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The integral version is available at the following link:
http://www.unimi.it/ricerca/assegni_ricerca/69552.htm

PUBLIC COMPETITION FOR 12 MONTHS TYPE B FELLOWSHIP FOR COLLABORATION TO RESEARCH ACTIVITIES IN THE SCIENTIFIC AREA OF MATHEMATICS AND COMPUTER SCIENCES

ART. 1 - COMPETITION NOTICE

According to art. 3 of Regulations, a public competition notice by qualifications and examinations is announced for the assignment of a Type B Fellowships to carry out research activities lasting 12 months for the scientific area of mathematics and computer sciences restricted to doctorate graduates or graduates.

ART. 2 - REQUIREMENTS

All graduates who have an appropriate scientific-professional curriculum to carry out research activities established by this competition notice can participate in this public selection.

PhD or equivalent qualification obtained abroad accompanied by an appropriate scientific production is a preferential requirement for admission, according to this competition notice.

Candidates must meet the following requirements:

- a. Absence of criminal record;
- b. Master's Degree in Mathematics or equivalent, from an Italian or foreign university.

Moreover it is required:

- c. Expertise in research area: Candidates should be able to develop scientific codes using both Matlab (or similar platforms) and C++ programming language. Furthermore, Candidates must be able to develop rigorous proofs concerning the analysis of numerical methods for PDEs.
- d. Knowledge of language: English

Qualifications must be owned within the deadline established for the presentation of the application form.

Applicants in possession of degrees obtained abroad, who do not own a declaration of equivalence, will have to enclose a translation into Italian or into English of their foreign degree, (Degree with marks earned in each examination and PHD degree certificate) accompanied by a self-certification stating that the translation is a true and faithful copy of the original.

The degree earned abroad can be declared admissible, by the Judging Commission, only for purposes related to the selection.

The following qualifications will be evaluated for purposes related to the competition:

- a. PhD in subjects concerning the research or equivalent qualification earned abroad;
- b. Specialization degree in subjects concerning the research;
- c. Post-graduate degrees;



- d. Attendance of post-graduate courses at Italian or foreign Universities;
- e. Scientific-professional curriculum based on proven experience for research activity already carried out at public and private bodies with contracts, fellowships or appointments, both in Italy and abroad;
- f. Publications in scientific reviews.

For requisitions of admission and incompatibilities please see art. 4, 5 and 6 of Regulations at the link: <https://www.unimi.it/it/ateneo/normative/regolamenti/regolamento-gli-assegni-di-ricerca>

ART. 3 - CANDIDATES LIST AND CURRICULA PUBLICATION

In application of obligations of transparency as from D.lgs. 14/03/2013 n. 33 this competition notice, the list of candidates with their curriculum vitae and the result of each selection will be published on the web site http://www.unimi.it/ricerca/assegni_ricerca/69536.htm.

ART. 4 - APPLICATION

Application forms in plain paper must be written according to the form at the following link: <https://www.unimi.it/it/ricerca/fare-ricerca-da-noi/assegni-di-ricerca> and include name, surname, place and date of birth, address, telephone number, competition notice information. Due to the Covid 19 epidemiological emergency situation and the reduction of services of University offices, they must be submitted online, at the following email address: unimi@postecert.it and assegni.ricerca@unimi.it, within **January 12th 2023 at 11:59 pm**. The application form and any other enclosures requiring the candidate's signature. The message should state in the object field:

“Domanda concorso Assegno di Ricerca Prof. Carlo Lovadina - Cod. ID: 5589”

Application forms not signed or incomplete or sent after the deadline established will not be admitted.

The application form must enclose:

- a. Degree with final mark;
- b. Phd degree / specialization in medical area;
- c. Scientific qualifications, diplomas, scholarships, attendance of post-graduate courses,
- d. Publications
- e. Curriculum of scientific activities.

The above-mentioned documents can be presented as follows:

Academic and professional qualifications can be self-certificated (Enclosure 1). Other qualifications which require evaluation, publications included, can be presented in original copy or in photocopies by self-declaration according to DPR 28/12/2000 n. 445 (Enclosure 2).

Candidates who only have a graduation degree must enclose the necessary documents to demonstrate a scientific-professional curriculum and appropriate research experience to carry out research activities as stated on this competition notice, otherwise they will be excluded from the competition.



ART. 5 - CURRICULUM PRESENTATION

Candidates, by the same time of presentation of the application form, must scan and send to the e-mail address curriculum.assegni@unimi.it a copy of the curriculum vitae in pdf with the ID code with date and signature according to the form at the following link: <https://www.unimi.it/it/ricerca/fare-ricerca-da-noi/assegni-di-ricerca>

ART. 6 - RESEARCH ACTIVITIES

The Fellowship implies carrying out the activities briefly mentioned below at **Dipartimento di Matematica “Federigo Enriques”** dell’Università degli Studi di Milano and under the supervision of **Prof. Carlo Lovadina** within the research “*Self-stabilized Virtual Element Methods and their applications*”, of the activities mentioned below

the research programme concerns the detailed study and the numerical assessment of self-stabilized Virtual Element Methods (thus not requiring artificial stabilising terms). Mixed variational formulation will be primarily considered, and in particular:

- 1) The Hellinger-Reissner formulation for membrane problems;
- 2) The Hu-Washizu formulation.

For the proposed methods, a rigorous a-priori error analysis will be developed; suitable numerical benchmarks will be performed to support the theoretical predictions.

ART. 7 - INCOMPATIBILITIES

For requisitions of admission and incompatibilities please see art. 6 and 8 of Regulations at the link: <https://www.unimi.it/it/ateneo/normative/regolamenti/regolamento-gli-assegni-di-ricerca>

ART. 8 - FELLOWSHIP AND INSURANCE

The Fellowship’s yearly gross amount is of **Euro 26.740,00**. The amount is tax free according to art. 4 Legge 13 August 1984 n. 476 and subject, for what concerns welfare regulations, to regulations as from art. 2 paragraphs 26 and following Legge 8 August 1995 n. 335.

The university will provide, for the period of the fellowship, private insurance cover with a public liability insurance and accident insurance to the fellow. The insurance premium is directly subtracted each year from the remuneration of the fellow.

ART. 9 - PAYMENT AND SUPERVISION

The amount is paid in postponed monthly instalments. The Fellows’ duties, established by the individual contract, are performed under the supervision of the coordinating Professor, who will verify that the activities are carried out according to art. 8 paragraph 5 of Regulations.

ART. 10 - SELECTION PROCESS

Application forms will be examined by a judging Commission, specifically appointed by the Rector (for the composition of the Commission see Regulations, art. 3 paragraph 2). The Commission, within twenty days since the deadline for presenting applications, will produce a



report ranking the candidates on the basis of a selection of academic and scientific qualifications presented and of an interview aiming at verifying the candidate's aptitude to research and knowledge of the language required. The commission establishes the standards of evaluation at the beginning of the selection, and will evaluate the candidate using up to 100 points, to be divided as follows:

- 1) PhD or Specialization in Medical Area up to **15** points
 - 2) Scientific-professional Curriculum (post-graduate degrees, certified experience for research activity already carried out at public and private bodies with contracts, scholarships or appointments, both in Italy and abroad) up to **10** points
 - 3) Other qualifications established by the competition notice up to **15** points
 - 4) Scientific publications up to **10** points
- and for the interview up to **50** points.

The Commission at the end of the interviews will publish the result of the total evaluation for each candidate and will form a ranking on the grounds of the points earned by each candidate, and appoints the winner or the winners when more fellowships must be awarded. In case of equality the youngest candidate will be preferred. The results of the selection are approved by Rector's decree and published on the University web site. Reports by Commission are public.

The interview is public and will take place on **January 20th 2023 at 10 am** at Dipartimento di Matematica at Via Saldini 50 - Milano.

Disabled candidates, according to Legge 05/02/1992 n. 104, shall explicitly request the necessary aid in order to participate to the interview.

Candidates living abroad can ask for an interview with electronic procedures, pending authorization by Examination Committee. Candidates should contact the Direzione Trattamenti Economici e Lavoro Autonomo - Ufficio Contratti di formazione e Ricerca (assegni.ricerca@unimi.it), at least one week before the date of the interview, to verify in advance the feasibility. The dates of the interviews are shown in art.10 of this call.

The winner will receive communication, by registered letter with acknowledgment of receipt, to the address written in the application form, of the assignment of the fellowship. Within 15 days since receiving the communication, unless differently stated, the person concerned must send the Rector the declarations of acceptance required by the Administration, otherwise he/she will lose the right. Within the following 10 days he/she will be called to sign a contract of collaboration to research activities.

Candidates who earned their degree abroad and are the winners must send to this Office, together with declarations of acceptance required by the Administration, the official translation of their foreign degree, as officially certified by qualified Italian diplomatic or consular representations in the country of origin, according to laws in force. Candidates will be excluded from the selection in case documents do not arrive within such deadline.

For non-EC citizens the fellowship will start after obtaining the entrance visa for scientific research and when research activity actually begins.



The winner's personal statements, facts and certificates will be properly checked by Università degli Studi di Milano.

Declarations and certifications sent in one envelope by registered letter with acknowledgment of receipt (stamp and date of the post-office will be considered as proof) will be considered sent in time within the deadline mentioned;

If the activities imply the use of laboratories, work equipment, chemical, physical and biological agents, inclusive of equipments provided with visual display units, the Fellow, according to art. 41 Dlgs n. 81/08, will undergo prior medical examination in order to verify counterindications with reference to activities which the subject should carry out and to evaluate his/her suitability.

ART. 11 - WINNER NOT COMPLIANT WITH COMPETITION NOTICE AND REGULATIONS

Winners of fellowships who do not comply with the rules of this competition notice and the University Regulations will lose the right to the fellowship upon Rector's act by previous written communication.

ART. 12 - PLACE AVAILABLE IN CASE OF LOSS OF RIGHT OR RENOUNCE BY WINNER

In case of loss of the right or lack of stipulation within the deadline established or possible renounce by the winners, fellowships are made available to the candidates usefully placed in the ranking that, according to what established by Regulations, is valid up to ninety days from the approval of acts.

ART. 13 - PERSON IN CHARGE OF THIS COMPETITION

According to Legge 7 August 1990, n. 241 Mrs Anna Tavano Ufficio Contratti di Formazione e Ricerca at Direzione Trattamenti Economici e Lavoro Autonomo - Via S. Antonio n. 12, Milano is in charge of the competition as from this competition notice.

For more information please contact the Ufficio Contratti di Formazione e Ricerca at Direzione Trattamenti Economici e Lavoro Autonomo - e-mail: assegni.ricerca@unimi.it.

For what is not established by this competition notice, please see laws in Regulations and laws in force on the subject.

According to DL 196/2003 and according to the General Data Protection Regulation (GDPR) EU 2016/679 and to art. 16 of Regulations on the protection of personal data of the University of Milan, University will commit itself to respect all confidential information provided by the candidate: "all information provided will be handled only for aims connected to the selection and to the stipulation and management of relationship with University".

Full information is available at: <https://www.unimi.it/it/ateneo/normative/privacy> of the University website.

THE RECTOR

Elio Franzini