

RECTOR'S DECREE N. 8284

Selection procedures to assign no. 6 research collaboration grants at Università Cattolica del Sacro Cuore

THE RECTOR

- having regard to the Statute of Università Cattolica del Sacro Cuore, issued by Rector's Decree of October 24, 1996, and subsequent modifications and integrations;
- having regard to the general regulatory norms of Università Cattolica del Sacro Cuore, issued by Rector's Decree of October 26, 1999, and subsequent modifications and integrations;
- having regard to Law 240 of December 30, 2010, in particular Art. 22;
- having regard to Ministerial Decree 102 of March 9, 2011;
- having regard to Rector's Decree 6764 of september 30, 2020, governing <<Modifications to the “Code of Conduct of Università Cattolica del Sacro Cuore”>>;
- having regard to Rector's Decree 7027 of December 16, 2020, governing the “Norms on the conferment and discipline of research grants in accordance with Art. 22 of Law 240 of December 30, 2010”;
- having regard to the resolutions adopted by the Boards of the Faculties;
- having regard to the resolutions adopted by the University Senate and University Steering Committee;

ORDAINS

Art. 1

Opening

The opening of selection procedures for the assignment of no. 6 research grants in the following Faculties of Università Cattolica del Sacro Cuore, for the following scientific-disciplinary sectors:

A) Research grants announced in accordance with Art. 22, Subparagraph 4, Letter A, of Law 240/2010

FACULTY OF PSICOLOGIA

ACADEMIC DISCIPLINE: <i>M-PSI/01 GENERAL PSYCHOLOGY</i>	n. 1 position
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Duration: one year; can be renewed.

Tutor: Prof. Stefania Balzarotti.

TITLE OF THE RESEARCH TOPIC: Detecting and monitoring stress indicators in the vocal behaviour of civil aviation pilots. Analysis of vocal, lexical, and pragmatic dimensions.

Brief description of the research topic: Over the past few years, following crashes caused by the pilot's deep psychological disease, attention to the pilots' wellbeing has increased and the need for tools to early detect stress has emerged. The analysis of vocal behaviour represents a promising area for such research, since vocal behaviour is easy to collect, not easy to be altered and monitorable over time. The aim of the present research project is to define a protocol to analyze the pilots' vocal behaviour in the vocal, lexical, and pragmatic levels to detect stress signals in the specific professional context of civil aviation pilots. Moreover, a further analysis is comprised of the facial actions display, within a multimodal analysis of nonverbal behaviour paradigm. Previous research experience in the field of behavioural analysis is required, particularly in the field of vocal and verbal behaviour analysis, as well as the knowledge of the principal models of stress and wellbeing and emotion expression.

Sede: Milano

B) Research grants announced in accordance with Art. 22, Subparagraph 4, Letter B, of Law 240/2010

FACULTY OF SCIENZE AGRARIE, ALIMENTARI E AMBIENTALI

ACADEMIC DISCIPLINE: <i>AGR/02 AGRONOMY AND FIELD CROPS</i>	n. 1 position.
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Duration: 7 months.

Tutor: Prof. Stefano Amaducci.

Title of the research project: Development of services for the monitoring and the management of the value chain of industrial tomato.

Brief description of the research project: The general objective of the project is to make the role of the I.O. of industrial tomato more and more central in the process that generates information to support the supply chain, so as to be able to manage it and play a leading role as a hinge between the agricultural and industrial world for ever greater enhancement of industrial tomato market. Another objective of the project is to have real-time data on tomato quantities delivered to the industries and their quality levels, so as to improve tomato logistics. In this context, the research fellow will deal with the development of the following services:

- geolocate the productions and check their health and maturation status;
- collect information to estimate the quantity-quality level of production;
- speed-up data collection to formulate forecasts and for better control of the production phase and for better organization of logistics;
- evaluate how information technologies, satellite earth observation and production forecasting based on crop growth models are able to enrich a platform managed by the OI that would make available to associates numerous data by improving the information service and consequently relationships within the supply chain.

The candidate will be assessed on the basis of the IT skills necessary for the realization of the aforementioned services and knowledge of the agronomic and physiological aspects of industrial tomatoes.

Seat: Piacenza.

FACULTY OF SCIENZE AGRARIE, ALIMENTARI E AMBIENTALI

<i>ACADEMIC DISCIPLINE: <u>AGR/11 GENERAL AND APPLIED ENTOMOLOGY</u></i>	n. 1 position.
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Duration: one year; can be renewed.

Tutor: Prof. Ilaria Negri.

Title of the research project: MitoMicro: Mitochondrial MicroRNAs, a new perspective for mitochondrial function and his role in control of eukaryote evolution.

Brief description of the research project: This research project aims at expanding the current knowledge on mitochondrial small non-coding RNAs and their function in insects of agricultural relevance to promote new sustainable pest control strategies. Host/symbionts associations will be chosen in which the alphaproteobacterium *Wolbachia* acts as a microbial manipulator of the insect reproduction or as a mutualist. The role of mitochondrial small non-coding RNAs as a potential tool for the control of pest species in such host/symbiont associations will be investigated.

Seat: Piacenza.

FACULTY OF SCIENZE AGRARIE, ALIMENTARI E AMBIENTALI

<i>ACADEMIC DISCIPLINE: <u>AGR/16 AGRICULTURAL MICROBIOLOGY</u></i>	n. 1 position.
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Duration: one year; can be renewed.

TUTOR: Prof. Edoardo Puglisi.

TITLE OF THE RESEARCH PROJECT: Probiopom.

BRIEF DESCRIPTION OF THE RESEARCH PROJECT: Italy is a world leading tomato producer. The aim of the project is to investigate the effects of beneficial microbes (plant growth-promoting bacteria) in inducing systemic resistance against fungal and insects attacks, with a focus on *Alternaria solani* and the brown marmorated stink bug (*Halyomorpha halys* Stål, 1855). The candidate must know the processes of microbial biostimulation and possess the know-how to isolate, identify and screen microbial strains of interest.

SEAT: Piacenza.

FACULTY OF SCIENZE AGRARIE, ALIMENTARI E AMBIENTALI

<i>ACADEMIC DISCIPLINE: <u>AGR/18 ANIMAL NUTRITION AND FEEDING</u></i>	n. 1 position.
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DURATION: 6 months, can be renewed.

TUTOR: Proff. Francesco Masoero – Michele Monno.

TITLE OF THE RESEARCH PROJECT: ES4PA&F Solutions for Precision Agriculture and farming.

BRIEF DESCRIPTION OF THE RESEARCH PROJECT: The ES4PA&F project aims to explore the border area between Engineering and Agricultural-zootechnical sciences in which it is believed that there is a significant development potential deriving from the application of industrial engineering methodologies to the solution of livestock environments and precision agriculture problems. The objective of the project will be the identification of the intervention areas and the selection of skills capable of generating solutions to problems such as the conditioning of the stables, in order to optimize the design phase of the ventilation management systems through modeling and flow simulation. The application of computational simulation models to livestock environments will allow to improve animal welfare through the use of more efficient equipment in terms of energy impact, use of water resources, to the benefit of environmental sustainability. The preparatory period, before the start of the research fellowship, will be used to define the list of issues to be addressed during the project. This preliminary activity will require interaction between the research managers (Tutors). For each of the topics to be addressed during the project, a summary sheet will

be drawn up, containing the description of the problem, the necessary engineering/agricultural/zotechnical skills and, at the “proof of concept” level, the expected results. PhD title, and/or previous research experiences, on the topics of the call will be considered preferential qualifications in the candidates evaluation.

SEAT: Piacenza.

FACULTY OF SCIENZE MATEMATICHE, FISICHE E NATURALI

<i>ACADEMIC DISCIPLINE: FIS/03 PHYSICS OF MATTER</i>	n. 1 position.
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DURATION: one year; can be renewed.

TUTOR: Prof. Claudio Giannetti.

TITLE OF THE RESEARCH PROJECT: Ultrafast decoherence dynamics in layered quantum materials.

BRIEF DESCRIPTION OF THE RESEARCH PROJECT: The candidate will develop a coherent electron spectroscopy experiment to investigate the decoherence dynamics of optical and electronic excitations in nanostructured correlated materials, such as LaVO₃, and in 2D materials, such as Transition metal dichalcogenides. The candidate should have strong expertise in the field of conventional and ultrafast spectroscopies applied to condensed matter problems. The candidate should demonstrate independence in the research activity, a strong track record in the field of ultrafast dynamics of quantum materials and the capacity of managing the ultrafast laser sources available in the ILAMP research labs.

SEAT: Brescia.

Art. 2 Admission requirements

Application for participation in the competition is open to Italian and foreign candidates holding a four-year university degree* or a Master's degree obtained in an Italian, EU or foreign university.

A PhD or equivalent qualification obtained abroad, if not otherwise specified, are preferential qualifications for participation in the selection procedures.

* As obtained before the below-mentioned reference frames. For EU citizens the frame of reference is constituted by the Bologna process and in Italy it is regulated by Ministerial Decree 509 of November 3, 1999.

Applicants subject to any of the causes of incompatibility set forth in the Code of Conduct of the University cannot participate in the public competition.

The following candidates cannot participate in the public competition either:

- those who had contracts as research grant holders, in accordance with Art. 22 of Law 240 of December 30, 2010, for a period which, added to the expected duration of the contract announced, exceeds four years on the whole, with the exclusion of the period in which the grant was enjoyed while doing a PhD without scholarship, to the maximum extent of the legal duration of the corresponding programme;
- those who had contracts as research grant holders/fixed-term researchers, in accordance with Articles 22 and 24 of Law 240 of December 30, 2010, with the University or the bodies referred to in the first line of the following paragraph, for a period that, added to the expected duration of the contract announced, exceeds twelve years on the whole, even if not on a continuing basis. For the purposes of the duration of the aforementioned relations, the periods spent on maternity leave or on health leave are not considered according to current legislation.

The following positions are incompatible with the awarding of contracts:

- permanent staff of universities, institutions and public research and experimental bodies, of the National Agency for New Technologies, Energy and Sustainable Economic Development (ENEA) and the Italian Space Agency (ASI), and of institutions whose degree of scientific specialisation is recognised as equivalent to the qualification of Doctor of Philosophy, in accordance with Art. 74, fourth Paragraph, of Presidential Decree 382 of July 11, 1980;
- holders of scholarships awarded for any purpose, with the exception of those awarded by national or foreign institutions with the aim of integrating research activity with stays abroad;
- students enrolled in university programmes, Master's degree programmes, Postgraduate programmes, or doctoral programmes with scholarship or medical specialisations, in Italy or abroad.

Exclusion due to lack of admission requirements shall be ruled by Rector's justified provision.

Art. 3 Submission of application

Applicants must submit documented application on unstamped paper, as indicated in **Annex A**.

A signed copy of the application form must be delivered:

- sent by registered mail, or express mail, with return receipt to the following address: Università Cattolica del Sacro Cuore, Servizio personale docente e tecnico amministrativo (Ufficio Amministrazione Concorsi) - Largo Gemelli, 1 - 20123 Milano, **by march 9, 2022**. Receipt of applications shall be validated by post office date stamp
- sent by certified mail at risorse.umane@pec.ucsc.it **by march, 9 2022**.

This public announcement is published on the official notice board of Università Cattolica del Sacro Cuore, on the MIUR website at <http://bandi.miur.it>, and on the website of Università Cattolica del Sacro Cuore at <http://progetti.unicatt.it/progetti-ateneo-milano-brescia-piacenza-e-cremona-assegni-di-ricerca-legge-240-2010-art-22#content>

Art. 4 Contents of the application

In the application form, candidates shall precisely indicate:

- 1) surname and name;
- 2) place and date of birth;
- 3) fiscal code (the University shall determine the fiscal code of foreign candidates that cannot indicate it);
- 4) place of residence;
- 5) citizenship;
- 6) for Italian citizens: registration in the electoral roll stating the municipality of registration, otherwise, the reasons for non-registration or cancellation; for non-Italian citizens: declaration of the enjoyment of civil and political rights in their country of belonging or origin;
- 7) to have no criminal record; otherwise, any convictions (specifying the details of the relative sentences) and any pending criminal proceedings;
- 8) to have been neither dismissed from employment at any Public Administration due to persistent poor performance, nor declared no longer entitled to public employment in accordance with Art. 127, Letter d) of Presidential Decree 3 of January 10, 1957, and subsequent modifications and integrations;
- 9) not to be subject to any of the causes of incompatibility referred to in Art. 2 of the public announcement;
- 10) not to be subject to any of the causes of incompatibility set forth in the Code of Conduct of the University;
- 11) the competition of application (specifying Faculty, scientific-disciplinary sector and

research project presented relative to the topics covered by the public announcement (**only for grants referred to in Art. 1, Letter**)).

In the application form, candidates may elect a special domicile for communications from the University Administration. Any changes in the above-stated domicile must be promptly notified to Servizio personale docente e tecnico amministrativo (Ufficio Amministrazione Concorsi) of Università Cattolica del Sacro Cuore - Largo Gemelli, 1 - 20123 Milano.

Candidates with recognised disabilities must specify in their application the aid required in relation to their disability and (if any) the need for additional time for test completion in accordance with Law 104 of February 5, 1992.

The University Administration shall not be responsible for unavailability of applicants and loss of communications due to incorrect contact information provided by applicants or to absent or delayed notification of any changes in the address indicated in the application form.

The University Administration shall not be responsible for any failed or late delivery of communications concerning the selection procedure due to reasons not attributable to the Administration itself, but to postal or telegraph service errors, third parties, unforeseeable circumstances or force majeure.

Art. 5

Attachments to the application form

The application must include:

- scientific and professional *curriculum*, and list of publications if any;
- qualifications and publications (if any) that candidates wish to present for evaluation;
- **research project** relative to the topic covered by the public announcement (**only for grants referred to in Art. 1, Letter A**)
- photocopy of an identification document;
- photocopy of fiscal code.

Candidates with Italian or EU citizenship may submit qualifications in original or certified copy; otherwise, where allowed by Articles 46 and 47 of Presidential Decree 445 of December 28, 2000, by substitutive declarations of certification or substitutive declarations of affidavit attesting conformity of the copies on unstamped paper to the original.

Non-EU citizens legally residing in Italy may use the substitutive declarations referred

to in the above mentioned Articles 46 and 47 as limited to personal qualities and status and to facts certifiable or attestable by Italian public bodies.

Non-EU citizens authorised to stay in Italy may use the substitutive declarations referred to in the above mentioned Articles 46 and 47 in those cases in which they are submitted under the application of international conventions between Italy and the country of origin of the registrant.

In the remaining cases, non-EU citizens shall document personal qualities and status and facts through certificates or statements issued by the competent authority of the foreign State.

Certificates and statements referred to in the preceding paragraph written in a foreign language must be accompanied by a translation into Italian certified by the Italian consular authority, stating that it conforms to the original.

The Administration reserves the right to carry out appropriate checks on the veracity of the contents of the substitutive declarations.

Documents, qualifications and publications already submitted to the University may not be referred back to.

Art. 6 Examination Panel

The Examination Panel is appointed by the Rector. It consists of three members:

- a teacher, selected by the Faculty Board of the Faculty concerned, and two (associate or full) professors selected respectively by
 - the Dean of the Faculty concerned;
 - the Director of the Department/Institute at which research activity shall be conducted

Art. 7 Evaluation of candidates

The selection procedure evaluates candidates' submitted qualifications, and includes an interview.

The Examination Panel evaluates candidates on a one-hundred-point scale; available points are to be assigned as follows:

- a) **for research grants referred to in Art. 1, Letter A)**, max. sixty points for qualifications and research project; max. forty points for the interview;
- b) **for research grants referred to in Art. 1, Letter B)**, at least forty points for qualifications; the remaining points for the interview.

In its first meeting, the Examination Panel determines the criteria for candidates' evaluation complying with the provisions of the public announcement and what follows below.

The Examination Panel may also set a minimum score for admission to the interview.

In compliance with the above indicated criteria, published at <http://milano.unicatt.it/concorsi-assegni-di-ricerca-legge-240-2010-art-22>, the Examination Panel evaluates each candidate's

- scientific and professional *curriculum*;
- qualifications and publications submitted, and their pertinence to the scientific-disciplinary area and/or scientific-disciplinary sectors covered by the public announcement;
- research project relative to the topic covered by the public announcement, only for grants referred to in Art. 1, Letter A of this public announcement.

If the date of the interview is not specified in this public announcement, candidates are summoned for interview by registered mail with return receipt not less than twenty days prior to the scheduled date for their interview on the scientific activity conducted.

Under the same terms outlined in the preceding paragraph, candidates who have not reached the minimum score required by the public announcement are given notice of non-admission to the interview.

During the interview, knowledge of the language or languages required (if any) is also ascertained; foreign candidates' (at the least) instrumental knowledge of Italian, if required, is ascertained.

At the end of its activity, the Examination Panel compiles a ranking based on the sum of the scores obtained by each candidate in the evaluation of qualifications and the interview. In the case of a tie, the younger candidate prevails.

The Examination Panel's files consist of the minutes of each meeting.

The files of the evaluation procedure are approved by Rector's decree.

Art. 8 Conferment

For the purposes of the awarding of the research grant, the Ecclesiastical Assistant General verifies, through a dedicated interview, the adherence of the first candidate in the ranking to the guiding principles of the University.

The grant is awarded by the Rector through the stipulation of a specific contract.

In case of non-acceptance, the grant is awarded to the following candidate in the ranking.

Art. 9
Obligations

Grant holders are required to conduct a research programme or a phase thereof under the guidance of a tutor.

Grant holders are also required to comply with the guiding principles of the University Statute and the Code of Conduct of the University.

Grant holders shall not:

- have other employment contracts;
- engage in self-employed activity, project-related or freelance;
- carry out occasional work that, upon the opinion of the tutor, has not been authorised in advance and communicated to the Dean of the Faculty concerned by the Director of the Department / Institute at which the grant recipient conducts research activity.

Grant holders operate at their tutor's facility of belonging, or at the facility specified in the public announcement (if any), making use of the equipment and services available. Subject to the approval of the tutor, research activity may be conducted at other University facilities or at qualified Italian and foreign research facilities.

Art. 10
Assessment of conducted activity

Within 60 days from the end of each year of activity, the tutor shall submit the Board of the Department / Institute at which the grant holder is carrying out research activity a report containing a detailed and justified assessment of the results of activity conducted.

Upon this occasion, in the case of grant expiration, the tutor may propose its renewal.

Art. 11
Grant renewal

Within 30 days before the date of grant expiration, the Board of the Faculty concerned, on the basis of the tutor's report and the opinion of the Board of the Department / Institute, approves its renewal, if any.

Research grants shall not be renewed for less than a year.

Art. 12
Economic conditions

The annual gross amount of the grants is determined by resolution of the Board of Directors, on the basis of the minimum amount established by Ministerial Decree.

Grants are paid out monthly, and for the predetermined amount after the cost of the appropriate compulsory personal insurance policy stipulated by the University against

accidents that may occur during presence at the University venues.

The grants are exempt from *IRPEF* (income tax) in accordance with applicable law, and subject, for what concerns social security, to the laws in force.

Art. 13

Contract termination

The grant is withdrawn and the related contractual relation is terminated before expiration by Rector's decree:

- in cases of non-observance of the obligations referred to in Article 9;
- in case there arises any of the reasons for inadmissibility referred to in Article 2;
- in the event of negative assessment of activity conducted.

Subject to attested notification to the person concerned, the Rector's decree is issued upon the resolution of the Board of the Faculty on proposal of the tutor or Dean, and after consultation with the Board of the Department / Institute at which the grant holder carries out research activity.

Art. 14

Patenting

Any realisation, during the activity, of an innovation, on the part of the holders of the contracts referred to in the norms, that may be patentable is governed in accordance with current legislation and regulations adopted by Università Cattolica.

Art. 15

Transitory norms

With their consent, grant holders may be assigned integrative and curricular didactic activities. These activities are assigned by the Faculty concerned, subject to the approval of the Director of the Department / Institute at which the grant holder carries out research activity. The integrative and curricular didactic activities assigned shall not exceed 30 hours per year, and are covered by the grant emoluments.

The conferment of grants does not constitute any form of employment nor awards rights of access to university positions.

To grants awarded prior to the entry into force of the Norms on the conferment and discipline of research grants in accordance with Art. 22 of Law 240 of December 30, 2010 continue to apply the laws and regulations in force at the time of their conferment.

Art. 16

Responsibility for procedure

The person in charge of the procedure of this public announcement, in accordance with Articles 4, 5 and 6 of Law 241 of August 7, 1990, is Dr. Federico Liotta - Servizio personale docente e tecnico amministrativo (Ufficio amministrazione concorsi) - Largo A. Gemelli, 1 - 20123 MILANO (phone no. 02/7234.3813 – fax no. 02/7234.2972 – email address: uff.concorsi@unicatt.it).

Art. 17
Final provisions

For any matters not covered by this public announcement, the current university legislation applies as compatible.

Milano, february, 7 2022

IL RETTORE
(Prof. Franco Anelli)