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Rep. n. 1049/2021 Prot. n. 119177 del 19.10.2021 – Allegati: 15
Anno 2021 – tit. VII cl. 1 fasc. 58

THE RECTOR

Having regard to Italian Law 168, 9 May 1989 establishing the Ministry of Higher Education, Scientific Research and Technology;

Having regard to Italian Law n. 240, 30 December 2010, “Norms regarding the organization of Universities, academic personnel and recruitment, as well as mandating the Government to provide incentives for quality and efficiency of the University system”, and in particular Art. 24, Art. 22, paragraph 9, and Art. 29, paragraph 5;

Having regard to Italian Law n. 241, 7 August 1990, as amended and supplemented, concerning administrative procedures and the right to access administrative documents;

Having regard to Law n. 183, 12 November 2011 (*Legge di Stabilità 2012*) and in particular Art. 15 regarding certifications and declarations;

Having regard to Italian Law n. 106, 15 April, 2004 and Presidential Decree n. 252, 3 May 2006, containing norms relating to depositing documents of cultural interest for public use;

Having regard to Law n. 232, 11 December 2016 (*Legge di Stabilità 2017*);

Having regard to Law n. 205, 27 December 2017 (*Legge di Stabilità 2018*);

Having regard to Law n. 145, 30 December 2018 concerning the “Estimated budget for the financial year 2019 and the multiannual budget for the three-year period 2019-2021”;

Having regard to Leg. Decree n. 165, 30 March 2001, as amended and supplemented, in particular Articles 35, 35bis, 36, 37, 38 and 57;

Having regard to Presidential Decree 445, 28 December 2000, containing regulations concerning administrative documentation (*Testo Unico*);

Having regard to Leg. Decree n. 196, 30 June 2003 and Leg. Decree n. 101, 10 August 2018, implementing the UE Regulation n. 679/2016 regarding personal data protection;

Having regard to Leg. Decree n. 82/2005 “Digital Administration Code”, as amended and supplemented;

Having regard to Leg. Decree n. 198, 11 April 2006, “Equal Opportunities for Men and Women”;

Having regard to Leg. Decree n. 49, 29 March 2012 for disciplining the programming, monitoring and assessment of budget management and recruiting policies adopted by universities;

Having regard to Leg. Decree n. 5, 09 February 2012 converted into Law n. 35, 04 April 2012, “Urgent Dispositions as to Simplification and Development”;

Having regard to Presidential Decree n. 62, 16 April 2013, “Civil Servants’ Behaviour Code”

Having regard to Leg. Decree n. 33, 14 March 2013, “Restructuring the sphere of advertising, transparency and dissemination of information by Public Administrations”, as amended and supplemented;

Having regard to Ministerial Decree n. 243, 25 May 2011, concerning criteria and parameters for preliminary assessment of public selection candidates, recipients of contracts as indicated in Art. 24, paragraph 2, letter c) of Italian Law n. 240, 30 December 2010;

Having regard to Ministerial Decree n. 159, 12 June 2012, on the determination of competition areas, grouped into competition macro-areas;

Having regard to Ministerial Decree n. 855, 30 October 2015, redetermining macro-sectors and competition sectors;



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Having regard to the Statute of the University of L'Aquila, established by the Rector's Decree n. 36-2017, 20 February 2017, entered into force as of 9 March, 2017;

Having regard to the University of L'Aquila's Code of Ethics established by the Rector's Decree n. 1154-2011, 29 July 2011;

Having regard to the University of L'Aquila's Code of Behaviour established by the Rector's Decree n. 210-2014, 3 March 2014;

Having regard to the University's Regulations as to recruitment of fixed-term university Researchers established by Rector's Decree n. 621-2012, 05 April 2012 as modified by Rector's Decree n. 860-2013, 05 June 2013, by Rector's Decree n. 1490-2015, 29 October 2015, then by Rector's Decree n. 225-2019, 1 April 2019 and lastly; by Rector's Decree n. 580-2020, 29 May 2020;

Having regard to the University's Regulations as to assignation of teaching duties to professors and researchers established by Rector's Decree n. 915-2017, 19 December 2017;

Having regard to the resolutions by the University Academic Bodies concerning staff planning and distribution of resources for recruiting First and Second Tier Professors and Researchers;

Having regard to Directorial Decree Prot. n. 861, 9 April 2021;

Having regard to Programma Operativo Nazionale (PON) "Ricerca e Innovazione 2014-2020" and its subsequent reprogramming for the purposes of the new thematic objective for the cohesion policies "Promote the overcoming of the crisis effects in the context of the COVID-19 pandemics and its social impact and prepare a green, digital and resilient economic recovery;

Having regard to Programma nazionale per la Ricerca (PNR) 2021-2027, approved by resolution n. 74/2020, 15 December 2020 of the interministerial Committee for economic programming;

Having regard to Ministerial Decree n. 1062, 10 August 2021, assigning FSE-REACT EU resources with reference to Action IV.4 – "Ph.D. and research contracts on innovation issues" and IV.6 - "Research contracts on Green issues" for the activation of fixed-term, type A) research contracts in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010;

Whereas the Ministerial Decree n. 1062/2021 referred to above provides that the financial coverage for the selected researchers shall be guaranteed by the resources assigned until 31 December 2023 and that the financial coverage of the contracts for the period following to 31 December 2023 shall be funded by each University charged to its own budget or to external funds;

Having regard to Ministerial Decree n. 737, 25 June 2021, by which the resources pertaining to the Fund for the promotion and development of policies of the National programme for research (PNR) established by Law n. 17, art. 1, paragraph 548, 30 December 2020, have been allocated among Universities, Bodies and public Institutions for the years 2021 and 2022;

Having regard to MUR note n. 12025 dated 8 September 2021 regarding "Indications about Ministerial Decrees n. 1061 and 1062, 10 August 2021", that reads: "Ministerial Decree 1062/2021 provides that the financial coverage for the selected researchers shall be guaranteed by the resources referred to in the decree until 31 December 2023 and that the financial coverage of the contracts for the period following to 31 December 2023 shall be funded by the beneficiaries of the resources provided for in art. 1 charged to their own budget. The Universities, therefore, shall fund the remaining part of the contract by resources charged to their own budget. Moreover, they are allowed to use the resources referred to in Ministerial Decree n. 737, 25 June 2021, art. 2, point 1 (the minimum percentage of which to be reserved for research contracts may be freely increased by them) and other external funds ...";

Having regard to the resolution of the Department of Human Studies n. 142/2021 dated 4 October, 2021 - forwarded with note Prot. n. 3720 on October 5, 2021 and received the same date with Prot. n. 114788 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic



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Recruitment Field 11/C2 – Logic, History and Philosophy of Science - Academic Discipline **M-FIL/02** – Logic and Philosophy of Science;

Having regard to the resolution of the Department of Industrial and Information Engineering and Economics n. 246/2021 dated 5 October, 2021 - forwarded with note n. 3276 on 6 October, 2021 and received the same date with Prot. n. 115315 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 13/A1 – Economics - Academic Discipline **SECS/P01** - Economics;

Having regard to the resolution of the Department of Industrial and Information Engineering and Economics n. 247/2021 dated 5 October, 2021 - forwarded with note n. 3275 on 6 October, 2021 and received the same date with Prot. n. 115314 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 09/B1 – Manufacturing Technologies and Systems - Academic Discipline **ING-IND/16** - Manufacturing Technologies and Systems;

Having regard to the resolution of the Department of Life, Health and Environmental Sciences n. 43/2021 dated 6 October, 2021 - forwarded with note Prot. n. 4511 on 11 October 2021 and received the same date with Prot. n. 117049 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 06/A2 – Experimental Medicine, Pathophysiology and Clinical Pathology - Academic Discipline **MED/04** – Experimental Medicine and Pathophysiology;

Having regard to the resolution of the Department of Life, Health and Environmental Sciences n. 44/2021 dated 6 October, 2021 - forwarded with note Prot. n. 4510 on 11 October 2021 and received the same date with Prot. n. 117048 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 05/G1 – Pharmacology, Clinical Pharmacology and Pharmacognosy - Academic Discipline **BIO/14** – Pharmacology;

Having regard to the resolution of the Department of Biotechnological and Applied Clinical Sciences n. 10 dated 7 October, 2021 - forwarded with note Prot. n. 1916 on 8 October 2021 and received the same date with Prot. n. 116209 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 05/E3 – Clinical Biochemistry and Molecular Biology - Academic Discipline **BIO/12** – Clinical Biochemistry and Molecular Biology;

Having regard to the resolution of the Department of Biotechnological and Applied Clinical Sciences n. 10 dated 7 October, 2021 - forwarded with note Prot. n. 1916 on 8 October 2021 and received the same date with Prot. n. 116209 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 05/H2 – Histology - Academic Discipline **BIO/17** – Histology;

Having regard to the resolution of the Department of Information Engineering, Computer Science and Mathematics n. 17/2021 dated 7 October, 2021 forwarded with note n. 3556 dated 11 October, 2021 and received the same date with Prot. n. 116792, concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 01/B1 – Informatics - Academic Discipline **INF/01** – Informatics;

Having regard to the resolution of the Department of Information Engineering, Computer Science and Mathematics n. 17/2021 dated 7 October, 2021 forwarded with note n. 3557 dated 11 October,



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2021 and received the same date with Prot. n. 116799, concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 01/A5 – Numerical Analysis - Academic Discipline MAT/08 – Numerical Analysis;

Having regard to the resolution of the Department of Information Engineering, Computer Science and Mathematics n. 17/2021 dated 7 October, 2021 forwarded with note n. 3558 dated 11 October, 2021 and received the same date with Prot. n. 116798, concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 09/H1 – Information Processing Systems - Academic Discipline ING-INF/05 – Information Processing Systems;

Having regard to the resolution of the Department of Human Studies n. 142/2021 dated 4 October, 2021 - forwarded with note Prot. n. 3720 on October 5, 2021 and received the same date with Prot. n. 114788 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 10/F1 – Italian Literature - Academic Discipline **L-FIL-LET/10** – Italian Literature;

Having regard to the resolution of the Department of Industrial and Information Engineering and Economics n. 248/2021 dated 5 October, 2021 - forwarded with note n. 3274 on 6 October, 2021 and received the same date with Prot. n. 115313 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 09/D1 – Materials Science and Technology - Academic Discipline **ING-IND/22** - Materials Science and Technology;

Having regard to the resolution of the Department of Life, Health and Environmental Sciences n. 46/2021 dated 6 October, 2021 - forwarded with note Prot. n. 4509 on 11 October 2021 and received the same date with Prot. n. 117047 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 05/A2 – Plant Physiology - Academic Discipline **BIO/04** – Plant Physiology;

Having regard to the resolution of the Department of Life, Health and Environmental Sciences n. 45/2021 dated 6 October, 2021 - forwarded with note Prot. n. 4508 on 11 October 2021 and received the same date with Prot. n. 117046 - concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 05/A1 – Botany - Academic Discipline **BIO/03** – Environmental and Applied Botany;

Having regard to the resolution of the Department of Information Engineering, Computer Science and Mathematics n. 17/2021 dated 7 October, 2021 forwarded with note n. 3555 dated 11 October, 2021 and received the same date with Prot. n. 116788, concerning the request of a selection procedure to recruit 1 Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, for the Academic Recruitment Field 09/E2 – Electrical Energy Engineering - Academic Discipline **ING-IND/32** – Power Electronic Converters, Electrical Machines and Drives;

Whereas the Councils of the Departments referred to above have certified the coherence of the projects submitted by the Scientific Coordinators and have stated the financial coverage for the third year (2024), under the provisions of Ministerial Decree 1062/2021;

Having regard to the resolution n. 320/2021 issued by the Board of Directors on 12 October, 2021, after obtaining assent by the Senate, authorizing the above mentioned public selection procedures;

Having regard to Rector's Decree n. 1043 dated 14 October 2021, by which it was decreed as a matter of urgency, subject to ratification by the Board of Directors at the first possible meeting:

- 1) The start of the selection procedure to recruit n. 15 fixed-term (36 month), full-time or part-time Researchers, according to what planned in the meetings of the Senate and of the Board of Directors held on 12 October 2021 and proposed by each Department;
- 2) Provisional admission of all candidates submitting their application to the selection procedure;
- 3) Terms and conditions of the meetings in order to allow a rapid conclusion of the selection procedure within the time limit set by MUR;

Considered, therefore, necessary to proceed to the activation of the procedures referred to above;

DECREES THE FOLLOWING:

Art. 1 – Public Selection and objective of the contract

A public selection procedure is being held at the University of L'Aquila to recruit **n. 15 (fifteen) fixed-term (3 year) full-time Researchers** in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, 30 December 2010, and related University Regulations, specified as follows:

	DEPARTMENT	ACTION	Academic Recruitment Field	Academic Discipline	Type of contract	N. of POSITIONS
1	Department of Human Studies	Innovation	11/C2 – Logic, History and Philosophy of Science	M-FIL/02 – Logic and Philosophy of Science	Full-time	1
2	Department of Industrial and Information Engineering and Economics	Innovation	09/B1 – Manufacturing Technologies and Systems	ING-IND/16 – Manufacturing Technologies and Systems	Full-time	1
3	Department of Industrial and Information Engineering and Economics	Innovation	13/A1 – Economics	SECS/P01 – Economics	Full-time	1
4	Department of Life, Health and Environmental Sciences	Innovation	06/A2 – Experimental Medicine, Pathophysiology and Clinical Pathology	MED/04 – Experimental Medicine and Pathophysiology	Full-time	1
5	Department of Life, Health and Environmental Sciences	Innovation	05/G1 – Pharmacology, Clinical Pharmacology and Pharmacognosy	BIO/14 – Pharmacology	Full-time	1
6	Department of Biotechnological and Applied Clinical Sciences	Innovation	05/E3 – Clinical Biochemistry and Molecular Biology	BIO/12 – Clinical Biochemistry and Molecular Biology	Full-time	1
7	Department of Biotechnological and	Innovation	05/H2 – Histology	BIO/17 – Histology	Full-time	1



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	Applied Clinical Sciences					
8	Department of Information Engineering, Computer Science and Mathematics	Innovation	01/B1 – Informatics	INF/01 – Informatics	Full-time	1
9	Department of Information Engineering, Computer Science and Mathematics	Innovation	01/A5 – Numerical Analysis	MAT/08 – Numerical Analysis	Full-time	1
10	Department of Information Engineering, Computer Science and Mathematics	Innovation	09/H1 – Information Processing Systems	ING-INF/05 – Information Processing Systems	Full-time	1
11	Department of Human Studies	Green	10/F1 – Italian Literature	L-FIL-LET/10 – Italian Literature	Part-time	1
12	Department of Industrial and Information Engineering and Economics	Green	09/D1 – Materials Science and Technology	ING-IND/22 – Materials Science and Technology	Full-time	1
13	Department of Life, Health and Environmental Sciences	Green	05/A2 – Plant Physiology	BIO/04 – Plant Physiology	Part-time	1
14	Department of Life, Health and Environmental Sciences	Green	05/A1 – Botany	BIO/03 – Environmental and Applied Botany	Part-time	1
15	Department of Information Engineering, Computer Science and Mathematics	Green	09/E2 – Electrical Energy Engineering	ING-IND/32 – Power Electronic Machines, Converters and Drives	Full-time	1

- 1) Attachments 1 through 15 form integral part of this selection announcement, indicating according to the Department's resolutions, research, teaching, integrated teaching activities and services to the students object of the contract, foreign language requisites, maximum number of publications and, with due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25 May 2011, further assessment criteria of the candidates. The candidate's Ph. D. thesis, in compliance with Ministerial Decree 243/2011, is to be considered a publication and included among the publications submitted.
- 2) The number of hours required for teaching activities, integrated teaching activities and services to the students is 350 hrs per year. The total amount of hours required for research activities, teaching activities, integrated activities and services is 1.500 hrs per year.

Art. 2 – Admission Requisites and Causes for Exclusion

1. The selection procedure is open to Italian or foreign citizens possessing a Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic recruitment field and the academic discipline referred



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to in art. 1 of the present selection procedure, or having submitted their Ph.D. thesis and **obtained their Ph.D. by 30.11.2021.**

If obtained abroad, the Ph.D. must be accompanied by the official declaration of equivalency issued by the relevant authorities of the foreign country. If the candidate is not in possess of such a documentation within the deadline for application submission, to be submitted anyhow within the date of official appointment by the Department, he/she shall submit a copy of the application for obtaining such a declaration.

2. The following categories may not participate in this public selection procedure:
 - a. First or second tier university professors or Researchers already holding an open-ended contract or who have held such positions in the past either, even if terminated;
 - b) Individuals who have already held fixed-term research contracts as provided in Arts. 22 and 24 of Italian Law 240/2010 at the University of L'Aquila or at other Italian Universities, whether public, private or online, or bodies under paragraph 1 of Art. 22 of Italian Law 240/2010 for a period, in addition to the intended duration of the competition contract, exceeding a total of 12 years, even if not continuing. Maternity or sick leave as provided in the laws in force shall not be included in the duration of the aforementioned employment contracts;
 - c) Individuals not entitled to exercise civil and political rights;
 - d) Individuals who have been dismissed or relieved from office with a Public Administration for consistently poor performance or have been dismissed from a civil service job as provided in Art. 127, Letter d) of Presidential Decree 10.1.1957, No. 3.
 - e) Individuals who are related, up to the fourth degree, to professors belonging to the recruiting Department including the Rector, General Director, any member of the Board of Trustees.
3. The contract outlined for this selection procedure cannot be accumulated with other research grants as per Italian Law 449/1997 Art. 51 and Italian Law 240/2010, 30.12.2010, Art. 22.
4. Candidates are granted provisional admission, as the University Administration reserves the right to review applications and to exclude for just cause at any time until the end of the procedure. In this case a decree shall be issued by the Rector and the excluded candidate shall be notified by the Administration by registered post with notice of receipt or by certified e-mail (PEC) if provided.

Art. 3 - Application Submission Procedure and Deadline

1. To participate in the selection, candidates must submit their application **within 15** (fifteen) days from the day following publication of the announcement in the Gazzetta Ufficiale della Repubblica Italiana – 4° Serie speciale – Concorsi ed Esami. The publication of the selection announcement is also posted in the University, Ministry and EU websites.
2. The application for the selection procedure as well as qualifications, documents and publications are to be submitted telematically, on pain of exclusion, via the online tool available at <https://pica.cineca.it/univaq>. The computer application necessarily requires that the candidate has an e-mail account in order to register, or he/she may also log in using the SPID credentials. Candidates must enter all data required to fill in application and attach all documents in .pdf format. The application form must be filled in all its parts according to the instructions given by the telematic procedure. No other ways of presenting applications or documents for the procedure are allowed, except for the case described in Art. 5, paragraph 2 of this announcement.

Within the deadline for application the system allows to save a draft of the application. The date of telematic submission of the application shall be certified by a receipt sent automatically by the system.

Applications received after the deadline set in this selection announcement shall not be considered.

An identification number shall be assigned to each application which, along with the selection procedure code indicated in the computer application, shall be quoted in any further notice.

For any technical problems candidates may contact technical support at: univaq@cinca.it.



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The application submission shall be perfected and concluded in the following ways:

- **By digital signature** using smart card, USB token or remote signature which allow the owner to sign general documents by means of a signature software or a Remote Signature web portal made available by the Auditor. Those who have a Digital Signature smart card or USB token shall verify that they are compatible with the Digital Signature system integrated in the system server. If so, the owner may sign the application directly in the system server (e.g. ConFirma);
 - **Those who do not have compatible digital signature devices and the Remote Digital Signature Owners** who may access a web portal for signing general documents shall save in their own PC the .pdf file generated by the system and, without modifying it, digitally sign it in CADES format. A .p7m file will be generated, which shall be uploaded again to the system. Any editing to the file before signing with the Digital Signature shall interfere with the automatic check of correspondence between the content of such a document and the original, and this will bring to the application exclusion;
 - **If none of the above-mentioned options can be used** candidates shall save in their own PC the .pdf file generated by the system and, without modifying it, print and sign it with full original signature in the last page of the printed document. A scanned .pdf copy of such a document shall be produced and the file thus obtained shall be uploaded to the system.
3. All applications are subject to verification, in any case the following shall be cause for exclusion:
- omission of signature, in accordance with laws and regulations;
 - not including documentation relating to official declaration of equivalency of the Ph.D. issued by the relevant authorities or a copy of the application for obtaining such a declaration of equivalency of the title obtained abroad;
 - not including a copy of a valid identification document.
- Applications deemed as lacking the required elements specified in the selection announcement or not in compliance with what specified in this article shall be excluded by Rector's Decree and candidates shall be notified of the said exclusion by registered post with notice of receipt or by certified e-mail (PEC).
- It is not necessary to sign the application if the candidate logs in using the SPID credentials.**
4. In his/her application the candidate is required to declare the following:
- 1) Surname and name;
 - 2) Date and place of birth;
 - 3) Fiscal code;
 - 4) Residency;
 - 5) Citizenship;
 - 6) The selection procedure they want to participate in;
 - 7) That he/she has the following requisites for participation as indicated in Art. 2 of this announcement;
 - 8) That he/she is in possession of his/her civil and political rights
- a) **Italian candidates** shall also state on their own account:
- Which electoral college they are registered in (municipality) and any reasons for lack of registration or deletion;
 - Their current situation with regard to military service;
- b) **Foreign candidates** shall also state on their own account:
- That they are in possession of their civil and political rights in their country or, supply the reasons for lack thereof;
- 9) That they have not been convicted of a crime nor are they aware of being subject to criminal proceedings or of any pending criminal proceedings against them;
 - 10) That they have not been dismissed or relieved from office with a Public Administration for consistently poor performance, or that they have not been dismissed from a civil service job as provided in Art. 127, Letter d) of D.P.R. January 10 1957, n. 3;



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- 11) That they are not related, up to the fourth degree, to professors belonging to the recruiting Department including the Rector, General Director, any member of the Board of Trustees;
 - 12) That they do not have a position as first or second tier university professors or as open-ended contract Researchers, and have not held such positions in the past either, even if terminated;
 - 13) That they have not already held fixed-term research contracts as provided in Arts. 22 and 24 of Italian Law 240/10 at the University of L'Aquila or at other Italian Universities, whether public, private or online, bodies under Par. 1 of Art. 22 of Italian law 240/10 **for a period, in addition to the intended duration of the competition contract, exceeding a total of 12 years, even if not continuing.**
 - 14) **if not an Italian citizen**, that he/she has an adequate knowledge of the Italian language;
 - 15) that he/she is aware that the Examining Board shall be nominated by Rector's Decree published on the University's Albo Ufficiale and posted on the relevant page of the university website www.univaq.it;
 - 16) that he/she is aware that a list of candidates admitted to the selection procedure is published on the University's Albo Ufficiale and posted on the relevant page of the University website www.univaq.it, in all effects representing official notice to the candidates participating;
 - 17) that he/she is aware that the assessment procedure adopted by the Examining Board in the first session and the interview dates are published for at least seven days on the University's Albo Ufficiale and posted on the relevant page of the university website www.univaq.it, in all effects representing official notice to the candidates participating;
 - 18) that he/she is aware that all documents related to the selection procedure together with decree of approval are published on the University's Albo Ufficiale and posted on the relevant page of the university website www.univaq.it, in all effects representing official notice to the candidates participating.
5. In their applications, candidates must include their selected mailing address for notifications, a telephone number, a mobile number and an e-mail address. Any changes in the above information must immediately be notified to the Settore Concorsi e Selezioni – Palazzo Camponeschi – Piazza Santa Margherita, 2 - 67100 L'Aquila, e-mail: conc@strutture.univaq.it.
In compliance with Law 104/1992, candidates with disabilities must apply for any necessary aid.
6. All declarations made by candidates in the application are to be considered in compliance with Presidential Decree n. 445, 28 December 2000 as amended and supplemented.
- Non-EU citizens** with a regular residence permit may use the Personal Declarations of Certification in accordance with the procedure laid down for EU citizens whenever it is necessary to provide proof of status, facts or personal qualities certifiable or confirmable by Italian public agencies or if the production of self-executed certificates takes place under international agreements between Italy and the applicant's country of origin.
7. The Administration shall carry out a verification process on the contents of declarations, any false declarations shall lead to the candidate losing any benefits obtained thanks to said declarations and are subject to related laws.
 8. The University Administration declines all responsibility for un-received notifications due to the candidate's failure in providing a correct address or not notifying the University in due time of any change in the address given in the application or for any postal or telegraphic services, misdeliveries, or due to third parties, unforeseeable events or force majeure.
 9. **Candidates shall not be able to modify their applications after the indicated deadline. Applications deemed as lacking the required elements specified in Art. 2 of the selection announcement, or the declarations specified in Paragraph 4. of this article shall be excluded by Rector's Decree and candidates shall be notified of the said exclusion.**

Art. 4 – Required Application Attachments

Candidates must also attach the following to their applications:

- a) A photocopy of a valid identity document;
- b) A photocopy of their fiscal code;
- c) A Curriculum Vitae listing their scientific and teaching activities, written in Italian and in English;
- d) A list of qualifications;
- e) A copy of qualifications (**only for those which cannot be presented with a personal declaration of certification**) complete with a certification of authenticity and certified Italian translation if written in a language other than English;
- f) A numbered list of publications;
- g) A list of the candidate's teaching experience indicating the University/Body, the period and the subject taught;
- h) Publications (not exceeding the number indicated in art. 1 of the present the announcement);
- i) A copy of residency permit (non EU citizens).

All qualification certificates issued by Italian Public Administration Authorities must only be self-certified as pursuant to Italian Law 183/2011.

Non EU Citizens with a regular Italian residence permit may submit original or scanned copies of qualifications, authenticated or certified copies of the original.

Art. 5 – Publications

1. Publications presented must be submitted only in .pdf format in the dedicated section of the telematic procedure at <https://pica.cineca.it/univag>.
2. **Each publication shall not exceed the limit of 30 megabyte.**

Those publications exceeding the limit of 30 megabyte shall be indicated in a numbered list to be entered in the online platform and uploaded in .pdf format to a digital medium (USB, CD, DVD) to be posted within the application deadline by registered mail, express post or package or service with notice of receipt to the following address: Settore Concorsi e Selezioni – Palazzo Camponeschi – Piazza Santa Margherita, 2 - 67100 L'Aquila. The date when the envelope was accepted by the post office or express service company shall be taken into consideration. Any applications whose publications (exceeding the 30 megabyte) shall be excluded that, though posted within the deadline under comma 1 of Article 3 of this selection announcement, do not arrive at the University Administration within the fifth day after the designated deadline. In the latter case the date of arrival at the University shall be taken into consideration. The University Administration declines all responsibility for any non-deliveries or misdeliveries of the publications, or other problems due to third parties, unforeseeable events or force majeure. The candidate must indicate on the envelope containing the publications: the University issuing the selection procedure, the requesting Department, the academic recruitment field, academic discipline, position being applied for, name, surname, mailing address for all selection procedure related notifications, selection procedure code and identification number assigned by the computer application.

If the maximum number of publications indicated in Attachments to this selection procedure is not observed, the system shall not allow to complete the application procedure.

Candidates cannot make references to other publications/documents presented previously to the University of L'Aquila or to any other administration/institution.

3. Works published in Italy will be assessed if they comply with legal standards and are pursuant to Leg. Decree n. 660/1945 as amended by Italian Law 106/2004 and Presidential Decree n. 252/2006. This requires certification to be provided with the application or a personal declaration pursuant to Presidential Decree n. 445/2000. For works published abroad the date and place of publication must be indicated.
4. Publications written in a foreign language must be accompanied by a certified Italian translation by official translator or consulate/embassy. The translation process is not required for publications written in French, English, German and Spanish.

Art. 6 - Renouncing Participation

Candidates wishing to renounce participation in the selection procedure are required to write to the Rector to declare their intentions, including in their letter a photocopy of a valid identity document, to the following address: Settore Concorsi e Selezioni – Palazzo Camponeschi – Piazza S. Margherita 2 – 67100 L'Aquila, e-mail: conc@strutture.univaq.it. Their renouncement shall be made official during the first meeting of the Examining Board following receipt of renouncement.

Art. 7 - Nomination of the Examining Board

1. The Examining Board is appointed by a Rector's Decree upon nomination of the Department requesting the position as per Regulations as to recruitment of fixed-term university Researchers appointment indicated in the introduction to this selection announcement.
2. The Rector's Decree appointing the Examining Board shall be published on the University's Albo Ufficiale and on the University website.
3. From the date the Rector's Decree nominating the Examining Board is published starts the period of time allowed to candidates to state their opposition to any of the components of the Board. The deadline for submitting the opposition is 5 (five) days. If the cause of the objection arises after the time indicated above so long as before the date of the Board's taking office, the period shall run from its occurrence. After this period, and anyhow after the Board's taking office, no instances may be presented.
4. The Board nominates a President and a Secretary.
5. The Board operates with the presence of all its members and takes decisions unanimously.
6. Participation in all Board activities is mandatory for all members.
7. The Board, after notifying the Head of the selection procedure, may hold meetings using telematic technology. At the end of the meeting the minutes must be drawn up, approved, and signed by the Secretary who has actually drawn them up. The other members of the Examining Board underwrite a statement in which they declare that they have joined the meeting and undersigned the minutes and then forward them telematically to the competent administration office. Where applicable, reference has to be made to the University's Regulations (Rector's Decree n. 467-2016, 18 April, 2016 as modified by Rector's Decree n. 318-2020, 17 March, 2020).
8. Expenses incurred may be reimbursed in accordance with the University's Regulations pursuant to Art. 7, Paragraph 12 in reference to the recruitment of fixed-term Researchers.

Art. 8 - Role and Duties of the Examining Board

1. In the first session the Board, having determined that in compliance with related laws, no incompatibility factors are present, outlines the preliminary assessment criteria and procedures for selection in compliance with the parameters indicated in Ministerial Decree n. 243, 25 May 2011, considering also the criteria and specific functions to be carried out by the Researcher indicated by the Department and stated in the Attachments of this selection procedure.

The Board also establishes an analytical system to confer points to candidates after preliminary assessment has been completed. The Board then establishes which candidates are admitted to the interview, together with the criteria for testing their English language skills, and Italian language skills for foreign applicants.

2. The Head of the selection procedure is immediately notified of the above-mentioned results which are to be published on the University's Albo Ufficiale and on the website **for at least three days** before the Board can move on to the next phase of the selection procedure. After determining criteria and inspecting the Rector's Decree containing the list of candidates admitted to the selection procedure, each member of the



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Examining Board must state in the minutes that no incompatibility factors and conflict of interest are present.

3. The above mentioned preliminary procedure initially involves determining if the candidates possess the requisites for participation in the light of the admission requisites indicated in the selection announcement. The selection is carried out by a preliminary assessment of the candidates with an analytical evaluation of their CVs and publications, including their Ph.D. thesis.

4. Following preliminary assessment, the Board shall admit **all the candidates** to participate in a public discussion of their qualifications and scientific work as well as to test their English language skills.

5. In the preliminary minutes the date of the second meeting shall be scheduled, in which the Board shall assess the candidates' qualifications and publications, with analytical evaluations, and soon after interview the candidates. The above mentioned minutes shall be published on the University's Albo Ufficiale and on the website **at least 5 days before the interview. This is to be considered an official notification for candidates. Candidates are required to appear for their interviews, or to connect in case of telematic procedure, on the indicated date, time and place set with a valid identity document, without further notice. If the candidate does not show up, this shall be considered final renunciation to the selection procedure.**

Throughout the period of validity of the temporary Regulations concerning the procedures for carrying out interviews using telematic technology in the selection procedures for RTD/A and RTD/B as well as interviews for testing language skills in the selection procedures for First and Second Tier Professors, established by the Rector's Decree n. 339-2020, 26 March, 2020, the interview may be carried out by using the audio and video tools according to the Instructions on telematic connection at <https://www.univaq.it/section.php?id=1532>. In the section "Candidates admitted to interview" a Notice shall be published following which candidates must fill in, sign and send within the date set for the interview a declaration to the following e-mail address: concRTDB@strutture.univaq.it.

Not sending such a declaration shall be considered final renunciation to the selection procedure.

6. Following the interviews, the Board grades the candidate's qualifications, attributes a grade to each publication and assesses interview and foreign language skills. Once this has been completed the Board draws up a ranking of the candidates and deliberates (by majority) the winner of the selection procedure.

7. All proceedings are contained in the minutes of the meetings, including all the assessment results obtained during the preliminary meeting, grading of qualifications and publications, and interview to test English language skills. The results of all of the above are published on the University's Albo Ufficiale and on the website **which to all effects represents an official notification for the participants in the selection.**

Art. 9 - Time Limits of the Selection Procedure

1. The Board is to conclude the work **within 20 days** from the Rector's Decree nominating its members.

Art. 10 - Determining Validity of Proceedings

Within ten days after the proceedings are consigned to the Settore Concorsi e Selezioni, the Rector issues a Decree establishing their validity and proclaiming the winner. The Decree of approval is published on the University's Albo Ufficiale and on the website and, along with the above mentioned proceedings, is immediately passed on to the relevant Department in charge of the appointment.

This, to all effects, represents official notification and from that date starts the period of time allowed to candidates to file a complaint. The candidate selected shall also be notified.

If the Rector finds any irregularities in the proceedings he/she may make a motivated request to the Board to obtain rectification setting a time limit.



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Art. 11 - Appointment by the Department

1. Within 10 days of the Rector's approval of the proceedings the Department Council that had requested the selection procedure must propose a date to officially appoint the new Researcher. The Head of the Department must convene the Council composed by the competent members. The proposal for the call is valid if approved by the vote of the overall majority of First and Second Tier Professors of the Department. In case of failure to reach such a majority the consequent resolution of not calling must be properly motivated with regard to failing the needs that had motivated the request of the selection procedure.
2. Failing to propose the call within the above-mentioned deadline or failing to properly motivate the resolution of not calling involves for the Department requesting the procedure the impossibility to start for one year a new selection procedure for the same Academic Discipline.
3. The Department's deliberation to call the Researcher must be approved by the University's Board of Directors.
4. Within 30 days of the date of the call approval by the Board of Directors the Researcher is invited to present all necessary documents for stipulation.

Art. 12 –Researcher's Obligations

1. Upon signature of the contract the Researcher must sign a declaration in which he/she states:
 - a. To formally commit themselves to carry out the planned research periods (minimum 6 months, maximum 12 months) in an enterprise or abroad (optional), declaring at the same time to be aware that non-compliance with the minimum period in the enterprise shall result in cancelling the research contract;
 - b. To be aware that the action is co-funded by the Fondo Sociale Europeo – REACT EU – Programma Operativo Nazionale Ricerca e Innovazione 2014-2020 depending on the Ministry of University and Research;
 - c. To be aware that failing to respect the requirements set out by the Ministerial Decree assigning resources (e.g.: substantial technical-scientific variations of the research project which may result in changes of the aims and expected results without prior approval by MUR; breach of periodical reporting obligations of the activities carried out as provided for in art. 3, paragraphs 8 and 9 of the specifications implementing Ministerial Decree 1062) shall result in the withdrawal of the action approved and in the full repayment of the amounts already received;
 - d. To be aware that changes of the project aims and expected results (without prior approval by MUR) shall result in the withdrawal of the action approved and in the full repayment of the amounts already received;
2. The Researcher commits themselves to carry out their research activity concerning issues related to innovation/green no later than 31 December 2023.

Art. 13 – Employment Contract

1. A fixed-term (three-year), full- or part-time employment contract shall be drawn up and underwritten by the Rector and by the Researcher. The contract may be extended for two years only and only once, following a positive assessment of teaching and research activities carried out, provided that the necessary funds are available.

During maternity leave the contract is put on hold and expiration date is postponed for a period equal to that of compulsory leave of absence.

The contract shall be signed by the parties and shall be conditioned to its actual eligibility for funding by MUR – *Segretariato Generale – Direzione Generale della ricerca per il tramite dell'Ufficio III*



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“Incentivazione della ricerca pubblica e valorizzazione dei ricercatori nell’ambito dello Spazio europeo della ricerca”, on the basis of admission requirements indicated in the document *“Criteri di selezione delle operazioni a valere su risorse FSE-REACT-EU”* approved by *Comitato di Sorveglianza del PON Ricerca e Innovazione 2014-2020*. Beginning of service shall take place in the earliest date regarding notice provided for in art. 3, paragraph 9 of Ministerial Decree 1062, 10 August 2021.

2. All elements provided for in Art. 11 of the relevant University’s Regulations must be indicated within said contract.

The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year if full-time and 200 hrs per year if part-time. Research activity is the subject of a specific scientific report to be submitted yearly to the Department’s approval.

Given that the contract shall be pursuant to Leg. Decree n. 165/2001 Art. 53, it is important to state that it cannot be accumulated with other employment contracts, research grants, Ph.D. or Specialization courses, nor with any other earnings or grants from the University.

As regards the Researcher’s duties the main duties established by law regarding the category of fixed-term, full-time Researchers shall be applied, as far as compatible.

The Researcher appointed will be required to abide by the Civil servants’ Code of Behaviour, not doing so shall lead to termination of contract. The Researcher shall also abide by norms regarding security, as established in Leg. Decree n. 81, 9 April 2008 as amended and supplemented, and also contact the Health and Safety Service of the University to gather information on prevention measures to abide by while carrying out research.

3. The position is subject to all laws regarding termination.

Art. 14 - Salary and Social Security Benefits

Emoluments for recipients of contracts provided for in art. 24, paragraph 3, letter a) of Italian Law 240/2010 is equal to the starting salary for Confirmed Researchers, depending on the type of contract. To fixed-time Researchers do not apply economic and career progressions.

The contract is subject to all social security and fiscal taxes provided for all contracts entered with the University of L’Aquila.

Art. 15 - Documents for Contract Stipulation

For his/her recruitment, the Researcher selected shall present all required documents together with all declarations certifying their requisites for appointment as pursuant to Presidential Decree 445/2000 art. 46 and 47 to the University’s Settore Personale Docente e Ricercatori as specified in Art. 3, Paragraph 4, numbers 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13 in this announcement. The Researcher shall also present a personal declaration of certification regarding their marital status, household members, whether they belong to legally protected categories, whether they receive a pension, whether they are members of professional registers; they must also declare that they are not employed in any other public or private company or institution as pursuant to Presidential Decree 445/2000, Art. 46 and 47.

The selected candidate, if already employed by a public administration, must declare it in order to take a leave of absence for all the contract period, unpaid and without social security contributions, or an “out of role” position where such position is provided for in their administration system.

Before starting work the Researcher must undergo a medical check-up to obtain a certificate from the University doctor stating that their health allows them to carry out the job duties required, the Researcher can contact the Settore Personale Docente e Ricercatori to make an appointment with the doctor.

The University reserves the right to carry out sample checks to verify the information and certification presented.



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Art. 16 - Personal Data

The handling of candidates' personal information is disciplined by Leg. Decree n. 196, 30 June, 2003 and by UE Regulation n. 679/2016. Personal information supplied by the candidates in the application form shall be collected by the offices of the University and processed for the purposes of the procedure and for the management of relations ensuing therefrom.

The provision of said information is compulsory, on pain of exclusion.

Candidates are entitled to exercise the rights provided in the Legislative Decree mentioned above, including the right of access to the data concerning them, the right to amend, update, complete or delete erroneous or incomplete data or data collected in a manner that is contrary to law, and to object to processing for legitimate reasons.

Art. 17 – Disclosure

The selection announcement is published in the Gazzetta Ufficiale della Repubblica Italiana – 4° Serie speciale – Concorsi ed Esami on 19 October 2021, in the MIUR website (<http://bandi.miur.it/index.php>) and in the European Union website (<http://ec.europa.eu/euraxess>) the same date. This Decree is made available to the public in the University's Albo Ufficiale at <http://www.univaq.it/section.php?id=1391> and in the section of the website dedicated to selection procedures at <http://www.univaq.it/section.php?id=1532>.

Art. 18 - Reference to Implementation Modalities

For all matters not contained in this announcement, the resolutions, laws and regulations indicated in the introduction together with all laws regulating recruitment of University staff shall apply.

Art. 19 - Head of the Selection Procedure

Pursuant to Art. 5 of Italian Law n. 241, 7 August, 1990, dr. Loredana Taccone, Head of the Settore Concorsi e Selezione of the University of L'Aquila, is also head of this selection procedure.

L'Aquila, 19 October, 2021

The Rector
Prof. Edoardo Alesse
(signed:) Edoardo Alesse



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ATTACHMENT 1

Action	Action IV.4 – Research contracts on Innovation issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	11/C2 – Logic, History and Philosophy of Science
Academic Discipline	M-FIL/02 – Logic and Philosophy of Science
Research Project Title	The philosophy of automatons: ethical and epistemological aspects
Scientific Coordinator	Prof. Simone Gozzano in coordination with Prof. Paola Inverardi (Full Tier Professor, Academic Discipline - INF/01 – Informatics – Department of Information Engineering, Computer Science and Mathematics)
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> • Subject area: Digital innovation Development trajectories: 5.5.6 -- Smart urban mobility systems for logistics and people. -- “Embedded” electronic systems, smart sensor networks, Internet of Things.
Reference to: PNR 2021-2027	Context 4: Digital, industry, aerospace 4.1 Digital transition 4.3 Artificial intelligence
Teaching activities	<p>The Researcher shall teach courses of the Academic Discipline M-FIL/02 - Logic and Philosophy of Science offered in the Bachelor’s level degrees and Master’s level degrees of the Department and of the University.</p> <p>In particular, he/she shall carry out teaching activities in Logic and Philosophy of Science courses possibly teaching units also offered by other Departments, especially in the Master’s level degree in Applied Data Science of the Department of Information Engineering, Computer Science and Mathematics.</p> <p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate’s teaching activity shall focus on the issues of “INNOVATION” with particular reference to what is specified in the framework a.a) as provided for in art. 3, paragraph 5 of Ministerial Decree 1062 dated 10/08/2021, that is the enabling technologies in the framework of a wider understanding of the nature and limits of digital.</p> <p>More specifically, teaching activities shall refer to the following thematic context: analysis and development of ethical and epistemological issues concerning autonomous systems, from self-driving vehicles to data mining programmes to focus on the issue of trust to be given to an autonomous system ability to choose.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.</p>



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<p>Research Activities</p>	<p>The selected candidate's research activities shall focus on the issues of "INNOVATION" with particular reference to what is specified in the framework a.a) as provided for in art. 3, paragraph 5 of Ministerial Decree 1062 dated 10/08/2021; more specifically, research activity, to be carried out in collaboration with Prof. Paola Inverardi, Academic Discipline INF-01, shall focus on the ethical and epistemological issues of Artificial Intelligence. Artificial intelligence, meaning those technological and theoretical solutions applied to the different fields of automation, is increasingly pervasive. From self-driving vehicles to data mining and profiling algorithms up to military applications, AI interacts with our lives on different levels. Among the relevant aspects the possibility can be mentioned that such systems make choices, have some sort of ability to take actions on their basis, and that therefore are responsible, though vicariously, of such actions. Moreover, such systems require some degree of trust from human agents. It is immediately clear that each of these statements has a philosophical implication and that therefore has to be analyzed and explored. The selected candidate shall analyze and develop concepts and proposals for understanding the behaviour of autonomous systems; conceive procedures and guidelines for algorithmical behaviours and procedures which are ethically explicit and shared by the final user of such systems; study the concept of trust and ethical reliability of such systems, making the ethical consequences and the epistemological assumptions as much explicit as possible.</p>
<p>Department</p>	<p>Human Studies</p>
<p>Type of Enterprise (context)</p>	<p>RadioLabs (University – Industry Consortium – Radiocommunication Laboratory): Non-profit research consortium operating in the field of Information Technology; Analyses development and guidelines for understanding and assessing the ethical impact of vehicles, systems and artificial agents with autonomous ability to choose.</p>
<p>Research period in the Enterprise</p>	<p>8 months (mandatory)</p>
<p>Research period abroad</p>	<p>Not required</p>
<p>Maximum number of publications</p>	<p>12 (twelve)</p>
<p>Foreign language requisite</p>	<p>English</p>
<p>Assessment criteria</p>	<p>The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.</p>
<p>Financial coverage of contract expenses</p>	<p>From the date of contract stipulation and until 31/12/2023 the contract expenses shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues assigned to the University of L'Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021. From 01/01/2024 and until termination of contract its expenses shall weigh on PNR resources assigned as provided for by Ministerial Decree n. 737 dated 25/06/2021.</p>



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ATTACHMENT 2

Action	Action IV.4 – Research contracts on Innovation issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	09/B1 – Manufacturing Technologies and Systems
Academic Discipline	ING-IND/16 – Manufacturing Technologies and Systems
Research project title	Design and development of structural elements with innovative composite materials and manufacturing technologies for lightening vehicles
Scientific Coordinator	Prof. Antoniomaria Di Ilio
Research period in the Enterprise	minimum 6 months, maximum 12 months (mandatory)
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> • National thematic area 5.4.2 Smart and sustainable industry, energy and environment • Development trajectories at national priority High efficiency innovative production processes for industrial sustainability; Innovative and eco-friendly materials; Developmental and adaptive production systems for customized production. • Regional specialization areas 7. Smart plant (sub-context: Advanced production processes, Advanced modelling methods and tools, Production and use of innovative materials, Technologies for sustainable manufacturing. 8. Sustainable mobility
Reference to: PNR 2021-2027	<p>Context 5.4 Digital, industry, aerospace</p> <ul style="list-style-type: none"> • 5.4.6 Innovation for manufacturing industry Structure 1. Clean and efficient circular industry Structure 3. Smart industry Structure 5. Competitive industry • 5.4.7 Aerospace Structure 2. Environmental impact reduction and wellness increase in aeronautics Structure 4. Smart structures, supermaterials and innovative technologies <p>Context 5.5 Climate, Energy, Sustainable mobility</p> <ul style="list-style-type: none"> • 5.5.1 Sustainable mobility Structure 4. Green and clean networks and vehicles
Teaching Activities	The Researcher shall teach courses of the Academic Discipline ING-IND/16 – Manufacturing Technologies and Systems offered in the bachelor's level and master's level degrees of the Department and of the University.



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	<p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate's teaching activity shall focus on the issues of innovation of technological production processes with particular reference to issues concerning innovative composite materials characterized by low environmental impact and recyclability, for the development of more efficient and light structures, new technologies and integrations of functions related to the following framework: design methodologies of product – process with innovative composite materials for automotive and aeronautics, determination and optimization of mechanical properties of recycled composite materials, re-engineering of structural components in the light of the potentials of recycled composite materials.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.</p>
<p>Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.4 provided for in MD 1062/2021)</i></p>	<p>Research activities shall focus on the issues typical of the Academic Discipline ING-IND/16 – Manufacturing Technologies and Systems whose declaration is reported:</p> <p>The sector deals with scientific and educational activity in the field of technologies and manufacturing systems. Transformation processes of materials and information: which realize the life cycle of the products from their design, to the production and possible reuse; use, in the various phases , technologies and systems (instrumental goods) along with methods and instruments of design and management of transformation activities. Technological solutions, products, processes and network systems more and more based on research shall meet the growing needs of competitiveness and sustainability at global level. As a consequence, the sector studies: transformation processes at macro and micro level which involve manufacturing products, made of traditional and innovative materials, and range from manufacturing to joints, to assembling, to controls, to disposal, to recycle, mechanical, technological and structural characterization of materials transformed and the bond of their properties with parameters which rule processes, methodologies and intruments for the development of the products such as additional manufacturing and inverse engineering also in the light of cost and time, the methodologies and the instruments for process design, the components and the transformation systems (instrumental goods); integrated design product-process-production system; programming, management, and control of production, assembling control, recycle systems, industrial metrology, contactless testing of products and production equipments, quality control, energy saving and senvironment protection in the light of sustainable development; intersections between technological and economical aspects which characterize innovation in the field.</p> <p>Bound context of research activities consistent with the aims of</p>



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	<p>Action IV.4 provided for in MD 1062/2021: the selected candidate's research activity shall focus on the issues of innovation of production processes, with particular reference to the issues of innovative composite materials characterized by low environmental impact and recycleability, for the development of more efficient and lighter facilities, new manufacturing technologies and integrations of functions with particular reference to the following field: design of components in thermoplastic composite materials and manufacturing process for the automotive sector, in particular commercial, light vehicles, study and experimentation of new systems of deposition of long and short fiber composites for the implementation of tridimensional complex structures, study of methodologies of recovery and reuse of scraps and components at the end of life and mechanical characterization of composite materials to be recycled.</p>
Department	Industrial and Information Engineering and Economics
Type of enterprise (context)	Design and development of innovative materials components, manufacturing technologies and process simulation, recycle technologies and characterization of materials, smart composite materials.
Research period in the Enterprise	minimum 6 months, maximum 12 months (mandatory)
Research period abroad	Not required
Maximum number of publications	12 (twelve)
Foreign language requisite	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	<p>From the date of contract stipulation and until 31/12/2023 the contract expenses equal to € 117.019,40 shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues / Action IV.6 - Research contracts on green issues assigned to the University of L'Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021.</p> <p>From 01/01/2024 and until termination of contract its expenses equal to € 54.597,83 shall weigh on resources assigned to the University of L'Aquila/ PNR.</p>



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ATTACHMENT 3

Action	Action IV.4 – Research contracts on Innovation issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	13/A1 – Economics
Academic Discipline	SECS/P01 – Economics
Project title	Technological innovations, climate change, and economic inequalities: economic policies for growth and environmental and social sustainability.
Scientific Coordinator	Prof. Marco Valente
Reference to: SNSI 2014-2020	<p>Thematic area: Smart and sustainable industry, energy and environment</p> <ul style="list-style-type: none"> ○ Development trajectory: Developmental and adaptive production systems for customized production ○ Developmental trajectory: High efficiency innovative production processes for industrial sustainability.
Reference to: PNR 2021-2027	<p>Context and structures:</p> <p>5.2. HUMANISTIC CULTURE, CREATIVITY, SOCIAL CHANGES, INCLUSIVE</p> <p>5.2.5 Social changes and inclusive society</p> <p>5.3. SECURITY FOR SOCIAL SYSTEMS</p> <p>5.3.2 Natura systems security</p> <p>5.4. DIGITAL, INDUSTRY, AEROSPACE</p> <p>5.4.1 Digital transition – i4.0</p> <p>5.4.2 High performance computing and big data</p> <p>5.4.3 Artificial intelligence</p> <p>5.4.4 Robotics</p> <p>5.4.6 Innovation for manufacturing industry</p> <p>5.5. CLIMATE, ENERGY, SUSTAINABLE MOBILITY</p> <p>5.5.2 Climate change, mitigation and adaptation</p> <p>5.6. FOOD PRODUCTS, BIOECONOMY, NATURAL RESOURCES, AGRICULTURE, ENVIRONMENT</p> <p>5.6.1 Green technologies</p>



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<p>Teaching Activities</p>	<p>The Researcher shall teach courses of the Academic Discipline SECS-P01 and related disciplines offered in the Bachelor's level and Master's level degrees of the Department and of the University. Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students. The selected candidate's teaching activity shall focus on the issues of innovation in economics with particular reference to social and environmental sustainability. The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.</p>
<p>Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.6 provided for in MD 1062/2021)</i></p>	<p>The selected candidate's research activities shall focus on the issues typical of the Academic Discipline SECS-P01 as far as complex systems modelling in economics and the effects of innovation on growth, inequalities and environment are concerned. Bound context of research activities consistent with the aims of Action IV.6 provided for in MD 1062/2021: the selected candidate's research activity shall focus on the issues of innovation with particular reference to green transition, reduction of the impacts of climate change with emphasis on economic, social and environmental sustainability studying their interactions.</p>
<p>Department</p>	<p>Industrial and Information Engineering and Economics</p>
<p>Type of enterprise (context)</p>	<p>Economic and social research sector, enterprise focused on the study of economic policies with experience in consulting for enterprises and public organizations.</p>
<p>Research period in the Enterprise</p>	<p>minimum 6 months, maximum 12 months (mandatory)</p>
<p>Research period abroad</p>	<p>Not required</p>
<p>Maximum number of publications</p>	<p>12 (twelve)</p>
<p>Foreign language requisite</p>	<p>English</p>
<p>Assessment criteria</p>	<p>The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.</p>
<p>Financial coverage of contract expenses</p>	<p>From the date of contract stipulation and until 31/12/2023 the contract expenses equal to € 117.019,40 shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues / Action IV.6 - Research contracts on green issues assigned to the University of L'Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021. From 01/01/2024 and until termination of contract its expenses equal to € 54.597,83 shall weigh on resources assigned to the University of L'Aquila/ PNR.</p>

ATTACHMENT 4

Action	Action IV.4 – Research contracts on Innovation issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	06/A2 – – Experimental Medicine, Pathophysiology and Clinical Pathology
Academic Discipline	MED/04 – Experimental Medicine and Pathophysiology
Title of the research project	New strategies of nanomedicine for targeted treatment of glioblastoma on the basis of the inflammatory and metabolic profile and of the chemo-resistance to temozolomide.
Scientific Coordinator	Prof. Maria Grazia Cifone – Firts Tier Professor Academic Discipline MED/04 - Department of Life, Health and Environmental Sciences, University of L'Aquila
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> • Thematic area: Health, food, quality of life Development trajectories: Biotechnologies, bioinformatics and drug development
Reference to: PNR 2021-2027	Context 5.1 Health: 5.1.2 Pharmaceutical and pharmacological technologies Structure 5. Identification of determinants responsible for pathogeneses of incurable diseases and of variability of individual response to drugs 5.1.3 Biotechnologies Structure 1. Oncology 5.1.4 Technologies for the health Structure 9. Nanotechnologies for nanomedicine Structure 11. Bio-hybrid systems for the new frontiers of biotechnological research and of precision and targeted medicine.
Teaching Activities	<p>The Researcher shall teach courses of the Academic Discipline MED/04 offered in the Bachelor's level and Master's level degrees of the Department and of the University.</p> <p>Teaching activities shall also include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate's teaching activity shall focus on the issues of innovation (Thematic Area: Health, food, quality of life DM 1062; Context 5.1 Health DM 737) with reference to health issues, and in particular to the identification of determinants responsible for pathogeneses of incurable diseases and of variability of individual response to drugs.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.</p>
Research Activities <i>(description of the bound context of research)</i>	Research activities shall focus on the issues typical of the Academic Discipline MED/04 as far as basic and applied research of the field including molecular medicine, immunopathology, cellular and molecular pathology are concerned.



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<p><i>activities consistent with the aims of Action IV.6 provided for in MD 1062/2021)</i></p>	<p>Scientific commitment required in relation to research connected to the project consistently with the aims of Action IV.4 as provided for by MD 1062/2021 shall focus on the characterization of the functional connections between the resistance of cell models of glioblastoma (GBM) to temozolomide and the metabolic and inflammatory profile. The study of the role of secretome is also included, in particular of the exosomes released by GBM cell lines, primary culture cells, cell lines from patient primary xenotransplantations (PDX) and relative cancer stem cells on chemoresistance. The effect of inhibitor drugs of COX-2 on chemoresistance to TMZ shall be studied in in vitro models using appropriate nanovectors prepared by experts of nanosystems in close collaboration with the project. The data obtained from the in vitro models shall determine the following phases of the project which include the study, in collaboration with other research groups, of the effects of selected supramolecular nanovectors containing a combination of the most effective drugs in vitro in an animal model (PDX GBM/NOD-SCID) by means of an innovative nose-brain delivery modality. To this purpose the researcher shall spend a research period of six months at Datamantix S.r.l. (Udine), an enterprise with international experience in artificial intelligence and software engineering, working in the field of Information Technology. During the internship the Researcher shall collaborate in the activities concerning the development of software models to process and analyze the data obtained from the animal model, to carry out measurements, predictions and data mining to customize the GBM treatment and the technological transfer.</p>
<p>Department</p>	<p>Life, Health and Environmental Sciences</p>
<p>Type of enterprise (context)</p>	<p>Information Technology sector for design and development of innovative solutions in the field of Data Science, Artificial Intelligence, Machine Learning and Deep Learning</p>
<p>Research period in the Enterprise</p>	<p>minimum 6 months, maximum 12 months (mandatory)</p>
<p>Research period abroad</p>	<p>-</p>
<p>Maximum number of publications</p>	<p>12 (twelve)</p>
<p>Foreign language requisite</p>	<p>English</p>
<p>Assessment criteria</p>	<p>The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.</p>
<p>Financial coverage of contract expenses</p>	<p>From the date of contract stipulation and <u>until 31/12/2023</u> the contract expenses shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues assigned to the University of L’Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021. <u>From 01/01/2024 and until termination of contract</u> its expenses shall weigh on the resources assigned to the University of L’Aquila</p>



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	as provided for by Ministerial Decree n. 737 dated 25/06/2021/(PNR).
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ATTACHMENT 5

Action	Action IV.4 – Research contracts on Innovation issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	05/G1 - Pharmacology, Clinical Pharmacology and Pharmacognosy
Academic Discipline	BIO/14 - Pharmacology
Title of the research project	Therapeutical potential of brain-derived neurotrophic and anti-inflammatory factors for treatment of neurosensory sight and hearing pathologies with high need of care.
Scientific Coordinator	Prof. Anna Rita Volpe, Prof. Annamaria Cimini
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> • Thematic area: Health, food, quality of life • Development trajectories: • Regenerative, predictive, personali • zed medicine • Biotechnologies, bioinformatics and drug development
Reference to: PNR 2021-2027	<p>Context 5.1 Health:</p> <ul style="list-style-type: none"> • 5.1.2 Pharmaceutical and pharmacological technologies <p>Structure 6. Implementation of drug discovery process</p> <ul style="list-style-type: none"> • 5.1.3 Biotechnologies <p>Structure 3. Neurosciences</p> <ul style="list-style-type: none"> • 5.1.4 Technologies for health <p>Structure 5. Organ-on-chip for experimental modelling of biological systems by carrying out native homologous tissues for pre-clinical research and treatment customization (TRL>3)</p>
Teaching Activities	<p>Teaching activities shall include integrated teaching activities, laboratory activities and services to the students within the courses of the Academic Discipline BIO/14 to be carried out in particular in the Bachelor's level, Master's level degrees and Specialization Schools of the Department and of the University.</p> <p>The selected candidate's teaching activity shall focus on the issues of innovation (Thematic Area: Health, food, quality of life DM 1062; Context 5.1 Health DM 737) with particular reference to drug development and regenerative medicine.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.</p>
Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.6 provided for in MD 1062/2021)</i>	<p>Research activities shall focus on the issues typical of the Academic Discipline BIO/14 – Pharmacology concerning pharmacognostic, pharmacodynamic and pharmacokinetic analyses of the selected molecules. The study shall include descriptive as well as analytical aspects (structure-activity) of such substances and of their sources, their impact on the organism (pharmacodynamic, from the organ-specific aspects to the mechanistic ones and the impact of the organism on them (pharmacokinetics) with analyses of the possible adverse actions, their prevention and treatment, possible contraindications to use, acceptable exposure level, abuse potential</p>



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	<p>and possible interactions with other mixtures as well as the assessment of the risk-benefit relationship for human use also for the purpose of pharmaceutical development.</p> <p>Bound context of research activities consistent with the aims of Action IV.6 provided for in MD 1062/2021:</p> <p>The selected candidate's research activities of shall focus on the issues of innovation with particular reference to the issues of the Health Area and to the following context: Biotechnologies, bio-informatics and drug development and regenerative medicine in the field of the application of key enabling technologies in the pharmaceutical and biotechnological sector.</p>
Department	Life, Health and Environmental Sciences
Type of enterprise (context)	Pharmaceutical sector
Research period in the Enterprise	6 months
Research period abroad	-
Maximum number of publications	12 (twelve)
Foreign language requisite	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	<p>From the date of contract stipulation and until 31/12/2023 the contract expenses shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues assigned to the University of L'Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021.</p> <p>From 01/01/2024 and until termination of contract its expenses shall weigh on the resources assigned to the University of L'Aquila as provided for by Ministerial Decree n. 737 dated 25/06/2021/(PNR).</p>

ATTACHMENT 6

Action	Action IV.4 – Research contracts on Innovation issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	05/E3 – Clinical Biochemistry and Molecular Biology
Academic Discipline	BIO/12 – Clinical Biochemistry and Molecular Biology
Title of the research project	New diagnostic-molecular technologies for a rapid identification of resistance mechanisms to antibiotics in Gram-negative bacteria and design of new active molecules on pathogens of relevant clinical interest: from laboratory to therapy.
Scientific Coordinator	Prof. Mariagrazia Perilli
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> • Thematic area: Health, food, quality of life • Development trajectories: Biotechnologies, bio-informatics and drug development
Reference to: PNR 2021-2027	<p>Context 5: Health:</p> <ul style="list-style-type: none"> • 5.1.2 Pharmaceutical and pharmacological technologies <p><u>Structure 5</u>. Identification of determinants responsible for pathogenesis of incurable diseases and of variability of individual response to drugs</p> <p><u>Structure 6</u>. Implementation of drug discovery process</p>
Teaching Activities	<p>The Researcher shall teach courses of the Academic Discipline BIO/12 offered in the Bachelor's level and Master's level degrees of the Department and of the University.</p> <p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate's teaching activity shall focus on the issues of innovation with particular reference to the following field: innovative technologies applied to molecular biology and molecular diagnostic in Laboratory Medicine.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.</p>
Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.4 provided for in MD 1062/2021)</i>	<p>Research activities shall focus on the issues typical of the Academic Discipline BIO/12 concerning the study of biochemical and biomolecular tools to carry out prevention actions at any level, in relation to genome and omics sciences for microbial organisms related to human pathologies (metagenomic and microbiome).</p> <p>Bound context of research activities consistent with the aims of Action IV.4 provided for in MD 1062/2021:</p> <p>The selected candidate's research activities shall focus on the issues of innovation with particular reference to the following context:</p> <p>Innovative molecular technologies for identification and characterization of genes of resistance to antimicrobial and design of</p>



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	new molecules with increased inhibitory property towards β -lactamasi.
Department	Biotechnological and Applied Clinical Sciences
Type of enterprise (context)	Aptuit (Verona), an Evotec company (pharmacological sector)
Research period in the Enterprise	6 months (mandatory)
Research period abroad	Not required
Maximum number of publications	12 (twelve)
Foreign language requisite	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	From the date of contract stipulation and until 31/12/2023 the contract expenses equal to € 117.019,40 shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues / Action IV.4 - Research contracts on green issues assigned to the University of L'Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021. From 01/01/2024 and until termination of contract its expenses equal to € 54.597,83 shall weigh on resources assigned to the University of L'Aquila as provided for by Ministerial Decree n.737 dated 25/6/2021.

ATTACHMENT 7

Action	Action IV.4 – “ Research contracts on Innovation issues”
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	05/H2 – Histology
Academic Discipline	BIO/17 – Histology
Title of the research project	Development of innovative therapies for the treatment of monogenic diseases of the skeletal system
Scientific Coordinator	Prof. Anna Maria Teti
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> • Thematic area: Health, food, quality of life • Development trajectories: Biotechnologies, bio-informatics and drug development
Reference to: PNR 2021-2027	Context 5: Health: <ul style="list-style-type: none"> • 5.1.3 Biotechnologies <u>Structure 6. Gene therapy and personalized medicine</u>
Teaching Activities	<p>The Researcher shall teach courses of the Academic Discipline BIO/17 offered in the Bachelor’s level and Master’s level degrees of the Department and of the University.</p> <p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students. The selected candidate’s teaching activity shall focus on the issues of innovation with particular reference to the field of biotechnologies and the health of human tissues, especially skeletal tissues</p> <p>The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.</p>
Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.4 provided for in MD 1062/2021)</i>	<p>Research activities shall focus on the issues typical of the Academic Discipline BIO/17 concerning histo-functional and regulation mechanisms of cellular types in bone tissue, their alterations and treatment, using methodological procedures aimed at the study of cellular and subcellular structures also with molecular methodologies.</p> <p>Bound context of research activities consistent with the aims of Action IV.4 provided for in MD 1062/2021:</p> <p>The selected candidate’s research activities of shall focus on the issues of innovation with particular reference to the following context: Development of a platform for the treatment of monogenic diseases of the skeleton System by means of an innovative approach based on the use of short interfering RNA in in vitro and in vivo disease models.</p>
Department	Biotechnological and Applied Clinical Sciences
Type of Enterprise (context)	SiSaf Limited, Enterprise in the sector “Research and experimental development in biotechnologies (72110)”



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Research period in the Enterprise	6 months (mandatory)
Research period abroad	Not required
Maximum number of publications	12 (twelve)
Foreign Language Requisite	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	From the date of contract stipulation and until 31/12/2023 the contract expenses equal to € 117.019,40 shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues / Action IV.4 - Research contracts on green issues assigned to the University of L’Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021. From 01/01/2024 and until termination of contract its expenses equal to € 54.597,83 shall weigh on resources assigned to the University of L’Aquila as provided for by Ministerial Decree n.737 dated 25/6/2021.



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ATTACHMENT 8

Action	Action IV.4 – Research contracts on Innovation issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	01/B1 - Informatics
Academic Discipline	INF/01 - Informatics
Title of the research project	SmartHealthMate
Scientific Coordinator	Prof. Stefania Costantini, Dr. Fabio Persia, Dr. Giovanni De Gasperis
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> ● Thematic area: Innovation ● Development trajectories: <ul style="list-style-type: none"> ○ Health, food, quality of life: Development trajectories at national priority: <ul style="list-style-type: none"> ▪ Active & healthy ageing: technologies for active ageing and home care. ▪ E-health, advanced diagnostics, medical devices and minimal invasiveness.
Reference to: PNR 2021-2027	<p>Context 5.1: Health:</p> <ul style="list-style-type: none"> ● 5.1.4 Health technologies: <ul style="list-style-type: none"> ○ Structure 1. Digital Health: telemedicine, digital and sensor technologies for preventive, participatory and personalized medicine and for the innovation of health services and clinical engineering (TRL>4). ○ Structure 2. Artificial intelligence for precision diagnostics, personalized therapies and organisational and managerial innovation of health processes (TRL> 3) ○ Structure 12. Impact assessment of technologies and business models <p>Ambito 5.4. DIGITAL, INDUSTRY, AEROSPACE:</p> <ul style="list-style-type: none"> ● 5.4.3 Artificial intelligence <ul style="list-style-type: none"> ○ Structure 1. Artificial intelligence for artificial intelligence (IA per IA) ○ Structure 2. Human-centred artificial intelligence ○ Structure 3. Artificial Intelligence for health ○ Structure 4. Artificial intelligence for society
Teaching Activities	<p>The Researcher shall teach courses of the Academic Discipline INF/01 offered in the Bachelor's level and Master's level degrees of the Department and of the University.</p> <p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate's teaching activity shall focus on the themes of innovation with particular reference to the issues of the digital and the enabling technologies which support the valorization of human capital, the human dignity and ethics, the technologies for the health,</p>



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	<p>the welfare of the human capital with particular reference to the following field:</p> <ul style="list-style-type: none"> - Intelligent agents, Automatic reasoning and “Machine Learning” applied to e-health. High-quality, smart home care to ageing people. The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.
<p>Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.4 provided for in MD 1062/2021)</i></p>	<p>Research activities shall focus on the issues typical of the Academic Discipline INF/01 concerning the application and experimental fields relating to innovative use of informatics, such as neural networks and artificial intelligence, and the systemistic skills necessary to model and design information systems, databases and access systems to information.</p> <p>Bound context of research activities consistent with the aims of Action IV.4 provided for in MD 1062/2021:</p> <p>the selected candidate’s research activities of shall focus on the issues of innovation with particular reference to the digital and the enabling technologies which support the valorization of human capital, the human dignity and ethics, the technologies for the health, the welfare of the human capital with particular reference to the following field:</p> <ul style="list-style-type: none"> - Intelligent agents, Automatic reasoning and “Machine Learning” applied to e-health. High-quality, smart home care to ageing people. This project is aimed at the development of a smart health support system which shall allow to: effectively support patients in their own homes; ease the work of doctor who shall be listened only if really necessary, providing them with all the necessary elements; lighten the national health system which, interacting with the support systems assigned to patients, shall be able to rationalise the use of the resources. <p>This research goes far beyond the existing telemedicine systems (many are the “app” advertised and commercialized) in so far as it is intended to make use of Artificial Intelligence methodologies, in particular Intelligent Agents, Automatic Reasoning and “Machine Learning”.</p> <p>An intelligent and safe “health assistant” shall be developed, able to interact in a “humanized” and flexible way with the patient. The project’s purpose is to contribute to develop monitoring solutions of health in general, collecting the values of the patients’ vital parameters and analyzing them efficiently and effectively in the short and in the long run using “Complex Event Processing” methods. The system shall then offer the doctor a smart clinical decision support. The system may as well be incorporated into a robot (at low cost) for home care or in other devices such as smartphones and tablets, upgraded with specific sensors. Furthermore, the health assistant shall behave ethically and respect the patient’s preferences. This shall be realized embedding general deontological rules concerning health care and “privacy” into the agent. Later on it shall learn automatically the patient’s preferences through a continuous interaction over time</p>



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	implementing different forms of “Machine Learning”. The system shall be able to provide any time the patient and the doctor with explanations about its actions.
Department	DISIM - Department of Information Engineering, Computer Science and Mathematics
Type of Enterprise (context)	Information Technology sector with particular reference to e-Health.
Research period in the Enterprise	9 months (mandatory)
Research period abroad	-
Maximum number of publications	12 (twelve)
Foreign language requisite	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	From the date of contract stipulation and <u>until 31/12/2023</u> the contract expenses equal to € 117.019,40 shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues / Action IV.4 - Research contracts on green issues assigned to the University of L’Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021. <u>From 01/01/2024 and until termination of contract</u> its expenses equal to € 54.597,83 shall weigh on resources assigned to the University of L’Aquila as provided for by Ministerial Decree n.737 dated 25/6/2021.

ATTACHMENT 9

Action	Action IV.4 – Research contracts on Innovation issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment field	01/A5 – Numerical Analysis
Academic Discipline	MAT/08 – Numerical Analysis
Title of the research project	Numerical modelling of stochastic differential equations for <i>supply chain</i> dynamics
Scientific coordinator	Prof. Raffaele D'Ambrosio
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> • Thematic area: Smart and sustainable industry, energy and environment • Development trajectories: Highly efficient innovative productive processes and for industrial sustainability
Reference to: PNR 2021-2027	Context 4 - Digital, Industry, Aerospace: <ul style="list-style-type: none"> • 4.6 Innovation for manufacturing industry.
Teaching Activities	<p>The Researcher shall teach courses of the Academic Discipline MAT/08 offered in the Bachelor's level and Master's level degrees of the Department and of the University.</p> <p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate's teaching activity shall focus on the methodological and application aspects of numerical modelling for deterministic and stochastic evolution problems as well as on other methodological issues of Numerical Analysis, with particular reference to the numerical aspects useful for the study of the dynamic nature of production processes and, specifically, of sustainable company supply chains.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.</p>
Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.4 provided for in MD 1062/2021)</i>	<p>Research activities shall focus on the issues typical of the Academic Discipline MAT/08 (Numerical Analysis) concerning the computational aspects of mathematics in all their articulations.</p> <p>Bound context of research activities consistent with the aims of Action IV.4 provided for in Ministerial Decree 1062/2021: the selected candidate's research activities shall focus on modelling and simulation of <i>supply chain</i> by means of stochastic differential problems as well as advanced tools typical of Numerical Analysis for the long term study of a company supply chain in order to predict possible bottlenecks, latencies, bullwhip effects and where these are located in time and space. Modelling shall incorporate different levels of uncertainty which insist on the dynamic of a supply chain, and depend on variables of environmental capacity to the advantage of sustainability. The interaction with the partner company</p>



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	shall be necessary to design and validate the modelling proposed and to apply it to several case studies.
Department	Information Engineering, Computer Science and Mathematics
Type of Enterprise (context)	Software production, management consulting services for the implementation of highly efficient productive processes and for industrial sustainability.
Research period in the Enterprise	9 months
Research period abroad	minimum 6 months, maximum 12 months (optional)
Maximum number of publications	12 (twelve)
Foreign language requisite	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	From the date of contract stipulation scheduled on 1/02/2022 and until 31/01/2023 the amount of € 50.397,96 shall weigh on PRIN project 2017 “Structure preserving approximation of evolutionary problems” funds of which the proposer is the principal investigator. From 01/02/2023 and until 31/12/2023 the standard cost of € 55.965,80 shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues assigned to the University of L’Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021. From 01/01/2024 and until contract termination scheduled for 31/01/2025 its expenses equal to € 54.597,79 shall weigh on PRIN resources for promotion and development of policies assigned to the University of L’Aquila as provided for by Ministerial Decree n.737 dated 25/6/2021.



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ATTACHMENT 10

Action	Action IV.4 – Research contracts on Innovation issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	09/H1 – Information Processing Systems
Academic Discipline	ING-INF/05 – Information Processing Systems
Title of the research project	Pro.A.R.T.E. – To support the design of real time applications embedded on heterogenous multiprocessor platforms (SoC), optimizing task assignation on reconfigurable logic.
Scientific Coordinator	Tania Di Mascio
Reference to: SNSI 2014-2020	<p>Pro.A.R.T.E. and its main objectives are transversal to the 5 thematic areas defined in SNSI. In particular, the proposal refers to:</p> <ul style="list-style-type: none"> • Thematic Area – in the short run the proposal focuses on aerospace and defense, as the industrial partner provides a case study in this field; in the medium run on digital agenda, smart communities, smart mobility systems and health, food, quality of life as the products of the proposal relapse on such fields (e.g. think of smart vehicles or more efficient pacemaker); in the long run on intelligent and sustainable industry, energy and environment as the project promotes the reuse of electronic components which may have an impact on resources and environment; finally on tourism, cultural heritage and industry of creativity, which nowadays cannot be separated from the use of real-time applications (think of augmented reality systems for museum visits which adapt to conditions changing in time). <p>Conforming to the previous point, the following development trajectories are envisaged, each one related to the different areas:</p> <ul style="list-style-type: none"> • Development trajectories – For (1) aerospace and defense: advanced avionics in the field of networks of hw modules and of the interface human-machine and advanced air traffic management system, space robotics for in-orbit service operations and for exploration missions, and systems for earth observation in the field of missions, of the instruments and of data processing. For (2) digital agenda, smart communities, intelligent mobility systems: “embedded” electronic systems, intelligent sensor networks, internet of things, systems for urban environment security, environmental monitoring and prevention of critical or risk events and systems and applications for tourism, fruition of culture and attractivity of the Made in Italy. For (3) health, food, quality of life: e-health, advanced diagnostics, medical devices and minimal invasiveness and regenerative, predictive and personalized medicine. For (4) intelligent and sustainable industry, energy and environment: high efficiency innovative production processes for industrial sustainability and evolutionary and adaptive production systems for personalised production. For (5) tourism, cultural heritage and industry of



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	creativity: systems and applications for tourism, the fruition of culture and attractiveness of the Made in Italy and reduction of the environmental impact (green engine).
Reference to: PNR 2021-2027	Contributing to training new developers and producing internationalizable results, Pro.A.R.T.E. refers, in particular, to: 5.1. Health --> 5.1.4 Technologies for the health: medical devices, artificial organs and neuromorphic technologies for bionic and regenerative medicine 5.2. Cultural heritage --> 5.2.4 Creativity, design and Made in Italy; 5.2.5 Social changes and inclusive society 5.4. Digital, Industry and Aerospace: heterogeneous devices and systems --> 5.4.1 Digital transition – i4.0; 5.4.4 Robotics; 5.4.7 Aerospace 5.5. Climate, Energy and sustainable mobility --> 5.5.3 Industrial energetics
Teaching Activities	Teaching activities to be carried out in the following modules: (1) <i>Embedded Systems</i> – Master’s level degree LM-32 in Informatic/Automatic Engineering and (2) <i>Advances in Computing Technologies</i> (new activated), in the light of a development of the Master’s level degree LM-32 in Informatic Engineering. Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. The Researcher shall also carry out incoming and mid-term orientation activities and tutoring of students. The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.
Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.4 provided for in MD 1062/2021)</i>	Research activities shall focus on the issues typical of the Academic Discipline ING-INF/05 as far as the project named Pro.A.R.T.E. is concerned, the aim of which is to provide an innovative methodology of design, and a related tool, allowing to support the developers of real-time embedded applications on reconfigurable heterogeneous multiprocessor platforms (SoC), optimizing the dynamic assignation of different actors represented by tasks running in the whole system, on the limited resource represented by reconfigurable parts (FPGA) contained in the SoC. In particular, with reference to action IV.4, research contracts on the issues of innovation: a.a. -- Pro.A.R.T.E. objectives to produce a methodology and a tool to support the developers/researchers in the development of innovative technologies impact on the 5 Horizon areas and on the 12 areas of the taxonomy of applied and translational of PNR. Case studies provided for by the industrial partner, in fact, belong to the first area, the aerospace; collaborations with national research institutions strengthen the generalization of the objectives anticipated in other areas (e.g., sustainable mobility). Thanks to such collaborations Pro.A.R.T.E. promotes (1) the PNR, which envisages the building of a platform to guide industrial competitiveness and the



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	<p>development of the country through the instruments of knowledge, (2) the European Research Space (ERA), which envisages the free circulation of researchers, scientific knowledge and technologies. Pro.A.R.T.E. supports the creation of new enabling technologies intended as those which determine the ability to innovate processes, products and services in all the economic fields of human activity. In fact, the tool produced may be identified, within the Piano Impresa 4.0, in one of the new enabling technologies: that of assisted simulation of the computer, that is a very powerful numerical analysis tool used in many scientific and technological contexts, thanks to which it is possible to reproduce on a digital scale what could be obtained live through sometime disruptive experiments on real prototypes.</p> <p>a.b. -- Pro.A.R.T.E. supports the reuse of reconfigurable logic and therefore a smaller overall number and more energetically efficient of resources without reducing the performances, thus adhering to the principle of the sustainable development (art. 11 and 191, par. 1, TFUE). Contributing to the training of new developers and producing internationalizable results Pro.A.R.T.E. supports PNR first objective on internationalization, coordination and integration of national, european and global initiatives. The support of industrial partners ensures the adherence to the fourth objective of PNR on the private-public collaborations intended as structural leverage for research and innovation.</p> <p>a.c. – To support Pro.A.R.T.E. means to adhere to one of the axes of REACT-EU, as it supports all investment areas, transversal to different fields and occupations. To fund Pro.A.R.T.E. means to give centrality to the investment of the human capital training a researcher who shall be able not only to produce science but also to disseminate their knowledge between industry and academia. The scientific outputs shall ensure a significant impact with reference to the purposes of REACT-EU.</p>
Department	DISIM - Department of Information Engineering, Computer Science and Mathematics
Type of Enterprise (context)	Aerospace
Research period in the Enterprise	10 months
Research period abroad	Not required at the moment
Maximum number of publications	12 (twelve)
Foreign language requisite	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	From the date of contract stipulation scheduled on 1/01/2022 and until 31/12/2023 the standard cost of € 117.019,40 shall weigh on



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	<p>PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues / Action IV.4 - Research contracts on innovation issues assigned to the University of L'Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021.</p> <p><u>From 01/01/2024 and until termination of contract scheduled on 31/01/2025</u> its expenses equal to € 54.597,79 shall weigh on the funds of european projects available to the scientific coordinator</p> <p>Project <i>A Cognitive Fractal and Secure EDGE based on an unique Open-Safe-Reliable-Low Power Hardware Platform Node</i>.</p> <p>ACRONYM: <i>FRACTAL HORIZON 2020 ECSEL-RIA-2019-2-MIUR - G.A. 877056</i></p>
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ATTACHMENT 11

Action	Action IV.6 – Research contracts on Green issues
Contract period	3 years
Type of contract	Part-time
Academic Recruitment Field	10/F1 – Italian Literature
Academic Discipline	L-FIL-LET/10 – Italian Literature
Title of research projects	The cultural mediator in the health field: narrative strategies for the treatment of patient
Scientific Coordinator	Prof. Valeria Merola
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> • Thematic area tematica: Health, food, quality of life • Development trajectories: 5.5.3 Health, food, quality of life: technological trajectories of development at national priority
Reference to: PNR 2021-2027	<p>5.1.4 Technologies for health Structure 1 Digital Health (1. application of telemedicine for strenghtening the territorial health system, for the treating the chronically ill, for mental health, for conselling activities and for recovery programmes.</p> <p>5.2.2 Historical, literary and artistic disciplines Structure 3 Humanistic disciplines, environment and sustainability</p> <p>5.2.5 Social changes and inclusive society Structure 5 Psychosocial wellness and quality of life</p>
Teaching Activities	<p>The Researcher shall teach courses of the Academic Discipline L-FIL-LET/10 offered in the Bachelor’s level and Master’s level degrees of the Department and of the University.</p> <p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate’s teaching activity shall focus on “GREEN” issues and more specifically on the relationship between italian literature and other disciplines showing how the use of narrative strategies typical of literary communication is useful in the medical field.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 200 hrs per year, of which 60 hrs of lectures.</p>
Research Activities	<p>The selected candidate’s research activity shall focus on “GREEN” issues.</p> <p>More specifically, research activities shall focus on the following thematic field:</p> <p>The pandemic emergency has proved the weaknesses of the national health system in terms of facilities and staff as well as in human terms. The project The cultural mediator in the the health field: narrative strategies for the treatment of patient intends to aims adhere to one of of the suggestions of PNR and reflect on the concept of care “in perspective and in the light of the pandemic experience” (PNR, p. 33). One of the cores of clinical practice is the narrative experience: in the</p>



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	<p>relationship doctor-patient the narration of the disease is important at least as much as the objective examination.</p> <p>The project intends to prove how the use of narrative strategies typical of literary communication is useful to improve the doctor-patient relationship and to guide the patient in the process of accepting his/her own disease and of resilience focusing on the placebo effect of narration and on the centrality of the onset of an empathetic relationship in the treatment, according to the objective of personalization of “prevention, prediction, diagnosis and care on the basis of the single patient” (PNR, p. 36).</p> <p>The cultural-health mediator shall move among history of medicine and literature applying his/her research in the creation of effective communication models using also informatic platforms for telemedicine. The focus shall be kept on the centrality of the individual: human-centric innovation “to introduce new elements into society, able to start positive and lasting changes” (PNR, p. 24).</p> <p>Research shall aim at the promotion of wellness and quality of life, identifying in Italian literature “the social and psychological mechanisms at the basis of health and disease (PNR, p. 74).</p> <p>A period of 9 months shall be spent at the Fondazione dei Monti Uniti in Foggia.</p>
Department	Human Studies
Type of Enterprise (context)	Fondazione dei Monti Uniti, Foggia: Non-profit organization active in the following fields: Education and training; Public health, prevention and rehabilitation medicine; Arts, activities and cultural heritage
Research period in the Enterprise	9 months
Research period abroad	Not required
Maximum number of publications	12 (twelve)
Foreign language	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	<p>From the date of contract stipulation and until 31/12/2023 the cost shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.6 – Research contracts on Green issues assigned to the University of L’Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021.</p> <p>From 01/01/2024 and until termination of contract its cost shall weigh on PRIN resources assigned to the University of L’Aquila as provided for by Ministerial Decree n. 737 dated 25/6/2021.</p>



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ATTACHMENT 12

Action	Action IV.6 – Research contracts on Green issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	09/D1 – Materials Science and Technology
Academic Field	ING-IND/22 – Materials Science and Technology
Title of the research	“Green processes free from chrome VI for industrial painting of aluminum alloys by means of 2d – Advanced Bidimensional materials – (Geno)”
Scientific coordinator	Prof. CARLO CANTALINI
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> - National thematic area: <ul style="list-style-type: none"> <input type="checkbox"/> 5.4.2 Intelligent and sustainable industry, energy and environment - <u>Technological trajectories of development</u>: <ul style="list-style-type: none"> <input type="checkbox"/> 5.4.4 Intelligent and sustainable industry, energy and environment (innovative and eco-friendly materials)
Reference to: PNR 2021-2027	<p>Context 5.4 Digital, Industry, Aerospace</p> <ul style="list-style-type: none"> - <u>5.4.6 Innovation for manufacturing industry</u> <i>Structure 1</i>: Circular, clean, efficient industry <i>Structure 5</i>: Competitive industry <p>Context 5.6 Food products, Bio-economy, Natural resources, Agriculture, Environment</p> <ul style="list-style-type: none"> - <u>5.6.1 Green Technologies</u> <i>Structure 3</i>: Soil and waters contamination prevention <i>Structure 6</i>: “A fair benchmarking”: development and diffusion of methods of industrial ecology for a correct comparative evaluation between green and consolidated technologies
Teaching Activities	<p>The Researcher shall teach courses of the Academic Discipline ING-IND/22 offered in the Bachelor’s level and Master’s level degrees of the Department and of the University.</p> <p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate’s teaching activity shall focus on “GREEN” issues with particular reference to the issues of green transition, the preservation of the ecosystem, of the biodiversity and of the reduction of climate change impact with particular reference to the following field: Development of exfoliation methods and of production of bidimensional materials by using eco-compatible solvents.</p> <p>Formulation and development of adequate chemical compounds of treatment baths of aluminum alloys by removing hexavalent chrome-based salts.</p>



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	<p>Scale-up of green processes for surface treatment of aluminum alloys by using solutions free from chrome VI with the addition of bidimensional exfoliated materials with green solvents.</p> <p>Comparative validation of manufacturing processes also by means of LCA methods.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 350 hrs per year, of which 60 hrs of lectures.</p>
<p>Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.6 provided for in MD 1062/2021)</i></p>	<p>The selected candidate's research activity shall focus on the issues typical of the Academic Discipline ING-IND/22 – Materials Science and Technology concerning:</p> <p>Development of synthesis and characterization processes of bidimensional and nanostructured materials and their chemical functionalization and verification of their performances as functional materials for sensory applications, photocatalysis and in the field of energy storage and harvesting.</p> <p>Bound context of research activities consistent with the aims of Action IV.6 provided for in Ministerial Decree 1062/2021:</p> <p>the selected candidate's research activity shall focus on green issues with particular reference to the issues of green transition, the preservation of the ecosystem, of the biodiversity and of the reduction of climate change impact with particular reference to the following field:</p> <p>removal of VI chrome-based salts from treatment processes of aluminum alloys as provided for by UE directive 2019/984 of 2019 which provides the removal hexavalent chrome from any production cycle in the Union within 2025.</p> <p>Development of exfoliation methods of 2D bidimensional materials by using Green solvents removing from the exfoliation cycle organic solvents.</p> <p>Improvement of the impacts concerning the discharge of process fluids as well as removal of soil and waters contamination risks by removing chrome-based salts (III and VI) and reducing the acidity level of solutions.</p> <p>Reduction of the impact level on environment, on human health and on the ecosystem by introducing into the productive cycle of materials preparations and processes based on the Circular Economy cycle.</p> <p>Comparative evaluation of the impact of new processes and products by means of LCA methods.</p>
Department	Industrial and Information Engineering and Economics (DIIE)
Type of Enterprise (context)	Surface treatments of aluminum alloys Anodic oxidation and galvanic treatment of metal parts as well as painting, in particular of aluminum bars for realizing fixtures.
Research period in the Enterprise	minimum 6 months, maximum 12 months (mandatory)
Research period abroad	Not required
Maximum number of publications	12 (twelve)
Foreign language	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria



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	and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	<p>From the date of contract stipulation and <u>until 31/12/2023</u> the contract expenses equal to € 117.019,40 shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.4 – Research contracts on innovation issues / Action IV.6 - Research contracts on green issues assigned to the University of L'Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021.</p> <p><u>From 01/01/2024 and until termination of contract</u> its expenses equal to € 54.597,83 shall weigh on resources assigned to the University of L'Aquila/PNR.</p>

ATTACHMENT 13

Action	Action IV.6 - Research contracts on Green issues
Contract period	3 years
Type of contract	Part-time
Academic Recruitment Field	05/A2 – Plant Physiology
Academic Discipline	BIO/04 – Plant Physiology
Title of research project	Use of microalgae in the purification of waste water and valorization of the algal biomass to obtain agrifood, nutraceutical and biological products.
Scientific Coordinator	Prof. Maria Benedetta Mattei
Reference to: SNSI 2014-2020	<ul style="list-style-type: none"> • Thematic area: Intelligent and sustainable industry, energy and environment <ul style="list-style-type: none"> - Development trajectories: Technologies for biomaterials and biobased products and biorefineries; Systems and technologies for water closet and waste treatment • Thematic area: Health, food and quality of life <ul style="list-style-type: none"> - Development trajectories: Development of precision farming and farming of the future; Nutraceuticals, Nutrigenomics and Functional food
Reference to: PNR 2021-2027	<p>Context 5.6. Food products, Bioeconomy, Natural resources, Agriculture, Environment.</p> <p>5.6.1 Green technologies</p> <p>Structure 1. Biochemicals, bioproducts and sustainable chemical processes in combination with biofuels, bioenergy and agroenergies</p> <p>Structure 3. Soil and waters contamination prevention</p> <p>5.6.3 Bioindustry for bioeconomy</p> <p>Structure 2. Circular bioindustry</p> <p>Structure 3. Recovery and valorization of organic waste and products at the end of life for the regeneration of soil and environment protection</p> <p>5.6.4 Knowledge and sustainable management of farming and forestry systems</p> <p>Structure 1. Sustainable improvement of primary productions</p> <p>Structure 2. Security and quality of primary productions</p>
Teaching activity	<p>The Researcher shall teach courses of the Academic Discipline BIO/04 offered in the Bachelor's level and Master's level degrees of the Department and of the University.</p> <p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate's teaching activity shall focus on green issues (Thematic area: Intelligent and sustainable industry, energy and environment DM 1062; Context 5.6 Food products, Bioeconomy,</p>



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	<p>Natural resources, Agriculture, Environment DM 737), with particular reference to the issues of the green transition , of the ecosystem preservation, of biodiversity and of the reduction of climate change impact with particular reference to the following field:</p> <p>Physiological and biomolecular bases of plants' responses to biotic and abiotic stress; characterization and valorization of nutraceutical components in plants of agri-food interest; vegetal biotechnologies; biotechnologies and industrial applications of microalgae; sustainable use of biomasses for energy purposes.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 200 hrs per year, of which 60 hrs of lectures.</p>
<p>Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.6 provided for in MD 1062/2021)</i></p>	<p>The selected candidate's research activity shall focus on the issues typical of the Academic Discipline BIO/04 concerning physiology, biochemistry and molecular biology of plants, the secondary metabolism of plants and the mechanisms at the base of productivity control, bioenergetics and plant biotechnologies.</p> <p>In the field of green technologies, the cultivation of microalgae for the bio-purification of industrial waste offers the opportunity to produce precious biomass for different industrial sectors, reducing to the minimum waste production.</p> <p>The research carried out within the project shall concern various aspects which contribute to make the environment healthy and livable for the human being and for all the sustainable activities, such as the purification of waters, pathogens control, soil fertility and healthy food production.</p> <p>Bound context of research activities consistent with the aims of Action IV.6 provided for in Ministerial Decree 1062/2021: the selected candidate's research activity shall focus on green issues with particular reference to the issues of green transition, the preservation of the ecosystem, of the biodiversity and of the reduction of climate change impact with particular reference to the following field: technologies for biobased products and biorefineries; systems and technologies for water closet and waste treatment; development of precision farming and farming of the future; nutraceuticals, nutrigenomics and functional food.</p>
<p>Department</p>	<p>Life, Health and Environmental Sciences</p>
<p>Type of Enterprise (context)</p>	<p>Enterprise in the field of the dairy production for the purification of waste water in the context of circular economy.</p>
<p>Research period in the Enterprise</p>	<p>6 months</p>
<p>Research period abroad</p>	<p>Optional</p>
<p>Maximum number of publications</p>	<p>12 (twelve)</p>



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Foreign language	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	From the date of contract stipulation and <u>until 31/12/2023</u> the cost shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.6 – Research contracts on Green issues assigned to the University of L’Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021. <u>From 01/01/2024 and until termination of contract</u> its cost shall weigh on the resources assigned to the University of L’Aquila as provided for by Ministerial Decree n. 737 dated 25/6/2021 (PRIN).



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ATTACHMENT 14

Action	Action IV.6 – Research contracts on Green issues
Contract period	3 anni
Type of contract	Part-time
Academic Recruitment Field	05/A1 – Botany
Academic Discipline	BIO/03 – Environmental and Applied Botany
Title of the research project	Management of the after fire in the mountain ecosystems of the Mediterranean Region. The development of innovative approaches for habitat recovery and preservation
Scientific Coordinator	Prof. Anna Rita Frattaroli
References to: SNSI 2014-2020	• Thematic area: Intelligent and sustainable industry, energy and environment.
References to: PNR 2021-2027	Context 5.6 Food products, Bioeconomy, Natural resources, Agriculture, Environment 5.6.4 Knowledge and sustainable management of farming and forestry systems
Teaching Activities	<p>The Researcher shall teach courses of the Academic Discipline BIO/03 and related (BIO/01 e BIO/02) offered in the Bachelor's level and Master's level degrees of the Department and of the University. Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate's teaching activity shall focus on green issues with particular reference to the issues of the green transition , of the ecosystem preservation, of biodiversity and of the reduction of climate change impact with particular reference to the priority issues of the EU strategy on biodiversity for 2030.</p> <p>The number of hours required for teaching, integrated activities and services to the students is 200 hrs per year, of which 60 hrs of lectures.</p>
Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.6 provided for in MD 1062/2021)</i>	<p>The selected candidate's research activity shall focus on the issues typical of the Academic Discipline BIO/03 concerning the application of botanical knowledge to the sustainable management of natural resources. Research activity aims at providing new strategies for the recovery of the ecosystems impacted by forest fires.</p> <p>Bound context of research activities consistent with the aims of Action IV.6 provided for in Ministerial Decree 1062/2021: the selected candidate's research activity shall focus on green issues with particular reference to the issues of green transition, the preservation of the ecosystem, of the biodiversity and of the reduction of climate change impact with particular reference to the priority issues of the EU strategy on biodiversity for 2030 which among the main purposes intends to increase the quantity, quality and resilience</p>



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	of its forests, particularly against fires and other threats which may increase due to climate change.
Department	Life, Health and Environmental Sciences
Type of Enterprise (context)	Environment, farming, forest and faunal sector. Design and project management services, managing and preservation, monitoring and control, consulting and training to national and regional public bodies, local public administrations and institutions, associations and public and private enterprises.
Research period in the Enterprise	6 months
Research period abroad	-
Maximum number of publications	12 (twelve)
Foreign language	English
Criteri di Valutazione	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	From the date of contract stipulation and until 31/12/2023 the cost shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.6 – Research contracts on Green issues assigned to the University of L’Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021. From 01/01/2024 and until termination of contract its cost shall weigh on the resources assigned to the University of L’Aquila as provided for by Ministerial Decree n. 737 dated 25/6/2021 (PRIN).



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ATTACHMENT 15

Action	Action IV.6 – Research contracts on Green issues
Contract period	3 years
Type of contract	Full-time
Academic Recruitment Field	09/E2 – Electrical Energy Engineering
Academic Discipline	ING-IND/32 – Power Electronic Machines, Converters and Drives
Title of the research project	Reliability and tolerance to failures of converters and power electronic systems
Scientific Coordinator	Prof. Carlo Cecati
References to: SNSI 2014-2020	<ul style="list-style-type: none"> • Thematic areas: 1,6,7,8 • Development trajectories: <ul style="list-style-type: none"> • Thematic area 1: 5.5.2: Aerospace and defence: Technological trajectories of development at national priority – reduction of environmental impact (green engine) <ul style="list-style-type: none"> • Thematic areas 6, 7, 8: 5.5.4: Intelligent and sustainable industry, energy and environment: Technological trajectories of development at national priority (a) Technologies for smart grid, renewable energy sources and distributed generation (b) Highly efficient innovative production processes for industrial sustainability.
References to: PNR 2021-2027:	<p>Context 5.4.7 Aerospace</p> <ul style="list-style-type: none"> • Structure 1. New generation rotary wing aircrafts • Structure 2. Environmental impact reduction and wellness increase in aeronautics <p>Contxt 5.4.6 Innovation for manufacturing industry</p> <ul style="list-style-type: none"> • Context 4. Resilient industry • Context 3. Intelligent industry • Context 1. Circular, clean and efficient industry.
Teaching Activities	<p>The Researcher shall teach courses of the Academic Discipline ING-IND/32 offered in the Bachelor's level and Master's level degrees of the Department and of the University.</p> <p>Teaching activities shall include integrated teaching activities, laboratory activities, seminars also in Ph.D. courses, if present. He/she shall also carry out incoming and mid-term orientation activities and tutoring of students.</p> <p>The selected candidate's teaching activity shall focus on green issues with particular reference to the issues of the green transition, of the ecosystem preservation, of biodiversity and of the reduction of climate change impact with particular reference to the following field:</p> <p>Power electronic converters, their use in electrical mobility (full electric aircraft and automotive), in production, distribution, use and management of intelligent electrical energy and in industry 4.0.</p> <p>The number of hours required for teaching, integrated activities and</p>



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	services to the students is 350 hrs per year, of which 60 hrs of lectures.
Research Activities <i>(description of the bound context of research activities consistent with the aims of Action IV.6 provided for in MD 1062/2021)</i>	<p>The selected candidate's research activity shall focus on the issues typical of the Academic Discipline ING-IND/32 concerning: studies on the analysis, design, technologies, characterization, emplyment and integration of power electronic components and relative converters, of electrical drives, in electrical or hybrid transportation (land, sea, air, space), in the production of eolic, solar energy, and in its transportation, etc.</p> <p>Bound context of research activities consistent with the aims of Action IV.6 provided for in Ministerial Decree 1062/2021: the selected candidate's research activity shall focus on green issues with particular reference to the issues of green transition, the preservation of the ecosystem, of the biodiversity and of the reduction of climate change impact with particular reference to the following field:</p> <p>Research shall be developed at the DISIM department focusing the following themes/steps:</p> <ul style="list-style-type: none"> - Mathematical models of converters, aimed at studying the characteristics, reliability and ageing in time, analyzing the single components: - *transistor (MOSFET, IGBT) and silicon diode and bradband (SiC, GaN) - *passive components: condensers, transformers and inductors, resistances, conductors, connectors, printed circuit board, cooling system, etc. - Data Driven methods based on Artificial intelligence for the predictive study of ageing and reliability of components and converters - design and prototype implementation of power converters with even characteristics (voltage, power) but different technologies (Si, SiC, GaN), by means of which validate numerical results and compare technological solutions - sperimentazione e caratterizzazione in laboratorio, presso il DISIM - field experimentation, at TEKNE, using their laboratories (e.g. heating chamber) and their vehicles.
Department	DISIM - Department of Information Engineering, Computer Science and Mathematics
Type of Enterprise (context)	Mechanical and electronic engineering (ATECO: 29.10.00: Car manufacturing)
Research period in the Enterprise	minimum 6 months, maximum 12 months (mandatory): 6 months (months 31 - 36)
Research period abroad	minimum 6 months, maximum 12 months (optional): 6 months (months 25 - 30)
Maximum number of publications	12 (twelve)



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Foreign language	English
Assessment criteria	The Examining Board shall assess the candidates considering criteria and parameters indicated in Ministerial Decree n. 243/2011, 25 May 2011.
Financial coverage of contract expenses	<p>From the date of contract stipulation scheduled on 1/01/2022 and until 31/12/2023 the standard cost of € 117.019,40 shall weigh on PON Research and Innovation Funds 2014/2020, Action IV.6 – Research contracts on green issues assigned to the University of L’Aquila as provided for by Ministerial Decree n. 1062 dated 10 August 2021.</p> <p>From 01/01/2024 and until termination of contract scheduled on 31/01/2025 its expenses equal to € 54.597,79 shall weigh on the funds of PRIN resources for promotion and development of policies assigned to the University of L’Aquila as provided for by Ministerial Decree n.737 dated 25/6/2021.</p>