

COMPETITION CODE: 18A030

**PUBLIC COMPETITION FOR ASSIGNMENT NO. 1 RESEARCH GRANT FOR COOPERATION IN RESEARCH ACTIVITIES IN THE FIELD OF PHYSICS (SDS FIS/02) ON THE TOPIC “IMPROVING SHOWER MONTE CARLO EVENT GENERATORS WITH MULTIPLE RESUMMATIONS IN SOFT-COLLINEAR EFFECTIVE THEORY (SCET)”, WITH A DURATION OF NO. 36 MONTHS, FOR A TOTAL AMOUNT OF € 141.000,00.**

### THE RECTOR

- CONSIDERING the Law no. 168 of May 9, 1989;
- CONSIDERING the Rector's Decree no. 0010332/15 of March 03, 2015, and further modifications, concerning the Statute of the University of Milano-Bicocca;
- CONSIDERING the Law no. 240 and further modifications, art. 22 of December 30, 2010 which provides for the assignment of research grants for cooperation in research activities, within the available budget;
- CONSIDERING the Rector's Decree no. 33525/2017 prot. 0044970/17 of July 19, 2017, concerning the regulation of Research Grant for cooperation in research activities;
- CONSIDERING the Ministerial Decree no. 102 of March 9, 2011, fixing the amount of the grant and the comparative assessment methods;
- CONSIDERING the University's Official Notice Board regulations, as per the Rector's Decree no.14405 of June 1, 2006, which guarantees the legal publication of any University documents;
- HAVING ACQUIRED the Board of Directors' decision taken in the 24 April 2007 meeting, regarding the authorization to the Rector to encumber on funds resulting from current research projects, when issuing competitions and actions aiming at allocating or at renewing research grants;
- HAVING ACQUIRED the Department/School Board's resolution taken in the **16/03/2018** meeting at the **Physics "G. Occhialini"** concerning the allocation of **no. 1 Research Grant**, under the supervision of the Scientific Responsible, **Prof. Simone Alioli**, on the research topic **“Improving shower Monte Carlo event generators with multiple resummations in soft-collinear effective theory (SCET)”**, with a duration of **no. 36 months** and an amount of **€ 141.000,00**, to encumber on the budget of the **Physics "G. Occhialini"**, within the funds allocated by the **Progetto ID 2017-INTERNAZ-0103/PER, CUP H45E17000040006, Prof. Alioli**;
- ACKNOWLEDGED that the Manager of the Personnel Department confirms the regularity and legality of the provision herewith;

### DECREES WHAT FOLLOWS:

Based on the grounds set out in the recitals of the provision herewith and hereafter fully quoted:

**Art. 1.** - The University of Milano-Bicocca hereby announces a public Competition, with assessment of degrees and

qualifications, for the assignment of **no. 1 Research Grant for cooperation in research activities, with a duration of 36 months, in the field of Physics (SDS FIS/02), for the following activities: the goal of this project is to push forward the frontier of precision QCD for event simulations by combining the three possible theoretical description (fixed-order perturbative expansion, resummed calculations and parton showers) into the same theoretical framework, in order to benefit from the advantages of each. Of particular importance is the inclusion of higher-logarithmic SCET resummation, which bridges the gap between the perturbative description of hard radiation and the shower domain. This project will focus on the study and the implementation of novel techniques for the joint resummation of multiple observables.**

**Art. 2. - ADMISSION REQUIREMENTS.** The competition is open to candidates holding a scientific and professional curriculum suitable for the research activities as provided in the present Competition, holding a **Second Cycle University Degree or equivalent** (Laurea Specialistica/Magistrale, Laura Magistrale a ciclo unico / Laurea vecchio ordinamento, ante Ministerial Decree no. 509/99).

Applicants must have the following requisites:

- PhD in **Physics**;
- knowledge of the English language;
- no criminal convictions or pending prosecutions;
- second cycle University Degree (Laurea Specialistica/Magistrale, Laura Magistrale a ciclo unico / Laurea vecchio ordinamento, ante Ministerial Decree no. 509/99) in **Physics, graduated at least 3 years**;; or a qualification approved as equivalent under provisions of the law.

**The prescribed admission requirements must be satisfied within the application deadline. Candidates will be admitted to the competition conditionally.**

Preference will be given to candidates holding a Doctoral degree or an equivalent foreign certification and - for specific sectors - a specialization degree in the field of medicine supported by adequate scientific documentation.

For the present Competition, the Evaluation Commission will therefore assess:

**a) DEGREES and QUALIFICATIONS (up to 65 points):**

- up to **20** points for Degree thesis, Doctoral thesis, judgment and relevance of the doctoral programme or medical specialization to the research topic;
- up to **5** points for masters post-degree or courses equivalent;
- up to **30** points for publications: **articles in international peer-reviewed journals, proceedings, books.**
- up to **10** points for other titles, qualifications, contracts, scholarships, assignments duly documented: **invited talks at international conferences, awards and honors, teaching or research fellowships in qualified international or foreign organizations;**
- **INTERVIEW: Up to 35 points.**

As indicated in Art. 22 of Law 240 of December 30, 2010, employees of the Italian public administration and Universities permanent staff will not be admitted, nor the holders of any other research grants or scholarships, unless they resign if selected for the present competition.

The grant holder can not be enrolled, in Italy or abroad, in a Degree Course (Laurea Magistrale or Laurea Specialistica) or Specialization course in the field of medicine or University Master.

The grant holder is allowed to attend Doctoral degree courses in those disciplines dealing with the research area related to his grant, as per the University Regulations for the activation and implementation of Doctoral degree courses and Doctoral schools. The contract for a research grant is in any case incompatible with the fruition of a doctoral scholarship.

Throughout the duration of the grant it is prohibited to perform temporary or permanent employment relationships.

Relatives and in-laws within the fourth degree included, or spouse, of a professor member of the Department

requiring the institution of the Research Grant, or of the Rector, the General Manager or a member of the Boards of Directors cannot participate in the competition for the assignment of the Research Grant.

In accordance with art. 22, paragraph 3, of Law 240 of December 30, 2010, as indicated in the preliminary remarks and as stated in Art. 1 of the present Competition, the Research Grant has a duration of no. **36** months, it is renewable but not accumulable with other grants or scholarships, except for scholarships awarded by either an Italian or a foreign institution, useful to integrate, while abroad, the holder's research activity. The total duration of the collaboration, including possible renewals, cannot exceed 6 years, except for the period in which the grant fruition coincides with the doctoral programme, within the limits determined by the legal duration of the course.

The total duration of the relationship established with grant holders as per the present article and of the contracts as specified in art. 24 of the Law no. 240 of December 30, 2010, with one or more public, private, or telematic Universities, and with all the institutions listed in art. 22, paragraph 1, of the Law no. 240 of December 30, 2010, cannot exceed the total duration of 12 years, even non-continuous, with the same subject. As per the regulations in force, maternity and sick leave periods do not count in the duration of the above mentioned relationships.

**Art. 3. – Under penalty of exclusion applications** for participation in the competition, along with the relevant qualifications held and the relevant scientific publications, **shall be submitted online through the following online application procedure:** <https://pica.cineca.it/unimib/18A030/>.

It is of utmost importance to provide a valid email address in order to enable the registration process on the electronic procedure.

Applicants shall upload all personal and professional data as requested by the application procedure; all documents must be uploaded in PDF format (.pdf). Each applicant can produce a maximum of no. 30 publications and a maximum of no. 30 other titles and qualifications.

All fields in the online application form must be filled out. Under penalty of exclusion, the application must contain:

- 1) the curriculum vitae with the complete list of the scientific and professional activities;
- 2) valid ID of the candidate to be uploaded in electronic format.

**Failure to comply with the online application procedure will result in exclusion of the applicant.**

Prior to final submission, and within the given deadline for applications submission, the online application procedure allows to modify and save the inserted information in a draft copy.

Confirmation of final submission date will be certified by an automatic notification email.

**Submissions after the given deadlines will not be accepted by the system, as the online application procedure won't be accessible.**

Each application will be given a registration number. For all further communications, the registration number shall be quoted along with the code of the research grant competition.

The online application and submission procedure shall be completed **by 10/05/2018, not later than 12.00 (Rome time).**

The submission of the online application must be completed and finalized:

- **with the digital signature of the candidate**, by means of smart card, USB token or remote digital signature, for digitally signing electronic documents with a software using a PC or a web portal for Remote Signature provided by a Certification Service Provider (CSP). Candidates with a smart card or an USB token for digital signature should check the compatibility with the Digital Signature system embedded in our server. In case of compatibility, candidates shall sign the application on the server (i.e. ConFirma);
- **holders of server-incompatible Digital Signature and holders of Remote Digital Signature** who can access a web portal for digitally signing electronic documents, shall save the PDF file generated by the system on their PC; the PDF file shall not be modified in any way, and it shall be digitally signed in CADES format: the system will generate a file with .p7m extension. The candidate shall upload the .p7m file on the system. No changes are to be made to the file by the candidates before the Digital Signature, on pain of exclusion from the competition;
- **in case the two above-mentioned options do not apply**, candidates shall save the PDF file generated by the system on their PC. The PDF file shall not be modified in any way, on pain of exclusion from the competition. The PDF shall then be printed out, signed on the last page, scanned in PDF format and uploaded on the system.

The University will verify that all the statements made in the application and accompanying documentation comply with the provisions of Presidential Decree n. 445/2000.

**Art. 4** - In order to award the research grant as per Art. 1, and as specified here below in Art. 5, candidates should undergo a videoconference interview to ascertain their suitability to the research program and their knowledge of English.

**Videoconference interviews will be held on 16/05/2018 from 14:30 (GMT+1) onwards;** hence the Evaluation Committee will meet at the Department **Physics "G. Occhialini", Building U2 videoconferenza, V floor, Room 5012, Piazza della Scienza 3 - 20126 Milano.**

The remote interview shall take place through a platform provided by the University; to this end, the Committee will use for the video call the e-mail account indicated by the candidate in the application for participation.

Access to the interview is subject to passing a connection test that will be made a few days before the day fixed for the interview.

The candidate must be available at the personal address that he/she has notified in the application, on the day set for the oral examination, according to the timetable set out.

For identification purposes, the candidate must identify himself/herself before the interview by showing his/her identification document; failure to do so shall result in exclusion from the competition.

A candidate may be excluded from the competition if he/she has failed to specify his/her personal email address, the connection is not available, the connection test has failed, he/she cannot be found on the day or time set or if he/she does not show a valid identity document.

The University of Milano-Bicocca assumes no liability for any technical reasons that may prevent the smooth running of the interview.

**Art. 5.** - The Candidates' degrees and qualifications and interviews will be assessed by an Evaluation Committee appointed by the Rector of the University of Milano-Bicocca according to the regulations in force. The Evaluation Committee must be composed of at least three members with specific competences on the matter and selected among the professors and researchers of the applying Department.

The Evaluation Committee for the assignment of the above mentioned grants is composed as follows:

- Prof. Simone Alioli
- Prof.ssa Sara Pasquetti
- Prof. Carlo Olerari
- Prof. Alessandro Tomasiello; Dott. Mattia Dalla Brida (substitutes)

The commission uses telematic tools to work collegially.

According to Art. 51 and 52 of the Code of Civil Procedure and D.P.R. 62/2013, the Evaluation Committee looks over the applications to verify first of all the absence of situations of incompatibility among them or with the candidates.

For each candidate, the Committee has **a total of 100 available points** to be split in compliance with the procedure specified in Art. 2 of this competition.

**In order to be selected for the interview, candidates should be granted at least 50% of the available score for DEGREES and QUALIFICATIONS from the Evaluation Committee** (minimum 32,50 points).

At the end of the interviews, the evaluating Committee shall draw up a report with a ranking for each candidate. Candidates who have not earned at least 50 points are excluded from the competition.

At the end of the interviews, the Evaluation Committee shall formulate a ranking, formally approved by a University Director's Decree. The same ranking will be posted at the Official Notice Board and on the University official website [www.unimib.it](http://www.unimib.it), as legal notification to candidates.

In case of parity, precedence is given to the candidate holding a PhD or specialization in medicine. In case of further parity, precedence is given to the youngest candidate.

The contract will start from the first day of the month following the approval of the deed. For non-EC subjects the

contract will enter into effect after obtaining the stay permit (Permesso di Soggiorno).  
The University will notify the awarded candidates.

**Art. 6. - In order to avoid exclusion**, within the final date of **20 days** from notification, the grantee has to draw up a specific self-employed contract with clear indication of the terms and conditions of the employment relationship to be settled.

In case of forfeiture or renunciation, or failure to sign the contract within 20 days by the selected candidate, the research grant shall be assigned to the candidate ranking next to the renouncing applicant. The ranking will stay in force for 120 days after its formal approval.

If the grantee decides to withdraw from the contract, he/she is obliged to send a written notification at least 15 days in advance to the Rector, to the Scientific Responsible and to the Director of the involved Department. In case of late or lack of notice, the amount corresponding to the missing notice period will be deducted.

In case of serious non-fulfilment reported by the Scientific Responsible and/or upon request of the Council of the Department, the contract can be cancelled by means of a Rector's provision, after verifying with the party concerned. The contract is automatically terminated in the following cases:

- winner's undue delay or failure to initiate the activity;
- anticipated end date of research activities;
- winner's suspension and/or absence even if not permanent that lasts for a period exceeding one-sixth of the contract length;
- serious breach of the incompatibility regulations as provided by Article 2;
- negative performance evaluation of the winner's research activity expressed by the Department Council;
- violation of D.P.R. 62/2013.

The assignment of the Grant implies to undertake the research activity program at the **Physics "G. Occhialini"** of the University of Milano-Bicocca, under the supervision of the Scientific Responsible, **Prof. Simone Alioli**, on the topic **"Improving shower Monte Carlo event generators with multiple resummations in soft-collinear effective theory (SCET)"**.

Grant entitlement does not imply a subordinate work relationship and does not give cause to any admittance rights to University tenure.

**Art. 7. -** Research Grant holders not complying with the regulations provided by this competition will lose every right to the research grant by means of a Rector's Act, upon written notification.

**Art. 8. -** The all-comprehensive and **overall remuneration/payment** is settled at **€ 141.000,00**, including social security (INPS - National Institution of Social Security) dependent on the employer, accident insurance and third party civil liability insurance. The grant is not subject to income tax contribution (IRPEF), as per Art. 4 of Law no. 476 of August 13, 1984, and it is subject to social security regulations, as per Art. 2, paragraphs 26 and fol., of Law no. 335 of August 8, 1995.

**The grant will be split into deferred monthly payments.** Grantees' tasks, formalized by means of individual contracts, are carried out under the supervision of the Project Responsible, who will monitor the developed activities. Any other amount due for **business trip** refund - for which specific regulations apply - should be charged to the relevant allowances of the authorizing Department.

**Art. 9. -** Pursuant to the Law no. 241 of August 7, 1990, the Competition Manager for the present competition procedures is: Recruitment Manager, Dr. Alessandro Cava.

With regards to the provisions in accordance with the Legislative Decree no. 196 of June 30, 2003, the University is committed in respecting the confidential nature of the personal data provided by the candidates: "the personal data provided will be handled only for the purposes connected to the present competition, to the possible drawing up of the contract and the relationship with the University".

**Art. 10.** - For anything not included in the present Competition, shall apply all laws and regulations in force in Italy about public competitions and the Regulation of Research Grant for cooperation in research activities.

**Art. 11.** - This Notice of Competition shall be published and posted to the Official Notice Board of the University of Milano-Bicocca and to Ministry and European Union websites.

**THE RECTOR**  
**Prof. Maria Cristina Messa**

UOR: Personnel Department- Manager Elena La Torre

Competition Manager: Alessandro Cava

Treated by: Alessandra Calìo