN/01, L-LIN/12, MED/43)

Total number of positions available: **3**. All the positions are distributed among the curricula:

- **Project MNESYS** - A Multiscale integrated approach to the study of the nervous system in health and disease: curriculum 3), fellowship research n.1. **CODE:** PE0000006, **CUP:** H93C22000660006
- **Project Age-It** - Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society: curriculum 1), fellowship research n.1. **CODE:** PE0000015, **CUP:** H33C22000680006
- **Project Age-It** - Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society: curriculum 3), fellowship research n. 1. **CODE:** PE0000015, **CUP:** H33C22000680006.

Call for proposal: NRRP - Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research project funding DD MUR N. 341 of 15/03//2022 funded by the European Union - NextGeneration EU

The examinations will be differentiated for each project and the respective rankings will merge into a single final ranking that will make the candidate eligible for the grant.

Candidates must indicate the choice of a single project (MNESYS or Age-It) and of a single curriculum (for MNESYS curriculum 3, for Age-It curriculum 1 or 3). Candidates who do not specify the project and curriculum they apply for will be excluded from the competition.

Admission procedure:

Scientific qualifications + original research project to be attached to the registration form + oral examination.

The selection will be based on scientific qualifications, original research project, to be attached to the application, and oral examination on theoretical and methodological insights inherent in the contents of the project presented, and the assessment of the knowledge of a foreign language: English. The must have a maximum length of 15000 characters, spaces and bibliography included. The project must include four sections: 1) state of the art / rationale and aims of the project, 2) method, 3) expected results, 4) potential threats to project success.

The candidates' admission to the oral examination will be conditional upon a positive evaluation of the original research project.

The research project will be discussed and the knowledge of the English as a foreign language will be assessed during the oral examination.

Examination for foreign candidates:

Foreign candidates can choose to take the exam either in Italian or English.

Calendar of the examination:

Selection procedures start (for the panel members only): January 3rd 2023 at 9.00 a.m.

Publication of the admitted candidates to the oral examination: January 4th 2023, on the following website:

<https://www.uniba.it/ricerca/dipartimenti/forpsicom/didattica/formazione-postlaurea/dottorato>

Oral interview: January 5th, 2023 at 9.00 a.m., Hall Nelson Mandela, 1st Floor, Palazzo Chiaia-Napolitano. Via Crisanzio, 42 Bari

Examination calendar for non-resident candidates:

Oral interview: January 5th, 2023 at 9.00 a.m., on the MS Teams platform (code: 7cczg2k). Candidates will be invited to share the platform by an e-mail notification. The address of the e-mail is that they have declared on the registration form.

For more information, visit the website:

<https://www.uniba.it/ricerca/dipartimenti/forpsicom/didattica/formazione-postlaurea/dottorato>

Project MNESYS: A Multiscale integrated approach to the study of the nervous system in health and disease.

CODE: PE0000006, **CUP:** H93C22000660006.

Curriculum: Psicologia: Processi cognitivi, emotivi e comunicativi

Study period abroad: 6 months

Scholarship thematic title: Promoting a healthy affective and social neurodevelopment in infants and supporting mothers' emotional attunement and well-being through an early musical intervention.

Description: In the first 1000 days of postnatal life, when the child's biological system (i.e., brain, body, immune system) develops significantly, she is exposed to a wealth of new stimuli and the first social structures that constitute the nurturing bonds for further social integration and development.

One of the stimuli extensively inherent and meaningful in this process - as of preverbal emotional accessibility and regulation, neuroplastic effects, as well as attachment and bonding features - is sound along with its related construct - music. This longitudinal randomised controlled trial aims to establish and evaluate an early intervention programme based on a musical interaction between the caregiver and the child that is targeted to build a solid relation and a safe attachment style.

Project: Age-It: Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society. **CODE:** PE0000015, **CUP:** H33C22000680006

Curriculum: Storia e Politiche Sociali

Study period abroad: 6 months: 6

Scholarship thematic title: Active aging and social participation. Macro factors and individual responsibilities

Description: The concept of "active aging" suggests adopting politics that transform the aging of the population from a problem to an opportunity both at a subjective and a systemic level. Social participation is one of the three pillars of the active ageing politics adopted by the European Union and the member states.

The social factors that shape social participation are the cultural and institutional characteristics of macro-contexts and individual resources.

This call aims to investigate the impact of social participation politics to promote active ageing with a gender, ecological and longitudinal life course perspective and social policy approaches based on these perspectives. The

results of the survey empirically based on the real ageing styles adopted by the elderly population within macro-contexts, can be applied to support future policy choices.

Project: Age-It: Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society. CODE: PE0000015, CUP: H33C22000680006

Curriculum: Psicologia: Processi cognitivi, emotivi e comunicativi

Study period abroad: 6 months

Scholarship thematic title: Active aging: innovative and non-invasive non-pharmacological intervention programme for elderly homes (RSA) or community-dwelling individuals

Description: Good social and support network, motor exercise, music listening, technology interaction, and non-invasive neuromodulation have each been linked to neuroprotection, a reduced cognitive decline in old age, and, consequently, are seen as protection factors against insurgence of neurodegeneration. Benefiting from decades-long research and clinical experience, and from the collaboration with European centers of excellence, here we merge all these factors to implement a 3-months-long innovative and non-invasive non-pharmacological intervention programme for elderly homes (RSA) or community-dwelling individuals. Outcome measures will include psychological tests and questionnaires for assessing cognitive functions, psychiatric symptoms, perceived loneliness, and quality of life, and electroencephalographic (EEG) recordings.

<http://www.uniba.it/ricerca/dipartimenti/disspa/dottorato-di-ricerca>

ANNEX 20)

PROFILE

PHD PROGRAMME IN ORGANS AND TISSUES TRANSPLANTATION AND CELLULAR THERAPIES

CUN Scientific Area: 06 Medical Sciences, 07 Agrarian and Veterinary Sciences, 05 Biological Sciences

Scientific Disciplinary Sectors: BIO/17, VET/09, MED/15, MED/12, MED/13, MED/14, MED/18, MED/19, VET/08, VET/01, MED/41 and MED/15

Coordinator: Prof. FRANCESCO STAFFIERI

Administrative office: Department of Precision Medicine and Regenerative and Ionic Area

PEC: direzione.deto@pec.uniba.it; direzione.dimeprej@pec.uniba.it

Duration: 3 years

Curricula: NO

Total positions with scholarship available: n. 2

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project name: Age-It - Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society (CUP: H33C22000680006 Code: PE0000015)

Title Scholarship: New strategies to combat cellular ageing in type 2 diabetes mellitus

Research activity description: The project will focus on the study of the mechanisms underlying the ageing of pancreatic beta-cells in the pathogenesis of type 2 diabetes mellitus and the validation of new therapeutic targets. Specifically, the pro-survival and anti-ageing effects of GLP-1 receptor agonists, new double and triple agonists of GLP-1/GIP/Glucagone, as well as new molecules such as irisin, which could enhance and maintain the secretory function beta-Cellular over time, thus changing the trajectory of diabetic disease. The molecular mechanisms underlying these effects will also be investigated. In addition, due to the frequent association of type 2 diabetes with cardiovascular disease and cognitive dysfunction, the pro-survival and anti-ageing effects of these molecules on human cardiac, endothelial and neuronal/glial cell models will also be investigated.

Call for proposal: NRRP Initiative, Mission 4, Component 2, Investment 1.3 - Partnerships extended to universities, research centres, companies and research D.D. MUR n. 341 del 15.03.2022 – Next Generation EU

Project name: Age-It - Ageing well in an ageing society - A novel public-private alliance to generate socioeconomic, biomedical and technological solutions for an inclusive Italian ageing society (CUP: H33C22000680006 Code: PE0000015)

Title Scholarship: Study of the intestine-kidney-brain axis in cognitive decline associated with chronic kidney disease.

Research activity description: The project will use a laboratory-to-patient approach to define the impact of kidney dysfunction on the gut-kidney-brain axis. Through an in vivo and in vitro approach, it will be possible to assess the impact of intestinal dysbiosis and urea toxins related to deterioration of renal function, on the consequent cognitive decline due to the increase of the neuroinflammation and consequent neurodegeneration. We will also explore molecular mechanisms associated with intestinal microbiota signatures linked to cognitive decline associated with chronic kidney disease in order to identify new therapeutic approaches.

Modalities of admission:

The exam procedures will be taken in accordance with art. 6 of the call

The selection will be based on titles, the evaluation of the research project regarding the themes of the doctorate, and an oral examination. The research project will be preventively sent by the candidate together with the admission

documents. The research project (maximum 3000 words excluding the bibliography) is mandatory for the admission to the oral examination and should include at least the following fields: scientific background, aim of the study, methodology (including the statistical considerations), expected goals, perspectives and possible advantages.

The candidate will be admitted to the oral examination only if the evaluation of the research project will obtain a positive evaluation.

During the oral examination, the knowledge of the English language, will be also evaluated.

Examination of foreign candidates:

Foreign candidates can choose to perform the admission examination in Italian or English language.

Calendar and location for the admission examinations:

Titles evaluation : December 28th 2022

Project evaluation: December 28th 2022

Oral examination: December 29th 2022 at 11:00 at the library of the nephrology section of the Department of Precision and Regenerative Medicine and Ionic Area.

For further information please check the website:

<https://www.uniba.it/ricerca/dipartimenti/deto/ricerca/dottorato-di-ricerca-in-trapianti-di-tessuti-ed-organ-e-terapie-cellulari-1>