



UNIVERSITÀ DEGLI STUDI DI PALERMO

PUBLIC SELECTION FOR A RESEARCH FELLOWSHIP GRANT – TYPE B TO COOPERATE WITH A RESEARCH PROGRAMME WITH SPECIFIC FUNDING (LAW 30 DECEMBER 2010, N. 240, ART.22)

THE RECTOR

Having regard to the Law 9 May 1989, n. 168;

Having regard to the Law 30 December 2010, N. 240, Art.22 “Assegni di ricerca”;

Having regard to the Decree of the Minister of Education, University and Research of 9 March 2011, n. 102, setting the minimum amount of research fellowship grants;

Having regard to the article 15 of the Law n. 183 of 11 November 2011, defining the rules of certifications and replacement statements, and the prohibition of introducing in the implementation of European Union directives additional obligations compared to those provided for by the directives themselves;

Having regard to the Rules for the awarding of research fellowship grants, issued with Rector’s Decree n. 3136 of 09/11/2018;

Having regard to the request received on 01/07/2020, protocol n. 53126, with which the Director of the Department of Fisica e Chimica “Emilio Segrè” has requested the activation of n. 1 Type B research fellowship grant, lasting 12 months, with Scientific Director Prof. Gioacchino Massimo Palma , within the PRIN 2017 “Taming complexity with quantum strategies: a hybrid integrated photonics approach” project, amount € 25.000,00;

Having regard to the resolution of the Board of the above mentioned Department of 29/06/2020 and the Decree of the above mentioned Department Director sent on 21/07/2020, concerning the request for activation of the research fellowship grant: “*Machine Learning of quantum systems*”, to be carried out at the Department of Fisica e Chimica “Emilio Segrè”;

CONSIDERED that the funding allocated for the project U-GOV Code PRJ-0277 was regularly entered in the E.C. budget 2020 of the Department;

HAVING REGARD to the declaration of allocation of the above mentioned budget covering the research fellowship grant, sent by the Administrative official of the Department above-mentioned on 02/07/2020;



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DECREES

Art. 1 - Duration and amount of the research grant

A public selection procedure is called, based on qualifications and interview, for the assignment of n. 1 research fellowship grant for collaboration in research activities (Type B) as specified below:

- Scientific -disciplinary area: 02
- Scientific-disciplinary sector: FIS/03

- Department of Fisica e Chimica “Emilio Segrè”

- Scientific Director: Prof. Gioacchino Massimo Palma

- Title: *Machine Learning of quantum system*

- Description:

The complexity of quantum information processing is due to the exponential spreading of quantum information through the multipartite components of the quantum hardware. Very recently there has been an intense activity in trying to define how information is distributed in many-body quantum systems. This phenomenon, known as scrambling, has been shown to be intimately related to the emergence of chaos in the quantum realm. Originally developed for traditional many-body systems (interacting fermions/spins), the techniques developed to characterise the emergence of quantum chaos will be used to assess the complexity of boson sampling and its scatter-shot version, thus bridging between two apparently different areas of research. A similar approach will be used to characterize the quantum information backflow typical of nonMarkovian dynamics. Such backflow, which is a signature of the emergence of memory effects, appears either when the quantum hardware is coupled with a structured environment or when the attention is focussed on part of the quantum hardware, tracing out the degrees of freedom of the remaining parts.

Duration: 12 months

Project Funds: PRIN 2017 “Taming complexity with quantum strategies: a hybrid integrated photonics approach” project - U-GOV Code PRJ-0277

CUP: B78D19000230005

The total gross amount for 12 months is equal to € 25.000,00 including the charges borne by the Administration and will be paid to the beneficiary in deferred monthly instalments.



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The Administration guarantees equality and equal opportunities for men and women for the assignment of the grant in question in accordance with the law of 10 April 1991 n. 125 and subsequent modifications.

Art. 2 - General admission requirements

The holders of an Italian Degree obtained under the previous system (before Ministerial Decree 509/99) of an Italian Master's Degree, of a single-cycle Degree or equivalent qualifications issued by foreign countries, who are in possession of a professional scientific curriculum suitable for carrying out research activities as for Art.1 may apply for the public selection for the assignment of the allowance in question.

Italian citizens who are excluded from the active political electorate cannot be admitted to the selection procedure.

Citizens of EU Member States and non-EU countries must also possess the following requisites:

- enjoy full civil and political rights in the states of belonging or provenance;
- be in possession, with the exception of the ownership of Italian citizenship, of all other requisites envisaged for Italian citizens;
- have adequate knowledge of the Italian language;
- have a working knowledge of the English language

Applicants must possess the prescribed requirements on the date of expiry of the deadline for the submission of the application for admission.

The University administration may at any time, with a motivated provision, decide the exclusion from the selection procedure due to the lack of the prescribed requirements.

Art. 3 - Application and deadline

The application for admission to the selection procedure, drawn up in free paper according to the form attached to the notice (Annex 1, downloadable from the following link: <http://www.unipa.it/amministrazione/direzione generale/serviziospecialericercadiateneo/u.o.assegnidiricerca/struttura/modulistica.html> - **ALLEGATI DOMANDA ASSEGNI TIPOLOGIA B**), signed by the candidate, scanned and accompanied by the documentation deemed useful for the purposes of the assessment (in PDF format), should be addressed to the Servizio Speciale Ricerca di Ateneo, U.O. Assegni di Ricerca, University of Palermo, Piazza Marina n. 61 - 90133 Palermo and forwarded, no later than thirty days from the date of posting of this notice to the University notice board, by electronic means (by midnight of the thirtieth day), by personal PEC at the address: pec@cert.unipa.it.

The application form and the attached documents must be contained in a single PEC. For reasons related to the management of the certified e-mail box, the files to be sent attached to the PEC must have a maximum overall size of 30 MB. For publications, candidates can, instead of attaching the digital copy, indicate the link through which the Commission can view it.



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The Administration is exempt from any responsibility for the non-receipt of the PEC sent by the candidates dependent on technical errors and / or causes not attributable to the same.

The obligation to sign by hand is considered fulfilled by attaching a copy of a valid identity document to the scan of the completed application and signed by the PEC holder.

For subjects belonging to the Member States of the European Union and non-EU countries, the application for admission to the selective procedure, signed with a digital signature and scanned, as well as the relative documentation requested (in PDF format) can be sent electronically from an address of ordinary e-mail by sending an e-mail to the following address: mail-protocollo@unipa.it. If it is not possible to sign with a digital signature, the obligation of handwritten signing, is considered fulfilled with validation of the application and declarations by handwritten signature before the interview.

In both of the cases described above, it is necessary to specify in the subject of the e-mail the following: "Public selective procedure for the assignment of a research grant, Scientific Responsible Prof. Giacchino Massimo Palma".

For the participation in the competition candidates are required, under penalty of exclusion, to pay within the deadline for submission of the application, a contribution for organizational costs in the amount of € 50.00. This contribution must be paid by bank transfer to c/c n. 000300004577 registered to the University of Palermo - Via Roma, 185 - 90133 Palermo - identification code of the treasury of the University of Palermo 9150300 - UniCredit S.p.A. - IBAN code IT09A0200804682000300004577 - SWIFT code: UNCRITMMPAE indicating in the reason for payment: "Contributo per la partecipazione alla procedura selettiva pubblica per l'attribuzione dell'assegno di ricerca di cui è responsabile Scientifico del progetto il Prof. Giacchino Massimo Palma".

Copy of the bank transfer must be attached to the application.

In the application the candidates must indicate the selection call for which they intend to apply, the area and the scientific disciplinary sector (SSD) of reference of the research, the Department, the title of the research and the scientific director of the project; they must also declare under their own responsibility what is specified below:

- surname and name;
- place and date of birth;
- mailing address;
- residence;
- telephone number, e-mail box, social security number (or tax code, if any);
- citizenship;
- municipality on whose electoral lists they are registered, or the reasons for non-registration or cancellation from the same lists;
- to have no criminal convictions or to have ongoing criminal proceedings. In the opposite case, they must indicate the penal convictions reported or the criminal proceedings in progress, specifying whether amnesty, judicial pardon, pardon, etc. have been granted.
- degree held with the indication of the final mark and the date and the University in which it was awarded (candidates with a qualification obtained abroad that has not been declared equivalent, must expressly request a declaration of correspondence, only for the participation in the selection



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and attach the documents required by current legislation to enable the aforementioned declaration in question by the selection Committee);

- PhD title (if they hold one) or, for specific sectors, Medical Graduate School degree, with indication of the date of achievement and of the issuing University. Candidates with a PhD qualification obtained abroad must send together with the application form the qualifications with certified Italian translation and legalization by the authorities of the Country issuing the title (except in the case of exemption under international agreements and conventions) Each qualification must also be accompanied by the "Declaration of value" ("Dichiarazione di valore") issued by the Italian diplomatic representation in the Country where the qualification was obtained. Where the title has been declared equivalent, the candidate must attach the relevant documentation);
- attendance, if any, of second-level masters courses, post-graduate specialization courses obtained both in Italy and abroad, attendance of high- specialization schools, organization of scientific meetings, periods spent at Italian and foreign scientific institutions;
- e-mail address, to which the communications relating to this selective procedure are to be transmitted;
- enjoyment of civil and political rights in the Country of origin or provenance, or reasons for exclusion from them (for EU citizens and non-EU citizens);
- adequate knowledge of the Italian language (for EU citizens and non-EU citizens);
- knowledge of english language (certified by certificate of level B1 or verified during the interview)
- non-existence of incompatibility pursuant to art. 11 of this announcement (otherwise the type of incompatibility must be indicated);
- to have or not have benefited from previous research fellowship grants pursuant to art. 22 of the law 240/2010;
- to have or not to have already been the holder of fixed-term research contracts (if any) pursuant to art. 24 of Law 240/2010.

The qualifications submitted for evaluation must be sent in certified copy or accompanied by a replacement statement, pursuant to article 46 or of a declaration pursuant to article 47 of the aforementioned decree.

The data and documents held by the University of Palermo may be acquired *ex officio* if the candidate indicates the indispensable elements for obtaining the information or data requested. Candidates who hold only the degree must, on pain of exclusion from the competition, submit the documentation necessary to demonstrate they possess a scientific professional curriculum suitable for carrying out the research activity of this announcement.

Disabled candidates, according to the law of 5 February 1992, n. 104, will have to make explicit request, in relation to their handicap, with regard to the aid necessary to be able to sustain the interview.

The University administration assumes no responsibility for the dispersal of communications due to incorrect indication of the contact by the candidate or failure or late communication of the change of address and contact indicated in the application, nor for any errors not attributable to the administration itself.

Unsigned Applications or applications sent after the deadline will be declared ineligible.



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Art. 4 – Selection Committee

No later than 15 days from the deadline for submission of applications, the Board of the Department Council or the Board of the field office proposes the names of the members of the Selection Committee, (three full members and an alternate one), chosen among the professors or researchers (tenured or not tenured) of the University of Palermo belonging to the CUN area of research, including the Scientific Director of the project entitled to funding, with the role of President.

The Selection Committee, appointed by decree of the Rector, in the first meeting takes note of the list of candidates and declares that the commissioners are not in a relationship of kinship or affinity up to the fourth degree included, among them and with the candidates and that therefore there are not the causes of abstention referred to in articles. 51 and 52 of the Civil Procedural Code. Afterwards, the Committee sets explicit criteria and methods for evaluating qualifications and conducting the interview. Then it proceeds to the evaluation of the qualifications and the attribution of the relevant score, which is communicated to the candidates before the date of the interview.

The Committee must complete the work within a maximum period of 60 days from receipt of the candidates' applications; it performs a comparative evaluation of the candidates based on the examination of the qualifications submitted by the same and an interview and draws up appropriate minutes according to the current selection regulations.

The judgment of the Commission is unquestionable on the merits.

Art.5 - Selection

The selection is carried out through the evaluation of academic qualification and interview. Up to 70 points may be awarded to qualifications and up to 30 points to the interview. To be admitted to the interview, candidates must achieve at least 40 points out of 70 points for the qualifications. The interview is considered passed by candidates who have achieved at least 10 out of 30 available points.

Art.6 - Evaluation

The Committee will attribute the evaluation, expressed out of 100, according to the following criteria:

Titles

- up to 60 points for documented scientific activity according to the Unipa procedures for determining the status of active University researcher; theses and doctoral theses are excluded;
- up to 10 points for other qualifications (second level University master courses, post-graduate specialization courses obtained both in Italy and abroad, attendance of higher education institutions, organization of scientific meetings, periods spent at Italian and foreign scientific institutions).



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Interview

Up to 30 points might be awarded for the interview, based on the discussion of the candidate's scientific production and aiming at ascertaining the level of scientific knowledge with respect to the research program of the research fellowship grant as well as the knowledge of the foreign language (for candidates who do not hold the level B1 certificate).

Art.7 Interview and ranking

The place, date and time of the interview will be communicated at least 20 days before in the most appropriate manner to the candidates who, at the time of submission of the application do not enclose a declaration attesting to waive the legal terms of notice. Candidates must bring at the interview a valid identification document.

At the end of each interview session, the Committee will exhibit at the examination site the list of the examined candidates with the indication of the mark awarded to each one.

The interview will be public.

The Committee will post up the ranking of merit in descending order, adding the score of the qualifications to that of the interview.

The PhD, or a Medical Graduate School degree, for specific sectors, accompanied by appropriate scientific production, will be considered an advantage for the attribution of the research fellowship grant.

With equal merit, the candidate with a minor age will be preferred.

The Committee will complete its work and transmit the minutes, signed by each member, and all the relevant documents to the Servizio Speciale Ricerca di Ateneo - UO "Assegni di Ricerca" for further requirements.

The selection proceedings and the relative ranking of merit will be approved by decree of the Rector, and will be published, for a period of thirty days, on the official board of the University of Palermo.

Art.8 (Stipulation of the contract)

The research grant is established following the stipulation with the University of Palermo of an intellectual work contract pursuant to articles 2222 and following of the Civil Code.

The contract may provide for possible penalties in case of non-compliance with contractual obligations.

The activity of the research fellow should not be considered, in any case, a subordinate employment activity. Grants do not give rise to rights regarding access to the staff roles of Italian universities.

The winner is required to present himself for the stipulation of the contract within fifteen days of the convocation.

Failure to comply with this term will result in the loss of the right to the research grant.

In the case of particular, justified and documented motivations, the stipulation of the contract may be postponed beyond fifteen days but, in any case, for a period not exceeding sixty days from the



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convocation date; the only exception consists in the possible requests for extension for pregnancy and puerperium, or serious and documented infirmity.

The winner or the holder of the grant can also obtain the postponement or suspension of the the grant for a period not exceeding one continuous year in the following cases:

a) for the mandatory year of training for teaching at schools on a motivated request, with the consent of the Scientific Responsible of the project and of the Department to which the research project relates (following the Academic Senate deliberation in the session of 30 October 2001)

b) for the activation of scholarships granted by national or foreign institutions permitted by current legislation

The winner of the research fellowship grant is required to self-certify any changes made to the points referred to in art. 3 of this announcement, before signing the contract.

Art. 9 (Service)

The winner is required to start the research activity the first day after the signature of the contract. The beginning of the activity is documented by the Director of the Department in which the person concerned must carry out his/her collaboration by sending a statement to the Servizio Speciale Ricerca di Ateneo – U.O.Assegni di Ricerca. For non-EU citizens the grant will start after obtaining the entry visa for scientific research and from the very beginning of the research activity.

Art. 10 (Activities and evaluation of the research fellows)

The methods and characteristics related to the research, in accordance with the aims of the project, will be established in the contract.

The holder of the research grant:

- carries out the research activities foreseen by the contract, previously declared by the Department Board compatible with its own research programs;
- may participate in university research groups and projects, regardless of the funding body;
- can take part in all the activities planned by the Department or by the field office for the promotion of research and the dissemination of results;
- can be part of the examination Boards, being already expert in the subject for the teachings of the scientific-disciplinary field of reference, at the request of the scientific tutor of the research fellow and after the presentation of the proposal drawn up in accordance with art.2 of the regulations for the appointment of scholars;
- can perform university teaching assignments conferred through contracts;
- may perform a limited supplementary teaching activity (maximum 20 hours per year) with authorization from the Tutor, if assigned by the Board of a Degree Course;

The Department or field office must provide the research fellow with the necessary support for the realization of the research program, guaranteeing access to the equipment, the necessary resources and the needed technical - administrative services.

The research fellow must carry out his/her research activity within the University facilities, according to the research program. Any research activity outside the University, provided that it is consistent with the research programs and objectives assigned to the grant holder, must be proposed by the Tutor and approved by the Board of the Department or of the field office.



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Any renewal of the research grant will be authorized, upon motivated request of Board of the Department or of the field office, by the University Board of Directors, after verification of the availability of funding for the same research activity and subject to the positive evaluation by the Scientific Director of the project of the research activity carried out by the research fellow, certifying the need for the continuation of the fellowship grant for the completion of the research. At the end of the period covered by the research fellowship grant, and in any case at the end of the research activity before the pre-established deadline, the research fellow must send to the Servizio Speciale Ricerca di Ateneo a report on the activity carried out, countersigned by the Tutor or the Scientific Director/Contact person, accompanied by the evaluation expressed by the Board of the Department or of the field office in relation to the objectives set and accompanied by the relevant scientific production.

Article 11 (prohibition of cumulation, incompatibility, interruptions)

The following categories cannot be holders of a research fellowship grant:

- a) the permanent employees of universities, institutions, public research and experimentation bodies, ENEA, ASI, as well as of institutions whose scientific advanced diploma has been recognized as equivalent to the Ph.D. qualification pursuant to article 74, fourth paragraph, of the Decree of the President of the Republic July 11, 1980, n. 382, unless termination of the relationship due to voluntary resignation in the case of attribution of the grant;
- b) those who have a degree of kinship or affinity, up to and including the fourth degree, with a professor belonging to the Department to whom the grant has been assigned or to the structure publishing the call or with the Rector, the General Manager or a member of the University Board of Directors.

The grant is individual.

The grant cannot be cumulated with any scholarships, with the exception of those granted by national or foreign institutions useful for integrating, with stays abroad, the research activity of the research fellows.

The holder of the grant cannot participate in 1st and 2nd cycle degree courses, university master courses, PhD courses with scholarship or medical graduate schools, in Italy or abroad; employees of public administration must put themselves on leave, before accepting the research fellowship grant.

Private employees, even if part-time ones, cannot benefit from research fellowship grants.

The holders of research fellowship grants cannot participate to university master courses.

Self-employment and occasional collaboration activities are compatible with the research grant only if previously authorized by the Board of the Department or of the field office, upon acquisition of the motivated opinion of the Tutor and provided that the further activity does not prejudice the regular conduct of the research activity.

The total duration of the research fellowship, including any renewal, cannot in any case exceed six years (DL 31.12.2014 n.192, converted into Law n.11 of 27.02.2015), excluding the period in which the fellowship coincided with a PhD course, within the maximum limit of the legal duration of the relevant course.

The total duration of the research fellowship or of non tenured university researcher contracts, also intervening with other public, private or distance-education universities, as well as with public



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research and experimentation bodies, ENEA and ASI it cannot in any case exceed twelve years even if non-continuous.

The periods spent on maternity leave or on leave for health reasons according to current legislation are not taken into account for the purposes of the duration of the aforementioned contracts.

The research activity and the grant can be suspended, provided that the duration of the fellowship cannot be reduced due to the following suspensions, for:

- mandatory maternity leave and parental leave;
- severe illness;

Art.12 (termination of the grant and voluntary resignation)

In cases of serious non-compliance, reported by the Board of the Department, the contract can be immediately terminated by resolution of the Academic Senate, after hearing the interested party.

The revocation is automatic in the following cases:

- failure to start the activity within the established term;
- unjustified suspension of the activity for a period longer than fifteen days;
- serious violation of the incompatibility regime;

In case of withdrawal from the contract, the holder of the grant is required to give thirty days' notice.

In the event of failure to give notice, the Administration will withhold or recover from the holder of the grant an amount corresponding to the remuneration for thirty days.

The winners of public selections that give rise to the placement in the roles of university personnel are not subject to the obligation of thirty days' notice.

Article 13 (Taxes, social security and insurance)

As established by art. 22 paragraph 6 of Law 240/2010, the provisions of art. 4 of the Law of 13 August 1984, n.476 and subsequent amendments and additions, as well as, in matters of social security, those pursuant to art. 2, paragraphs 26 and following, of the law of 8 August 1995, n. 335 and subsequent modifications do apply to research fellowship grants.

With respect to mandatory maternity leave for checks, the provisions of the Ministry of Labour and Social Welfare Decree of 12 July 2007, and, with regard to sick leave, article 1, paragraph 788, of the law of 27 December 2006, n. 296 and subsequent modifications are applied.

During the period of mandatory maternity leave, the indemnity paid by the INPS pursuant to article 5 of the aforementioned decree of 12 July 2007 is integrated by the University up to the total amount of the research fellowship grant.

The University provides to the holders of the research fellowship grant the insurance coverage for accidents and civil liability towards third parties in carrying out the research activity.

The amount of the relative premium is deducted from the grant.

Health care insurance is the responsibility of the researcher without any intervention by the University.

Art.14 - Substitutions



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In case of non-completion of the research fellowship period by the winner of the selection process, it will be possible to call the following in the ranking if the contract period still to be used is equal to or greater than 12 months, pursuant to the provisions of law 240/2010 which provides for a minimum duration of one year.

Art.15 (Return of documentation)

After three months from the approval of the selection proceedings, candidates can request, within six months, the return of the scientific works presented, except for any litigation in progress.

Art. 16 - Publicity of the selection procedure

The present announcement will be posted on the official board of the University of Palermo, (<http://www.unipa.it/albo.html>) and on the MIUR website (<http://bandi.miur.it>).

The announcement will also be accessible at the University of Palermo website at:

<http://www.unipa.it/amministrazione/direzionegenerale/serviziospecialericercadiateneo/u.o.assegnidiricerca/bandi>

Art.17 Processing of personal data

In application of EU Regulations 2016/679 the University undertakes to respect the confidential nature of the information provided by the candidate: "all data provided will be processed only for purposes related to and instrumental to the competition and to the possible stipulation and management of the contract with the University".

Art. 18 – Official in charge for the administrative procedure

Pursuant to the provisions of art. 5 of the law of 7 August 1990 n. 241 the official in charge for the selection proceedings referred to in this announcement is appointed in the person of Dott.ssa Stefania Crifasi - Head of the U.O. Assegni di Ricerca del Servizio Speciale Ricerca di Ateneo - email: stefania.crifasi@unipa.it.

Art. 19 Final provisions

For anything not provided for in this announcement, please refer to the Regulations and laws in force.

Palermo

THE RECTOR
Prof. Fabrizio Micari