



UNIVERSITÀ
DEGLI STUDI
DI BERGAMO

Area
Risorse Umane

Servizio Personale TA e
collaboratori

CHANCELLOR'S DECREE

Data that can be deduced from the registration in the protocol:
Repertoire Number, Protocol Number, Title,
Class File Attachments and References

Object: Public selection based on qualifications and interview for the awarding of no. 1 Early stage grant for conducting research pursuant to art. 22 of law no. 240/2010 for A.D. ING/IND 08 - Fluid machinery at the Department of Engineering and applied sciences of University of Bergamo - Pica Code 23AR022.

THE CHANCELLOR

- GIVEN Law No. 168 of 9 May 1989 laying down rules on the "Establishment of MIUR";
- GIVEN Law No. 240 of 30 December 2010 "Norms in terms of organization of universities, of academic personnel and their recruitment, as well as mandate to the Government to subsidize quality and efficiency of academic systems", in particular art. 22 on research grants;
- GIVEN the Statute of the University of Bergamo enacted with Chancellor's Decree Index No. 570/2023 of 01.08.2023;
- GIVEN the University's current Regulations for awarding grants for conducting research;
- GIVEN Ministerial Decree Prot. No. 102 of 09 March 2011, recorded at the Court of Auditors on 13 May 2011, which revalued the minimum gross annual amount of grants for conducting research;
- GIVEN Decree-Law No. 192 of 31 December 2014 "Extension of terms provided for by legislative provisions", converted, with amendments, by Law No. 11 of 27 February 2015 and, in particular, Art. 6 paragraph 2 bis which extended by two years the total duration of grants established under Art. 22 of Law No. 240/2010, taking it from four to six years;
- GIVEN
- the D.L. No. 36/2022, converted, with amendments, into Law no. 79/2022, which in art. 14 paragraph 6-quaterdecies establishes that "for one hundred and eighty days following the entry into force of the decree conversion law, limited to the already programmed resources on the mentioned date, or approved by the respective governing structures within the mentioned term of one hundred and eighty days, universities [...] may call for awarding procedures of research grants pursuant to article 22 of law no. 240, in the current text before the entry into force of this decree conversion law";
 - the D.L. No. 198/2022 which in art. 6 paragraph 1 establishes that the transitional regulation relating the possibility of issuing research grants has been extended until 31st December 2023;
- REFERRING also to:
- the University's Code of Ethics issued with Chancellor's Decree. Prot. No. 14405/1/003 of 19.7.2011 and amended with Chancellor's Decree. Rep. No. 262/2018, Prot. No. 60030/1/003 of 12.4.2018;
 - the University's Regulations on research integrity and ethics, enacted with Chancellor's Decree Index No. 387/2016 of 18 July 2016;
 - the University's Patent Regulations enacted with Chancellor's Decree Index No. 390/2016 of 19 July 2016 and amended with Chancellor's Decree Index No. 158/2018 of 26 February 2018 and with Chancellor's Decree Index No 421/2020, of 9.9.2020;
- ACQUIRED the resolution of the Department of Engineering and applied sciences of 15.06.2023 which approved the annual research project and resolved on the requirements for candidates' admission to the selection;
- GIVEN the resolutions of the Academic Senate of 02.05.2023 and of the Board of Directors of 03.05.2023 which approved the research grants activation in various Departments;



ASCERTAINED the financial backing (tab. 1);

DECREES

Article 1 Call for public selection

A public selection is launched based on qualifications and interview for the awarding of No. 1 grant lasting 12 months for conducting research pursuant to Art. 22 of L. No. 240/2010, at the Department of Engineering and applied sciences, with a contract under private law at the research structures of the University of Bergamo as indicated hereafter:

TYPE	TOTAL GROSS AND FUNDS	TITLE	A.R.F.	A.D.	TUTOR
A	€ 25.000,00 Research project code ASSEGNO23ANDISA, CUP F53C23000190005	<i>Numerical investigation on the hydrogen production system</i>	09/C1 Fluid machinery, energy systems and power generation	ING-IND/08 Fluid machinery	Prof.ssa Nicoletta Franchina

The grant is paid to the contract holder in monthly instalments of equal amount.
The research project is described in Annex A of this call constituting an integral part hereof.

Article 2 Requirements for admission to the selection

The selection procedure is open to **scholars in possession of a professional scientific curriculum suitable for conducting the scientific research provided for by this call, as well as of the following requirements:**

- **2nd cycle degree: Diploma di Laurea Specialistica (LS) o Laurea Magistrale (LM)** and equivalents in Ingegneria meccanica (classi LM-33 o 36/S) ovvero **Diploma di Laurea (DL)** conseguito secondo le modalità precedenti all'entrata in vigore del D.M. 509/1999 e s.m.i. e titoli equipollenti ai fini dell'ammissione ai pubblici concorsi;
- **knowledge of English language.**

To establish the equivalence among **Diploma di Laurea (DL)** and **Diploma di Laurea Specialistica (LS) or Laurea Magistrale (LM)**, it is possible to refer to the following link:
<http://attiministeriali.miur.it/UserFiles/3160.pdf>

The Decrees that govern the equivalence among Italian academic qualifications for participating in public competitions are available at the following link:
<http://hubmiur.pubblica.istruzione.it/web/universita/equipollenze-titoli>

The qualifications obtained abroad must be recognised as valid in the Italian territory.

The qualifications obtained abroad must be recognised as valid in the Italian territory.

As regards qualifications obtained abroad that have not already been recognised in Italy with formal procedure pursuant to the applicable laws, the Commission is competent to assess the equivalence – as to the nature, level and subject correspondence (cycle degree) – to the qualifications required by this call, for the sole purposes of admission to the present selection.

As regards qualifications obtained abroad, required by the call for the purpose of admission to this selection, the applicant:

- in the event of qualifications already recognised as valid in the Italian territory, must indicate in the application **the details of the provision attesting the occurred recognition** pursuant to the applicable laws;



- in the event of **qualifications not yet recognised**, in order to ensure the widest participation in the selection, the candidate with a qualification not yet recognised or with the recognition procedure in progress, **must obligatorily attach to the application, under penalty of exclusion, one or more of the following documents:**
 - o **a certified copy of the statement of qualification equivalence**, issued by the competent Italian diplomatic and consular authorities abroad;
 - o **the diploma supplement or transcript of record**, legalized and written in Italian or in English;
 - o **a copy of the qualification** with a translation into Italian or English

In the event of qualifications not yet recognized, the candidate is admitted with reserve.

If the candidate turns out to be the winner, he must start the procedure above indicated and produce the required documents, within the terms peremptorily established by the Administration following the approval degree, in order to sign the contract.

Moreover, the applicant is also required:

- **to be at least 18 years old;**
- **to be in possession of civil and political rights;**
- **to have no criminal convictions or ongoing criminal proceedings that would prevent, in accordance with the regulations in force, the establishment of an employment relationship.**

The selective procedure does not allow admittance to:

- those who have a degree of kinship or affinity, up to and including the fourth degree, with a professor from the relevant structure, or with the Chancellor, the General Manager or a member of the University's Board of Directors;
- those who have been holders, including any renewals, of research grants awarded pursuant to Art. 22 of Law No. 240/2010 for a period which, added to the duration of the contract provided for by this call, exceeds a total of six years, except for the period in which the grant was used in coincidence with the PhD within the maximum legal duration of the relevant course;
- those who were contracted as research fellow or fixed-term researcher as per ss. 22 and 24 of Law 240/2010 at the University of Bergamo or other Italian public, private or online Athenaeums, as well as any other Body indicated in para 1 of s. 22 of Law 240/2010 for a length of time which, if summed to the duration of the contract in this announcement, exceeds 12 years in total, albeit not consecutive; periods of time spent on maternity or sick leaves do not count to the purpose of the duration of the aforementioned relationships, in accordance with current Laws;

The applicant enrolled in a Diploma di Laurea (DL), Diploma di Laurea Specialistica (LS), Laurea Magistrale (LM), PhD with study grant or medical specialisation in Italy or abroad can participate in the selection object hereof; should the applicant be the winner, the research grant will be awarded subject to withdrawal from studies or PhD study grant.

Pursuant to art. 22 paragraph 2 of Law 240/2010 cannot be recipient of the grants the regular personnel at universities, institutions and public entities of research and experimentation, the Italian National Agency for new technologies, energy and sustainable economic development (ENEA) and the Italian Space Agency (ASI) and institutions whose scientific specialization diploma was recognised equivalent to a PhD pursuant to the fourth paragraph under article 74 of Presidential Decree of 11 July 1980, No. 382.

The holder of the grant can attend PhD courses whose subjects are related to the research activities connected with the grant, upon prior evaluation of the Structure of reference. However, the research grant is incompatible with the enjoyment of the PhD study grant.

These requirements must be met on the date of expiry of the deadline for submitting the application for the admission to this selection.

This Administration guarantees equality and equal opportunities between men and women as to access to employment and treatment at work.



Article 3 Exclusion from the procedure

The following reasons are causes of exclusion:

- lack of signature on the application form;
- lack of admission requirements as provided for by Art. 2;
- failure to meet the procedures for submitting the application as mentioned under the following Art. 4.

The applicant is admitted with reserve to the selection, if additional investigations should be necessary, the applicant must regularize his/her application within the time peremptorily established deadline.

The Administration may decide to exclude the applicant from the selection launched with this call, at any time, by reasoned Chancellor's Decree.

Article 4 Terms and conditions for submitting application

Under penalty of exclusion applications for participation in the public selection, as well as the relevant qualifications held and the relevant scientific publications, shall be submitted online through the following online application procedure:

<https://pica.cineca.it/unibg/>

The candidate will be able to register and access the platform using the Public Digital Identity System (SPID - security level 2). In case the candidate does not have one, he or she can request it according to the procedure indicated on the website www.spid.gov.it. Alternatively, the candidate can register and log in using the credentials released directly by the PICA platform.

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. 40 publications and a maximum of no. 40 other titles and qualifications.

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 the submission procedure must be completed by and no later than **12.00 (Italian time) on the thirtieth day** from the notice publication date on the University website. Should the indicated deadline fall on a non-business day, it shall be postponed no later than 12.00 (Italian time) of the next business day.

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

- **no digital signature:** in this case the candidate has to download the pdf file of the application by the system; the PDF file shall not be modified in any way, it is to be printed, signed in original, scanned in a pdf file and uploaded again on the website;
- **sign the application on the server using ConFirma service:** in order to sign digitally the application it is necessary to have a hardware (e.g. smart card or USB with digital signature certificate issued by an approved certification body) compatible with ConFirma service; after signing, applicants can download the signed pdf application;
- **sign the application digitally on your PC:** In order to sign digitally the application it is necessary to have a hardware (e.g. smart card or USB with digital signature certificate issued by an approved certification body) and a software for digital signatures in order to create a



pdf.p7m file from the pdf file downloaded from this site. The pdf.p7m file must be uploaded in the website again;

- **in case of submission of the application through SPID**, it will not be necessary to sign the application form as it is automatically acquired by the procedure.

The application must contain all the required data by the system and must be signed and accompanied by a valid identification document of the candidate, under penalty of exclusion.

For any technical problems, contact support through the link available in the footer <https://pica.cineca.it/unibg>.

Article 5 Admission application

The applicant, filling the application, must declare, under his/her own responsibility, pursuant to what provided for by Presidential Decree 445/2000 and following amendments and integrations, as follows:

- his/her citizenship;
- to possess the qualifications mentioned in the previous Art. 2, indicating the degree cycle, the date on which it was obtained, the Institute that issued it and the final vote/assessment achieved; the applicant with qualification(s) obtained abroad must declare to have obtained the recognition indicating in the application the details of the provision or must annex the required documentation according to what specified hereby;
- to possess any other requirements as mentioned in Art. 2;
- to possess other qualifications useful for the assessment;
- to know the foreign language required by this call;
- in case of Italian citizenship: to be enrolled in the electoral lists, specifying the Municipality of belonging and possibly specifying the reasons for non-inclusion or cancellation from the same lists; in case of foreign citizenship: to possess civil and political rights in the Country of belonging or provenance, or the reasons for non-possession of the same;
- not to be excluded from the active political electorate;
- to have no criminal convictions, or declare possible convictions undergone, indicating the details of related sentences, and any pending criminal proceedings;
- to be/not to be a state employee, specifying to be/not to be a regular employee at Universities and other bodies as mentioned in Art. 22 of L. No. 240/2010;
- to have no degree of kinship or affinity, up to and including the fourth degree, with a professor from the relevant structure or with the Chancellor, the General Manager or a member of the University's Board of Directors;
- if enrolled in a Diploma di Laurea (DL), Diploma di Laurea Specialistica (LS), Laurea Magistrale (LM), PhD with study grant or medical specialisation, in Italy or abroad, to be aware that, in the event
- of awarding of the grant, attendance at such courses and the use of the PhD study grant are incompatible with the holding of the contract;
- to hold research grants awarded pursuant to Art. 22 of Law No. 240/2010;
- to hold contracts as fixed-term researcher pursuant to Art. 24 of Law No. 240/2010;
- to have attended a PhD indicating the period, University, date on which the qualification was obtained, cycle, exact title of the course and CUN Area;
- period of enjoyment of any PhD study grant;
- address to which communications concerning this competition are to be sent; it is mandatory to indicate a personal e-mail address as well.

In the application for participating in the competition, the applicant, pursuant to Law No. 104 of 5 February 1992, must specify any aid necessary in relation to his/her needs, as well as any need for additional time for the interview.



When submitting the application for participating in the selection, the applicant must annex the following documents:

1. a photocopy of the applicant's identity document in course of validity;
2. *curriculum vitae* in European format, dated and signed;
3. a list, signed by the applicant, of the publications and other research products, and other titles considered appropriate for the purposes of the selection such as specialisation degrees, certificates of attendance to postgraduate courses, obtained in Italy or abroad, contracts, study grant or research assignments both in Italy and abroad (cf. Annex B);
4. any publications, other research products or other titles that the candidate wishes to assert to the purpose of the procedure, numbered in progressive order matching the relating numbered list;
5. in the event of foreign applicant, it is necessary to annex: a copy of the residence permit (if the applicant is already in its possession).

For the abroad qualification, required for the purposes of selection admission, it's also necessary:

- in the event of qualifications already recognised as valid in the Italian territory, to indicate in the application **the details of the provision attesting the occurred recognition** pursuant to the applicable laws;
- in the event of qualifications not yet recognised attach to the application **one or more of the following documents**: a certified copy of the statement of qualification equivalence, issued by the competent Italian diplomatic and consular authorities abroad; the diploma supplement or transcript of record, legalized and written in Italian or in English; a copy of the qualification with a translation into Italian or English.

As regards all other qualifications obtained abroad which the applicant intends to provide for the selection as required by the call, it is necessary to annex to the application a copy of the qualifications. Each annex must be in PDF format and must not be larger than 30 MB.

Pursuant to Law No. 183/2011, the Administration cannot accept or request certificates, but only declarations in lieu of certifications or affidavits submitted in substitution of the actual certificates signed by the applicant and submitted together with an unauthenticated photocopy of the applicant's valid identify document. The Administration has the right to carry out suitable controls on the truthfulness of the contents of the declarations in lieu pursuant to what provided for by Presidential Decree No. 445/2000.

The requirements and the qualifications must be owned on the date of the expiry of the call.

It is mandatory to indicate a personal e-mail address to which the communications concerning this selection and the contract signing will be sent. Any variation of said address must be promptly communicated to the Selections Office (Servizio Assegni di ricerca).

Article 6 Examining Commission

The Examining Commission is appointed with Chancellor's decree, upon proposal of the Structure's Council, at the expiry of the deadline for submitting the application.

The Commission is authorized to carry out the on-line procedure, in the understanding that such method can be adopted until the conclusion of the relevant works, guaranteeing the security and traceability of communications.

Article 7 Selection

During its first meeting, the Examining Commission will establish the assessment criteria and procedures explicitly, according to what provided for by the call, fixing a minimum score for admission to the interview.

The overall assessment is expressed in hundredths, as indicated hereafter:

- up to a maximum of 60 points for qualifications and scientific-professional curriculum; to that end, the following will be object of assessment:
 - graduation vote;



- PhD (if not already provided for as requirement for admission);
 - specialisation degrees and certificates of attendance to postgraduate courses, obtained in Italy or abroad;
 - publications and other research products;
 - documented research activities – as long as the beginning date and duration of the activities are duly certified – carried out at the premises of public and private subjects with contracts, study grants or assignments, both in Italy and abroad;
- up to 40 points for the interview.

Within the context of its autonomy, the Commission can integrate the above, depending on the research project and on what provided for by this call.

In particular will be evaluated:

Candidates must prove a good knowledge of numerical methodologies and of approximation principles pertaining to the design and evaluation of machines, models and systems. The candidates must demonstrate to have already faced numerical and/or experimental activity to study complex problems in the field of fluid machinery, related products and systems.

The applicants will be informed before the interview on the results of the assessment of the qualifications.

The Commission reserves the right to carry out the interview via videoconference, through the use of IT and digital tools, guaranteeing the adoption of technical solutions that ensure the publicity of the same, the identification of the participants, as well as the security of communications, and their traceability. Failed connection at the time established or late connection, unless due to force majeure, will be considered as a renunciation to participate in the selection.

During the interview, the Commission will verify the applicant's ability to cover the topics and themes related to the research project and his/her knowledge of at least one foreign language, according to what provided for by the call.

PROGRAMME OF THE INTERVIEW

The interview will be dedicated to assess the knowledge in the field of the numerical modeling of products, systems and plants.

The assessment of the knowledge of the foreign language as provided for by this call will be carried out during the interview according to the modalities established by the Commission.

The Commission reserves the right to verify the knowledge of the Italian language for foreign candidates; in this case, Italian language knowledge will be ascertained under ineligibility penalty and will not compete for the final score, unless otherwise established by the Commission.

The date and place of the interview will be communicated with at least a 20-day notice through a communication published on the website of University of Bergamo <http://www.unibg.it>, under the section "Concorsi e selezioni-Assegni. Borse e contratti di ricerca-Assegni di ricerca" supervised by the Servizio Assegni di ricerca.

This notice is to all intents and purposes an official communication. Any changes related to the date of the interview will be communicated to the admitted applicants with at least a 20-day notice through the publication of a communication on the University's website under the section "Concorsi e selezioni-Assegni. Borse e contratti di ricerca-Assegni di ricerca".

Failure to show up at the interview will be considered as a renunciation to participate in the competition for all practical purposes.

At the end of the works, the Commission draws up the list of the applicants examined, indicating the votes obtained during the interview.

The Commission will draft the merit list in descending order according to the overall final score, which is obtained by adding the score of the qualifications and the score of the interview.

Applicants will be inserted in the merit list if they obtain at least 30 out of the 40 points available for the interview.



In the event of equal score, the PhD or equivalent qualification obtained abroad will constitute a preferential qualification, if not required for admission; in the event of equal merit, the younger applicant will be preferred.

The merit list is approved, under the condition precedent of verifying the requirements provided for by the call, with Chancellor's Decree and published on the website under the section "*Concorsi e selezioni-Assegni. Borse e contratti di ricerca-Assegni di ricerca*". The term for submitting any appeals will run from the date of publication.

Should the winning applicant renounce to or withdrawal from the contract, the grant can be awarded to successful applicants according to the order of the merit list, upon prior resolution of the Research Structure.

Article 8

Signing of the contract and withdrawal

The winning applicant, in possession of the mentioned requirements, will sign an autonomous work contract under private law with effect, normally, on the first day of the month following the month in which the acts are approved.

As regards foreign applicants needing a residence permit, the date of beginning of the contract will be postponed and subject to the completion of the permit procedure by the competent authorities.

In the event of admission with reservation for qualifications obtained abroad not recognized as valid in the Italian territory, the winner, prior to signing the contract must submit the documents requested by the office within the terms peremptorily established.

The winner of the selection, convoked by the Administrative Office to sign the contract, will lose the right to the grant for collaboration in research activities if he/she does not state to accept the contract or does not begin the activity within the established term, without prejudice to health reasons or causes of force majeure duly and promptly documented.

The grant as mentioned under Art. 1 can be renewed, under the terms and conditions provided for by the above-mentioned Regulations; in any case, the relationship established pursuant to Art. 22 of Law No. 240/2010, including the possible renewal, cannot last more than six years, including the possible renewal, with the exclusion of the period in which the grant was used in coincidence with the PhD within the maximum limit of the legal duration of the relevant course.

Article 9

Rights and obligations of the grant holder

The employment relationship is governed by an individual contract, according to what provided for by the applicable laws and by the University's Regulations.

The research activity is flexible, it has a continuous nature, not merely occasional, and is carried out under the leadership of the Scientific Director, with autonomous conditions as to the research programme and its realisation, without any predetermined working hours.

The grant holder must refer to the Research structure that requested the activation of the contract.

The research activity of the grant holder is carried out within the context of the relevant Structure and in other Structures of the University on the basis of the research programme. Any research activities conducted outside of the University must be approved by the Research structure's Council.

A period of permanence abroad is allowed at one or more qualified universities or research institutes, upon prior authorisation of the Council of the Research structure. During the period spent abroad, the amount of the grant will be increased by fifty percent to be charged to the Structure of reference or to the funds assigned to the Research structure.

The grant holder can participate in all the activities programmed by the Research structure for the promotion of researches and the dissemination of relevant results; he/she can be a member of the profit exams commissions, in quality of expert.

The Research structure must provide the grant holder all necessary support for realising his/her research programme, guaranteeing access to the equipment, the necessary resources and the use of the technical-administrative services.

The grant holder must comply with what provided for by the University's applicable Regulations on research integrity and ethics.



The winner of the selection who is entitled to the grant, at the time of the signature of the individual contract, should be committed, under penalty of forfeiture of the right to the research grant, to confidentiality and preventive transfer to the University of all intellectual property rights relating to the results produced and/or achieved during the research activities carried out at the University and she/he has the right to be recognized as the author of the his/her results achieved and/or products. The University recognizes the application of the same economic conditions that the University Patent Regulation grants to its Professors/Researchers.

The research fellow may participate in activities performed on behalf of third parties pursuant to art. 66 of Presidential Decree 382/80, in the context of issues related to its project, and the distribution of related proceeds, in accordance with the current University Regulations on the subject.

Article 10

Taxes, welfare, insurance and mission

With reference to taxes, the grants are subject to what provided for under Art. 4 of Law No. 476/1984, while as regards welfare, they are subject to what provided for under Art. 2, paragraph 26 and following, of Law No. 335/1995, and following amendments. With reference to mandatory maternity leave, they are subject to what provided for by the Decree of the Ministry of Labour and Welfare of 12 July 2007, published in the Official Gazette No. 247 of 23 October 2007, and, as regards sickness leave, they are subject to what provided for by Art. 1, paragraph 788, of Law No. 296 of 27 December 2006, and following amendments.

In the period of mandatory maternity leave, the bonus paid by INPS pursuant to Art. 5 of the mentioned Decree of 12 July 2007 is integrated by the University up to the payment of the total amount of the research grant.

The University will cover the grant holder's accident insurance and civil liability toward third parties' insurance within the scope of his/her research activity.

The covering of the grant holder's mission expenses is financed through the funds of the Scientific Director in charge or the Research structure, according to the modalities provided for by the University's regulations as to missions.

Article 11

Processing of personal data

In accordance with articles 13 and 14 of Regulation (EU) 2016/679 (GDPR), on the protection of personal data, and with D. Lgs. n. 196 /2003 and subsequent amendments, it is made known that data is controlled and managed by the legal representative of the University of Bergamo, via Salvecchio 19, - 24129 Bergamo.

Data will be collected exclusively for the present bid purposes and will be kept only for the necessary time to complete the relevant procedures. The data treatment controller will be appointed within the managing unit in charge of bidding procedure, who will carry out the treatment with all due respect of propriety, legitimacy, scope, transparency and confidentiality of the treatment; and data will be used exclusively for purposes connected to the selection and further conferment of the role and possible contract drafting, as well as management of the following employment position, in compliance with current regulations. Data will be kept for the necessary time to accomplish the selection purposes, subject to the application of norms on document retention, and will be transferred uniquely to public administration bodies directly concerned with the juridical and economic position of the selected applicant, treated in compliance with current regulations and used for personal, welfare, insurance and fiscal position management. Data will be handled by appointed staff through the acquisition of printed and electronic documents and using, even digitalised, filing procedures, to guarantee confidentiality; data treatment will be carried out through a coordinated organization and processing system, applying elevated safety standards. Furthermore, data will not be used for profiling. Applicants who have provided their personal data will be able to access it and exercise their rights as by art. 16 to 22 of GDPR UE 2016/679. Any safeguard request can be addressed to the University Data Protection Officer, who can be contacted through the university website (Privacy and Personal Data Protection section), e-mail dpo@unibg.it. In addition to the right of complaint which can be presented to the Italian Data Protection Authority, Piazza Venezia 11, 00187 Roma.



By presenting their application, candidates thereby authorise and fully consent to publication on the University institutional website of all information concerning the current bid, their own data and the contents of their CV in accordance with 111-bis of D.Lgs.196/2003 stating that, within the scope limits defined by art. 6, par. 1, letter b), of the Regulation, consent is not due for personal data present in a submitted CV.

Article 12

Person in charge of the procedure

The Person in charge of the selection procedure within this call is Dr. Domenico Panetta, manager of Area risorse umane, Viale Papa Giovanni XXIII, 106 - 24121 Bergamo, phone (+39) 035 2052 669 - 583 - 878, e-mail address: assegni.ricerca@unibg.it.

Article 13

Publication

This call is published in the University's Official Registry, on the website of the Conference of the Italian University Chancellors (www.cru.it), on the website of the Ministry of Education, Research and University (MIUR) at the link <http://bandi.miur.it>, and on the website of the European Union at the link <http://ec.europa.eu/euraxess> in the form of a notice.

The full competition and related annexed forms are available on the website of the University of Bergamo www.unibg.it under the specially devoted section "*Concorsi e selezioni-Assegni. Borse e contratti di ricerca-Assegni di ricerca*".

The call is also published on "*Piattaforma Integrata Concorsi Atenei*" (PICA) - link <http://pica.cineca.it/unibg/> from which it is possible to fill the application online for participation at the selection.

Article 14

Final provisions

For all matters not provided for by this call, the following will be applied: Law No. 240/2010 and following amendments and integrations, the University's Regulations on the awarding of research grants, the University's Regulations in force, and the Regulations on employment relationships in the public administration.

Bergamo, as per protocol registration

THE CHANCELLOR

(Prof. Sergio Cavalieri)

Documento firmato digitalmente ai sensi
dell'art. 24 del D. Lgs. 82/2005



ANNEX A

RESEARCH PROJECT

“Numerical investigation on the hydrogen production system”

Research structure: Department of Engineering and applied sciences

Duration of the grant: 12 months

Scientific Area: 09 - Industrial and information engineering

Academic recruitment field: 09/C1 - Fluid machinery, energy systems and power generation

Academic discipline: ING-IND/08 - Fluid machinery

Scientific Director: Prof.ssa Nicoletta Franchina

Hydrogen has the potential to play an important role in the transition to a low-carbon economy. Being a sustainable and adaptable fuel, it may be utilized to reduce emissions and enhance energy efficiency in a wide range of sectors, including industry, power generation, mobility, and so on. On the other hand, hydrogen is not a primary source of energy and must be produced from other sources, such as water, natural gas, or biomass. Therefore, developing efficient and eco-friendly hydrogen production facilities is key to accelerate the transition and unlock the full potential of hydrogen.

The investigation of hydrogen production technologies is essential for several reasons: I) To mitigate climate change and reduce dependence on fossil fuels, evaluating alternative hydrogen production is crucial. II) To identify the most promising approach for large-scale hydrogen production and III) To develop innovative and efficient production methods and create new business opportunities. Finally, the aim is to foster technological innovation and contribute to the development of a more sustainable energy system.

The project will involve the following steps:

Literature review: Conduct a comprehensive review of the literature on different hydrogen production methods, including water electrolysis, steam methane reforming, biomass gasification, and solar water splitting. The review will cover the principles of each method, their advantages and disadvantages, and their current status of development.

Models' development: Develop advanced models for each of the hydrogen production methods. The work will be carried out principally on the state-of-the-art system simulation platform (Simcenter AMESim by Siemens). The models will eventually be validated against available experimental data from the literature.

Performance comparison: compare the performance of each hydrogen production method. The comparison may consider factors such as energy efficiency, environmental impact, and cost of hydrogen production.

Sensitivity analysis: Conduct a sensitivity analysis of the model for each hydrogen production method to determine the most critical input parameters and their impact on system performance. This analysis will help identify the key factors that need to be optimized to improve the system's efficiency.

Design optimization: Use validated models to optimize the design of each hydrogen production method to improve its efficiency and reduce its cost.

The expected outcomes of this project are as follows:

An understanding of the critical input parameters and their impact on system performance for each method.

Advanced and robust numerical models for each hydrogen production technique.

A comparison of the energy efficiency, environmental impact, and cost of each hydrogen production method.



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Eventually, an optimized design for each hydrogen production method improving the efficiency and reducing the cost.

Overall, this project will provide valuable insights into the performance of different hydrogen production methods, which has important implications for the development of sustainable energy systems.