THE RECTOR

ON PROPOSAL of the Research Sector - Doctoral and Research Grant Office;

GIVEN the Statute of the Università degli Studi di Cassino e del Lazio Meridionale issued by D.R. n. 661 of July 26, 2018;

GIVEN the Law n. 240 of December 30, 2010 on “Norme in materia di organizzazione delle Università, di personale accademico e reclutamento, nonché delega al Governo per incentivare la qualità e l'efficienza del sistema universitario” and in particular the Art. 22 on “Assegni di ricerca” (Research grants, in the following);

GIVEN the D.M. n. 102 of March 09, 2011, setting the minimum annual gross remuneration of a Research grant at € 19.367.00, net of the expenses charged to this Administration;

GIVEN the D.R. n. 267 of June 07, 2011, issuing the current Regulations for the assignment of Research grants, modified by D.R. n. 883 of December 02, 2019;

GIVEN the resolutions of the Academic Senate and of the Administrative Committee of November 17, 2021 and November 24, 2021 respectively that approve the activation of one Research grant at the Dipartimento di Ingegneria Elettrica e dell'Informazione, of duration to be determined according to the available resources, titled “Development of control algorithms for mobile manipulators aimed at precision and collaborative agriculture applications” - SSD ING-INF/04 (Automatica), under the scientific responsibility of Prof. Alessandro Marino;

CONSIDERED that the sum needed to finance the grant, amounting to € 26000.00 gross income, will burden funds of the project CANOPIES for which is responsible Prof. Alessandro Marino (commitment n. 3459/2021 for an amount of € 21169,12 and n. 3460/2021 of € 4830,88) - CUP: F89C20000530006

DECREES

Art. 1 - Positions available

A public selective procedure based on qualifications and interview is held at the Università di Cassino e del Lazio Meridionale for the assignment of one Research grant at the Dipartimento di Ingegneria Elettrica e dell'Informazione, indicated in the Annex A, which is an integral part of this Call.

Art. 2 - Eligibility requirements

To be admitted to the selective procedure, without any limitation of age and citizenship, an applicant must have earned one of the following:

- laurea degree obtained in Italy under the regulations in effect before the reform of the university teaching autonomy;
- laurea magistrale degree or laurea specialistica degree obtained in Italy;
- an equivalent university degree obtained abroad.

The equivalence of the bachelor's degree and any other qualifications obtained abroad that have
not already been recognized in Italy under current legislation is assessed, for the sole purpose of admission to selection, by the Commission of selection referred to in Article 7.

Holding a Ph.D. title is a preferential qualification to the grant assignment.

Permanent staff of Italian Universities, of Astronomical or Astrophysical or Vesuvian Observatories, of public Research Bodies, of ENEA, of ASI, of the National Agency for the New Technologies and, in any case, of the Bodies listed at Art. 22, paragraph 1, of L. 240/2010 cannot be Research grant holders, and thus are automatically excluded from the selective procedure.

According to Art. 18, paragraph 1, lett. b) and c) of L. 240/2010, Research grants cannot be assigned to applicants being relative or in-law, up to the forth degree of kinship included, to the tenure professors of the Department or of the organization where the research is carried out, or to the Rector, or to the General Director, or to a Member of the Administrative Committee. Fulfillment of this condition must be explicitly stated in the application to the selective procedure.

The requirements mentioned above need to hold at the deadline for the application submission fixed in this Call.

Applicants are admitted to the selection procedure with reservation.

The Administration has the right, with justified disposition, to exclude in any moment applicants missing the needed requirements.

Art. 3 - Application and submission deadline

The application to compete in the public selective procedure, which acts also as self-certification provided according to D.P.R. 445/2000, is to be written in Italian or in English, following the form given in the Annex B attached to this Call; it must be addressed to the Magnifico Rettore dell’Università degli Studi di Cassino e del Lazio Meridionale - Ufficio Dottorati ed Assegni di Ricerca - Campus Folcara - Viale dell’Università - 03043 Cassino, and needs to be mailed to this address, or sent by certified-mail at the address protocollo@pec.unicas.it, or delivered in person to the Ufficio Protocollo of the University, within 30 days, on penalty of exclusion, starting from the publication date of this Call on the Albo Ufficiale (Official Board) of the University. The Call will be also advertised in the Official Board of the interested scientific structures of the University and made accessible via telematic ways on the web sites of the University, of the Ministry and of the European Union.

For compliance with the deadline, it must be considered:
- in case of mailing: the stamp of the Post Office from which the application is sent;
- in case of sending by certified e-mail: the date the email is sent;
- in case of delivery in person: the stamp of the Ufficio Protocollo of the University of Cassino e del Lazio Meridionale.

It is not necessary to authenticate the signature at the foot of the application, however, on penalty of exclusion, a photocopy of a valid Identification document needs to be attached to the application itself.

The Administration is not responsible for the missing delivery of communications due to a wrong address given by the applicant, neither to a missing or delayed communication of changes in the address specified in the application, neither to postal or telegraphic misdelivery.

Art. 4 - Qualifications and curriculum

The application must be completed with the following attachments:

a) Laurea degree certificate, with indication of the scores achieved in the individual exams and
in the laurea examination;
b) documents and qualifications considered useful to the end of the selection (publications, Ph.D., specialization certificates, certificate of attendance to post-laurea specialization courses, obtained in Italy or abroad, scholarships or research assignments carried out in Italy or abroad, laurea degree thesis, etc. either in original or in suitably authenticated copy, recommendation letters);
c) curriculum of the scientific and professional activity;
d) photocopy of a valid identification document;
e) photocopy of the fiscal code, or equivalent for foreign applicants.

The qualifications must be coherent with the scientific/education sector specified in the Annex A.

In lieu of the certificates related to the above items a), b) and c), the applicant may attach a self-certification given according to Art. 46 and 76 of D.P.R. 445 of December 28, 2000.

With reference to the publications deemed useful for the purposes of the selection procedure in question, the candidate must also attach a specific certificate, according to D.P.R. n. 445/2000, which certifies its conformity with the original.

Art. 5 - Selective procedure

The selective procedure is based on qualifications and interview.

The Committee, as defined in the following Art. 7, in the first meeting specifies the criteria and modality of evaluation of the qualifications and of the interview. Next, the Committee evaluates the curricula and the attached documents, with specific attention to the scientific production of the applicant.

The qualifications are evaluated before starting the interviews.

In any case, with specific reference to coherence with the scientific area chosen by the applicant, subject of evaluation are:
- the Ph.D. title and the achievement of scholarships aimed to research activities;
- specialization certificates and certificates of attendance to post-laurea specialization courses, obtained in Italy or abroad;
- proven research activity carried out at public or private Bodies under contracts, scholarships and assignments, both in Italy and abroad;
- a scientific and professional curriculum focused on the experience in research activity;
- scientific publications of original and relevant scientific content.

The interview will deal on the overall curriculum of the applicant and on the subjects specified in Annex A, and will be aimed at assessing his eligibility to develop the research activity.

Art. 6 - Schedule of the examinations

The interviews will be held on January 31, 2022 at 3:30 pm, at the Department of Electrical and Information Engineering, via G. Di Biasio - Cassino (FR)
Candidates not excluded from the valid procedure present themselves, without further notice, at the office indicated above, with a document.

At the disposal of the University, the interviews can be carried out electronically. In this case, a communication will be sent to the candidates.

Art. 7- Evaluation Committee
The Evaluation Committee is appointed by a decree of the Rector, and is composed by staff professors and researchers who represent the relevant scientific areas.

The Committee may include the Responsible of the research project. If it doesn't bear additional costs to the Administration, the Committee may resort to expert referees of high qualification, Italian or foreign, external to the University.

The Committee elects among its members a President and a Secretary.

Art. 8 - Ranking

At the end of the examinations and following a comparative evaluation among the eligible candidates, the Committee writes the minutes that indicate the person awarded of Research grant, with a resolution taken by majority vote.

The Rector, by a decree, verifies within 30 days from delivery of the minutes the validity of the proceedings and appoints the winner of the selective procedure.

The results of the selective procedure are published on the web page of the University.

Art. 9 - Awarding and starting date

The awarding of the Research grant is formalized by a contract between the Università degli Studi di Cassino e del Lazio Meridionale and the winner of the grant, which specifies the collaboration to the research activity.

Art. 10 - Amount of the Research grant and terms of payment

The gross amount of the Research grant is € 26000,00 including all the expenses to be charged to the Administration.

The grant will be paid in equal-amount monthly rates.

Art. 11 – Obligations and rights

The Research grant cannot be cumulated to other scholarships whatever the reason of the award, except those of national or foreign institutions aimed to supplement with a stay abroad the research activity of the title of the grant.

The Research grant holder cannot be enrolled to laurea degree, laurea magistrale degree or laurea specialistica degree, master, granted Ph.D. or medical specialization courses, in Italy or abroad.

In case of withdrawal, the Research grant holder must communicate it to the Administration with at least a three-month notice.

A Research grant holder being permanent staff of a public Administration goes in leave without pay.


Art. 12 - Development of the activity and assessment

The activity of the Research grant holder is carried out autonomously and without prefixed working hours, in the sole limit of the research program and of the directions given by the
Responsible of the research itself. The latter is obliged to duly communicate to the Department and to the competent administrative offices any possible contract breach of the Research grant holder, even aimed to the suspension of the grant payment, unless severity of the breach demands for rescission of the contract.

**Art. 13 - Reference regulations**

What is not explicitly specified in the present Call undergoes the regulations published with D.R. n. 267 of June 07, 2011 and modified with D.R. n. 883 of December 02, 2019.

This decree is collected within the internal official repository of the University.

Cassino, December 16, 2021

*THE RECTOR*  
*(Prof. Marco DELL’ISOLA)*

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The responsible of the Sector  
Dr Carla Manzo
n. 1 research assistant - 12 months

**Venue of the research activity:** Department of Electrical and Information Engineering “Maurizio Scarano”

**Disciplinary scientific sector:** ING-INF/04 (Automatica)

**Research title:** Development of control algorithms for mobile manipulators aimed at precision and collaborative agriculture applications

**Research objectives:**
The research activity is aimed at the development of control algorithms for mobile manipulation systems in precision agriculture and human-robot collaborative contexts. In particular, the activity will concern the development, implementation and experimental validation, in the context of precision agriculture, of motion and force control algorithms of mobile redundant systems consisting of a sensorized mobile base and manipulator arms in presence of human operators. The developed algorithms must be able to manage the characteristics of the application context of the European project CANOPIES represented by grape pergolas vineyards.
The equipment and tools provided by the DIEI LAI laboratory will be used for carrying out the research activity. The latter will require experiments in the experimental field of Aprilia (LT) and may be developed in collaborations with other Italian and foreign research groups, possibly requiring research periods at their sites.

**Requirements:** As per Article 4 of the University Research Grant Regulations

**Assessable qualifications:** As per Article 7 of the University Research Grant Regulations

**Program of the interview:**
The oral interview will be aimed at assessing the candidate's skills on general topics related to robotics, redundant robotic systems, mobile robotics, interaction control, C/C++ and Matlab programming. Finally, computer skills on Linux O.S., knowledge of the ROS development system, proven experience in experimental activity and a good knowledge of the English language are required.

**Tutor:** Prof. Alessandro Marino