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### 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;

**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;

Unità Organizzativa Responsabile: Settore Concorsi e Selezioni - e-mail: conc@strutture.univaq.it

Responsabile: Dott.ssa Doriana Scarsella – tel: 0862.432089 – fax 0862.431295

Per eventuali informazioni rivolgersi a: Tommasa Ruscitti – Loredana Taccone – Giuseppina Persia (operatrici incaricate) – tel: 0862.432097 – 2023



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**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, and lastly by Rector's Decree n. 225-2019, 1 April 2019;

**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 MIUR Directorial Decree 407/2018 dated February 27<sup>th</sup>, 2018 approving the Announcement "A.I.M. - Attrazione e Mobilità Internazionale" to weigh on Programma Operativo Nazionale (PON) Ricerca e Innovazione 2014-2020, Line "Investimenti in capitale umano" aimed at favouring mobility and attraction of Researchers at university level in the various Departments, within **Line 1** (Mobility of Researchers);

**Having regard** to note Prot. n. 2550 dated February 13<sup>th</sup>, 2019, received with Prot. n. 6085 dated February 14<sup>th</sup>, 2019 by which MIUR forwarded the Directorial Decree n. 3407 dated December 21<sup>st</sup>, 2018 approving the project proposals' ranking submitted in relation to the call for proposals "Aim – Attrazione e Mobilità Internazionale" as per Directorial Decree 407/2018 and informing, among other things, that "according to the order of the ranking list [...] qualified for financing those lines of research which achieved a minimum score of 89 out of a total possible 100. According to Resolution C of the EU Commission n. (2018) 8840 dated December 12<sup>th</sup>, 2018 approving the reprogramming of PON R&I 2014-2020, in fact only such proposals are immediately eligible for financing, for a total amount of  $\epsilon$  88.497.419,22 as per attachment B of the ranking list approval decree [...]. Those Universities included in the above-mentioned attachment B must comply with art. 3 of the Implementing Regulations and undertake activities aiming at promptly realizing single actions, anyhow within 6 months from the date the proposal was approved, and conclude them within the following 42 months";

**Having regard** to Ministerial Decree n. 204 dated March 8<sup>th</sup>, 2019 relating to the 2019 Special Plan for recruiting Researchers under Art. 24, Paragraph 3, Letter a) of Law 240/2010 by which State Universities have been assigned specific resources to launch such contracts;

**Having regard** to the resolution of the **Department of Physical and Chemical Sciences** n. 3 dated 20<sup>th</sup> February, 2019 – forwarded with note n. 291 dated March 21<sup>st</sup> 2019 and received the same date with Prot. n. 7377 - concerning the request of a selection procedure to recruit **4** fixed-term, full-time Researchers in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010 in relation to the proposals submitted by:

Department of Physical and Chemical Sciences:

- 1. Academic Recruitment Field 03/A1 Analytical Chemistry, Academic Discipline CHIM/01 Analytical Chemistry;
  - CETEMPS Department of Physical and Chemical Sciences:
- 2. Academic Recruitment Field 04/A4 Geophysics, Academic Discipline GEO/12 Oceanography and Physics of the Atmosphere;
- 3. Academic Recruitment Field 04/A4 Geophysics, Academic Discipline GEO/12 Oceanography and Physics of the Atmosphere;
- 4. Academic Recruitment Field 02/C1 Astronomy, Astrophysics, Earth and Planetary Physics, Academic Discipline FIS/06 Physics of the Earth and of the Circumterrestrial Medium

**Having regard** to the resolution of the **Department of Industrial and Information Engineering and Economics** n. 70 dated 13<sup>th</sup> February, 2019 and received with Prot. n. 7221 dated 21<sup>st</sup> February, 2019



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concerning the request of a selection procedure to recruit 3 fixed-term, full-time Researchers in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010 for the following fields:

- 1. Academic Recruitment Field 09/A2 Applied Mechanics, Academic Discipline ING-IND/13 -Applied Mechanics;
- 2. Academic Recruitment Field 09/E2 Electrical Energy Engineering, Academic Discipline ING-IND/32 – Power Electronic Converters, Electrical Machines and Drives;
- 3. Academic Recruitment Field 09/C1 Fluid Machinery, Energy Systems and Power Generation, Academic Discipline ING-IND/09 – Energy Systems and Power Generation.

Having regard to the resolution of the Department of Biotechnological and Applied Clinical Sciences n. 2 dated 14<sup>th</sup> February, 2019 received with Prot. n. 7558 dated February 22<sup>nd</sup>, 2019 concerning the request of a selection procedure to recruit 4 fixed-term, full-time Researchers in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010 in relation to the proposals submitted by:

Department of Biotechnological and Applied Clinical Sciences:

- 1. Academic Recruitment Field 11/E1 General Psychology, Psychobiology and Psychometrics, Academic Discipline M-PSI/03 - Psychometrics;
  - Molecular Diagnostics and Advanced Therapy Research Centre (DMTA):
- 2. Academic Recruitment Field 06/A2 Experimental Medicine, Pathophysiology and Clinical Pathology, Academic Discipline MED/04 – Experimental Medicine and Pathophysiology;
- 3. Academic Recruitment Field 06/A2 Experimental Medicine, Pathophysiology and Clinical Pathology, Academic Discipline MED/04 – Experimental Medicine and Pathophysiology; Microscopy Centre:
- 4. Academic Recruitment Field 05/D1 -Physiology, Academic Discipline BIO/09 Physiology;

Having regard to the resolution of the Department of Life, Health and Environmental Sciences n. 157 dated 19th March, 2019 - forwarded with note n. 1339 dated March 20th 2019 and received the same date with Prot. n. 11651 - concerning the request of a selection procedure to recruit 4 fixed-term, full-time Researchers in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010 for the following fields:

- 1. Academic Recruitment Field 05/B1 Zoology and Anthropology, Academic Discipline BIO/05 –
- 2. Academic Recruitment Field 05/E1 General Biochemistry, Academic Discipline BIO/10 -Biochemistry;
- 3. Academic Recruitment Field 05/B2 Comparative Anatomy and Cytology, Academic Discipline BIO/06 – Comparative Anatomy and Cytology;
- 4. Academic Recruitment Field 05/H1 Human Anatomy, Academic Discipline BIO/16 Human Anatomy.

Having regard to the resolution of the Department of Civil, Construction-Architectural and Environmental Engineering n. 71 dated 20<sup>th</sup> March, 2019 – forwarded with note n. 754 dated March 21<sup>st</sup> 2019 and received the same date with Prot. n. 12142 - concerning the request of a selection procedure to recruit 8 fixed-term, full-time Researchers in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010 in relation to the proposals submitted by:

### Research and Teaching Centre for Earthquake Engineering (CERFIS):

- 1. Academic Recruitment Field 04/A3 Engineering Geology, Physical Geography Geomorphology, Academic Discipline GEO/05 - Engineering Geology;
- 2. Academic Recruitment Field 08/B1 Geotechnics, Academic Discipline ICAR/07 Geotechnics;
- 3. Academic Recruitment Field 08/B2 Structural Mechanics, Academic Discipline ICAR/08 -Structural Mechanics;

International Research Center on Mathemtics and Mechanics of Complex Systems (M&MoCS):



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- 4. Academic Recruitment Field 08/B2 Structural Mechanics, Academic Discipline ICAR/08 Structural Mechanics;
- 5. Academic Recruitment Field 08/B3 Structural Engineering, Academic Discipline ICAR/09 Structural Engineering;
- 6. Academic Recruitment Field 08/A1 Hydraulics, Hydrology, Hydraulic and Marine Constructions, Academic Discipline ICAR/02 Hydraulic Structures, Maritime Engineering and Hydrology;
- 7. Academic Recruitment Field 08/B2 Structural Mechanics, Academic Discipline ICAR/08 Structural Mechanics;

Department of Civil, Construction-Architectural and Environmental Engineering:

8. Academic Recruitment Field 08/A4 – Geomatics, Academic Discipline ICAR/06 – Surveying and Mapping.

**Having regard** to the resolution of the **Department of Information Engineering, Computer Science and Mathematics** n. 5 dated 20<sup>th</sup> March, 2019 – forwarded with notes n. 1166, 1167, 1169, 1170 and 1171 dated March 22<sup>nd</sup> 2019 and received the same date with Prot. n. 12481, 12483, 12486, 12487 and 12490 respectively - concerning the request of a selection procedure to recruit **3** fixed-term, full-time Researchers in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010 in relation to the proposals submitted by:

Department of Information Engineering, Computer Science and Mathematics:

1. Academic Recruitment Field 09/G1 – Systems and Control Engineering, Academic Discipline ING-INF/04 - Systems and Control Engineering;

<u>Design Methodologies for Embedded Controllers, Wireless Interconnect and Systems-on-chip</u> (DEWES):

- 2. Academic Recruitment Field 09/G1 Systems and Control Engineering, Academic Discipline ING-INF/04 Systems and Control Engineering;
- 3. Academic Recruitment Field 09/G1 Systems and Control Engineering, Academic Discipline ING-INF/04 Systems and Control Engineering.

**Having regard** to the resolution of the **Department of Human Studies** n. 4 dated 17<sup>th</sup> April, 2019 – forwarded with note n. 1243 dated 17<sup>th</sup> April, 2019 and received the same date with Prot. n. 16791 – concerning the request of a selection procedure to recruit **1** fixed-term, full-time Researcher in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010 for the following field:

a. Academic Recruitment Field 10/L1 – English and Anglo-American Languages, Literatures and Cultures, Academic Discipline L-LIN/11 – Anglo-American Languages and Literatures;

**Having regard** to the resolutions issued by the Board of Directors on March 27<sup>th</sup>, 2019 and April 30<sup>th</sup>, 2019 authorizing the above mentioned public selection procedures;

**Having verified** that the expense to reward each Researcher for the three-year period will be fully financed by the funds of the Projects financed by PON Ricerca e Innovazione 2014-2020 according to the call for proposals "Attrazione e Mobilità dei Ricercatori" Mobilità dei Ricercatori, Avviso AIM – Attrazione e Mobilità Internazionale, MIUR Directorial Decree 407/2018, MIUR Directorial Decree 3407/2018, attachment B and MIUR Directorial Decree 3395 dated December 21<sup>st</sup>, 2018 – CA. 04.01.01.02.01;

### **DECREES THE FOLLOWING:**



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# 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. 27 fixed-term (3 year) full-time Researchers in compliance with Art. 24, Par. 3, Letter a) of Italian Law 240/2010, at various Departments, within the framework of Line 1, Researchers' Mobility, specified as follows:

	CENTRE/DEPARTMENT	Academic Recruitment Field	Academic Discipline	N. POSITIO NS	MONTHS ABROAD
1	Department of Physical and Chemical Sciences	03/A1 – Chimica Analitica	CHIM/01 – Chimica Analitica	1	10
2	CETEMPS – Department of Physical and Chemical Sciences	04/A4 – Geophysics	GEO/12 – Oceanography and Physics of the Atmosphere (Position A)	1	12
3	CETEMPS – Department of Physical and Chemical Sciences	04/A4 – Geophysics	GEO/12 – Oceanography and Physics of the Atmosphere (Position B)	1	12
4	CETEMPS – Department of Physical and Chemical Sciences	02/C1 – Astronomy, Astrophysics, Earth and Planetary Physics	FIS/06 - Physics of the Earth and of the Circumterrestrial Medium	1	12
5	Department of Industrial and Information Engineering and Economics	09/A2 – Applied Mechanics	ING-IND/13 - Applied Mechanics	1	8
6	Department of Industrial and Information Engineering and Economics	09/E2 – Electrical Energy Engineering	ING-IND/32 - Power Electronic Converters, Electrical Machines and Drives	1	8
7	Department of Industrial and Information Engineering and Economics	09/C1 - Fluid Machinery, Energy Systems and Power Generation	ING–IND/09 - Energy Systems and Power Generation	1	6
8	Department of Biotechnological and Applied Clinical Sciences	11/E1 – General Psychology, Psychobiology and Psychometrics	M–PSI/03 – Psychometrics	1	6
9	DMTA Centre – Department of Biotechnological and Applied Clinical Sciences	06/A2 – Experimental Medicine, Pathophysiology and Clinical Pathology	MED/04 – Experimental Medicine and Pathophysiology (Position A)	1	6
10	DMTA Centre – Department of Biotechnological and Applied Clinical Sciences	06/A2 – Experimental Medicine, Pathophysiology and Clinical Pathology	MED/04 – Experimental Medicine and Pathophysiology (Position B)	1	6
11	Microscopy Centre – Department of Biotechnological and Applied Clinical Sciences	05/D1 – Physiology	BIO/09 – Physiology	1	6
12	Department of Life, Health and Environmental Sciences	05/B1 – Zoology and Anthropology	BIO/05 – Zoology	1	6
13	DMTA Centre – Department of Life, Health and Environmental Sciences	05/E1– General Biochemistry	BIO/10 – Biochemistry	1	6
14	Microscopy Centre – Department of Life, Health and Environmental Sciences	05/B2 – Comparative Anatomy and Cytology	BIO/06 – Comparative Anatomy and Cytology	1	6
15	Department of Life, Health and Environmental Sciences	05/H1 – Human Anatomy	BIO/16 – Human Anatomy	1	6

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16	CERFIS – Department of Civil, Construction-Architectural and Environmental Engineering	04/A3 – Engineering Geology, Physical Geography and Geomorphology	GEO/05 – Engineering Geology	1	12
17	CERFIS – Department of Civil, Construction-Architectural and Environmental Engineering	08/B1 – Geotechnics	ICAR/07 – Geotechnics	1	9
18	CERFIS – Department of Civil, Construction-Architectural and Environmental Engineering	08/B2 – Structural Mechanics	ICAR/08 – Structural Mechanics (Position A)	1	9
19	M&MoCS – Department of Civil, Construction-Architectural and Environmental Engineering	08/B2 – Structural Mechanics	ICAR/08 – Structural Mechanics (Position B)	1	6
20	M&MoCS – Department of Civil, Construction-Architectural and Environmental Engineering	08/B3 – Structural Engineering	ICAR/09 – Structural Engineering	1	6
21	M&MoCS – Department of Civil, Construction-Architectural and Environmental Engineering	08/A1 – - Hydraulics, Hydrology, Hydraulic and Marine Constructions	ICAR/02 – Hydraulic Structures, Maritime Engineering and Hydrology	1	6
22	M&MoCS – Department of Civil, Construction-Architectural and Environmental Engineering	08/B2 – Structural Engineering	ICAR/08 – Structural Engineering (Position C)	1	6
23	Department of Civil, Construction- Architectural and Environmental Engineeringe	08/A4 – Geomatics	ICAR/06 – Surveying and Mapping	1	12
24	Department of Information Engineering, Computer Science and	09/G1 – Systems and Control Engineering	ING-INF/04 - Systems and Control Engineering (Position A)	1	8
25	DEWS – Department of Information Engineering, Computer Science and Mathematics	09/G1 – Systems and Control Engineering	ING-INF/04 - Systems and Control Engineering (Position B)	1	15
26	DEWS – Department of Information Engineering, Computer Science and Mathematics	09/G1 – Systems and Control Engineering	ING–INF/04 – Systems and Control Engineering (Position C)	1	9
27	Department of Human Studies	10/L1 — English and Anglo-American Languages, Literatures and Cultures	L-LIN/11- Anglo- American Languages and Literatures	1	12

Attachments 1 through 27 form integral part of this selection announcement, indicating according to the Department's resolutions, research and teaching activities object of the contract, maximum number of publications, further qualifications and assessment criteria of the candidates.

For the description of the subjects of the Academic Recruitment Fields indicated in this selection announcement reference has to be made to Ministerial Decree n. 159 June 12th 2012 and to Ministerial Decree n. 855 October 30<sup>th</sup>, 2015.

### Art. 2 – Admission Requisites and Causes for Exclusion

1. The selection procedure is open to Italian, EU and non EU citizens holding an Italian residency permit as per Leg. Decree 165, March 30, 2001, Art. 38 and possessing a Ph.D., or an equivalent degree obtained in Italy or abroad, having discussed their Ph.D. dissertation as of 27.04.2014.

Admission requisites must be held by applicants within the deadline for application submission.

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



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within the deadline for application submission, to be submitted anyhow within the date of official appointment, 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 married, or under condition of civil partnership or common-law marriage pursuant to Italian Law n. 76, 20 May 2016, or 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 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.

## Art. 3 - Application Submission Procedure and Deadline

- To participate in the selection, candidates must submit their application within 30 days from the day following publication of the announcement in the Gazzetta Ufficiale della Repubblica Italana 4° Serie speciale Concorsi ed Esami. The publication of the selection announcement is also posted in the University, Ministry and EU websites.
- 2. If the deadline should fall on a holiday, the following weekday shall be considered the deadline for submission.
- 3. The application for the selection procedure as well as qualifications, documents and publications are to be submitted telematically, on pain of exclusion, using the computer application available at <a href="https://pica.cineca.it/univaq">https://pica.cineca.it/univaq</a>. The computer application necessarily requires that the candidate has an e-mail account in order to register. 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. After the deadline for submission the system shall no longer allow to access and send the electronic form.

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@cineca.it.

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

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- 1. **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);
- 2. 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;
- 3. **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.
- 4. 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 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).
- 5. 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;
- 11) That they are not married, or under condition of civil partnership or common-law marriage pursuant to Italian Law n. 76, 20 May 2016, or 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



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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.

- if not an Italian citizen, that he/she has an adequate knowledge of the Italian language;
- 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 <a href="https://www.univaq.it">www.univaq.it</a>;
- 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 <a href="www.univaq.it">www.univaq.it</a>, 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 <a href="www.univaq.it">www.univaq.it</a>, 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 <a href="www.univaq.it">www.univaq.it</a>, in all effects representing official notice to the candidates participating.
- 6. 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 Office 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.
- 7. All declarations made by candidates 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.
- 8. 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.
- 9. 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.
- 10. 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 6. of this article, or under one of the causes of exclusion specified in Paragraph 5, 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 (codice fiscale);
- 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 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 <a href="https://pica.cineca.it/univaq">https://pica.cineca.it/univaq</a>.
- 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 – Via Giovanni Di Vincenzo, 16/B – 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.

If the maximum number of publications indicated in Art. 1 of 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. Once the selection procedure is completed, the selected candidate shall submit the publications presented, in original or in copy certified conform to the original.
- 4. 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.
- 5. 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 following receipt of renouncement.

### **Art. 7 - Nomination of the Examining Board**

1. The Board, made up of three members of which at least two tenured professors and two from other universities, named by the Department and connected with the academic recruitment field or the academic discipline concerning the position object of the public selection procedure, is appointed by a Rector's Decree. One member must be chosen among high profile experts from a university or research center in another OECD country.

The designated professors must be registered in the lists of those members who can be called by drawing for the National Scientific Qualification Boards or anyhow they must satisfy the criteria provided for by ANVUR, resolution n. 132, 13 September 2016.

Unless documented reasons exist, at least one third of the board members is to be reserved to women.

- 2. The following cannot be nominated:
- Professors who have received a negative assessment as provided in Art. 6, Paragraph 7 of Italian Law 240/2010;
- Members of the University political board, those who hold a political office as well as representatives of trade unions or professional associations;
- Individuals condemned for crimes even if not yet sentenced in Book II of the Italian Penal Code ("crimes by civil servants against public administration");
  - 3. The Rector's Decree appointing the Examining Board shall be published on the University's Albo Ufficiale and on the University website.
  - 4. From the date the Rector's Decree nominating the examining board is published candidates have 10 days – in analogy with the University Regulations for appointing I and II Tier Professors - to state their opposition to any of the components of the board. After this period no instances may be presented.
  - 5. The Board nominates a President and a Secretary.
  - 6. The Board operates with the presence of all its members and takes decisions unanimously.
  - 7. Participation in all Board activities is mandatory for all members.
  - 8. The Board, upon notifying the head of the selection procedure of the date and time, 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, April 18th, 2016).
  - 9. Expenses incurred may be reimbursed in accordance with the University's Regulations pursuant to Art.
  - 7, Paragraph 4 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, and the criteria and specific functions to be carried out by the Researcher indicated by the Department and stated in Art. 1 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.

Unità Organizzativa Responsabile: Settore Concorsi e Selezioni - e-mail: conc@strutture.univaq.it

Responsabile: Dott.ssa Doriana Scarsella - tel: 0862.432089 - fax 0862.431295
Per eventuali informazioni rivolgersi a: Tommasa Ruscitti - Loredana Taccone - Giuseppina Persia (operatrici incaricate) - tel: 0862.432097 - 2023



- 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 7 days before the Board can move on to the next phase of the selection procedure.
- 3. The above mentioned preliminary procedure initially involves determining if the candidates possess the requisites for participation, then their CVs and publications, including their Ph.D. thesis, are assessed.
- 4. Following preliminary assessment, the Board will admit the most worthy candidates 10 to 20 per cent of the original candidates and no less than six in number to participate in a public discussion of their qualifications and scientific work; all candidates shall be admitted to the discussion should their total number be equal to or less than six.
- 5. The list of candidates is drawn up by the Board and published on the University's Albo Ufficiale and on the website at least 10 days before the interview. This is to be considered an official notification for candidates. Candidates are required to appear for their interviews on the indicated date with a valid identity document. It is important to remember that candidates are not notified individually but only through the above stated notifications published online.
- 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 all necessary actions within four months from the Rector's Decree nominating its members.
- 2. The Rector may extend the deadline only once and for no more than two months only in the case of exceptional and documented reasons brought forth by the President of the Board before the established deadline expires.
- 3. If all procedures are not concluded even within the extended deadline the Rector shall proceed to the substitution of the Board members, who become liable for the delays caused, establishing a new deadline for completion of the selection procedure.

# Art. 10 - Determining Validity of Proceedings

Within thirty days after the proceedings are consigned, the Rector issues a Decree establishing their validity, which is published on the University's Albo Ufficiale and on the website. **This, to all effects, represents official notification** and from that date candidates have a period of time to file a complaint. The candidate selected shall also be notified.

The Decree is immediately passed on to the relevant Body in charge of the appointment, as pursuant to the following Art. 11.

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

### Art. 11 - Appointment by the Department

Within 60 days of the Rector's approval of the proceedings the Department Council that had requested the selection procedure must unanimously adhere to the decision and decide on a date to officially appoint the new Researcher, to this end the Council must keep in mind the time needed to stipulate the contract. The Department's deliberation must also be approved by the University's Board of Directors, after which the Researcher is invited to present all necessary documents for contract stipulation within 30 days.

### Art. 12 - Drawing-up of contract

A fixed-term full-time employment contract shall be drawn up and underwritten by the Rector and by the Researcher. The contract is for three years and it implies a compulsory period of work from 6 to 15 months (even not consecutive) in one or more Universities/Research Institutions abroad to carry out technical-scientific activities related to projects/research programmes according to what described in the relevant attachment to this procedure announcement.

All elements regarding fixed-term researcher contracts specified in Art. 10 of the 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. 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 in reference to the category shall be applied.

The Researcher appointed will be required to abide by the University's 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. 81/2008 and also contact the Health and Safety Service Office of the University to gather information on prevention measures to abide by while carrying out research. The position is subject to all laws regarding termination.

### Art. 13 - Salary and Social Security Benefits

To the Researcher shall be accorded a gross annual salary in compliance with Presidential Decree n. 232 dated December 12<sup>th</sup>, 2011, in relation to his/her full-time commitment, and with MIUR Directorial Decree 3395 dated December 21<sup>st</sup>, 2018.

### Art. 14 - Documents for Contract Stipulation

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 Office as specified in Art. 3, Paragraph 5, numbers 1, 2, 3, 4, 5, 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.

If the Researcher is already employed by a public institution he/she must ask for a leave of absence from their job to accept the Researcher contract they have been selected for.



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 Office to make an appointment with the doctor. The University reserves the right to carry out sample checks to verify the information and certification presented.

### Art. 15 - Personal Data

The handling of candidates' personal information is disciplined by Leg. Decree n. 196, 30 June, 2003, by Leg. Decree n. 101, 10 August 2018 implementing 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. 16 – Disclosure

This decree is made available to the public on the University website (<a href="http://www.univaq.it">http://www.univaq.it</a>), on the Ministry of Education, University and Research website, and on the European Union website.

### **Art. 17 - 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. 18 - Head of the Selection Procedure

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

L'Aquila, April 30<sup>th</sup>, 2019

The Rector (signed:) Prof.ssa Paola Inverardi

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#### **ATTACHMENT 1**

Project AIM1842894

**Spending centre**: Department of Physical and Chemical Sciences

SNSI main specialization area: Green Chemistry

**Type of announcement**: line 1

Months abroad: 10

Academic Recruitment Field: 03/A1— Analytical Chemistry

Academic Discipline: CHIM/01- Analytical Chemistry

Place of work: Department of Physical and Chemical Sciences

**Admission requisites**: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

### **Mobility requisites:**

Foreign institutions (EU) where to spend the months abroad: Department of Analytical Chemistry, University of Barcelona, and other partner institutions.

**Research activities**: Research activities shall be carried out within the project AIM1842894, financed by the call for proposals "Attraction and Mobility of Researchers" (D.D. 407 dated 27.02.2018). The activity is aimed at the development and application of instrumental methodologies supported by multivariate (chemiometric) statistical approaches.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Maximum number of publications: 12 (twelve).

Foreign language requisite: English

### Assessment criteria:

- 1. Relevance of the candidate's overall scientific production;
- 2. Organization of, or participation in, as a speaker in scientific conferences in Italy or abroad;
- 3. Direction of national and international scientific research projects or groups, or participation in;
- 4. Coordination of studies and scientific researches entrusted by qualified public or private institutions:
- 5. Scientific coordination of national and international scientific research projects funded by peer review-based competitive calls;
- 6. Direction of, or participation in, the scientific committees of highly regarded journals, series, encyclopaedias and treatises;
- 7. Prizes and awards received for his/her scientific activity, included affiliation to highly regarded societies of the relevant field;
- 8. Results achieved in the field of technology transfer in terms of contribution to the development of new enterprises (spin off), patents' development, employment and marketing;
- 9. Specific professional experiences or research activities of the candidate within the relevant academic discipline.



AMMINISTRAZIONE CENTRALE AREA GESTIONE DELLE RISORSE UMANE SETTORE CONCORSI E SELEZIONI

### ATTACHMENT 2 - Position A

Project AIM1858058

**Spending centre:** CETEMPS

Activity n. 2

**SNSI main specialization area**: Smart, Secure and Inclusive

**Type of announcement**: line 1

Months abroad: 12

**Academic Recruitment Field:** 04/A4 – 04/A4 – Geophysics

**Academic Discipline:** GEO/12 – Oceanography and Physics of the Atmosphere

Department responsible for carrying out the selection procedure: DSFC – UNIVAQ

Place of work: Department of Physical and Chemical Sciences, University of L'Aquila, Via Vetoio 67100

L'Aquila

**Centre of reference**: CETEMPS

Admission requisites (line 1): A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

**Mobility requisites**: Foreign institutions where to spend the months abroad: Bjerknes Centre for Climate Research (partecipating in the project CORDEX– FPS Convection)

Research activities: Research activities shall be carried out within the project AIM1842894, financed by the call for proposals "Attraction and Mobility of Researchers" (D.D. 407 dated 27.02.2018). They aim at providing tools for the reduction and mitigation of the climate change risk in urban areas. The need is to recalibrate urban planning activities reducing criticality determined by the increasing demographic growth and present and expected climate changes

The methodology:

- Use of the existing climate projections on a regional scale to identify risk areas
- Use of the WRF– CLIMATE model to produce climate scenarios

Two main strands shall be investigated: relevance of heat waves in urban areas and flood risks of built-up areas, which converge on the definition of measures for the reduction and mitigation of the climate change risk in urban areas. Research methodologies and results shall be applied to the metropolitan area of Pescara, selected as a pilot area for the reasons explained in the consistency analysis. The methodology proposed can also be applied to other urban areas with similar morphological and climate conditions.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve).

Foreign language requisite: English

### Assessment criteria:

- 1. Relevance of the candidate's overall scientific production;
- 2. Organization of, or participation in, as a speaker in scientific conferences in Italy or abroad;
- 3. Direction of national and international scientific research projects or groups, or participation in;
- 4. Coordination of studies and scientific researches entrusted by qualified public or private



### institutions;

- 5. Scientific coordination of national and international scientific research projects funded by peer review-based competitive calls;
- 6. Direction of, or participation in, the scientific committees of highly regarded journals, series, encyclopaedias and treatises;
- 7. Prizes and awards received for his/her scientific activity, included affiliation to highly regarded societies of the relevant field;
- 8. Results achieved in the field of technology transfer in terms of contribution to the development of new enterprises (spin off), patents' development, employment and marketing;
- 9. Specific professional experiences or research activities of the candidate within the relevant academic discipline

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## **ATTACHMENT 3 – Position B**

Project AIM1858058

**Spending centre:** CETEMPS

Activity n. 2

**SNSI main specialization area**: Smart, Secure and Inclusive

**Type of announcement**: line 1

Months abroad: 12

**ACADEMIC RECRUITMENT FIELD:** 04/A4 – Geophysics

ACADEMIC DISCIPLINE: GEO/12 – Oceanography and Physics of the Atmosphere

Department responsible for carrying out the selection procedure: DSFC - UNIVAQ

Place of work: Department of Physical and Chemical Sciences

**Centre of reference**: CETEMPS

Admission requisites (line 1): A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

### **Mobility requisites:**

Foreign institutions (EU) where to spend the months abroad: Bjerknes Centre for Climate Research (participating in the project CORDEX– FPS Convection)

Research activities: Research activities shall be carried out within the project AIM1842894, financed by the call for proposals "Attraction and Mobility of Researchers" (D.D. 407 dated 27.02.2018). They aim at providing tools for the reduction and mitigation of the climate change risk in urban areas. The need is to recalibrate urban planning activities reducing criticality determined by the increasing demographic growth and present and expected climate changes

The methodology:

- Use of the existing climate projections on a regional scale to identify risk areas
- Use of the WRF–CLIMATE model to produce climate scenarios

Two main strands shall be investigated: relevance of heat waves in urban areas and flood risks of built-up areas, which converge on the definition of measures for the reduction and mitigation of the climate change risk in urban areas. Research methodologies and results shall be applied to the metropolitan area of Pescara, selected as a pilot area for the reasons explained in the consistency analysis. The methodology proposed can also be applied to other urban areas with similar morphological and climate conditions.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve)

Foreign language requisite: English

### Assessment criteria:

- 1. Relevance of the candidate's overall scientific production;
- 2. Organization of, or participation in, as a speaker in scientific conferences in Italy or abroad;
- 3. Direction of national and international scientific research projects or groups, or participation in;
- 4. Coordination of studies and scientific researches entrusted by qualified public or private



### institutions;

- 5. Scientific coordination of national and international scientific research projects funded by peer review-based competitive calls;
- 6. Direction of, or participation in, the scientific committees of highly regarded journals, series, encyclopaedias and treatises;
- 7. Prizes and awards received for his/her scientific activity, included affiliation to highly regarded societies of the relevant field;
- 8. Results achieved in the field of technology transfer in terms of contribution to the development of new enterprises (spin off), patents' development, employment and marketing;
- 9. Specific professional experiences or research activities of the candidate within the relevant academic discipline.



#### **ATTACHMENT 4**

**Project** AIM1858058– 3

**Spending centre**: CETEMPS – Department of Physical and Chemical Sciences

Activity n. 3

**SNSI main specialization area** : Aerospace

**Type of announcement**: line 1

Months abroad: 12

ACADEMIC RECRUITMENT FIELD: 02/C1 – Astronomy, Astrophysics, Earth and Planetary Physics

**ACADEMIC DISCIPLINE:** FIS/06 – Physics of the Earth and of the Circumterrestrial Medium

**Department responsible for carrying out the selection procedure**: Department of Physical and Chemical

Sciences

Place of work: Department of Physical and Chemical Sciences

**Centre of reference:** CETEMPS Centre of Excellence – UNIVAQ

**Admission requisites**: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

**Mobility requisites**: (line 1) Foreign institutions (EU) where to spend the months abroad: ECMWF Reading (UK)

### Research activities:

- To provide the scientific community with information technology tools for the qualitative validation of the observed experimental data and for their use to improve the knowledge of atmospheric chemical-physical processes by comparison with numerical simulation results. In order to make them easily available to the scientific community, they will be developed within the shared platform ESMValTool (Earth Systema Model Evaluation Tool; www.esmvaltool.org) already used in support of Copernicus Climate Service (climate.copernicus.eu).
- Climate mitigation studies by means of a numerical model on a global scale combining chemistryclimate, properly validated by experimental observations (see point 1. above). For these climate sensibility studies reference will be made to standard cases of climate evolution based on greenhouse gas emission and aerosol IPCC scenarios.
- Development of an aeronomic model employing as boundary conditions the future evolution of CO<sub>2</sub> concentration in atmosphere and solar radiative flows in the UV spectral range, in order to obtain reliable predictions about termosphere density values. A correct prediction of the amount of CO<sub>2</sub> in the termosphere is crucial in order to determine possible downward trends of mass density in the atmosphere at those levels, phenomenon which may have an impact on determining residence time of satellites in orbit. This information is crucial for those companies who deal with satellite control (Telespazio) for an accurate planning of procedures.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve)

Foreign language requisite: English

**Assessment criteria**: Qualifications and interview (English language included)



#### **ATTACHMENT 5**

Project AIM1829299

Spending centre: Department of Industrial and Information Engineering and Economics

Activity n. 1

SNSI main specialization area: Sustainable mobility

**Type of announcement**: line 1

Months abroad: 8

ACADEMIC RECRUITMENT FIELD: 09/A2 – Applied Mechanics

**ACADEMIC DISCIPLINE:** ING–IND/13 – Applied Mechanics

Place of work: Department of Industrial and Information Engineering and Economics

**Admission requisites**: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

**Mobility requisites**: (line 1)

Foreign institutions (EU) where to spend the months abroad: Dynamic Group in TUHH (DE), LaMCoS at INSA, Lyon (FR)

#### Research activities:

Research activity focuses on the optimization of a braking system for the operating contitions typical of the electric car:

The methodology employed implies:

- state of the art analysis and study of the solutions proposed by the various car manufacturers;
- identification of possible engineering solutions;
- experimental characterization of friction coefficient for pair of materials;
- analysis and comparison by means of calculations and advanced simulations;

The subjects to be addressed include:

- identification of the brake operating conditions in various situations (parking or parking and emergency or stability control);
- study of possible architectures and materials;
- braking system mechanical sizing;
- analysis of dynamic instabilities;
- study of the multiple instability effect;
- structural changes to reduce the tendency to the system squeal.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve)

Foreign language requisite: English



AMMINISTRAZIONE CENTRALE AREA GESTIONE DELLE RISORSE UMANE SETTORE CONCORSI E SELEZIONI

#### **ATTACHMENT 6**

Project AIM1829299

Spending centre: Department of Industrial and Information Engineering and Economics

Activity n. 1

**SNSI main specialization area**: Sustainable mobility

**Type of announcement**: line 1

Months abroad: 8

ACADEMIC RECRUITMENT FIELD: 09/E2 – Electrical Energy Engineering

ACADEMIC DISCIPLINE: ING- IND/32 - Power Electronic Converters, Electrical Machines and Drives

Place of work: Department of Industrial and Information Engineering and Economics

Admission requisites: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

**Mobility requisites**: (line 1)

Foreign institutions (EU) where to spend the months abroad: Motor Design Ltd. (UK)

### **Research activities:**

The activity proposed within the field powertrains will focus on the development of reluctance synchronous motors without magnets (pure-SynRel) for "full- electric", medium- and high power-vehicles, 75 and 200kW.

The methodology employed implies:

- state of the art analysis for similar or related solutions;
- identification of base engineering solutions and possible different versions;
- analysis and comparison by means of calculations and advanced simulations;
- identification of the prototype solution;
- prototyping;
- validation by means of test bench.

The subjects to be addressed include:

- project design aimed to the use of brass coated coils, "hairpin" type;
- study of rotor geometries with symmetrical and asymmetrical flow barriers;
- analysis of the use of high performance, grains- oriented and non-oriented rotor sheets;
- study of the continuous rotor skewing to reduce the torque ripple;
- analysis of the mechanical stress of the rotor jumpers at high speed;
- study of low cost techniques for assembling the rotor and injecting resins in flow barriers. Time schedule consists of 5 phases, one to be carried out abroad and the remaining at the university.

The activity abroad is to be carried out at Motor Design Ltd. (UK), partner of the European project "ReFreeDrive" and world leader in software development for the electromagnetic design and the thermic analysis of electric cars (Motor CAD). The activities to be carried out at the university will take place at the Electrical Engineering laboratory UnivAQ (800 mq), equipped with electromagnetic CAD stations, simulation software, drives and test benches for the necessary experimental tests.

Phase 1 (4 months): acquisition of the state of the art, analysis and comparison of different configurations of pure—SynRel engines to be possibly prototyped, identification of the requirements to carry out the winding with brass coated coils, "hairpin" type; definition of size and shape of the slots, number of slot conductors and type of (series and/or parallel) connection.

Phase 2 (8 months): it shall be carried out abroad at Motor Design Ltd. It will imply the use of the Motor CAD software in order to implement a parametric model of the pure- SynRel engine and to compare the

most interesting solutions identified in Phase 1 as far as performance is concerned. In particular:

- analysis of performances with different "flow barriers" rotor configurations;
- optimization of the stator and rotor geometry;
- evaluation and comparison of the performance index torque/current among the different optimized configurations;
- validation and comparison of the performance among the different optimized configurations;
- thermic analysis of the optimized configurations in work cycles with reference to the use of air and water
- evaluation of innovative cooling systems compatible with the coil winding technology (cooling directly in

Phase 3 (6 months): to be completely dedicated to the optimization of the engine design.

The Researcher shall deal both with interfacing optimization algorithms with the finite element modelling software and the dynamic simulation, shall carry out thermic analysis and shall size the cooling system.

Phase 4 (12 months): to be dedicated to carrying out pure—SynRel engine prototypes: the rotors shall be realized at the university whereas the stators with brass "haipin" winding shall be realized by the partner "ReFreeDrive" Technomatic SpA., holder of various patents concerning coil winding assembling (the Researcher shall deal with the design and set up phase of the machinery necessary to carry out prototypes). Phase 5 (6 months): to be dedicated to functional and experimental tests of test bench prototype characterization.

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve)

Foreign language requisite: English



#### ATTACHMENT 7

Project AIM1829299

Spending centre: Department of Industrial and Information Engineering and Economics

Activity n. 2

**SNSI** main specialization area: ENERGY

**Type of announcement**: line 1

Months abroad: 6

ACADEMIC RECRUITMENT FIELD: 09/C1 - Fluid Machinery, Energy Systems and Power

Generation

**ACADEMIC DISCIPLINE:** ING– IND/09 – Energy Systems and Power Generation

Place of work: Department of Industrial and Information Engineering and Economics

**Admission requisites**: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described (ING-IND/09) and obtained not before 27/02/2014.

**Mobility requisites**: Months abroad: 6

Research activities abroad shall be carried out at Brunel University, London and/or at City University,

London

### Research activities:

The research activities proposed imply the typical skills of Industrial Engineering, specifically those of themodynamics of chemical changes aimed at CO2 catching and sequestration, and of the energy changes evaluated in relation to their interaction with the Environment, the Machine Dynamics and Control, the Energy Systems more in general by applying the principles of conservation in stationary and non-stationary form.

Study and research activities shall focus on the energy and exergetic analysis of transformations aimed to vergin or residual biomass gasification (cedua vegetation, pomace stones, cake, glycerol ...) in order to produce second generation biofuels (bio-SNG, methanol ...) which do not interfere with agricultural and nutritional product chains (first generation biofuels).

Innovative CO2 catching systems shall be considered in the production of biofuels, based on innovative process technologies and plant layout. In CO2 catching processes, within the frame of a collaboration with the Chemical Engineering section, reference will be made to hydrotalcitic (Mg-Al, Ca-Al e Mg-Ca-Al), prepared with and without impregnation with K2CO3, working at 300-400°C favouring Water Gas Shift (WGS) reactions and CO2 catching in order to increase the calorific value of the fuel produced.

In a laboratory fluidized bed reactor (integrated with a gas cleaning system) will be produced fuels with various hydrogen content whose composition varies in relation to the treated biomass and to the reactor operational parameters. Such gases, properly analysed, shall be "prepared" and "made available" in bottles to be used in polymeric membrane fuel cells or directly as fuel gas in alternative internal combustion engines (MCI).

In case the biofuel is used directly in MCI, micro-cogeneration systems will be privileged as biofuel conversion technologies are oriented towards low power territorial applications. Therefore, attention will also be given to the size of such power units placed in energy islands by means of a virtual platform development which allows the screening of plant solutions and the choice of those with higher energy performance, balancing the thermic and electric energy production, introducing also storage sections in order to balance demand and supply. Considering their supposed chemical-physical characteristics, in the

direct use of biogases as fuel, it will be necessary to conduct an engine test bench experimentation which allows to measure the mechanical and emission performances of the engines, also in the light of the new regulations about emissions. Plant solutions favouring energy recovery and transformation performance increase shall also be experimented. Among them, for example, thermic energy recovery at engine exhaust and/or inlet air cooling and/or water injection in the combustion chamber: this in order to make the mechanical/electrical energy biofuel conversion section as more efficient and environment-friendly as possible. In fact, the use of biomass-derivated "blend" fuels for micro-cogeneration has not been much experienced in literature (gas oil, biofuels, hydrogen, etc.) as well as the potentials of simultaneous recovery/generation of thermic energy and/or low temperature thermic energy generation.

From a theoretical point of view, the study will also examine the use of biogas in fuel cells optimizing their performances in thermic (recovery) and productive (electric energy generation) terms considering storage sections for the thermic and electric use matching. Considering the biogas-powered (or, more generally, biofuel-) energy unit as the heart of the energy island, its optimization will require targeted control strategies in order to assure the simultaneous coverage of electric and thermic energy demand as well as analysis techniques (Pareto) which consider the minimization of plant and management costs This will allow to take into consideration the economic and the plant financial self-sufficiency dimension, besides the energetic one.

The incentive from the immaterial markets (white certificates and CO2 tradable allowances) received by micro-cogeneration systems is proven to be a driver already at plant concept level: those incentive mechanisms guide the choice of the plant components towards highly-efficient, optimized systems in the final use of energy. The activities developed will allow to feed energy-territorial supply-chains which will support local employment and economies as well as the resources of the territory (biomasses, biofuels, conversion technologies) valorization. The possible use of non-food lignin – cellulose – oil seeds exploiting new technological chances in treatments will not interfere with the land utilization for food.

The idea of energy islands expands the three-year research project interest towards territorial energy planning and towards the contributions that the said poly-generation units can give to the implementation of SEAP, by integrating biomasses, cultures, waste oils and the synthesis of high-energy vectors.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Energy Technologies for Sustainability (3 CFU) + Energy Territorial Planning (3CFU)

**Maximum number of publications**: 12 (twelve)

Foreign language requisite: English



### **ATTACHMENT 8**

Project AIM1855453

Spending centre: Department of Biotechnological and Applied Clinical Sciences

**Activity n.** 1 "An innovative rehabilitative approach to improve social and relational skills of people with autistic disorder by implementing therapeutical actions based on social cognition mediated by virtual and mixed reality".

**SNSI main specialization area**: Health

**Type of announcement**: line 1

Months abroad: 6

ACADEMIC RECRUITMENT FIELD: 11/E1- General Psychology, Psychobiology and Psychometrics

**ACADEMIC DISCIPLINE:** M-PSI/03 - Psychometrics

Place of work: Department of Biotechnological and Applied Clinical Sciences

**Admission requisites**: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

### Research activities:

The research activities to be carried out are described in the project AIM1855453 Activity n. 1. In particular, the scientific activity required shall focus on building psychometric procedures and tools to assess social cognition, theory of mind skill, empathy, emotional disorders as well as on the development of construct behavioural-cognitive measures, complex multivariate model application for data set with longitudinal and cross section, and on the computerized analysis procedures of functional bio-imaging data. The Researcher shall prove to have advanced methodological skills in the development of specific testing aimed at the evaluation and identification of the autistic disorder. Moreover, the Researcher shall be able to plan, on the basis of the findings available, rehabilitative actions based on social cognition cognitive construct integrated in an adaptive learning system meant for people with autistic disorder.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

### **Maximum number of publications**: 12 (twelve)

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.

Foreign language requisite: English

Assessment criteria: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25 May 2011, the Examining Board will consider the high quality of the candidate's scientific production, documented by publication in international journals. Documented research experience in the Academic Discipline M–PSI/03 carried out in Italian and foreign research institutions shall also be considered. Moreover, in assessing the candidate's CV, qualifications and publications in the field of the research activities described above shall be considered particularly qualifying.



### ATTACHMENT 9 - Position A

Project AIM1887574

Spending centre: Molecular Diagnostics and Advanced Therapy Research Centre

**Activity** n. 2 "Identification of new diagnostic, prognostic and therapeutical targets in cutaneous melanoma and Brca1/2 negative mammary tumor"

**SNSI main specialization area**: Health

**Type of announcement**: line 1

Months abroad: 6

ACADEMIC RECRUITMENT FIELD: 06/A2 - Experimental Medicine, Pathophysiology and Clinical

Pathology

**ACADEMIC DISCIPLINE:** MED/04 – Experimental Medicine and Pathophysiology

**Department responsible for carrying out the selection procedure**: Department of Biotechnological and Applied Clinical Sciences

Place of work: DMTA Centre - DISCAB

### **Admission requisites:**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

Research activities: The research activities to be carried out described in the project AIM 1887574 Activity n. 2 refer to: 1- Identification and selection of patients with melanoma who could benefit from a personalized therapy with TrkA inhibitors (characterization of new chimeric genes, splicing variations and TrkA mutations in primary and metastatic melanomas, identification of a subpopulation of melanomas expressing TrkAIII with the amplification state of the TrkA gene, determination of the diagnostic/prognostic meaning of the TrkA ("full spliced" vs TrkAIII) with the amplification state of the TrkA gene; 2- Identification of new genes/mutations involved in the pathogenesis of mummary tumor in patients with family predisposition in the absence of BRCA1/2 (non–BRCA) mutations (development of disease-oriented bio-informatic approaches, methodologies and tools for the semplification of the NGS work-flow and data management/analysis, identification of new genes/mutations connected with the development of mummary tumor in the absence of BRCA1/2 by means of NGS, generation of new panels for multigenic analysis); 3- Analysis of levels of expression of microRNA circulating in patients with family predisposition suffering from mummary tumor (identification of miR groups deregulated in specific subgroups of patients, isolation of new non-invasive biomarkers with diagnostic and predictive value at clinical level, implementation of simplified bio-informatic tools focused on the identification of miRNA target genes.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve)

Foreign language requisite: English

Assessment criteria: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25



May 2011, the Examining Board will consider the high quality of the candidate's scientific production, documented by publication in international journals. Documented research experience in the Academic Discipline MED/04 carried out in Italian and foreign research institutions shall also be considered. Moreover, in assessing the candidate's CV, qualifications and publications in the field of the research activities described above shall be considered particularly qualifying.

### **ATTACHMENT 10 - Position B**

Project AIM1887574

Spending centre: Molecular Diagnostics and Advanced Therapy Research Centre

**Activity** n. 3 "New biomarkers and therapeutical targets for common and rare eye pathologies"

**SNSI main specialization area**: Health

**Type of announcement**: line 1

Months abroad: 6

ACADEMIC RECRUITMENT FIELD: 06/A2 - Experimental Medicine, Pathophysiology and Clinical

Pathology

ACADEMIC DISCIPLINE: MED/04 - Experimental Medicine and Pathophysiology

**Department responsible for carrying out the selection procedure**: Department of Biotechnological and Applied Clinical Sciences

Place of work: DMTA Centre - DISCAB

### **Admission requisites:**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

**Research activities**: The research activities described in project AIM 1887574 Activity n. 3 refer to the characterization of biomolecular mechanisms involved in high incidence pathologies of the anterior (e.g. keratitis, dry eye syndrome) or posterior (retinopathy) segment of the eye. Study of the rhNGF action mechanism in the anterior and posterior segment of the eye in vitro and model translation in vivo to identify potential new biomarkers and therapeutical targets (both proteic and miRNA). Eye permeability studies of new molecules on 2D and 3D cell models.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Maximum number of publications: 12 (twelve)

Foreign language requisite: English

Assessment criteria: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25 May 2011, the Examining Board will consider the high quality of the candidate's scientific production, documented by publication in international journals. Documented research experience in the Academic Discipline MED/04 carried out in Italian and foreign research institutions shall also be considered. Moreover, in assessing the candidate's CV, qualifications and publications in the field of the research activities described above shall be considered particularly qualifying.



#### **ATTACHMENT 11**

Project AIM 18CC745

**Spending centre:** Microscopy Centre

Activity n. 1

**SNSI main specialization area**: Health

**Type of announcement**: line 1

Months abroad: 6

ACADEMIC RECRUITMENT FIELD: 05/D1 – Physiology

**ACADEMIC DISCIPLINE:** BIO/09 – Physiology

Department responsible for carrying out the selection procedure: Department of Biotechnological and

**Applied Clinical Sciences** 

**Place of work**: Microscopy Centre – DISCAB

**Admission requisites**: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

### **Research activities:**

The research activities described in the project AIM 18CC745 Activity n. 1 refer to the study of internal retina circuit modifications in retinal degenerations of the photoreceptor, such as macular degeneration linked to aging (DMLE), Stargardt disease (STGD) and retinitis pigmentosa (RP). The project involves, by means of three different animal models (an albino rat model subject to damage from light in order to mimic DMLE, ABCR rat characterized by the same STGD genetic defect and the ChR2 rat for optogenetics experiments) to morphologically and funcionally characterize the internal retina modifications (study of the morphological aspects, retinal "remodelling", inflammatory process evolution and its role in the neurodegenerative process progression as well as evaluation of the progressive loss of retinal functionality of animal models with electroretinograms (ERG) both flash and pattern in vivo), to analyze the synaptic activity impact on the firing pattern generated from ganglionic retinal cells (retinal encoding ability of images) and to assess the effectiveness of new potential therapeutical agents in mitigating photoreceptors' death and in preventing internal retina circuit modifications.

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

## **Maximum number of publications**: 12 (twelve)

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.

Foreign language requisite: English

Assessment criteria: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25 May 2011, the Examining Board will consider the high quality of the candidate's scientific production, documented by publication in international journals. Documented research experience in the Academic Discipline BIO/09 carried out in Italian and foreign research institutions shall also be considered. Moreover, in assessing the candidate's CV, qualifications and publications in the field of the research

activities described above shall be considered particularly qualifying.



#### **ATTACHMENT 12**

Project: AIM1870582

**Spending centre:** Department of Life, Health and Environmental Sciences

Activity n. 2

SNSI main specialization area: Agrifood

**Type of announcement:** line 1

Months abroad: 6

ACADEMIC RECRUITMENT FIELD: 05/B1 – Zoology and Anthropology

**ACADEMIC DISCIPLINE**: BIO/05 – Zoology

Place of work: University of L'Aquila, Department of Life, Health and Environmental Sciences

### Admission requisites:

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

### **Mobility requisites:** (line 1)

Foreign institutions (EU) where to spend the months abroad: primarily the "Evolution, Modeling and Analysis of Biodiversity" Laboratory of Grenoble University (France) and/or other highly qualified institutions where to carry out the project in line with the announcement.

#### Research activities:

In line with the ojectives of the project approved, the research activities shall focus mainly on the application of ecological modelling techniques aimed at the analysis of present and future distribution of target species of environmental and economic interest with particular reference to fields of investigation related to "agrifood" by means of proper datasets related to species of economic interest, by means of the implementation of specific algorithms according to different staudy cases. Research activities shall focus mainly on the study and on the management proposals both of target species in farms or cultivations of agronomic and commercial interest (e.g. alien and/or non-invasive, parasistic or competitor, etc.) as well as on biodiversity specific components of naturalistic and/or bio-geographical interest, especially in the light of the ongoing climate change.

The candidate must therefore prove to have documented experience in the field of ecological modelling both within the frame of Species Distribution Modelling and Ecological Niche Modelling techniques and in the post-modelling ones to be developed in GIS. Geographical analysis tools shall be used to better adapt to the different territorial contexts the previsional models obtained in the modelling phases. The Researcher shall investigate on modelling techniques combined with geographical analysis in order to identify new methodologies representing a progress and a widening of technical and theoretical knowledge of ecological modelling in the different areas faced in the project proposed.

**Teaching activities, integrated teaching activities and services to the students:** 350 ore complessive per anno, di cui 60 di didattica frontale nel SSD del bando.

**Maximum number of publications:** 12 (twelve)

Foreign language requisite: English

**Assessment criteria:** Candidates shall be assessed considering their qualifications in relation to the skills required to carry out the project.



## **ATTACHMENT 13**

Project AIM 1887574

Spending centre: Molecular Diagnostics and Advanced Therapy Research Centre (DMTA)

Activity n. 1

**SNSI main specialization area**: Health

**Type of announcement**: line 1

Months abroad: 6

ACADEMIC RECRUITMENT FIELD: 05/E1 – General Biochemistry

**ACADEMIC DISCIPLINE:** BIO/10 – Biochemistry

Place of work: Department of Life, Health and Environmental Sciences

Admission requisites: A Ph.D., or an equivalent degree obtained in Italy or abroad, in biology or biotechnologies, relating to the academic discipline of the position described and obtained not before 27/02/2014.

Mobility requisites: Foreign institutions where to spend the months abroad: primarily RUSH University Medical Center (D.L. Williams, US), University of Illinois at Chicago (P. Petukhov; G.R. Thatcher, US) Karolinska Institute (E.S.J. Arner, SWE) and/or other highly qualified institutions where to carry out the project in line with the annoucement.

**Research activities**: the research programme shall focus on the two following activities:

a) identification of new drugs for parasitosis in human beings.

The study proposed is aimed at finding new drugs for schistosomiasis, a neglected human parasitosis. Proteins bolonging to the parasite redox system shall be mainly studied, characterizing both their function and their structure. The aim will be the co-crystallization of some inhibitors with the proteic target selected resolving the structure of the resulting complex by means of X Rays crystallography. The understanding of the structural determinants at the base of the drug-receptor recognition shall be the starting point to launch the design of drugs on a national basis. The findings obtained can be exploited for treating further devastating neglected diseases and various types of cancer in human beings. In fact, other highly proliferating human parasites and human cells very much depend on proteins involved in redox homeostasis similar to those of the schistosoma.

b) Mechanistic study of the differentiating effect towards neural phenotype of mesenchymal and amniotic stem cells by human and bovine (recombinant) Prx3 substrates. This project shall focus on the study of the mechanism of action of the human and bovine mitochondrial Prx3 immobilized in nano-structured form on bio-compatible materials, realized combining the Prx protein with materials such as graphene oxide, chitosan, alginate or collagen, on mesenchymal stem cells and amniotic human stem cells with particular attention to differentiating induction. The pro-differentiating effect of nanostructured materials can be tested on differentiation models of tumoral stem cells as post-surgery and/or post-chemotherapeutic potential therapeutical approach.

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year, of which 60 hrs of class teachnig of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve)

Foreign language requisite: English

Assessment criteria: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25 May 2011, the Examining Board will consider: a) consistency of the candidate's scientific profile with what



indicated in the selection announcement; b) the candidate's scientific activity particularly in the light of his/her individual contribution and c) scientific experience in the field of the Academic Discipline BIO/10 with particular reference to the study of the relation between structure and funcion of proteins and their applications in the field of biotechnologies.

### **ATTACHMENT 14**

**Project** AIM 18CC745 – 2

**Spending centre**: Microscopy Centre – MESVA

Activity n. 2

**SNSI main specialization area** : Health

**Type of announcement**: line 1

Months abroad: 6

ACADEMIC RECRUITMENT FIELD: 05/B2 – Comparative Anatomy and Cytology

**ACADEMIC DISCIPLINE:** BIO/06 – Comparative Anatomy and Cytology

Place of work: University of L'Aquila - Department of Life, Health and Environmental Sciences

**Admission requisites**: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

### **Mobility requisites:**

Foreign institutions (EU) where to spend the months abroad: primarily Imperial College – London and/or other highly qualified institutions where to carry out the project in line with the announcement.

### **Research activities:**

Study of the neuronal stem cells SH– SY5Y differentiation on graphene Oxide substrates as the GO reduction degree varies. Preparation of neuron cultures from neural stem cells and their growth on biomaterials such as graphene oxide, or biocompatible biopolymers. Analysis of cell vitality, ultrastructural analysis of the dendritic tree and of their bones by means of SEM and TEM electron microscopy and confocal microscopy. Growth and dynamics of dendritic bones in relation to the reduction of graphene.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve)

Foreign language requisite: English

Assessment criteria: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25 May 2011, the Examining Board will consider: a) consistency of the candidate's scientific profile with what indicated in the selection announcement; b) the candidate's scientific activity particularly in the light of his/her individual contribution and c) scientific experience in the field of the Academic Discipline BIO/06 for the study of cells and tissues.

#### **ATTACHMENT 15**

Project AIM18CC745

**Spending centre:** DIPARTIMENTO MESVA

Activity n. 3

**SNSI main specialization area** : Health

**Type of announcement**: line 1

Months abroad: 6

ACADEMIC RECRUITMENT FIELD: 05/H1 – Human Anatomy

**ACADEMIC DISCIPLINE:** BIO/16 – Human Anatomy

Place of work: Department of Life, Health and Environmental Sciences

## Admission requisites:

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

## **Mobility requisites**: (line 1)

Foreign institutions (EU) where to spend the months abroad: primarily in the Periodontology and Dental Department of the Dental Clinic of the University of Freiburg (Germany) and/or other highly qualified institutions where to carry out the project in line with the announcement.

#### Research activities:

The research activities to be carried out in the field of the Academic Discipline BIO/16 shall focus mainly on the study of cell and tissue reactions against biomaterials, in collaboration with national and international research groups. The investigations will employ advanced microscopy techniques to assess the response of cells and tissues to biomaterials.

**Teaching activities, integrated teaching activities and services to the students**: 350 ore complessive per anno, di cui 60 di didattica frontale nel SSD del bando.

Maximum number of publications: 12 (twelve)

Foreign language requisite: English

Assessment criteria: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25 May 2011, the Examining Board will consider: a) consistency of the candidate's scientific profile with what indicated in the selection announcement; b) the candidate's scientific activity particularly in the light of his/her individual contribution, and c) scientific experience in the field of the Academic Discipline BIO/16 for the study of cells and tissues in human beings and in other experimental models.



#### ATTACHMENT 16

Project AIM18CC183

**Spending centre:** Research and Teaching Centre for Earthquake Engineering (CERFIS)

Activity n. 1

**SNSI main specialization area**: Smart, Secure and Inclusive Communities

**Type of announcement**: line 1

Months abroad: 12

Foreign institutions: Universität Potsdam, Institut für Erd- und Umweltwissenschaften, 14476 - Potsdam

Golm, Germany

ACADEMIC RECRUITMENT FIELD: 04/A3 - Engineering Geology, Physical Geography and

Geomorphology

**ACADEMIC DISCIPLINE:** GEO/05 – Engineering Geology

Department responsible for carrying out the selection procedure: Department of Civil, Construction-

Architectural and Environmental Engineering

Place of work: Research and Teaching Centre for Earthquake Engineering (CERFIS)

Centre of reference: Department of Civil, Construction-Architectural and Environmental Engineering – **DICEAA** 

# **Admission requisites:**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

#### **Research activities:**

The research activities to be carried out by the Researcher, in compliance with art. 24, par. 3, letter a) of Law 240/2010, will take place mainly at the Department DICEAA and at the Research and Teaching Centre for Earthquake Engineering (CERFIS), where for years experimental and numerical investigations have been carried out in the field of Applied Geology.

The Researcher's activities shall be carried out in the field of Quaternary Geology for the mitigation of seismic risk, in particular in the seismic microzonation and in the site seismic characterization. Mainly the activities shall focus on basic and advanced geological and geophysical investigations at various scales aiming to investigate stable areas likely to local amplification and unstable ones, among which those areas characterized by active and capable faults, earthquake-induced landslides, liquefaction and cavity collapse. The areas investigated shall be those in Italy characterized by high seismic risk, localized in the mountain

chain of Appenini, especially next to wide basins within the mountains whose geological and geophysical characterization is still not completetely known.

The research project aims at the development of large-scale thematic maps to be used in regional planning, realized through in situ and laboratory geological and geophysical investigations and numerical simulations processed by the estimation of the effects of local amplification.

Maximum number of publications: Candidates are required to submit publications congruent with the research project, a maximum of 12 (twelve). 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.

Foreign language requisite: English

Assessment criteria: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25



May 2011, the Examining Board shall assess the candidate's overall profile and scientific maturity, his/her individual contribution to the publications submitted, participation in financed research projects, and consistency with the scientific commitment required.



#### **ATTACHMENT 17**

Project AIM18CC183

**Spending centre**: Research and Teaching Centre for Earthquake Engineering (CERFIS)

Activity n. 1

**SNSI main specialization area**: Smart, Secure and Inclusive Communities

**Type of announcement**: line 1

Months abroad: 9

Foreign institution: WSL Institute for Snow and Avalanche Research SLF, Fluelastrasse 11; 7260 Davos

Dorf, Switzerland

ACADEMIC RECRUITMENT FIELD: 08/B1 – Geotechnics

**ACADEMIC DISCIPLINE:** ICAR/07 – Geotechnics

Department responsible for carrying out the selection procedure: Department of Civil, Construction-Architectural and Environmental Engineering - DICEAA

Place of work: Research and Teaching Centre for Earthquake Engineering (CERFIS)

Centre of reference: Department of Civil, Construction-Architectural and Environmental Engineering -**DICEAA** 

#### **Admission requisites:**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

#### Research activities:

The research activities to be carried out by the Researcher, in compliance with art. 24, par. 3, letter a) of Law 240/2010, will take place mainly at the Department DICEAA and at the Research and Teaching Centre for Earthquake Engineering (CERFIS), where for years experimental and numerical investigations have been carried out in the field of Geotechnics.

The Researcher's activities shall be carried out in the field of Geotechnics, with special focus on the following issues: (a) reconstruction of the geotechnical model of the ground which interacts with an infrastructure by employing the in situ adavanced techniques (SDMT) geotechnical investigation findings, hole geophysical investigations (seismic, geoelectric), inclinometric and piezometric measurements, laboratory tests of the physical-mechanical properties of soil samples in static and cyclic/dynamic conditions; (b) development of physical-mathematical models concerning the interaction soil-infrastructure for the analysis of collapse risk in static and dynamic conditions of the systems involved in landslides and snowslides (avalanches), failures, cavity collapse, seismic actions (site effects, local seismic response analysis, liquefaction).

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Maximum number of publications: Candidates are required to submit publications congruent with the research project, a maximum of 12 (twelve). 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.

Foreign language requisite: English

Assessment criteria: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25



May 2011, the Examining Board shall assess the candidate's overall profile and scientific maturity, his/her individual contribution to the publications submitted, participation in financed research projects, and consistency with the scientific commitment required.



#### ATTACHMENT 18 - Position A

Project AIM18CC183

**Spending centre**: Research and Teaching Centre for Earthquake Engineering (CERFIS)

Activity n. 2

**SNSI main specialization area**: Cultural Heritage

**Type of announcement**: line 1

Months abroad: 9

## **Foreign institutions:**

- Faculté de Sciences et Technologie, Université Paris Est Créteil Val de Marne (UPEC), 61 avenue du Général de Gaulle, 94010 Créteil Cedex, France;
- Faculty of Production Engineering, Warsaw University of Technology, Narbutta 85, 02-524 Warsaw, Poland

#### ACADEMIC RECRUITMENT FIELD: 08/B2 – Structural Mechanics

**ACADEMIC DISCIPLINE:** ICAR/08 – Structural Mechanics

Department responsible for carrying out the selection procedure: Department of Civil, Construction-Architectural and Environmental Engineering - DICEAA

Place of work: Research and Teaching Centre for Earthquake Engineering (CERFIS)

Centre of reference: Department of Civil, Construction-Architectural and Environmental Engineering -**DICEAA** 

# **Admission requisites:**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

# **Research activities:**

The research activities to be carried out by the Researcher, in compliance with art. 24, par. 3, letter a) of Law 240/2010, will take place mainly at the Department DICEAA and at the Research and Teaching Centre for Earthquake Engineering (CERFIS), where theoretical, numerical and experimental investigations are being carried out in the field of Structural Mechanics.

Research activities aim at investigating issues concerning the constitutive modelling of materials and contact interfaces. In particular, they focus on the development of physical-mathematical models, both analytical and numerical, aimed at defining the mechanical behaviour of mortars made of lime, fiberreinforced, to be employed for the structural reinforcement of historical buildings. Such a characterization will be developed making reference to the identification and the experimental validation, also by means of prototypes obtained by 3D printing, of the constitutive bond: i) of the mortar, as a function of the content and of the fiber geometric layout; ii) of the contact interface between mortar and wall structure in natural stone or brick.

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Maximum number of publications: Candidates are required to submit publications congruent with the research project, a maximum of 12 (twelve). 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.

Foreign language requisite: English



#### **ATTACHMENT 19 – Position B**

Project AIM1894130

Spending centre: International Research Center on Mathematics and Mechanics of Complex Systems-M&MoCS

Activity n. 1

**SNSI main specialization area**: Design, creativity and Made in Italy

**Type of announcement**: line 1

**Months abroad**: 6

## Foreign institutions:

- Faculté de Sciences et Technologie, Université Paris Est Créteil Val de Marne (UPEC), 61 Avenue du Général de Gaulle, 94010 Créteil Cedex, France;
- Faculty of Production Engineering, Warsaw University of Technology, Narbutta 85, 02-524 Warsaw, Poland

#### ACADEMIC RECRUITMENT FIELD: 08/B2 – Structural Mechanics

**ACADEMIC DISCIPLINE:** ICAR/08 – Structural Mechanics

Department responsible for carrying out the selection procedure: Department of Civil, Construction-Architectural and Environmental Engineering – DICEAA

Place of work: International Research Center on Mathematics and Mechanics of Complex Systems-M&MoCS

Centre of reference: Department of Civil, Construction-Architectural and Environmental Engineering -DICEAA

### **Admission requisites:**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

## **Research activities:**

The research activities to be carried out by the Researcher, in compliance with art. 24, par. 3, letter a) of Law 240/2010, will take place mainly at the Department DICEAA and at the M&MoCS Research Centre, where theoretical, numerical and experimental investigations are being carried out in the field of Structural

Research activities aim at investigating issues concerning non-linear, mechanical system stability and dynamics, under stress by conservative and non-conservative actions. In particular, they focus on the development of mainly analytical, physical-mathematical models, and on the implementation of numericaldisruptive algorithms for the definition of performance requirements of wooden furniture, life-safing in case of earthquake, with reference to: i) dynamic response of the furnishing in the hypothesis of undamaged structure; ii) response to impact loads as a consequence of structural and non-structural component collapse; iii) response to static loads as a consequence of debris settling piled up in the collapses.

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Maximum number of publications: Candidates are required to submit publications congruent with the research project, a maximum of 12 (twelve). 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.

Foreign language requisite: English



#### **ATTACHMENT 20**

Project AIM1894130

Spending centre: International Research Center on Mathematics and Mechanics of Complex Systems – M&MoCS

Activity n. 1

**SNSI main specialization area**: Design, creativity and Made in Italy

**Type of announcement**: line 1

**Months abroad**: 6

Foreign institution: InnoRenew CoE Renewable Materials and Healthy Environments Research and Innovation Centre of Excellence (Izola/Isola), Slovenia

ACADEMIC RECRUITMENT FIELD: 08/B3 – Structural Engineering

**ACADEMIC DISCIPLINE:** ICAR/09 – Structural Engineering

Department responsible for carrying out the selection procedure: Department of Civil, Construction-Architectural and Environmental Engineering – DICEAA

Place of work: International Research Center on Mathematics and Mechanics of Complex Systems – M&MoCS

Centre of reference: Department of Civil, Construction-Architectural and Environmental Engineering – **DICEAA** 

## **Admission requisites:**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

## Activity di ricerca:

The research activities to be carried out by the Researcher, in compliance with art. 24, par. 3, letter a) of Law 240/2010, will take place mainly at the Department DICEAA, in its Material and Structure Testing Laboratory, and at the M&MoCS Research Centre, where for years numerical, experimental and theoretical investigations have been carried out in the field of Structural Engineering.

In particular, research activities shall aim at defining technical-performance requirements and design development of new, life-safing furnishing in case of earthquake intended for schools and offices using locally manufactured wood and wood-based products, Research activities shall focus on: (i) definition of the seismic scenario and of the structural-performance requirements, considering different soil conditions for building typologies assumed more vulnerable and representative of the existing housing stock; (ii) development of effective solutions derived from modern approaches of antiseismic planning; (iii) optimization and validation of the solutions proposed by means of numerical simulations and experimental tests.

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Maximum number of publications: Candidates are required to submit publications congruent with the research project, a maximum of 12 (twelve). 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.

Foreign language requisite: English





#### **ATTACHMENT 21**

Project AIM1894130

Spending centre: International Research Center on Mathematics and Mechanics of Complex Systems-M&MoCS

Activity n. 2

**SNSI main specialization area**: Energy

**Type of announcement**: line 1

**Months abroad**: 6

Foreign institution: Environmental Hydraulics Institute "IHCantabria" University of Cantabria, Parque Científico y Tecnológico de Cantabria, Calle Isabel Torres, 15, 39011 Santander, Cantabria, Spagna

ACADEMIC RECRUITMENT FIELD: 08/A1 - Hydraulics, Hydrology, Hydraulic and Marine Constructions

**ACADEMIC DISCIPLINE:** ICAR/02 – Hydraulic Structures, Maritime Engineering and Hydrology

Department responsible for carrying out the selection procedure: Department of Civil, Construction-Architectural and Environmental Engineering - DICEAA

Place of work: International Research Center on Mathematics and Mechanics of Complex Systems -M&MoCS

Centre of reference: Department of Civil, Construction-Architectural and Environmental Engineering -**DICEAA** 

## **Admission requisites:**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

## Research activities:

The research activities to be carried out shall focus on issues related to estimation methods of energy availability in relation to sea waves, to optimal selection methods of sites for installation of energy extraction devices, to modelling (analytical, numerical and physical) of devices with attention to long waves (e.g. in case of storm). In particular, the findings of such research activities shall deal with the analysis of the influence of energy resource variability, the influence of the nominal power of the energy extraction component, the optimization of a moored device and of a not moored device similar to a conventional maritime work. Research activities shall be carried out by developing mathematical models (with analytical and numerical solution) and by conducting dedicated experimental tests.

Therefore, the Researcher shall develop mathematical models and verify the results by means of experimental methods. In particular, with regard to the project, the following shall be achieved: a wide knowledge (1) of sea wave propagation, (2) of sea wave generation processes, also with reference to the stochastic components (e.g. in case of storm) (2) of data analysis at local and at basin level, and (3) of numerical modelling, as well as (4) experience in the field of experimental modelling of sea waves and interaction with maritime works.

Pertanto, il Ricercatore svilupperà modelli matematici e verificherà i risultati con metodi sperimentali.

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Maximum number of publications: Candidates are required to submit publications congruent with the



research project, a maximum of 12 (twelve). 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.

Foreign language requisite: English



#### ATTACHMENT 22 – Position C

Project AIM1894130

Spending centre: International Research Center on Mathematics and Mechanics of Complex Systems -M&MoCS

Activity n. 3

**SNSI main specialization area**: Health

**Type of announcement**: line 1

Months abroad: 6

Foreign institution: Faculty of Production Engineering, Warsaw University of Technology, Narbutta 85, 02-524 Warsaw, Poland

ACADEMIC RECRUITMENT FIELD: 08/B2 – Structural Mechanics

**ACADEMIC DISCIPLINE:** ICAR/08 – Structural Mechanics

Department responsible for carrying out the selection procedure: Department of Civil, Construction-Architectural and Environmental Engineering – DICEAA

Place of work: International Research Center on Mathematics and Mechanics of Complex Systems-M&MoCS

Centre of reference: Department of Civil, Construction-Architectural and Environmental Engineering – **DICEAA** 

## **Admission requisites:**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

## Research activities:

The research activities to be carried out by the Researcher, in compliance with art. 24, par. 3, letter a) of Law 240/2010, will take place mainly at the Department DICEAA and at the M&MoCS Research Centre, where theoretical, numerical and experimental investigations are being carried out in the field of Structural Mechanics.

The research main objective is to lead the way to a new bone implant technology in a multidisciplinarity perspective among scientific areas generally far from each other, such as continuous mechanics, biology, structural optimization, fluid-structure interaction, data acquisition and processing, automatic control systems. The research activities aim at formulating mathematical models capable of describing the complex phenomenology which characterizes the functional adaptation of bone tissue, i.e., its own synthesis and resorption as well as the interaction with the material which forms the prosthesis. Moreover, research shall focus on the design and optimization of innovative materials, to be characterized as micro-structured, passive and active continuous, which may improve and speed up the recovery process of bone tissue debilitated by a serious damage. The models developed shall be analyzed and refined by means of numerical simulations aimed at assessing and selecting the different solutions in the possible scenarios.

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Maximum number of publications: Candidates are required to submit publications congruent with the research project, a maximum of 12 (twelve). 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.

Foreign language requisite: English



#### **ATTACHMENT 23**

Project AIM1871518

Spending centre: Department of Civil, Construction-Architectural and Environmental Engineering -

**DICEAA** 

Activity n. 1

**SNSI main specialization area**: Cultural heritage

**Type of announcement**: line 1

Months abroad: 12

## **Foreign institutions:**

- Cyprus University of Technology Department of Electrical Engineering, Computer Engineering and Informatics – Digital Heritage Research Laboratory, Arch. Kyprianou 31, CY 3036 Limassol, **CYPRUS**
- Centre Tecnològic de Telecomunicacions de Catalunya (CTTC) Division of Geomatics, Av. Gauss, 7 E-08860 Castelldefels (Barcelona) Spain

# **ACADEMIC RECRUITMENT FIELD:** 08/A4 Geomatics

**ACADEMIC DISCIPLINE:** ICAR/06 – Surveying and Mapping

Place of work: Department of Civil, Construction-Architectural and Environmental Engineering -**DICEAA** 

Department responsible for carrying out the selection procedure: Department of Civil, Construction-Architectural and Environmental Engineering - DICEAA

## Admission requisites:

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

## **Research activities:**

The research activities to be carried out by the Researcher, in compliance with art. 24, par. 3, letter a) of Law 240/2010, will take place mainly at the Department DICEAA where, in the Geomatics Laboratory, since 2010 have been carried out researches in the field of acquisition and processing of remote sensing and GNSS data both in the territory and in cultural heritage.

Research activities aim to data acquisition by means of remote sensing techniques in synergy and data processing tended to the knowledge, management and valorization of environmental and building heritage of historic value.

In particular, the Researcher's activities shall be finalized to the development of remote sensing techniques such as aerial, land, UAV, static GNSS and RTK photogrammetry, high resolution satellite images and database creation.

Research activities shall imply the use of geomatic techniques of acquisition on a multi-scale, smart and sustainable approach to the historical centre increasing the decision-making potentials for emergency management. The research shall focus on: 1- photogrammetry, GNSS and hyper- multispectral data acquisition and management; 2- use of artificial intelligence algorithms for data integration and effective reading both at territorial and aggregate scale.

Teaching activities, integrated teaching activities and services to the students: 350 hrs per year. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.



**Maximum number of publications**: Candidates are required to submit publications congruent with the research project, a maximum of 12 (twelve). 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.

Foreign language requisite: English



#### **ATTACHMENT 24 – Position A**

Project AIM1877124

**Spending centre**: DISIM Department

Activity n. 1

**SNSI main specialization area**: Smart, Secure and Inclusive Communities

**Type of announcement**: line 1

Months abroad: 8

**ACADEMIC RECRUITMENT FIELD:** 09/G1 – Systems and Control Engineering

**ACADEMIC DISCIPLINE:** ING– INF/04 – Systems and Control Engineering

Department responsible for carrying out the selection procedure

Place of work: University of L'Aquila

**Department of reference**: DISIM Department

**Admission requisites**: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

**Mobility requisites**: (line 1)

Foreign institutions (EU) where to spend the months abroad: CNRS - CentraleSupelec - Univ Paris-Sud -France

## **Research activities:**

Research activities aim both at carrying out Building Management experiments on UNIVAQ building complexes which are being equipped with data acquisition and (SCADA) automation systems, and at exploring new application domains and identifying more appropriate data-driven techniques: data-driven methodologies based on deterministic as well as probabilistic mathematical models, such as Gaussian Processes and Markov Jump Liner Systems will be compared.

Within the framework of Structural Minitoring, the use of data-driven approaches both to create models allowing to detect damages in the structures as a consequence of an earthquake and to create dynamic models allowing to design active control systems to dampen seismic oscillations shall be studied.

In the field of smart mobility the effectiveness in applications of accurate localization of vehicles exploiting heterogeneous data coming from transport infrastructure, other vehicle sensors, etc. shall be further investigated.

Smart Grids for modelling complex systems made of power electronics devices in renewable energy generation systems, and management of resources in 5G networks by means of Software Defined Networking technology shall also be under study.

Teaching activities, integrated teaching activities and services to the students: The Researcher shall carry out teaching activities within the courses related to the Academic Discipline ING- INF/04 offered by the DISIM Department. He/she shall also teach courses in English. He/she shall also be required to support students and tutor ICT Ph.D. students. The total number of hours required is 350 hrs per year, of which 60 hrs of class teachnig of the academic discipline described in the announcement. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve).

Foreign language requisite: English

**Assessment criteria**: With due regard to criteria and parameters indicated in Ministerial Decree n. 243, 25 May 2011, the Examining Board will consider the high quality of the candidate's scientific production, documented by publication in highly-regarded international journals and conferences. Documented research experience in the Academic Discipline ING– INF/04 carried out in Italian and foreign research institutions shall also be considered. Moreover, in assessing the candidate's CV, qualifications and publications in the field of the research activities described above shall be considered particularly qualifying.



#### **ATTACHMENT 25 – Position B**

Project: AIM1825157

**Spending centre:** Centre of Excellence DEWS

Activity n. 1

**SNSI main specialization area:** Agrifood

**Type of announcement:** line 1

Months abroad: 15

ACADEMIC RECRUITMENT FIELD: 09/G1 – Systems and Control Engineering

**ACADEMIC DISCIPLINE:** ING–INF/04 – Systems and Control Engineering

Department responsible for carrying out the selection procedure: DISIM

Place of work: University of L'Aquila, DISIM, Via Vetoio, Loc. Coppito, University of L'Aquila

Centre of reference: DEWS Centre of Excellence

#### **Admission requisites**

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

# **Mobility requisites**

Foreign institutions (EU) where to spend the months abroad: ENSEA (France), Cinvestav (Mexico)

#### Research activities

Research activities aim at developing high performance control methodologies for coordinating drones employed for carrying out complex collective actions, not realizable by a single drone.

Their main focus shall be on the so-called smart agriculture and on precision farming. In particular, control methodologies for coordination will be developed, enabling to realize real-time monitoring and various types of analyses related to the plantation condition. Master-slave patterns will be considered, in which an UAV will be enabled to carry out preliminary analyses concerning the plantation state of health or to collect data for an off-line post-processing wheras a rover can collect more accurate data related to the plantation or the single plants.

Further remarkable examples of coordinated actions of interest in agrifood applications include: transport of objects which requires more drones (cargo-drones) and passage through areas which requires coordinated reconfiguring of drones.

In extended missions, energy harvesting methods, separations and reconnections to the load to be transported as well as coordinated recharging methods of drones using platforms or in-flight recharges are relevant.

Among the scientific methodologies to be developed there are: hybrid system analysis and control, support, flocking, coordination, digital controller implementation, control techniques and solid estimate, high order sliding mode.

Moreover, in order to implement (aerial or terrestrial) drones with high degree of autonomy, the collision-free generation trajectories are important, that is the generation of an appropriate target, which the drone must follow in order to assure the vehicle correct behaviour. In particular, this target must avoid potential obstacles and conflicts.

**Teaching activities, integrated teaching activities and services to the students:** 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement (ING– INF/04). This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

#### **Maximum number of publications:** 12 (twelve)



Foreign language requisite: English

**Assessment criteria:** the Examining Board shall assess the candidate considering his/her academic CV and the scientific quality of the activity carried out, documented by publications in international journals and conference proceedings.



# UNIVERSITÀ DEGLI STUDI DELL'AQUILA

AMMINISTRAZIONE CENTRALE AREA GESTIONE DELLE RISORSE UMANE SETTORE CONCORSI E SELEZIONI

#### **ATTACHMENT 26 – Position C**

**Project AIM**: 1825157

Optimization and Control Models for Industry 4.0 - IoT infrastructure

**Spending centre**: DEWS Centre of Excellence

Activity n. 2

**SNSI main specialization area**: Smart factory

**Type of announcement**: line 1

Months abroad: 9

**ACADEMIC RECRUITMENT FIELD:** 09/G1 – Systems and Control Engineering

**ACADEMIC DISCIPLINE:** ING– INF/04 – Systems and Control Engineering

Department responsible for carrying out the selection procedure: DISIM

Place of work: Department of Information Engineering, Computer Science and Mathematics – DISIM

Centre of reference: DEWS Centre of Excellence

**Admission requisites**: (line 1)

A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described and obtained not before 27/02/2014.

#### **Mobility requisites**: (line 1)

Foreign institutions (EU) where to spend the months abroad:

- KTH (Stockholm, Sweden)
- TU Delft (The Netherlands)
- University of California Berkeley (USA)

## **Research activities:**

Within the framework of the smart factory, research activities shall aim at increasing the system resilience in order to make it:

- (i) Solid with respect to parametric changes, disturbances and cyber attacks,
- (ii) Able to proactively process data available also by means of the IoT infrastructure in order to synthetize backup strategies, i.e. reducing possible downtimes.

In order to achieve such results, the choice of the most appropriate dynamic model (discrete events, hybrid, metric) to describe the relations among the subsystems which make up the plant is crucial. Present results of the research unit are based on deterministic models. An important contribution shall be dealing with the problems in a context of not known or not completelly known models employing data collected over time (learning) and considering unavoidable transmission errors among agents, accidental or deliberate disturbances (cyber attacks) and an imperfect knowledge of the system.

In pursuing objectives (i) and (ii) there shall be interaction with the Researcher of the area Optimization, envisaged in the same Activity n. 2

Two main Activity areas have been identified:

- 1- diagnostic and prediction of critical situations,
- 2- distributed autonomous systems control.

Activities required in both the areas are the following:

1- diagnostic modelling and critical situation prediction (failures, conflicts in the management of shared resources, cyber attacks, etc.). Diagnostic techniques and exact or approximate prediction



- techniques for complex systems in which coexist continuous and discrete dynamics, and distributed systems.
- 2- Distributed hybrid system control and optimization. Control methodologies for coordination and optimization of distributed autonomous systems shall be developed. Within the framework of the smart factory, autonomous agents are for example a UAV (Unmanned aerial vehicle) unit used to monitor industrial plants, or multi-robot systems employed in production or cargo-handling.

The scientific profile required is in the general area of system theory and control.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching of the academic discipline described in the announcement (ING- INF/04). This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

Maximum number of publications: 12 (twelve)

Foreign language requisite: English

**Assessment criteria:** the Examining Board shall assess the candidate considering his/her academic CV and the scientific quality of the activity carried out, documented by publications in international journals and conference proceedings.



#### **ATTACHMENT 27**

**Project** AIM 1849353–2

**Spending centre**: Department of Human Studies

Activity n. 2

**SNSI main specialization area** : Cultural Heritage

**Type of announcement**: line 1

Months abroad: 12

ACADEMIC RECRUITMENT FIELD: 10/L1 - English and Anglo-American Languages, Literatures

and Cultures

**ACADEMIC DISCIPLINE:** L– LIN/11 – Anglo-American Languages and Literatures

Place of work: Department of Human Studies

**Admission requisites**: A Ph.D., or an equivalent degree obtained in Italy or abroad, relating to the academic discipline of the position described, obtained not before 27/02/2014 and not after 27/02/2018.

## **Mobility requisites:**

Foreign institutions (EU) where to spend the months abroad: Georg- August- Universität Göttingen; King's College London.

**Research activities**: the selected candidate shall carry on the research lines described in the announcement and in the proposed project employing the tools available in the field of Digital Humanities and in collaboration with the other digitalization and transcodification projects already existing in the DSU Department. In particular, in line with the Academic Discipline, the Researcher shall deal with the linguistic and translation issues related to canon and contemporary literary production, contributing to the creation of multilingual and fluid databases to be investigated from a stylistic as well as from a theoretical-critic point of view.

**Teaching activities, integrated teaching activities and services to the students**: 350 hrs per year, of which 60 hrs of class teaching limited to the language subject included in or related to the Academic Discipline L–LIN/12, according to the needs of the Bachelor's Level and Master's Level Degrees of the Department. This commitment refers only to the academic years of consecutive presence at the university and will be proportionally reduced to the months spent abroad.

**Maximum number of publications**: 12 (twelve)

Foreign language requisite: English

#### **Assessment criteria**:

- a) original and innovative scientific production as well as rigorous methodology;
- b) personal contribution of the candidate in co-authored publications;
- c) consistency of the candidate's activity with the subjects included in the academic recruitment field object of the selection procedure with particular reference to the consistency with the profile indicated by the Department and with the project's objectives;
- d) scientific relevance of editorial classification of the publications and their diffusion within the national and international scientific community;
- e) temporal continuity of scientific production also in relation to the evolution of knowledge in the specific academic field;

The following qualifications will anyhow specifically considered in the comparative assessment:

a) positions held in Italian and foreign universities and/or research institutions;



- b) research activities carried out in Italian and foreign public/private bodies;
- c) Ph.D. and other research grants;
- d) participation in national and international research projects;
- e) collaboration in the organization of scientific events.