

### THE DEAN

Having regard to the Statute of the e-Campus Telematic University and its subsequent amendments

In accordance with Law no. 168 of 9 May 1989, which contains the "Regulations on the autonomy of the University"

Considering Law No. 241 of 7 August 1990 on "Administrative Procedures and the Right of Access to Administrative Documents" and its subsequent amendments and additions

Having regard to Law No. 243 of 29 July 1991 concerning "the operation of legally recognised non-State universities"

With reference to the Interministerial Decree of 17 April 2003 laying down "criteria and procedures for the accreditation of distance learning courses offered by State and non-State universities and higher education establishments authorised to issue academic qualifications", as referred to in Article 3 of Decree no. 509 of 3 November 1999

Referring to Ministerial Decree no. 270 of 22 October 2004, which contains "rules on the didactic autonomy of universities"

Considering Law no. 240 of 30 December 2010

Considering Ministerial Decree no. 639 of 2 May 2024, which includes the "Determination of the scientific-disciplinary groups and their related declarations, as well as the rationalisation and updating of the scientific-disciplinary sectors and their alignment with the scientific-disciplinary groups"

Considering Ministerial Decree no. 226 of 14 December 2021, which establishes the "Regulation on the procedures for the accreditation of sites and doctoral programmes and the criteria for the establishment of doctoral programmes by accredited bodies"

Considering the resolution of the Organising Technical Committee of 07 June 2024; Considering the decision of the Governing Board of 13 June 2024; Having regard to the University Regulations for Doctoral Courses (D.R. n.44/23 of 2 May 2023)

## DECLARATIONS

#### Art. 1 - Announcement

- 1. A public competition is organised for admission to the XL cycle of the PhD in Sciences applied to well-being and sustainability (academic year 2024/2025) at the e-Campus Telematic University.
- 2. The integrated research lines of the doctoral programme are indicated in Appendix A.
- 3. The number of PhD students admitted is 8, of which 6 will be funded with scholarships and 2 will be funded without scholarships.
- 4. The course will start on November 1st, 2024 and will last three years.

#### Art. 2 – Procedure for admission to the course

- 1. Admission to the course is granted on the basis of a selection process that includes the assessment of the candidate's qualifications, a research project and an oral examination.
- 2. The selection procedure aims to determine the candidate's aptitude for scientific research and consists of an evaluation of qualifications, the research project and an oral test. The oral test will also assess the candidate's knowledge of English and, in the case of foreign candidates, their knowledge of Italian.

#### Art. 3 – Conditions for admission to the competition

- 1. The present call is open to all candidates who, on the closing date for applications, meet one of the following requirements:
  - a) A bachelor's degree issued according to the regulations in force before Ministerial Decree 509/99 (old system), or a specialist/master's degree issued in Italy according to Ministerial Decree 270/2004.
  - b) An equivalent academic qualification obtained abroad from an officially recognized academic body, to be assessed by the selection board solely for the purpose of access to the doctoral programme. This qualification must be comparable in duration to a Master's degree and be valid for enrolment in a PhD programme in the country where it was awarded.
  - c) In the absence of the qualifications referred to in points a) and b) above, candidates may participate in the selection procedure if they declare their intention to obtain the required qualification by no later than 31<sup>st</sup> October 2024. If these candidates are deemed suitable for admission, they will be admitted to the doctoral programme on a conditional basis. However, they will have to submit their degree certificate or a self-certification by 11 November 2024 or else irrevocably lose the right to enrol.
- 2. Candidates with disabilities or specific learning disabilities (SLD) and/or with special educational needs (SEN), as defined in the current regulations, may request specific accommodations or interventions necessary for their participation in the examination. The request must be sent by e-mail to both <a href="mailto:segreteria.dottorati@pec.uniecampus.it">segreteria.dottorati@pec.uniecampus.it</a> and <a href="mailto:segreteria.dottorati@pec.uniecampus.it">segreteria.dottorati@pec.uniecampus.

## Art. 4 - Applications for participation

- 1. In order to take part in the selection procedure, candidates must complete their application electronically using the special computer application available on the Pica platform at the following link: <u>https://pica.cineca.it/ecampus/dott-sabs2024/domande/</u>. The application process requires an e-mail address for registration with the system. Candidates must provide all the required information and attach electronically the documents referred to in this notice. The system allows you to save your application as a draft until the deadline.
- 2. The application must be submitted by **22 July 2024** at the latest to avoid exclusion. The electronic submission date of the application, which coincides with the submission of the electronic form, will be confirmed by the computer system by means of an automatically generated e-mail receipt. After the deadline, the system will no longer allow access to or submission of the electronic form. The deadline for submitting the application is 13.00 (Italian time) on the last working day.
- 3. The application form must be completed in full, following the instructions given in the electronic procedure. It should contain the candidate's full personal details, including first name, surname, place and date of birth, tax code, home address, chosen address for communications relating to the procedure (including postcode), telephone number, ordinary and certified e-mail addresses (considered as valid digital addresses under Legislative Decree 82/2005). All communications relating to the procedure will be sent to the certified email address provided. Any changes to the above contact details must be communicated immediately by personal certified email to the following address: segreteria.dottorati@pec.uniecampus.it. The application form must be completed and closed with a digital or manual signature as indicated on the summary sheet generated by the computer application.
- 4. Candidates must declare, under their own responsibility, in the relevant section of the application form, that they meet the requirements referred to in Art. 3.1 of this notice.
- 5. In the "Qualifications" section of the application form, candidates must provide the following information
  - a) A list of publications (maximum 6) to be considered for evaluation, including the identification code (ISSN, ISBN, ISMN) for each publication.
  - b) A list of university activities, such as courses completed within degree programmes, specialisation schools, doctorates and master's degrees at Italian or foreign universities. For each activity, candidates must indicate the academic year, the title of the course, the ECTS or hours, the university, the department and the course.
  - c) A list of training and/or research activities carried out at universities or recognised Italian or foreign institutions.
  - d) A list of participation in national and international research groups.
  - e) A list of presentations at national and international congresses and conferences.
  - f) Language skills, indicating the CEFR level for each language and whether the level is certified. If certified, candidates should indicate the date of achievement and the certifying body.
  - g) Any additional qualifications considered relevant to the assessment (up to a maximum of 5).
- 6. Candidates must attach the following documents in PDF format (maximum 30 MB per attachment) in the '*Attachments*' section of the application form:

- a) Curriculum vitae, preferably in European format, dated and duly signed (by hand). The CV should include an active and certified e-mail address in the candidate's name, as well as evidence of degree level, publications and qualifications.
- b) An original research project on one of the topics listed in Annex A. The project may be written in Italian or English and should not exceed 25,000 characters (including spaces). It should provide detailed information on the research topic, the current state of studies on the subject, objectives, methods and essential bibliography.
- c) Scientific publications (previously listed in the "Qualifications" section), up to a maximum of 6.
- d) A copy (front and back) of a valid identity document.
- e) A copy of your tax card or health card. For foreign nationals without a tax code, a personal identification code will be issued by the University.
- f) Proof of payment of €100.00 as a contribution towards participation in the selection procedure. The payment should be made to the following bank account: IBAN: IT 18 D 03069 51500 10000002479
  SWIFT: BCITITMM
  Bank: BANCA INTESA SAN PAOLO FILIALE DI MARIANO COMENSE C/C: 100000002479
  Payable to: UNIVERSITÀ TELEMATICA E-CAMPUS ABI: 03069
  CAB: 51500

Please note that this fee is non-refundable.

- 7. Candidates will be excluded from the competition if:
  - a) they fail to meet the eligibility criteria set out in Art. 3.1 of this notice.
  - b) they do not provide the mandatory data or personal identification elements in the application form as specified in paragraph 3 of this article, do not provide the declaration as specified in paragraph 4, do not indicate their qualifications as specified in paragraph 5 or do not attach the required documents as specified in paragraph 6.
  - c) they submit the application form by means other than those indicated in this notice. Only in cases of proven technical impossibility due to temporary suspension of the service caused by technical problems, the University reserves the right to accept the application form by personal certified e-mail.
  - d) The application form is submitted after the deadline mentioned in paragraph 2 of this article.
- 8. The University reserves the right to verify the accuracy of self-declarations and to take appropriate legal action in the event of false declarations.
- 9. It is strictly forbidden to refer to documents or publications submitted to public authorities or in the context of other selection procedures, or to submit documents after the closing date for applications.
- 10. Teaching activities carried out abroad and qualifications obtained from foreign institutions which are not accompanied by appropriate documentation and translation (to be attached to the application in PDF format in the appropriate section "Qualifications") will not be taken into account for the purposes of this selection. No translation is required if the document is in English.

## Art. 5 – Exclusions relating to positions with scholarships

- 1. Neither PhD students enrolled in the same PhD programme nor those enrolled in a different PhD programme are eligible for scholarships.
- 2. In addition, individuals who exceed the total annual gross personal income limit of €16,000.00 (according to the University Regulations for Doctoral Candidates, Article 15, Paragraph 8) are not eligible for scholarships. Income is determined on the basis of the income statement for the previous calendar year at the time of application. Scholarship holders must inform the Administration Office immediately of any changes in their income situation that may render them ineligible for the scholarship. The University reserves the right to verify the income statements of doctoral students on a regular basis. In case of incompatibility, the provisions of article 14, paragraph 7, of this announcement will be applied.

## **Art. 6 - Selection Committee**

- 1. The 5-member selection committee is appointed by the Dean after consulting the Academic Board. The members are university professors and researchers from macro-sectors that are consistent with the educational objectives of the doctoral programme. External experts may also be involved.
- 2. The Board may use appropriate remote means for its activities.

## Art. 7 - Evaluation of qualifications and research projects

- 1. At its first meeting, the selection board shall establish the criteria for the assessment of the candidate's qualifications, the research project and the oral test, in accordance with the principles and guidelines set out in the following paragraphs.
- 2. The evaluation of the qualifications and the research project will be made up of a maximum of 50 points, distributed as follows:
  - a) Up to 20 points for the qualifications, including up to 8 points for the final grade (weighted average of the final grades of the undergraduate studies), up to 2 points for university teaching activities, up to 3 points for research activities, up to 1 point for conference speaking activities, up to 4 points for scientific publications and up to 2 points for other academic qualifications and/or professional activities.
  - b) Up to 30 points for the research project.
- 3. All candidates with 34 points or more will be admitted to the oral examination.

## Art. 8 - Admission to the oral examination and evaluation

- 1. Candidates admitted to the oral examination will be notified by certified e-mail at least 10 days before the examination. The information will also be published on the University's institutional website in the "Calls and Competitions" section.
- 2. The oral examination will be marked out of 50 points, distributed as follows:
  - a) Up to 30 points for the presentation and discussion of the research project.
  - b) Up to 10 points for explaining the rationale for the research and the specific training of the doctoral candidate.
  - c) Up to 10 points for the candidate's knowledge of English.
  - d) Foreign candidates must provide evidence of their knowledge of Italian.

3. The same procedures and evaluation criteria outlined in this article will be applied to positions reserved for candidates with a degree from a foreign university.

#### Art. 9 - Ranking and awarding of grants

- 1. Candidates with an overall score of less than 70/100 will be considered unsuitable.
- 2. On the basis of the marks awarded, the Commission shall establish the merit ranking of the eligible candidates, either unanimously or by majority vote.
- 3. In the event of a tie, priority will be given to the most junior candidate.

- 4. Doctoral scholarships will be awarded to candidates according to their ranking.
- 5. Any remaining fellowship positions will be offered to suitable candidates until all positions are filled.
- 6. If a candidate in a ranked position renounces the scholarship, it will be awarded to the candidate next in line within the same rank. The renouncing candidate will be given priority over candidates without a scholarship.
- 7. Winners who fail to register within fifteen days of the ranking being published on the website will be deemed to have withdrawn.
- 8. After a winner has renounced his/her position, the next candidate in a useful position within the same merit ranking will be assigned the relative position (with or without a scholarship). The newly assigned candidate must complete his/her enrolment within five working days from the date specified in the acceptance notice sent by certified mail.
- 9. Any vacancies that may arise within one month of the start of the first year of the course as a result of withdrawal will be filled by candidates in a suitable position within the merit order. The above provisions regarding communication and enrolment deadlines will apply.
- 10. The ranking list will only remain valid if the winning candidate(s) renounce(s) or fail(s) to take up their position.

### Art. 10 - Procedural conditions

- 1. The selection board completes its work in accordance with the legislation and/or ministerial directives in force.
- 2. The Board's decisions are recorded in the minutes of each meeting, including the opinions expressed on each candidate.
- 3. If any irregularities or formal defects are found, the Dean returns the relevant documents to the Selection Board, setting a deadline for their correction.
- 4. The acts are approved by the Dean's decree within 15 days of receipt.
- 5. The merit list will be published on the University's website.

#### Art. 11 - Civil servants

 Public employees admitted to doctoral studies shall be entitled to the leave provided for by collective agreements or, in the case of public employees, extraordinary leave for study purposes, subject to the needs of the administration and in accordance with article 2 of law no. 476 of 13 August 1984 and subsequent amendments. This applies to employees enrolled for the first time in a doctoral programme, regardless of the discipline, with or without a scholarship, unless expressly waived.

#### Art. 12 - Enrolment in the PhD course

- 1. Successful candidates must complete their enrolment no later than fifteen days after the ranking list has been published.
- 2. Candidates who do not have the required qualifications at the time of registration (but who are in a useful position in the ranking list for admission to the PhD programme) must also submit, by 6 November 2024 (1:00 pm), a certificate or self-certification of the qualification obtained, by certified e-mail. Failure to provide this documentation will result in the loss of admission.
- 3. Candidates with qualifications obtained abroad must submit the following documents to the Doctoral Office within four months of enrolment, failing which they will lose their place on the doctoral programme and will have to repay any scholarship they may have received:
  - a) Degree certificate, translated and legalised in Italian, including the list of exams taken.
  - b) "Declaration of value in loco" issued by the Italian diplomatic or consular authorities of the country where the degree awarding institution is located. This declaration must certify that the degree is valid "in loco" for enrolment in an academic course similar to the research doctorate.

### Art. 13 - Payments

- 1. Doctoral students are required to pay a stamp duty of €16.00 and an annual tuition fee of €2,500.00 for the three-year cycle.
- 2. Doctoral students with a degree of invalidity of at least 66% or in a certified situation of invalidity are exempt from paying the annual fee (in accordance with article 3, paragraph 1 of law no. 104 of 5 February 1992).

### Art. 14 - Grants and research budgets

- 1. Scholarships, in accordance with M.D. 247 of 23 February 2022, amount to €16,243.00 per year and are subject to the social security contribution of the INPS Gestione Separata, in accordance with article 2, paragraph 26 and following of law no. 335 of 8 August 1995. Two-thirds of the contribution is paid by the administration and one-third by the doctoral student. Doctoral students shall enjoy the protection and rights associated with the position.
- 2. Scholarships are paid in monthly instalments, the first of which is paid upon the student's declaration of regular attendance, issued by the coordinator of the doctoral programme.
- 3. These scholarships cannot be combined with other scholarships awarded for any reason, with the exception of those awarded by national or foreign institutions to complement the research activities of the doctoral student during his/her stay abroad.
- 4. The amount of the grant will be increased by 50% for research activities carried out during stays abroad of between one and twelve months, with the approval of the teaching staff. This period may be extended up to a maximum of eighteen months for doctoral studies jointly supervised with foreign institutions or activated in accordance with the regulations on the accreditation of courses by universities. Additional mobility allowances may be granted for stays abroad, paid by the proposing/competing departments or by third parties through agreements.
- 5. In addition to the fellowship, each doctoral student will be allocated a budget appropriate to the nature of the doctoral programme and not less than 10% of the fellowship amount. This budget will be financed from the available resources of the accredited departments. Any unused portion of the 10% allocation will remain available to the institution for the same purposes.
- 6. Enrolled doctoral students who are not scholarship holders may still benefit from scholarships or other forms of support.
- 7. In the event of an incompatibility with the use of the scholarship, payment will be suspended. Any monthly payments received after the incompatibility has occurred must be returned.
- 8. The scholarship will be renewed for the following academic year if the student has successfully completed the previous year's planned programme of activities, as verified by established procedures, and maintains full administrative regularity.

#### Art. 15 - Rights and responsibilities of doctoral candidates

1. Admission to the doctoral programme requires exclusive and full-time commitment, except in the cases provided for in article 12 of M.D. No. 226 of 14 December 2021. The doctoral student is required to actively participate in a combination of face-to-face and online training activities and to diligently carry out their assigned research tasks. Doctoral students may not simultaneously enrol in another doctoral, undergraduate, master's or specialisation course in Italy or abroad, unless authorised by the Ministry. They are also not allowed to have professional or work commitments. The Board may authorise work activities that do not interfere with the student's participation in the activities of the doctoral programme. Any change in the work activities must be immediately reported by the doctoral candidate to the College, which will decide whether or not to grant authorisation. If the change affects the student's income situation, the College will inform the Administration Office in order to assess the conditions for the payment of the scholarship. It is essential that scholars notify the

Administrative Office immediately of any change in their income situation that may result in incompatibility with the scholarship.

- 2. All doctoral students are subject to an annual assessment to verify the completion of planned activities for the previous year. Failure to pass the annual assessment will result in the forfeiture of the doctoral programme and the obligation to return the scholarship for the current year, if awarded.
- 3. As part of their training project, doctoral students may undertake tutorial activities for undergraduate and graduate students and, within a maximum of 40 hours per academic year, additional teaching activities. These activities do not lead to an increase in the scholarship, but are compensated by the grants provided for in art. 1, paragraph 1, letter b) of Legislative Decree no. 105 of 9 May 2003, converted with amendments by Law no. 170 of 11 July 2003 (art. 12, paragraph 3 of Ministerial Decree no. 226/2021).
- 4. Doctoral students are entitled to the right to education provided for by Legislative Decree no. 68 of 29 March 2012 and to the maternity leave provided for by D.M. no. 247 of 12 July 2007.
- 5. Doctoral studies may be suspended in cases of maternity, paternity, illness, or for the completion of a period of study or work not incompatible with the resumption of the doctoral studies, subject to the approval of the Board. Scholarship payments will not be made during periods of suspension and these periods must be fully repaid in accordance with the regulations of the Board.
- 6. The Doctoral Board includes a representative of the doctoral candidates to discuss didactic and organisational matters.

### Art. 16 - Achievement of the doctoral degree

- 1. The doctoral degree is conferred upon the successful completion of a research thesis that contributes to the advancement of knowledge or methodology in the chosen field of study.
- 2. The thesis is written in Italian or English and is accompanied by an abstract in Italian or English. The thesis should include a report by the student on the activities carried out during the doctorate and any publications.
- 3. The thesis is evaluated by at least two highly qualified professors, including professors from foreign institutions, who are different from the professors involved in the candidate's admission to the doctoral programme. These examiners will be appointed by the Board. The external examiners give a written analytical judgement on the thesis and propose its admission to the public defence or propose a postponement of up to six months if they consider that substantial additions or corrections are necessary. At the end of this period, the thesis will be admitted to the public defence, accompanied by a new written opinion from the examiners, taking into account the corrections or additions made.
- 4. The public examination is held before a committee appointed by the Dean upon the proposal of the Faculty. The Commission has at least three members, including professors, university researchers and temporary researchers, and may include foreign experts with special expertise in the relevant fields. Most of the members of the Commission will be external to the University. In the case of candidates for the title of "Doctor Europaeus", the composition of the Commission must be in line with current legislation. In the case of specific co-promotion agreements, the composition of the Commission will be as specified in the agreements. The expenses related to the mobility of the members of the Commission shall be covered by the Doctorate.
- 5. At the end of the examination, the thesis is either accepted or rejected, accompanied by a written decision of the panel giving the reasons for the decision.
- 6. Within thirty days of the presentation and approval of the thesis, the University will deposit an electronic copy of the thesis in the ministerial database, in accordance with art. 14 of D.M. no. 94 of 2013. Certain parts of the thesis may not be made available, following authorisation by the University, in relation to the use of data protected by professional secrecy, pursuant to the

relevant legislation. The obligation to deposit the thesis in the National Central Libraries of Rome and Florence remains unchanged.

- 7. The doctoral degree will be awarded by the Dean, who will certify the degree upon request of the interested party.
- 8. The additional degree of "Doctor Europaeus" may be awarded by the University in accordance with the legislation in force and the University Regulations on Doctorates.

### Art. 17 - Processing of personal data

1. Personal data will be processed in accordance with the provisions of the European Data Protection Regulation no. 679/2016 ("GDPR"), which guarantees the protection of individuals with regard to the processing of personal data. e-Campus University, as "Data Controller", will process the personal data provided in accordance with art. 13 of Legislative Decree no. 196/2003 ("Privacy Code") and art. 13 of the GDPR, exclusively for the purposes of the competition and the related survey. Specific information regarding the processing of personal data may be obtained from the person in charge of the procedure. The personal data will be processed in compliance with the applicable regulations and confidentiality obligations governing the activities of the data controller. The data will be processed using IT tools, as well as on paper or any other appropriate format, in a lawful and fair manner for the purposes stated in the notice and for the possible establishment of an employment relationship, in accordance with the security measures prescribed by the GDPR. The data subject has the right to exercise his/her rights vis-à-vis the data controller at any time. The data collected are kept for a period that does not exceed the purposes for which they are processed ("principle of limitation of retention", Art. 5 GDPR) and/or for the period required by legal obligations. Periodic assessments are carried out to determine the obsolescence of the stored data in relation to the purposes for which they were collected.

## Art. 18 - Head of the selection procedure and secretary

- 1. Head of the selection procedure: Dr Marco Margarita (tel. 031/79421 e-mail: marco.margarita@uniecampus.it).
- 2. Doctoral Office secretary: Dr Elsa Alunni (tel. 031/7942214 e-mail: <u>segreteria.dottorati@uniecampus.it</u> certified e-mail: <u>segreteria.dottorati@pec.uniecampus.it</u>).

#### Art. 19 - Final provisions

- 1. All matters not specified in this announcement are subject to the legislation in force and to the University Regulations for Doctoral Studies.
- 2. This document may be appealed against within 60 days to the Regional Administrative Court of Lombardy located in Milan. Alternatively, an extraordinary appeal may be lodged with the President of the Republic within 120 days.

Novedrate, 17 June 2024 D.R. n. 336/24

### "Annex A" to this announcement RESEARCH LINES AND INSTRUCTIONS FOR THE PREPARATION OF THE RESEARCH PROJECT

## 1) RESEARCH LINES

# Research line 1: The effects and perceptions of risk on safety and well-being

Representative professors: Camisasca (PSIC-02/A), Catania (MATH-02/B), Cattoni (CEAR-05/A), Chiappini (IIND-03/A), Covelli (PSIC-03/A), Focacci (CEAR-07/A), Tomasicchio (CEAR-01/B), Alberto Fucarino (BIOS-12/A), Agostino Catalano (CEAR - 08/A), Giovanna Zimatore (PHYS-06/A).

The conditions of individual and collective well-being can be strongly influenced by the perception of risk linked to ongoing climate changes, the high seismic and hydrogeological vulnerability of the Italian territory and the exposure of parts of the territory to strong environmental degradation phenomena. In fact, safety assessment and risk prediction can determine clear impacts on economic development and social living conditions. In this context, original research projects are promoted aimed at defining innovative criteria and methodologies for risk assessment, also through the development of appropriate mathematical models and the use of digital technologies in the public and private sectors, and the implementation of good practices for the evaluation of biopsychosocial factors. Research topics include innovative and sustainable techniques for the construction and/or recovery of infrastructures for the prevention and mitigation of risk, also in relation to its correct perception at an individual and collective level, the assessment of damage to construction materials in order to verify the actual risk conditions of the structures, the identification of biological and psychological markers related to the stress connected to the perceived risk and the psychological factors associated with it, the analysis of the subjective perception of risk and the evaluation of its effects on individual and collective oriented behaviors to safety and prevention.

ERC Areas: PE8 Products and Processes Engineering; SH4 The Human Mind and Its Complexity; LS4 Physiology in Health, Disease and Ageing.

# **Research line 2: Environmental Sustainability and Well-being**

Representative professors: Arnesano (IMIS-01/A), Bocci (CEAR-03/A), Chiappini (IIND-03/A), Cioccolanti (IIND-06/B), Covelli (PSIC-03/A), De Giorgio (PSIC-01/B), Focacci (CEAR-07/A), Marchetti (IIND-05/A), Melone (CHEM-06/A), Pedroli (PSIC-01/C), Gloria Cosoli (IMIS-01/A), Marta Rossi (IIND-03/B), Luca Del Zotto (IIND-06/B).

Research projects are promoted for the reduction of environmental impact through the design and application of new technologies, processes and methodologies for more efficient and sustainable development, with a view to a circular economy aimed at guaranteeing a high level of well-being for individuals and the community. The issues will be addressed by integrating transversal skills in the definition of systems and strategies for the reduction of CO2 emissions through the implementation of efficient transport and storage processes, the study and mechanical characterization of materials, including innovative and eco-sustainable ones, aimed at optimization of resources, the reuse and recycling of materials, the exploitation of renewable sources, the improvement of the quality of life in indoor and outdoor environments, the analysis of behavior and the evaluation of citizens' perception in relation to sustainable development.

ERC Areas: PE7 Systems and Communication Engineering; PE8 Products and Processes Engineering; LS7 Prevention, Diagnosis and Treatment of Human Diseases; SH3 The Social World and Its Diversity; SH4 The Human Mind and Its Complexity.

# <u>Research line 3</u>: Lifestyles for Well-Being and Health

Representative professors: Arnesano (IMIS-01/A), Baldari (MEDF-01/B), Iuliano (MEDF-01/A), Picerno (MEDF-01/A), Tradigo (IINF-05/A), Vecchio (BIOS-06/A), Domenico Cautela (CHEM-07/B), Selenia Di Fronso (MEDF-01/A), Alberto Fucarino (BIOS-12/A), Gloria Cosoli (IMIS-01/A), Pierpaolo Sansone (MEDF-01/B), Riccardo Pecori (IINF-05/A), Stefano Amatori (MEDF-01/B), Alessandro Ieraci (BIOS-10/A), Giovanna Zimatore (PHYS-06/A).

Basic and translational research projects will be developed for the understanding and characterization of the mechanisms and processes of active lifestyles related to the psychophysical well-being of subjects working in conditions of risk, of patients with disabling pathologies and for the promotion of correct lives for the general population, but also for environmental sustainability, in relation to age, gender, diet and level of physical activity; projects will be developed with the aim of characterizing therapeutic interventions aimed at improving the vision style of subjects suffering from chronic metabolic pathologies (e.g. obesity, diabetes mellitus, tumors). Research actions will also be developed aimed at identifying and studying the biological activity of bioactive compounds present in foods, with the prospect of possible use in interventions for the prevention of chronic-degenerative diseases and cancer. Furthermore, we will investigate the molecular and cellular mechanisms implicated in the beneficial effects of physical exercise in the context of neurodegenerative and psychiatric diseases. The research objectives will be pursued with innovative and sustainable measurement methodologies (locally and remotely) and analysis of biomolecular, psychological, kinematic, physiological and environmental data, also aimed at personalizing interventions. The tools will also be based on new ICT technologies (wearables, IoT, Machine Learning), and innovative molecular biology technologies.

ERC Areas: LS1 Molecules of Life: Biological Mechanisms, Structures and Functions; LS4 Physiology in Health, Disease and Ageing; SH4 The Human Mind and Its Complexity; LS2 Integrative Biology: from Genes and Genomes to Systems; PE6 Computer Science and Informatics; LS4 Physiology in Health, Disease and Ageing; LS5 Neurosciences and neural disorders.

# <u>Research line 4</u>: New therapeutic and rehabilitative approaches to health and wellbeing

Representative professors: Bocchio Chiavetto (BIOS-10/A), Cavallo (PSIC-04/B), De Giorgio (PSIC-01/B), Iuliano (MEDF-01/A), Marchetti (IIND-05/A), Pedroli (PSIC-01/C), Picerno (MEDF-01/A), Tradigo (IINF-05/A), Vecchio (BIOS-06/A), Riccardo Pecori (IINF-05/A), Alessandro Ieraci (BIOS-10/A), Selenia Di Fronso (MEDF-01/A).

Research projects will be implemented relating to the design, development, implementation and validation of innovative systems with high technological content for the health and well-being of subjects with disabling and/or chronic physical or mental pathologies, strongly based on integration of multidisciplinary models and instruments, and in close collaboration with e-health and Artificial Intelligence specialists and entrepreneurs. In particular, the new therapeutic and rehabilitative approaches will integrate methodologies and skills from the biological (molecular markers), psychological

(clinical, health, disability, rehabilitation, physiological and neuropsychological), neurophysiological, motor (evaluation of motor skills) and technological fields. (positive and persuasive technology, gamification, user experience, data science). Innovative systems will be studied and developed for more effective and personalized diagnostics. Studies will also be conducted aimed at the multidisciplinary evaluation of the processes, effects, outcomes and sustainability of the systems as well as intervention protocols of adapted motor activity aimed at personalizing the interventions will be developed. Furthermore, several models will be used to identify potential new therapeutic targets.

ERC Areas: SH4 The Human Mind and Its Complexity; LS5 Neuroscience and Disorders of the Nervous System; LS2 Integrative Biology: from Genes and Genomes to Systems; LS7 Prevention, Diagnosis and Treatment of Human Diseases; PE6 Computer Science and Informatics; PE7 Systems and Communication Engineering; LS4 Physiology in Health, Disease and Ageing; LS5 Neurosciences and neural disorders.

# <u>Research line 5</u>: Stress, well-being and health in family, work and health contexts

Representative professors: Bocchio Chiavetto (BIOS-10/A), Camisasca (PSIC-02/A), Elisabetta Lombardi (PSIC-02/A), Cavallo (PSIC-04/B), Covelli (PSIC-03/A), De Giorgio (PSIC-01/B), Vecchio (BIOS-06/A), Stefano Amatori (MEDF-01/B).

Research projects will be developed relating to the identification of individual (psychological, biological, neurophysiological), relational, psychosocial and environmental factors that can favor stress conditions or promote psychological well-being and health in family, school, professional and life contexts. healthcare. Integrated approaches will be promoted with innovative methodologies, including digital ones, for the evaluation of the synergistic effects of psychological and biological factors in the development of stress conditions and/or difficulties of a psychological and relational nature. Prevention and support intervention strategies will also be developed in the family, professional and healthcare spheres, and methods for evaluating their effectiveness will be identified.

ERC Areas: SH4 The Human Mind and Its Complexity; LS5 Neuroscience and Disorders of the Nervous System; LS2 Integrative Biology: from Genes and Genomes to Systems; LS4 Physiology in Health, Disease and Ageing; LS5 Neurosciences and neural disorders.

# 2) INSTRUCTIONS FOR THE PREPARATION OF THE RESEARCH PROJECT

In the illustration of the project (up to a maximum of 25,000 characters including spaces) the candidate must include the following sections:

- 1) Title page (including name and surname, title of the research line choosing from the lines listed above; title of your project; abstract and keywords).
- 2) Theoretical introduction (description of the current state of studies on the topic).
- 3) Research objectives and hypotheses.
- 4) Methodology (type of study, design, variables, sample selection, data collection tools, data analysis).
- 5) Expected results.
- 6) Innovativeness of the project.
- 7) Essential bibliography.

N.B. The project must be uploaded in PDF format in the appropriate "Attachments" section of the application.