

FREE UNIVERSITY OF BOZEN-BOLZANO

SELECTION PROCEDURES for the conferral of

14 fixed-time RESEARCH ASSISTANT CONTRACT for COLLABORATION at RESEARCH ACTIVITY

Rector's Decree
of 02.08.2018,
no. 412/2018

FREE UNIVERSITY OF BOZEN-BOLZANO

RECTOR'S DECREE

no. 412/2018

Selection procedures for the awarding of 14 fixed-time research assistant contracts for collaboration at research activity

THE RECTOR

IN VIEW OF the Statute of the Free University of Bozen-Bolzano;

IN VIEW OF the law 30th December 2010, no. 240, stating "Provisions concerning the organization of universities, academic personnel and recruitment, as well as the delegation of the Government for providing incentives for the quality and efficiency of the university system", and in particular its art. 22 concerning the awarding of research assistant contracts for the performance of research activity;

IN VIEW OF the Ministerial Decree 9th March 2011, no. 102, determining the gross minimum amount of the research assistant contract advertised according to Art. 22 of the law 30th December 2010, no. 240;

IN VIEW OF the 'Regulation of the research assistant contracts according to Art. 22 of the law 240/2010, in force;

IN VIEW OF the 'Regulation concerning the remuneration of researcher and holder of research assistant contracts, in force;

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 06.12.2017, no. 286, requesting the awarding of one fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector AGR/03 (Arboriculture and fruiticulture);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 27.06.2018, no. 139, requesting the awarding of two fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector AGR/09 (Agricultural Machinery);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 27.06.2018, no. 138, requesting the awarding of one fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector AGR/09 (Agricultural Machinery);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 27.06.2018, no. 140, requesting the awarding of one fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector AGR/19 (Animal Science);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 27.06.2018, no. 141, requesting the awarding of one fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector ING-IND/08 (Fluid machinery);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 18.07.2018, no. 157, requesting the awarding of one fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector ING-IND/08 (Fluid machinery);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 27.06.2018, no. 142, requesting the awarding of three fixed-time research assistant contracts for collaboration at research activity in the disciplinary-scientific sector ING-IND/11 (Building Physics and Building Energy Systems);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 27.06.2018, no. 143, requesting the awarding of one fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector ING-IND/11 (Building Physics and Building Energy Systems);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 18.07.2018, no. 158, requesting the awarding of one fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector ING-IND/11 (Building Physics and Building Energy Systems);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 18.07.2018, no. 159, requesting the awarding of one fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector ING-IND/13 (Mechanics of Machines);

IN VIEW OF the deliberation of the Faculty Council of the Faculty of Science and Technology from 18.07.2018, no. 160, requesting the awarding of one fixed-time research assistant contract for collaboration at research activity in the disciplinary-scientific sector ING-IND/32 (Power electronic converters, electrical machines and drives);

VERIFIED that the fixed-time research assistant contracts for collaboration at research activity requested by the Faculty of Science and Technology enjoy the necessary financial backing;

DECREES

Art. 1

Object of the selection procedures

The Free University of Bolzano, hereinafter referred to as University, announces 13 selection procedures for the awarding of 14 fixed-time research assistant contracts for collaboration at research activity for the faculty and disciplinary-scientific sector hereafter indicated.

1. Faculty of Science and Technology

IV Session 2018

PIS: 129017

CUP: I52F16000820005

Disciplinary-scientific sector: AGR/03 (Arboriculture and fruiticulture)

Competition Sector: 07/B2 (Arboriculture and forest systems)

Supervisor: Prof Carlo Andreotti/Prof Massimo Tagliavini

Title of research project: Wood-Up - Optimization of wood gasification chain in South Tyrol to produce bio-energy and other high-value green products to enhance soil fertility and mitigate climate change.

Description of the research activity: The winner of the present competition will take part to an interdisciplinary project dealing, among other subjects, with the study of biochar as possible soil amendment in viticultural systems. He/she will contribute to the set-up of the experiment in the vineyard and will be responsible for monitoring of the soil and plant water status as affected by differential biochar applications. In more detail, he/she will perform leaf water potential (pre-dawn and mid-day) measurements together with gas exchange measurements at leaf level. He/she will also analyze leaf fluorescence with a portable fluorimeter. The definition of the WUEi (intrinsic water use efficiency) as affected by biochar treatments will be also evaluated.

In the framework of the same project WP, he/she will study the effect of biochar on the N cycle in grapevine cultivated in soilless and controlled conditions. He/she will be in charge of the measurement of the main biometric indexes and will conduct laboratory analysis of N content that foreseen also the use of the stable isotope technique.

The winner of the present competition is expected to take part to the preparation of scientific reports and papers for the publication on international and national journals.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for research activity:

- Master degree in agricultural sciences, biology, environment, forestry and similar disciplines
- Research experience in the measurement of plant ecophysiological parameters, both in the field and in laboratory

- Good knowledge of the English language
- Driving license type B

Preferential title: Ph.D. or equivalent

The gross annual remuneration: 23.000,00 Euro

Number of places: 1 (one)

Duration of the contract: 1 year

Type of selection: Titles and oral exam

Language of the interview: English

The assessment criteria: Defined by the evaluation commission at the first meeting.

Criteria for determining the part of the candidate in publications with more than one author: Defined by the evaluation commission at the first meeting.

Criteria for the evaluation for the interview: Defined by the evaluation commission at the first meeting.

Maximum duration of the interview: 30 minutes

Object of the interview: Discussion of the candidate's titles. Questions about the water and nitrogen cycles in orchard ecosystems. It will be evaluated the candidate's competences regarding the techniques to monitor plant and soil water status and the competences regarding the techniques for the analysis of nitrogen flux in plant and soil.

Score to attribute to the evaluation, respectively, of the qualifications, of the publications and of the interview: It is fixed by the commission at the first meeting.

Minimal score which is necessary for admission to the oral exam: It is eventually fixed by the commission at the first meeting.

Total minimum score in order to declare the candidate suitable for the position: It is eventually fixed by the commission at the first meeting.

Place of work: Bolzano - Bozen

2. Faculty of Science and Technology

IV Session 2018

Number of places: 2

PIS AR 1: 136386 (TN820A)

PIS AR 2: 136389 (TN820A)

CUP: B83G13000420003

Supervisor: Prof. Fabrizio Mazzetto

Disciplinary-scientific sector: AGR/09 (Agricultural Machinery) – Pos. 1

Competition sector: 07/C1 (Agroforestry Engineering and Biosystem Engineering)

Title of research project: ALPItec - Alpine Technologies (Development of a Technological Network)

Description of the research activity: The Laboratory of Agroforest Innovations, under development by the Free University of Bolzano at the facilities of the NOI-Techpark, consists of three sub-laboratories:

- Power Unit Laboratory (PU-Lab): with a focus on the development of new power units able to perform activities in extreme mountain environments;
- Implement Unit Laboratory (IU-Lab): with the aim of studying and developing the best solutions for machines and plants suitable for use in mountain environments; this giving a high priority to the means that most affect the environmental impacts and the affirmation of new crop models capable of revitalizing the mountain economy;
- Agrinformation Technology Laboratory (PF-Lab): with the aim of developing ICT systems for precision farming, information management and new highly automated solutions for field processes.

In this framework, the laboratory's development activities focused primarily on the creation of large measuring equipment (with certification objectives) focused on the following main lines of intervention: 1) mobile test bench to verify the efficiency of the engine on site of agricultural tractors (PU-Lab); 2) construction of a tilting platform on misaligned planes, to perform static and dynamic tests on real-scale driving units (PU-Lab); 3) realization of a sort of wind tunnel called "Windkanal" (better defined as "fluid-insulated and controllable sections" space), to carry out regular distribution measurements with verification of drift phenomena on sprayers in vineyards and orchards (IU -Lab). Moreover, various solutions are being studied and being developed (PF-Lab) to automate the management functions related to operational monitoring (automation of digital campaign notebooks) and crop monitoring (development of electronic scouting with robotic platforms and drones).

In this regard, the research activities of the candidates will concern: a) participation across the lines of research mentioned above, while providing for in-depth analysis on a specific line, to be determined according to the candidate's profile; b) direct involvement in the testing phases that will take place both inside the laboratory spaces and in the field for the validation phases; c) active involvement in the analysis and interpretation of results, especially through the use of programming and / or specific application packages provided by the laboratory.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

- Master Degree in Mechanical Engineering, Civil, Electronic, Computer Science, Environmental, or equivalent qualification; or Degree in Agricultural, Forestry or Environmental Sciences or equivalent qualification
- Proven experience in the use of software for the processing and analysis of experimental data (eg Matlab)
- Proven experience in the use of GIS and / or CAD software, even on open packages

Preferential title: PhD in disciplines related to civil-, mechanics-, electronics-, or agricultural-engineering, or equivalent foreign academic qualification

Type of selection: Titles and exam

The assessment criteria (max. 100 points): They will be established during the first meeting

Criteria for determining the part of the candidate in publications with more than one author:

In order of priority, it will refer to:

- a) the objective possibility of identifying the personal contribution of the candidate on the basis of unequivocal indications contained in the publications;
- b) consistency with the rest of the scientific activity;
- c) the reputation enjoyed by the candidate in the academic world as a specific subject;
- d) the name order: guide, corresponding, coordinator.

Criteria for the evaluation for the interview:

In the oral test the followings will be evaluated:

- the applicant's ability to motivate and justify the choice and contents of the research topics that will explain;

- the methodological rigor;
- the clarity of presentation;
- the degree of knowledge of the subject required by the call;
- the degree of mastery of research topics;
- the updated level of knowledge of the scientific disciplinary sector for which the call was open;
- knowledge of the languages foreseen by the call.

Language of the exam: English

Duration of the exam: 45 minutes

Object of the exam:

- Discussion on CV
- Past experiences on professional and research activities, with a focus on aspects that are relevant for this call
- Personal motivations and self-evaluation to the own capabilities to contribute to the realization of the objectives of the call.

Total minimum score necessary for admission to the oral exams:

25% (of the max. scorable)

Total minimum score in order to declare the candidate suitable for the position:

50% (of the max. scorable)

Place of work: Bolzano-Bozen (with temporary stays on the experimental sites of the project)

The gross annual remuneration: Euro 24.500,00

Duration of the contract: 12 months, renewable for other 12 months, given both the positive evaluation of the activity and the availability of the project budget.

3. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 136359 (TN2243)

CUP: I56C18000060009

Acronimo progetto "Brotweg", Codice progetto "FESR1089"
Programma EFRE-FESR 2014-2020

Supervisor: Prof. Fabrizio Mazzetto

Disciplinary-scientific sector: AGR/09 (Agricultural Machinery) – Pos. 2

Competition sector: 07/C1 (Agroforestry Engineering and Biosystem Engineering)

Title of research project: Brotweg - The bread road map in alpine environments: new technologies for the cereal transformation chain in high mountain

Description of the research activity: The Brotweg project wants to develop radical and incremental innovations for the cultivation of cereals in extreme mountain contexts, on very steep slopes (70%) where

cereal cultivation is today precluded to any form of mechanization, with consequent abandonment due to the high demands of labor. The need to identify new models of development for mountain agriculture, complementary to the prevailing zotechnical ones, re-proposes in the foreground the alternative of the "cereal supply chain" (cereal-flour-bread), compared to the "dairy supply chain" (hay- milk-cheese) for the considerable advantages that the former entails in terms of reduction of labor and annual workloads, investments and environmental impacts. But the cereal supply chain first requires the solution of problems that hinder the adoption of suitable technological solutions for field mechanization and conservation in small farms.

The project, therefore, provides for the development of prototypes for: a) cultivation, with new machines suitable for the steep slopes in the most critical operations (sowing and harvesting); b) post-harvest and storage of the grain directly on the farm; c) transformation, with micro-lines of bread making. All this, following integrated approaches that take into account economic and operational performance, safety conditions for operators, control of erosive phenomena and landscape protection, levels of sustainability of the entire supply chain.

The research activity will concern all the key points of the project, with high interactions between the various partners participating in the project itself (machine builders, plants, experimental farm).

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

- Master Degree in Mechanical Engineering, Civil, Electronic, Computer Science, Environmental, or equivalent qualification; or Degree in Agricultural, Forestry or Environmental Sciences or equivalent qualification
- Proven experience in the use of software for the processing and analysis of experimental data (eg Matlab)
- Proven experience in the use of GIS and / or CAD software, even on open packages:

Preferential title: PhD in disciplines related to civil-, mechanics-, electronics-, or agricultural-engineering, or equivalent foreign academic qualification

Type of selection: Titles and exam

The assessment criteria (max. 100 points): They will be established during the first meeting

Criteria for determining the part of the candidate in publications with more than one author: In order of priority, it will refer to:

- a) the objective possibility of identifying the personal contribution of the candidate on the basis of unequivocal indications contained in the publications;
- b) consistency with the rest of the scientific activity;
- c) the reputation enjoyed by the candidate in the academic world as a specific subject;
- d) the name order: guide, corresponding, coordinator.

Criteria for the evaluation for the interview:

In the oral test the followings will be evaluated:

- the applicant's ability to motivate and justify the choice and contents of the research topics that will explain;
- the methodological rigor;
- the clarity of presentation;
- the degree of knowledge of the subject required by the call;
- the degree of mastery of research topics;
- the updated level of knowledge of the scientific disciplinary sector for which the call was open;
- knowledge of the languages foreseen by the call.

Language of the exam: English

Duration of the exam: 45 minutes

Object of the exam:

- Discussion on CV
- Past experiences on professional and research activities, with a focus on aspects that are relevant for this call

- Personal motivations and self-evaluation to the own capabilities to contribute to the realization of the objectives of the call.

Total minimum score necessary for admission to the oral exams:

25% (of the max. scorable)

Total minimum score in order to declare the candidate suitable for the position:

50% (of the max. scorable)

Place of work: Bolzano-Bozen (with temporary stays on the experimental sites of the project)

The gross annual remuneration: Euro 23.490,00

Duration of the contract: 12 months, renewable for other 12 months, given both the positive evaluation of the activity and the availability of the project budget.

4. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 135989 (OIP004)

CUP: I52F16001210003

Supervisor: Prof. Matthias Gauly

Disciplinary-scientific sector: AGR/19 (Animal Science)

Competition sector: 07/G1 (Animal science and technology)

Title of research project: BerlaSüd II - Mountain Farming in South Tyrol

Description of the research activity: The aim of the project is to estimate the effect of the species, breed and genotype as well as the production system on primary and functional traits in meat production in order to advise systems for farmers that are most sustainable, animal-friendly and maximise profit under the future production conditions. This will be achieved by a detailed description of the current quality meat programs, recording of primary and functional traits in animals, evaluation of meat quality and economical assessments. Based on a detailed description of the current farms participating in quality meat programs in South Tyrol by farmer interviews, representative farms of the different production systems and species/breeds/ genotypes will be selected. In the selected farms all relevant data will be documented during the fattening period of the animals (i.e. veterinary treatments, farm inputs). Primary and functional traits of the animals will be recorded and meat quality evaluated. The candidate will be responsible for data collection on the farms, data analysis and publication.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

- Master of Science in Agricultural Science or similar disciplines
- Good knowledge of English and German or Italian
- Practical experience in the field of livestock production, especially cattle production
- Driving license of category B

Preferential title: PhD in animal science or equivalent foreign study title.

Type of selection: By qualifications and discussion of qualifications and scientific production and language exam

The assessment criteria (max. 80 points):

Academic titles:

- Documented training or research at qualified Italian or foreign institutions (up to a maximum of 20 points);
- Realization of project activity within the area of Animal Science (up to a maximum of 20 points)
- Speaker at national and international conferences (up to a maximum of 5 points).
- Awards (5 points)

Publications:

- Originality, innovativeness, methodological rigor and relevance of each scientific publication;
- congruence of each publication with the competitive sector;
- scientific relevance of each publication's editorial classification and their diffusion among the scientific community;

(up to a maximum of 30 points)

Criteria for determining the part of the candidate in publications with more than one author:

Author's position in the publication.

Criteria for the evaluation for the interview (max 20 points): The knowledge of English and German or Italian will be evaluated on the basis of reading and oral translation of a text chosen by the commission and a short conversation.

Language of the exam: German (or Italian) and English

Duration of the exam: 45 minutes

Object of the exam:

- a) Discussion of titles and publications
- b) General and specific topics of the scientific-disciplinary sector of the announced position

Total minimum score necessary for admission to the oral exam: 50/80

Total minimum score in order to declare the candidate suitable for the position: 60/100

Place of work: Bolzano - Bozen

The gross annual remuneration: 25.500,00 €

Duration of the contract: 24 months

5. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 136119 (TN2246)

CUP: I56C18000050009

Acronimo progetto "COOL-CAR" Codice progetto "FESR1103"
Programma EFRE-FESR 2014-2020

Supervisor: Prof. Marco Baratieri, Tutor: Dr. Massimiliano Renzi

Disciplinary-scientific sector: ING-IND/08 (Fluid machinery) – Pos. 1

Competition sector: 09/C1 (Fluid machinery, energy systems and power generation)

Title of research project: COOL-CAR: Thermal management of electric and hybrid cars: optimization strategies to increase performance for a sustainable mobility.

Description of the research activity: The objective of the research activity is to carry on thermo-fluid dynamic simulations of the thermal management system of a lithium battery prototype for applications in the field of the electric mobility. Simulations should be carried out taking into account electrical, chemical and mechanical aspects of the battery module. The researcher will have to provide methodological support to the realization of the simulations, as well as to their validation. To this end, the researcher will also be involved in experimental activities, to be carried out in collaboration with the industrial partner and other researchers involved in the project, to validate the results of the simulations.

The behavior of the entire battery pack in real operating conditions will also be assessed considering the typical loads of electric motors used in the automotive field. The model of the battery module will be validated even under real operating conditions and not only on the test bench.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

The holder of the research grant must hold a Masters degree in Mechanical Engineering, Energy Engineering or equivalent and have a good experience in the study of fluid machines and energy systems.

In particular, the candidate must show a good expertise in using fluid dynamics simulation software applied to the study of heat and mass transfer in energy systems. Moreover, a good laboratory experience in the experimentation on energy systems is required.

Preferential title: PhD in Mechanical or Energy Engineering or equivalent foreign study title.

Type of selection: by qualifications

The assessment criteria (max. 100 points):

- Research Doctorate consistent with the sector for which the research fellowship is activated (max. 10 points)
- Degree of Graduation (max. 15 points)
- Research experiences in the project area; Qualifications linked to the service, contracts, scholarships and assignments in national, foreign or international research organizations, or at private institutions or consortia that carry out duly certified research activities, with documented date and duration of the activity, as well as other titles, duly documented, suitable to qualify the candidate's professionalism. (max. 40 points)
- Specialization diplomas; Post-graduate courses consistent with the sector for which the research fellowship is activated (max. 20 points)
- Publications: the total number of publications, their quality and their relevance to project research activities will be evaluated (max. 15 points)

Criteria for determining the part of the candidate in publications with more than one author:

It is assumed that candidates contribute equally

Total minimum score in order to declare the candidate suitable for the position: 50/100

Place of work: Bozen-Bolzano

The gross annual remuneration: 22.610,43 Euro

Duration of the contract: 12 months, renewable for other 12 months, given both the positive evaluation of the activity and the availability of the project budget.

6. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 136886 (TN2244)

CUP: I56C18000040009

Acronimo progetto "TURB-HYDRO" Codice progetto "FESR1085"
Programma EFRE-FESR 2014-2020

Supervisor: Prof. Maurizio Righetti, Tutor: Dr. Massimiliano Renzi

Disciplinary-scientific sector: ING-IND/08 (Fluid machinery) – Pos. 2

Competition sector: 09/C1 (Fluid machinery, energy systems and power generation)

Title of research project: TURB-HYDRO: Hydro Turbines optimization for a sustainable production.

Description of the research activity: The project has the aim to develop research activities for the improvement of conventional and novel hydropower turbines for small-scale applications. The research activities will include both Computational Fluid Dynamics studies and experimental tests on physical models. In particular, two typologies of issues will be addressed: the use of innovative machines in energy recovery applications in water distribution networks and in fluvial protection systems; the water jet formation in the nozzles of small-scale Pelton machines, with particular reference to the operation at low flow rates. These two aspects will be addressed both on a numerical point of view, using commercial simulation codes, and on an experimental point of view, using advanced optical techniques for the fluid-dynamic study of the fluid flow in the hydraulic machines. The results of the experimental tests will be used to validate the numerical simulation models and to develop novel solutions in the design on the machines.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity: The holder of the research grant must hold a Master degree in Mechanical Engineering, Energy Engineering or equivalent foreign study title and have a good experience in the study of fluid machines and, specifically, of hydraulic machines. The candidate must show a good expertise in using fluid dynamics simulation software applied to turbomachines. In addition, a good experience in carrying on laboratory tests is required.

Preferential title: PhD in Mechanical or Energy Engineering or equivalent foreign study title.

Type of selection: By qualifications

The assessment criteria (max. 100 points):

- Research Doctorate consistent with the sector for which the research fellowship is activated (max. 5 points)
- Degree of Graduation (max. 15 points)
- Research experiences in the project area; Qualifications linked to the service, contracts, scholarships and assignments in national, foreign or international research organizations, or at private institutions or consortia that carry out duly certified research activities, with documented date and duration of the activity, as well as other titles, duly documented, suitable to qualify the candidate's professionalism. (max. 40 points)
- Specialization diplomas; Post-graduate courses consistent with the curricular requirements and the aims of the project (max. 25 points)
- Publications: the total number of publications, their quality and their relevance to project research activities will be evaluated (max. 15 points)

Criteria for determining the part of the candidate in publications with more than one author:

It is assumed that candidates contribute equally

Total minimum score in order to declare the candidate suitable for the position: 50/100

Place of work: Bolzano

The gross annual remuneration: 23.400,00 Euro

Duration of the contract: 12 months, renewable for other 12 months, given both the positive evaluation of the activity and the availability of the project budget.

7. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 136163 (TN820B)

CUP: B83G13000420003

Supervisor: Prof. A. Gasparella

Disciplinary-scientific sector: ING-IND/11 (Building Physics and Building Energy Systems) – Pos. 1

Competition sector: 09/C2 (Thermal sciences, energy technology and building physics)

Title of research project: Integrated monitoring and modelling of buildings regarding energy, thermal-hygrometric and visual comfort aspects

Description of the research activity: The activity of the researcher will include in-situ measurements of thermal-physical quantities for the assessment of the energy performance of the building system as well as for the evaluation of the occupants' thermal-hygrometric comfort and of the illuminances on the work planes and of all quantities necessary to characterize energy costs for lighting and visual comfort in indoor environments such as classrooms / open space offices / living labs at the Free University of Bozen-Bolzano and in the experimental modules and laboratories available at the Technology Park of Bolzano pertinent to the Free University.

The collected data will be used for a comparative analysis of different shading solutions, different types of windows and integrated controls of shadings and indoor artificial lightings, as well as for the analysis of the impact of each aspect in terms of total energy costs and occupants' comfort.

By means of the available laboratories and instruments, the researcher will design and perform experimental campaigns aimed at studying the correlation between thermal-hygrometric and visual comfort aspects, as well as the impacts on occupants' performance and productivity. The researcher will prepare and calibrate simulation models of the analyzed environments, in order to perform evaluation of different scenarios and increase and generalize the study findings.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

Master Degree in Engineering or Architecture or equivalent foreign study title.

Scientific profile: the candidate must prove a scientific expertise on building energy analysis and integrated modelling with a special focus on thermal-hygrometric and lighting aspects, including comfort.

Preferential title: PhD in Building Physics and Building Energy Systems or equivalent foreign study title

Type of selection: Based on qualifications

The assessment criteria (max. 100 points):

Defined by the examining commission during its first meeting

Criteria for determining the part of the candidate in publications with more than one author:

Defined by the examining commission during its first meeting

Total minimum score in order to declare the candidate suitable for the position: 45/100

Place of work: Bolzano-Bozen

The gross annual remuneration: 25.000,00 EUR

Duration of the contract: 12 months, renewable for other 12 months, given both the positive evaluation of the activity and the availability of the project budget

8. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 136176 (TN820B)

CUP: B83G13000420003

Supervisor: Prof. Andrea Gasparella

Disciplinary-scientific sector: ING-IND/11 (Building Physics and Building Energy Systems) – Pos. 2

Competition sector: 09/C2 (Thermal sciences, energy technology and building physics)

Title of research project: Experimental analysis and modelling of liquid desiccant dehumidification to small-scale mechanical ventilation systems

Description of the research activity: The researcher will investigate, through both modelling and experimental methods, the potential of dehumidification by means of liquid desiccant devices in mechanical ventilation systems, analysing the impact of different boundary conditions (climate and building use) and system configurations on both energy and economic performances. The researcher will complete a liquid desiccant system, as well as monitoring and control systems, to connect with the test rig for air heat recovery available at FUB building physics laboratory. The experiments will be performed in both steady and unsteady conditions to understand the performance dependency on air conditions, liquid properties and setup configuration. Starting from the experimental results as reference, numerical models will be developed, aimed at studying the liquid desiccant – air – interface dynamics and characterizing the performance of the whole liquid desiccant system in a range of conditions wider than those assessed in laboratory. Correlations and findings from both models are expected to be used for the evaluation of the potential of both energy and economic savings in small-scale mechanical ventilation systems.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

Master Degree in Engineering or equivalent foreign study title.

Scientific profile: Robust scientific experience, outcome and publications in the field of heat transfer mechanisms and ventilation systems.

Preferential title: PhD in Thermal Engineering and Industrial Energy Systems, Building Physics and Building Energy Systems or equivalent foreign study title

Type of selection: Based on qualifications

The assessment criteria (max. 100 points):

Defined by the examining commission during its first meeting

Criteria for determining the part of the candidate in publications with more than one author:

Defined by the examining commission during its first meeting

Total minimum score in order to declare the candidate suitable for the position: 45/100

Place of work: Bolzano-Bozen

The gross annual remuneration: 25.000,00 EUR

Duration of the contract: 12 months, renewable for other 12 months, given both the positive evaluation of the activity and the availability of the project budget.

9. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 136193 (TN820B)

CUP: B83G13000420003

Supervisor: Prof. Andrea Gasparella

Disciplinary-scientific sector: ING-IND/11 (Building Physics and Building Energy Systems) – Pos. 3

Competition sector: 09/C2 (Thermal sciences, energy technology and building physics)

Title of research project: Experimental and numerical analysis of indoor air quality and ventilation effectiveness in the built environments

Description of the research activity: The researcher will be in charge of planning, organizing and implementing short and long-term experimental monitoring campaigns of the air quality of different built environments, with particular focus on the school buildings. The data collected will be analyzed in order to determine the impact of air quality on the overall perception of environmental comfort as well as on the performance of occupants and, in particular, on the effectiveness of learning processes in schools. In addition, these data will be used for diagnostic purposes on ventilation systems, which will also be the subject of experimental activities carried out in a controlled environment, through the design and development of a test line for air distribution systems in environments, to be realized at the Thermal Physics for Buildings Laboratories at the NOI-Techpark. Finally, fluid dynamic numerical models of the tested volumes will be developed and calibrated with the experimental data collected on site and in controlled environments, in order to evaluate the effectiveness of different air distribution and displacement systems, defining best practices and optimized solutions.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

Master Degree in Engineering or Architecture or equivalent foreign study title.

Scientific profile: Robust scientific experience, outcome and publications in the field of indoor air quality, air ventilation and distribution systems in the built environment.

Preferential title: PhD in Building Physics and Building Energy Systems or equivalent foreign study title

Type of selection: Based on qualifications

The assessment criteria (max. 100 points):

Defined by the examining commission during its first meeting

Criteria for determining the part of the candidate in publications with more than one author:

Defined by the examining commission during its first meeting

Total minimum score in order to declare the candidate suitable for the position: 45/100

Place of work: Bolzano-Bozen

The gross annual remuneration: 25.000,00 EUR

Duration of the contract: 12 months, renewable for other 12 months, given both the positive evaluation of the activity and the availability of the project budget.

10. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 136203 (TN2083)

CUP: I52F16000930005

Supervisor: Prof. Andrea Gasparella

Disciplinary-scientific sector: ING-IND/11 (Building Physics and Building Energy Systems) – Pos. 4

Competition sector: 09/C2 (Thermal sciences, energy technology and building physics)

Title of research project: HUCED - Human-Centred Design of the Built Environment: definition of a methodology for the experimental assessment of the overall Indoor Environmental Quality

Description of the research activity: The researcher will take care of the activities planned within the HUCED project - Human-Centered Design of the Built Environment: definition of a methodology for the experimental assessment of the overall Indoor Environmental Quality. In particular, he/she will organize experimental activities to investigate the interaction of different aspects of comfort (thermo-hygrometric, acoustic, visual, air quality), the impact on mutual perception and the global perception of environmental quality, as well as on the performance of the occupants. To achieve this goal, the researcher will be able to alternate long-term monitoring activities and specific in-situ short-term campaigns in environments at the Free University of Bolzano (UNIBZ living labs) and in controlled environments at NOI- TechPark infrastructures and laboratories (Comfort test cells) and will use numerical and statistical tools to deepen the analysis of the collected data and to identify any correlations. The data and information collected will be used by the researcher in order to design a laboratory aimed at the simultaneous testing of the different aspects of comfort, the influence on perceived environmental quality and the impact on the performance of the occupants in simple tests, representative of typical office tasks, as well as at the study of the optimization of the building system controls.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

Master Degree in Engineering or Architecture or equivalent foreign study title.

Scientific profile: Robust scientific experience, outcome and publications in the field of comfort monitoring and study, and in the assessment of both energy and non-energy building performances.

Preferential title: PhD in Building Physics and Building Energy Systems or equivalent foreign study title

Type of selection: Based on qualifications

The assessment criteria (max. 100 points):

Defined by the examining commission during its first meeting

Criteria for determining the part of the candidate in publications with more than one author:

Defined by the examining commission during its first meeting

Total minimum score in order to declare the candidate suitable for the position: 45/100

Place of work: Bolzano-Bozen

The gross annual remuneration: 25.000,00 EUR

Duration of the contract: 12 months

11. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 137011 (TN2245)

CUP: D56C18000180009

Acronimo progetto "E2I@NOI" Codice progetto "FESR1095"
Programma EFRE-FESR 2014-2020

Supervisor: Prof. Andrea Gasparella

Disciplinary-scientific sector: ING-IND/11 (Building Physics and Building Energy Systems) – Pos. 5

Competition sector: 09/C2 (Thermal sciences, energy technology and building physics)

Title of research project: E2I@NOI - Definition of a Laboratory Systems for development, characterization and technological transfer for Energy Smart Buildings

Description of the research activity: The research aims at the development of knowledge about the state of the art of global comfort and energy performance indexes for the indoor environment, in particular for the thermo-hygrometric and acoustic environmental characterization. Besides the theoretical aspects, the research in situ through subjective surveys submitted to the occupants inside real and controlled environments, with the support of quantitative measurements on the main environmental parameters, will provide a significant contribution to the research. The main approaches of objective measurement for the monitoring of thermo-hygrometric and acoustic comfort will be implemented, as well as some statistical techniques to improve and harmonize the measurement methods considering the different aspects involved in overall indoor

environmental quality. Simulation techniques and energy and acoustic modelling of the studied environments will allow to generalize the main findings and to further investigate their applicability.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

Researcher without PhD: master's degree in engineering or equivalent foreign study title and have a proven track record in research activities or work experience in the research field of building energy performance and occupants' comfort in the built environment.

Preferential title: PhD or equivalent foreign study title in ING-IND/11 or a relating scientific field.

Type of selection: Based on qualifications

Assessment criteria (max. 100 points):

Academic degrees (max. 40 points):

- Mark of the final exam of Master's Degree: max. **10 points**;
- Masters (postgraduate certificates of a one/two years course program), postgraduate specialization courses, scholarships and research grants and awards, max. **20 points**;
- Doctoral research (PhD) thesis in ING-IND/11: **10 points**;

Publications (max. 36 points):

- Originality, innovativeness, methodological rigor and relevance of each scientific publication;
- Congruence of each publication with the competition sector;
- Scientific relevance of each publication's editorial classification and their diffusion among the scientific community;
- Contribution of the candidate in publications with more than one author.

Research and practical experience (max. 24 points):

Research experience acquired on the specific topic of the research project through contracts, scholarships and assignments in domestic corporations, international or foreign corporations or at private institutions or companionships which perform attested research activity, as long as the beginning and the duration of the collaboration is evidenced as well as other qualifications that attest the evidenced professionalism of the candidate.

Criteria for determining the part of the candidate in publications with more than one author:

For publications with multiple authors, the individual contribution of the candidate, if not obvious from the text, is determined based on a duly signed statement of the authors of the work on the contribution of the individual. In the absence of such a declaration, the contribution among the various authors is considered equally weighted.

Total minimum score in order to declare the candidate suitable for the position: 45

Place of work: Faculty of Science and Technology, Bolzano-Bozen

The gross annual remuneration: 24.000,00 EUR

Duration of the contract: 12 months

12. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 137008 (TN2241)

CUP: I53C18000010009

Acronimo progetto "FIRST Lab" Codice progetto "FESR1084"
Programma EFRE-FESR 2014-2020

Supervisor: Prof. Renato Vidoni

Disciplinary-scientific sector: ING-IND/13 (Mechanics of Machines)

Competition sector: 09/A2 (Mechanics of Machines)

Title of research project: FIRST Lab - Field Robotics South-Tyrol Laboratory

Description of the research activity: The research activity will focus on the general objective of supporting the realization of the laboratory and the development of the following thematic areas in the "Field Robotics" sector:

- (i) Development of robotic and mechatronic platforms;
- (ii) perception and action in unstructured environments;
- (iii) dynamic modeling and control;
- (iv) to create realistic experimentation scenarios;
- (v) scientific dissemination and technology transfer

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

Researcher without PhD: master's degree in Mechanical, Mechatronics Engineering (or similar) or equivalent foreign study title and have a track record in research activities and/or work experience in the SSD ING-IND/13 Mechanics of Machines.

Preferential title: PhD or equivalent foreign study title in Mechanics, Mechatronics or a relating scientific field.

Type of selection: Degrees and Exam

Assessment criteria (max. 70 points):

Academic degrees (max. 35 points):

- Master's Degree in Mechanical, Mechatronics engineering or equivalent foreign study title: max. **15 points**;
- Masters (postgraduate certificates of a one/two years course program), postgraduate specialization courses, Scholarships and research grants and awards, max. **10 points**;
- Doctoral research (PhD) in Mechanics, Mechatronics or a relating scientific field up to a maximum of **10 points**;

Publications (max. 15 points):

- Originality, innovativeness, methodological rigor and relevance of each scientific publication;
- Congruence of each publication with the competition sector;
- Scientific relevance of each publication's editorial classification and their diffusion among the scientific community;
- Contribution of the candidate in publications with more than one author.

Research and practical experience (max. 20 points):

Research experience acquired on the specific topic of the research project through contracts, scholarships and assignments in domestic corporations, international or foreign corporations or at private institutions or companionships which perform attested research activity, as long as the beginning and the duration of the collaboration is evidenced as well as other qualifications that attest the evidenced professionalism of the candidate.

Criteria for determining the part of the candidate in publications with more than one author:

For publications with multiple authors, the individual contribution of the candidate, if not obvious from the text, is determined based on a duly signed statement of the authors of the work on the contribution of the individual. In the absence of such a declaration, the contribution among the various authors is considered equally weighted.

Criteria for the evaluation for the interview:

The evaluation of the oral test comprehends:

- the methodological rigor
- the degree of knowledge of the subject matter of examination
- the degree of knowledge of research topics
- the level of knowledge update of the specific disciplinary sector for which the research grant has been tendered
- the knowledge of the language mentioned in the call.

Language of the exam: English

Duration of the exam: 30-60 minutes

Object of the exam (max. 30 points):

The exam will cover:

- a) on the discussion of candidates' titles and publications;
- b) deepening the candidate's scientific and professional experience.

Total minimum score necessary for admission to the oral exams: /

Total minimum score in order to declare the candidate suitable for the position: 60/100

Place of work: Faculty of Science and Technology, Bolzano-Bozen

The gross annual remuneration: 21.000,00 Euro

Duration of the contract: 12 months, renewable for up to other 12 months, given both the positive evaluation of the activity and the availability of the project budget.

13. Faculty of Science and Technology

IV Session 2018

Number of places: 1

PIS: 136869 (TN2246)

CUP: I56C18000050009

Acronimo progetto "COOL-CAR" Codice progetto "FESR1103"
Programma EFRE-FESR 2014-2020

Supervisor: Prof. Marco Baratieri, Tutor: Dr. Sandro Calligaro

Disciplinary-scientific sector: ING-IND/32 (Power electronic converters, electrical machines and drives)

Competition sector: 09/E2 (Electrical energy engineering)

Title of research project: COOL-CAR: Thermal management of electric and hybrid cars: optimization strategies to increase performance for a sustainable mobility.

Description of the research activity: The objective of this research activity is to develop simulations, to be validated by experimental tests, on a battery prototype (or on a battery module) based on lithium technology for applications in electric mobility. Simulations will take into account the electrical, thermal, fluid-dynamics, chemical and mechanical aspects regarding the battery module. The researcher will provide methodological support to the electrical part of simulations and to the validation of their results. For the sake of validating the simulation results, the researcher will be involved in experimental activities, to be carried out in collaboration with the industrial partner and together with the other researchers involved in the project. The researcher will provide relevant contribution to the simulation of the entire battery pack behavior in realistic operating conditions which emulate the typical loading levels due to electric motors used in the automotive field. The model of the battery module will be validated in realistic conditions, not necessarily involving only the experimental test rig.

Minimum curricular requirements necessary in order to carry out the research with details of the scientific and professional profile required for the research activity:

The recipient of the research grant must hold a Master degree in Electrical, Electronics or Mechatronics Engineering or equivalent foreign study title and have a good experience in the study and simulation of electrical systems.

In particular, the candidate must show a good expertise in the simulation of energy conversion systems. Moreover, laboratory experience in electrical measurements is required.

Preferential title: PhD in Electrical Engineering, Electronics or Mechatronics Engineering or equivalent foreign study title.

Type of selection: by qualifications

The assessment criteria (max. 100 points):

- Research Doctorate consistent with the sector for which the research fellowship is activated (max. 10 points)
- Degree of Graduation (max. 15 points)
- Research experiences in the project area; Qualifications linked to the service, contracts, scholarships and assignments in national, foreign or international research organizations, or at private institutions or consortia that carry out duly certified research activities, with documented date and duration of the activity, as well as other titles, duly documented, suitable to qualify the candidate's professionalism. (max. 40 points)
- Specialization diplomas; Post-graduate courses consistent with the sector for which the research fellowship is activated (max. 20 points)
- Publications: the total number of publications, their quality and their relevance to project research activities will be evaluated (max. 15 points)

Criteria for determining the part of the candidate in publications with more than one author:

It is assumed that candidates contribute equally

Total minimum score in order to declare the candidate suitable for the position: 50/100

Place of work: Bolzano

The gross annual remuneration: 22.610,43 Euro

Duration of the contract: 12 months, renewable for other 12 months, given both the positive evaluation of the activity and the availability of the project budget.

Art. 2

Requirements for admission

- 1) Candidates must have completed the requirements at the expiry date for submission of the applications

for admission to the selection procedure.

The Commission of selection, for the sole purpose of the aims of the present selection procedure, will evaluate the equipollence of the candidate's qualification title conferred abroad.

Italian citizenship is not required.

Art. 3

Accumulation prohibition

- 1) The research assistant contract may not be combined with awarded study grants, except those awarded by national or foreign institutions to integrate the research activity for stays abroad, and with other research assistant contracts awarded by other institutions.

Art. 4

Incompatibility and compatibility

- 1) The following cannot be holder of research assistant contracts:
 - a) the personnel of the University, of public research and experimentation institutions and bodies, of the Agency for the New Technologies, Energy and Sustainable Economic Development (ENEA) and of the Italian Space Agency (ASI), as well as of institutions whose degree of scientific specialization has been recognized as equipollent to the qualification of research doctor following Art. 74, paragraph 4, of the DPR no. 382/1980;
 - b) the personnel in service by public administrations other than those indicated in letter a), except in case of unpaid leave by that administration, for the period of length of the research assistant contract;
 - c) those having family or kinship relation, up to the fourth degree, with a professor of the Department awarding the research assistant contract, with the Rector, the General Director or with a member of the University Council;
 - d) those attending university courses (triennial university degree or university degree pre-reform regime), a specialist or magister degree, a research doctorate with grant or medical specialization, in Italy or abroad.
- 2) The research assistant contract is furthermore incompatible with other didactic contracts with Universities and institutes in Italy or abroad, except as provided in Art. 5, paragraph 3 of the 'Regulation of the research assistant contracts according to Art. 22 of the law 240/2010', and with other contracts for research activities conferred by the Free University of Bozen-Bolzano.
- 3) The conferral of a research assistant contract is compatible with a collaboration contract or an intellectual work contract for research activities awarded by other universities and institutes in Italy and abroad, by approval of the person responsible of the research project.

Art. 5

Conditions for presenting the application for participation and publications

- 1) To participate in the present selection procedures candidates must fill in an application form in unstamped paper, according to the model of attachment 'A' and available on the web page of the University <https://www.unibz.it/en/home/position-calls/positions-for-academic-staff/?departments=270&group=18&year=2018> within the **07.09.2018**.
- 2) The application, duly dated and signed at the last page, must be addressed to:
Free University of Bozen – Bolzano
Personnel Office Academic Staff (call)
Piazza Università, 1 - C. P. 276
39100 Bozen-Bolzano

The application for participation in the selection procedures may also be directly handed in (opening hours: from Monday to Friday from 8:30 a.m. to 12:30 a.m. and on Monday, Tuesday and Thursday from 2 p.m. to 5 p.m.) or sent by post with registered letter with notification of reception or any other

form appropriate to certify the reception (**personnel_academic@pec.unibz.it, only if sent from a pec - posta elettronica certificata - account**) within the above mentioned final date. Therefore shall be considered proof the date stamp of the accepting post office according to the D.P.R. 28th December 1970, no. 1077.

The candidate is obligated to add to the application in paper form, a data carrier (memory-stick or cd) which contains a digital copy of all documents produced (the same holds true for the publications).

The University disclaims liability for possible postal mis-deliveries.

- 3) On the package the candidate, in addition to the requirements mentioned in paragraph 2, must affix the inscription: "Application: selection procedure for the awarding of two fixed-time research assistant contracts for collaboration at research activity" and accurately indicate the faculty, the initials and the denomination of the disciplinary-scientific sector, the title of the research project and the candidate's name, surname and address for the present selection procedure (the address for the present selection procedure is the candidate's elected domicile for the receipt of the communications relating to this procedure).
- 4) On the application (see attachment 'A') the candidate must clearly indicate her/his name and surname and must declare, under own responsibility:
 - a) the date and place of birth;
 - b) the code of personal identification (fiscal code);
 - c) the residence, with the indication of the street, the street number, the town, the province, the postcode;
 - d) the possessed citizenship;
 - e) the municipality on whose electoral lists she/he is registered or the reasons for the non-registration or cancellation from such lists.
Foreign nationals must declare to enjoy civil and political rights in the country on which they belong;
 - f) not having been convicted of criminal offences and not having pending criminal suits (otherwise to indicate
 - g) not to exceed the superior limit of twelve years, also of non-continuous periods; therefore are considered the total duration of the contracts under Art. 22 (Research assistant contracts) and Art. 24 (fixed-time researchers) of the law 30th December 2010, no. 240, also between different universities, public, non-public or telematic ones, and with bodies as provided in Art. 22, paragraph 1 of the law no. 240/2010, as well as the duration of the contract of the present call;);
 - h) not to exceed the total duration of 6 years of the contracts under Art. 22 of the law 30th December 2010, no. 240 as amended (Research assistant contracts) including renewals and contracts between different universities/bodies, as well as the duration of the contract of the present call (the period of a Research assistant contract during a PhD study place with grant does not count within the regular study period);
 - i) to have taken note of the provisions cited in the present call;
 - j) the content of the digital copies of all documents produced correspond to the content of the copies produced on paper;
 - k) the employment by a public administration according to letter b) of Art. 4 of the present;
 - l) not having family or kinship relation, up to the fourth degree, with a professor of the Department making the proposal of the activation of the contract, with the Rector, the Director or with a member of the University Council;
 - m) the declaration concerning the fulfillment of military duties (that declaration must be made only by male candidates);
 - n) that everything in the curriculum vitae (CV) that has been attached to this application is true and s/he gives the person in charge of the selection procedure the permission to undertake any checks on any substitute declarations that have been presented by the undersigned for the purposes of this selection procedure;
 - o) to give the permission for the use of personal details that s/he has supplied to be processed as per Italian legislative decree 196/2003 for any procedures that are connected to this selection procedure and any contracts that may be drawn up as a consequence;
 - p) the address chosen for the receipt of communications relating to the selection procedure she/he

has applied for (address with postcode, telephone number, possible e-mail-address or fax number) and the commitment to inform the University in case of possible subsequent variations of those data.

- 5) Candidates with recognized disabilities must expressly specify in their application any aid needed in relation to their handicap and the possible necessity of further time for the performance of the exams, according to art. 20 of the law 5th February 1992, no. 104.
- 6) Any variation of the candidate's data according to paragraph 4 of the present article must be immediately communicated in writing to this Administration.
- 7) The University accepts no responsibility for cases in which candidates are untraceable or when the communications are undeliverable due to imprecise indication of the address, or belated or lack of notification on the part of the candidate regarding a change of the address declared in the application. The University also disclaims liability for mail going astray, whether third parties are to blame, or whether it is attributable to mishaps, or to *force majeure* and which, in any case, is in no wise ascribable to the University. It accepts no blame when the return delivery slip indicating receipt of the application, of documents or of communications relating to the selection procedures fails to arrive. If the candidate's address differs from that of her/his place of residence, again the University is exempt from responsibility should a registered letter with notification of receipt arriving at the place which the candidate had specified as his address during the period of selection, fail to reach her/him.

Art. 6

Presentation of qualifications

- 1) Considered that, in accordance to the present call, by 'qualifications' are intended those scientific, didactic and artistic ones and the publications, and for 'certificates' any document proving the possession of a certain qualification, the candidate must enclose at the application for participation in the selection procedure in unstamped paper:
 - a) 1 copy of a valid identity document and the fiscal code;
 - b) 1 photocopy of the curriculum vitae regarding the didactic and scientific activity and drawn up according to the model of attachment 'C';
 - c) didactic and scientific qualifications believed useful for the comparative assessment;
 - d) 1 photocopy of the list of the publications believed useful for the comparative assessment and drawn up in accordance with article 7 paragraph 3 of this call;
 - e) 1 photocopy of the list of all documents enclosed at the application [generic list of those materially inserted in the envelope, or the documents required by letters a), b), c) and d) of the present paragraph].
- 2) The qualifications indicated in paragraph 1, letter c), of the present article, if issued by Italian Public Administration, must be produced in one of the following forms:
 - a) in copy corresponding to the original as certified by substitutive declaration of the deed of notoriety according to art. 47 of the D.P.R. 28th December 2000, no. 445. In that case the candidate must produce:
 - 1 copy of each qualification;
 - 1 declaration drawn up according to the model of attachment 'B', signed and dated at the last page, where the candidate, under own responsibility, declares that the copies of the enclosed qualifications, exactly described, and in particular with regard to the date of attainment, place and Administration issuing the qualification, correspond to the original. That declaration at the same time serves as list of the qualifications, in which case the latter ones do not have to be produced;
 - 1 copy of an identity document;
 - b) in form of a self-declaration according to the model of attachment 'B' (substitutive declaration of certification according to art. 46 of the D.P.R. 28th December 2000, no. 445), where the candidate, under own responsibility, declares to possess the qualifications, exactly described, in particular with regard to the date of issue, place and Administration issuing the qualification. In that case the candidate must produce:

- 1 copy of the attachment 'B', signed and dated at the last page, which at the same time serves as list of the qualifications, in which case the latter ones must not be produced;
- 1 copy of an identity document.

The University cannot request nor accept certificates issued by other Italian public offices. If the above-mentioned certificates should be enclosed at the application for participation in the selection procedure, they will not be considered by the Commission of selection.

The qualifications issued by private corporation or abroad can be produced in one of the following forms:

- a) in original;
- b) in certified copy;
- c) in copy corresponding to the original as certified by substitutive declaration of the deed of notoriety or in form of a self-declaration according to the above-mentioned model of attachment 'B'.

The above mentioned declarations drawn up according to the model of attachment 'B' may be used by Italian citizens and also by citizens of the EU.

The declarations according to the above-mentioned articles of the D.P.R. 28th December 2000, no. 445, may be used by non-EU citizens, if it is necessary to proof conditions, facts and personal qualities certifiable or attestable by public or private Italian bodies or bodies of the EU, without prejudice of special provisions in laws and regulations concerning immigration matters and the condition of foreigners. If the declarations according to the above-mentioned articles of the D.P.R. 28th December 2000, no. 445 are used in other cases than the above mentioned, the winner of the procedure has to submit, before the employment, the certificates as per paragraph 7.

- 3) The curricula and the lists mentioned in letters d) and e) of paragraph 1 of the present article must be signed and dated in the last page.
- 4) No qualification sent to this Administration will be returned.
- 5) The sending of the publications does not enable to correct the missed or late submission or mailing of the application for participation in the selection.
- 6) Without prejudice to the exceptions expressly provided by law, the above-mentioned attachment 'B' may further be used by the candidate to declare standings, facts and personal qualities of her/his direct knowledge, not expressly indicated in art. 46 of the D.P.R. 28th December 2000, no. 445.
- 7) With regard to non-EU citizens, the certificates issued by the competent Authorities of the country the person belongs to, must be in accordance with the provisions in force in those countries and must also be legalized by the competent Italian consular authorities.
- 8) With regard to conditions, facts and personal qualities self-certificated by the candidates for the present selection procedures the University has the possibility to exercise appropriate checks, also random ones, regarding their truthfulness.

In case of mendacious declaration the candidate, further than being excluded from the selection procedure, will be denounced according to the Criminal Code and the special laws regarding the matter, according to the provisions cited in art. 76 of the D.P.R. 28th December 2000, no. 445.

- 9) The qualifications may be produced in their original language if it is one of the following: Italian, French, English, German and Spanish.

It is in the authority of the Commission of selection to request the candidates integrations of the qualifications submitted in French, English, German or Spanish language, by forwarding the correspondent translation in Italian.

The translation in Italian language must be accompanied by a substitutive declaration of the deed of notoriety where the candidate, according to art. 47 of the D.P.R. 28th December 2000, no. 445, certifies the conformity of the translated text with the original (see attachment 'B').

- 10) Any certificate or diploma drawn up in a language different than Italian, French, English, German and Spanish, submitted by Italian, EU or non-EU citizens, must be enclosed, according to paragraph 3 of Art. 33 of the D.P.R. 28th December 2000, no. 445, the correspondent Italian translation, which is

certified conform to the original text by the competent diplomatic or consular representation or by a official translator. The certificates or diplomas drawn up in a different language than those above mentioned, in case of lacking translation, will not be assessed by the Commission of selection.

Art. 7

Sending of the publications

- 1) The sending of the application for participation must be enclosed by the forwarding of the publications.
- 2) Publications will only be evaluated when they can be traced in public catalogues as publications.
- 3) Together with the publications, there must be enclosed a correspondent list, signed and dated at the last page. The Publications must be mentioned in chronological order within each category following the International Standard for bibliographic references with DOI whenever possible. With multiple authorship, if one is the main author, that author's name appears in *Italics*. In addition, in the left-hand margin please star (*) what you consider were especially significant publications. Where relevant, citation index and impact of journal.
- 4) Publications handed in or sent after the final term as indicated in paragraph 1 of the present article cannot be considered by the Commission of selection.
- 5) For the present selection procedure are considered assessable the print extracts and the works which, at the moment of the deadline of the call, have been subject to legal deposit according to the provisions of the law 15th April 2004, no. 106, put into effect with D.P.R. 3rd May 2006, no. 252.
- 6) The publications, with 1 copy of the correspondent list attached, may be sent:
 - a) in original;
 - b) in certified copy;
 - c) in photocopy. In that case a substitutive declaration of the deed of notoriety (to be drawn up according to the model of attachment 'B' and signed at the last page, with the production of a photocopy of an ID) must be attached, where the candidate, according to art. 47 of the D.P.R. 28th December 2000, no. 445, certifies the conformity of those produced with the original and indicates the author, the title of the work, the place and date of publication and the number of the work.
- 7) In case the candidate produces copies declared conform to the originals according to paragraph 7, letter c), of the present article:
 - a) for works printed in Italy it is also necessary to attest the date of deposit of the printing according to the law 15th April 2004, no. 106, put into effect with D.P.R. 3rd May 2006, no. 252;
 - b) for works printed abroad the date and place of publication must be indicated.
- 8) The publications may be produced in their original language if it is one of the following: Italian, French, English, German and Spanish.

It is in the authority of the Commission of selection to request the candidates integrations of the publications submitted in French, English, German or Spanish language, by forwarding the correspondent translation in Italian.

The translated texts must be produced in typewritten copies with the text printed in the original language and must be accompanied by a substitutive declaration of the deed of notoriety where the candidate, according to art. 47 of the D.P.R. 28th December 2000, no. 445, certifies the conformity of the translated text with the original (see attachment 'B').
- 9) The publications whose original language is different than Italian, French, English, German and Spanish must be translated in one of the above-mentioned languages.

It is in the authority of the Commission of selection to request the candidates integrations of the translations submitted in another language than Italian, by forwarding of a translation in Italian of the text already translated.

The translated texts must be produced in typewritten copies with the text printed in the original language and must be accompanied by a substitutive declaration of the deed of notoriety where the candidate, according to art. 47 of the D.P.R. 28th December 2000, no. 445, certifies the conformity of the translated text with the original (see attachment 'B').

- 10) For selection procedures concerning linguistic matters publications may be produced in the language or languages the selection procedure relates, even if different of those indicated in paragraph 9 of the present article.
- 11) The publication must be produced in any case, even in case they have already been submitted by this or other Administrations for participation at other selection procedures.
- 12) The missed sending of the publications within the provided date is not considered as renunciation of participating in the selection procedure. Nevertheless, the Commission of selection assesses the candidate only on the basis of the curricula and can therefore not assess the scientific works even if they are personally known by its members.
The Commission of selection does not take into consideration publications not conforming to the required format or in different edition as those indicated in the application for participation in the selection procedure.
- 13) No scientific work sent to this Administration will be returned. Nevertheless, the candidates may require its possess, except in case of pending controversy and according to the provision of the subsequent article 22, by going, personally or on behalf of a delegate, to the Personnel Office Academic Staff within the term of six months starting from the date of the Rectoral decree of confirmation of the regularity of the records. After this term has passed it is in the power of the University to dispose freely of the material not withdrawn.

Art. 8

Exclusion from participation at the selection procedure

- 1) The candidates are admitted conditionally at the selection procedures. Therefore exclusion through failing to meet the prescribed requirements is provided for with due decree of the Rector of the University at whatever stage of the procedure.
- 2) In particular, are excluded those:
 - a) presenting an application which is not signed;
 - b) presenting applications which, for any reasons, are not sent by post or consigned by the final deadline indicated in art. 5, paragraph 1 of the present call.

Art. 9

Renunciation of participation

- 1) The renunciation of participation at the selection procedure (to be drawn up according to the model of attachment 'C') must be sent by fax to the President of the Commission of selection (e-mail: personnel_academic@unibz.it) and, for information, to the person in charge of the procedure.
Renunciations preceding the formation of the Commission of selection must be subsequently sent to the person in charge of the procedure (e-mail: personnel_academic@unibz.it).
- 2) Renunciation takes effect from the Commission's first meeting following the date of its receipt.
- 3) The absence of the candidate at the interview is considered implied renunciation to the selection procedure.

Art. 10

Commission of Selection

- 1) The assessment is to be carried out by a Commission of selection, to be constituted of three members belonging to university staff from Italy or abroad.

The members of the Commission of selection must be active in the relevant research area or in the disciplinary area the research project or the research activity refers.

- 2) The members of the Commissions of selection are appointed by the Department requesting the selection procedure.
- 3) The Commission of selection is appointed by special provision to be published also on the University's web page.
- 4) The Commission of selection remains in charge for six months and may be renewed only once and for not more than four months.

In case the work has not been completed within the extended period, the Rector, with due provision, will start procedure for the replacement of the Commission or the members responsible for the delay, establishing at the same time a new term for the conclusion of the work.

- 5) In case of selection procedures based on only qualifications the Commission of selection, for carrying out its meetings, may make use of telematics tools for collective work, on condition that all documentation submitted for the selection procedure is available in digital form.

Art. 11

Selection of the candidates

- 1) The comparative assessment is based on qualifications and, if provided by the call, examination/s.
- 2) The interview, if provided, may be performed also by videoconference.
- 3) In case one or more examinations are provided, the dates will be notified to the candidates not less than 10 days before taking place, with indication of the time and place they are being held.

To sit the examination/s, the candidate must be equipped, with the exclusion of others, of one of the following currently valid documents of recognition provided in art. 35, paragraph 2 of the D.P.R. 28th December 2000, no. 445: identity card, passport, driving licence, railway record-book, postal card, firearms licence. The mentioned documents must contain a recent photograph of the candidate and her/his signature be authenticated by a mayor or a public notary.

- 4) At the end of its work, the Commission of selection, on the basis of the scores assigned for the qualifications, publications and the examinations, if provided, compiles the merit ranking of the suitable candidates. Minority positions should be recorded, indicating, in relation to the number of research assistant contracts to confer, the candidates which the research contracts are conferred.

Art. 12

Publicity and transparency of the selection procedure

- 1) The Commission of selection gives communication of the record containing the final merit ranking to the person in charge of the procedure for the subsequent measures.
- 2) In case procedural errors are discovered, the records are returned with due provision to the Commission of selection for regularization within the term indicated in the provision.
- 3) The results of the assessment will be published also on the University's web page.

Art. 13

Validity of the ranking according to merits

- 1) The merit ranking lasts up to 14 months before the conclusion of the research project.
- 2) In case of withdrawal from the contract, the same will be conferred to the next suitable candidate in the concerned ranking list.

Art. 14

Formalization of the relationship

- 1) The University stipulates with the first candidate in the merit ranking a contract, regulating the forms and modalities of the collaboration activity and the allotment of the research assistant contract.
- 2) The contract may be renewed within the maximum term of 3 months after its expiry.
- 3) The research assistant contracts are in no way considered a dependent employment relationship and do not confer rights for access to the University staff.
- 4) The winner of the present selection procedure must fulfill the duties provided by the University regulation for the conferral of research assistant contracts.
A copy of the regulation is delivered to the holder of the research assistant contract at the stipulation of the contract.
- 5) The research activity the winner has to complete must have the following features:
 - a) temporally defined;
 - b) connected with the fulfillment of a research program or a stage of it;
 - c) autonomous performance, under the direction of the scientific responsible, of the program, without predetermination of working hours.

Art. 15

Suspension of the research

- 1) The payment of the remuneration of the research assistant contract is suspended during the periods of absence for pregnancy, documented sickness, military service. In these cases, the duration of the relationship will be extended for the remaining period for the realization of the research project, starting from the date of cessation of the cause of suspension.

Art. 16

Rights and duties of the assistant researchers

- 1) The holder of the research assistant contract undertakes research activities provided by the research programs adopted by the related Department. He/she may collaborate with students in research activities relating to his/her degree thesis, participate at examination commissions and perform formal and informal didactic exercises.
- 2) The holder of the research assistant contracts may participate at groups and at research projects of the University/the Departments. The performance of those research activities does not confer a right of payment of a separate compensation.
- 3) The holder of the research assistant contract may be allowed a limited teacher-centered didactic activity (lessons, exercises, laboratories) for a maximum of 60 hours per academic year, provided that this activity does not interfere with the research activities. The hours of teacher-centered didactic are separately remunerated according to the "*Regolamento tariffario per i docenti a contratto, i supervisori e responsabili di tirocinio e i collaboratori linguistic*" in force.
Teacher-centered didactic activity may be decided by the Department, upon consent of the research assistant contract holder and upon authorization of the person responsible of the research project.
- 4) The research assistant contract holder, in order to carry out the research activity, may use the facilities of the Department he/she belongs and make use of the services available to the researchers according to the regulations in force.
- 5) The research activity is performed at the Faculty concerned or elsewhere, if expressly authorized by the person responsible for the scientific activity the research assistant contract holder belongs. If the research assistant contract holder authorized to perform research activity externally must undertake duties in connection with the research, he/she has the right of refund of expenses according to the rules and conditions set out by the "Regulation concerning service missions of teaching and research staff".

Art. 17

Person Responsible of the research activities of the research assistant contract holder and entrusted tasks

- 1) The Department the research assistant contract holder belongs nominates a professor or researcher or a fixed-time researcher as scientific responsible for the research activities, guiding and directing the research activities undertaken by the research assistant contract holder.
- 2) The person responsible of the research project must collect and assess the concise and the final relation. He/she further must report to the Responsible of the Department and to the Personnel Office Academic Staff the defaults of the contract holder, also in relation to possible suspensions of payments, except in case of grave default constituting cause of resolution by law of the contract.
- 3) The Department the research assistant contract holder belongs, at the conferral of the research contract and periodically, determines, on proposal of the scientific responsible and after having heard the interested person, the research programs and his/her relevant tasks.

Art. 18

Control modalities, assessment of the activity performed by the research assistant contract holders and causes of resolution of the contract

- 1) The holder of the research assistant contract must annually present a short paper about the research activity performed and the results attained, which, with the assessment of the person responsible of the research project attached, is sent to the presidency of the Department concerned.
- 2) The research assistant contract holder must also produce a detailed final relation explaining the performed activity and the results attained, which, with the assessment of the responsible of the project, is submitted, within 45 days preceding the end of the contract, to the presidency of the Department concerned.
- 3) The non-presentation of the reports within the provided terms causes the suspension of payment of the following installments.
- 4) In case the research assistant contract holder, after having started the research activity, does not continue it, regularly and continually, for the whole duration of the research assistant contract without justified reason or is responsible for grave and repeated misdemeanor, the procedure for resolution of the contract will be started.
- 5) The contract will be terminated in the cases provided by paragraph 6 with deliberation of the concerned Department.
- 6) The contract will be terminated in the following cases:
 - grave and proven misdemeanor of the research assistant contract holder, reported by the person responsible of the research project or by the responsible of the concerned Department;
 - unjustified missed beginning or unjustified delay of the activity;
 - unjustified suspension of the research activity for a period which is prejudicial to the research program;
 - grave violation of the incompatibility rules provided by the present Regulation.

Art. 19

Loss and withdrawal

- 1) Those not initiating the activity within the indicated terms lose the right for the research assistant contract.
- 2) Only delays due to grave health reasons or to *force majeure* duly proved are justified and admitted.
- 3) The holder of the research assistant contract may withdraw from the contract by observing a 30 (thirty) day notice. In case of written consent by the person responsible of the research project, the notice may not be considered.
- 4) Possible postponements of the date of beginning of the period of enjoyment of the research assistant contract may be awarded to winners proving to have to fulfill the military duties and to working mothers (legislative decree. no. 151/2001).

Art. 20

Attendance of research doctorate courses

- 1) The holder of the research assistant contract may attend research doctorate courses without scholarships even in supernumerary, without prejudice of getting through the admission tests.
- 2) The University Council, before the beginning of the academic year, after having heard the departments, determines, for each doctorate course, the maximum number of research assistant contract holders admitted to attend doctorate courses in supernumerary.

Art. 21

Economic and fiscal treatment, social security

- 1) The amount of the remuneration is determined by the University Council, in respect of the minimum limits determined with Ministerial Decree.
- 2) The remuneration is paid in monthly installments. The monthly gross amount is determined by dividing the annual gross remuneration with the number of months of the contract's duration plus one.
- 3) Mission expenses will be taken from the fund of the person responsible of the research project.
- 4) The research assistant contract for collaboration at research activities under the present call is free of income tax. In relation to fiscal matters the provisions of Art. 4 of the law 13th August 1984, no. 476 with subsequent modifications and integrations are applied.
- 5) The University provides for the insurance covering in relation to risks of accidents at work and civil responsibility, applying the fiscal and social security disciplines provided by Art. 22, paragraph 6, of the law no. 240/2010.

Art. 22

Return of publications

- 1) Candidates declared not eligible may withdraw, at their own expense, the publications submitted to this University within six months from the date of the Rector's decree of confirmation of the regularity of records. Once the term has passed the University keeps the material for its own necessities, disclaiming liability towards the candidates.

Art. 23

Protection of personal data

- 1) For information about the use of personal data, we refer to the data protection code in compliance with art. 13 of Legislative Decree no. 196/2003, attached to the present call.

Art. 24

Person in charge of the procedure

- 1) In accordance with the law 7th August 1990, no. 241, the person in charge of the procedure of the present selection is Dr. Paola Paolini – Head of the Personnel Office Academic Staff – Piazza Università, 1 - C.P. 276 – 39100 Bozen-Bolzano – tel. +39 0471 011310, e-mail: personnel_academic@unibz.it.
- 2) On the web page <https://www.unibz.it/en/home/position-calls/positions-for-academic-staff/?departments=270&group=18&year=2018> expressly dedicated to the selection procedure are available all relating information about the progress report of the Commission of selection's works as well as the relating deadlines.

Art. 25

Referring provisions

- 1) For anything that is not expressly considered in the present announcement, reference shall be made, where applicable, to the norms cited in the preamble of the present decree and any related laws in force.

Bozen-Bolzano, 02.08.2018

Decree no. 412/2018

The Rector

Prof. Paolo Lugli

