CALL FOR POST DOCTORAL RESEARCHER POSITIONS

The University of Antofagasta at the Region of Antofagasta, Chile invites applications for three postdoctoral positions in the area Energy and Mining aimed to strengthening research capabilities for the joint Initiative "Consortium of Engineering Faculties of the Antofagasta Region" code 16ENl2-71940, between the Catholic University of the North and the University of Antofagasta.

This initiative is being funded by the Chilean Program "IMPLEMENTATION OF THE STRATEGIC PLAN - NEW ENGINEERING FOR THE 2030 REGIONS", and sponsored by CORFO (Production Development Corporation) through Resolution (A) No. 108 of 2017, whose call was made available to the interested parties through the CORFO website.

The Region of Antofagasta is the most arid desert in the world and rich in minerals. Accordingly, its industrial activity focuses its production on copper mining (about 20% of world copper production, 100% of nitrates, 30% of lithium, among other minerals, which transforms the area into one of the most important mining centers in the world). The weather characterized by highest rates of solar irradiation in the world - more than 3000 hours of sunshine per year- is ideal for the use of Non-Conventional Renewable Energies (NCRE), particularly solar energy. In addition, the existence of large areas of fiscal land, without much alternative use and the existence of large reserves of salts makes up the best natural laboratory in the world for the development of solar technology particularly in the form of thermal storage.

I.IDENTIFICATION OF THE POSITION	
Position Name	Post-Doctoral Researcher
Priority Area of the Consortium	Energy and Mining
Thematic axis of the Consortium	- Development of New Technologies and Equipment for Non-Conventional Renewable Energy (NCRE). - Installation and Operation of Systems with Non-Conventional Renewable Energy in Desert at high elevations with high Radiation Zones. - Measurement and Characterization of NCRE Resources. - Development of R & D and Technological Services in Metal Mining Industry. - Development of R & D and Technological Services in the Lithium Industry and Industrial Minerals.

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Research Lines of the Consortium	- Operation and application of solar thermal systems in industrial processes. - Solar metallurgy; development of new materials. - Measurement and modeling of energy resource type NCRE. - Development of new photovoltaic cells adapted to high solar radiation conditions, geographical height, and soiling. - Integration of NCRE to thermal and electric energy networks. - Corrosion of metals and its prevention. - Reduction of operational costs: Welding Processes, Fault Analysis, Maintenance Management Systems.
Vacancy Numbers	4
II. REQUIREMENTS OF THE POSITION	
MINIMUM STUDIES	- Bachelor´s degree or Engineering in disciplines related to the subject of energy; (Chemistry, Physics, Electricity, Mechanics). - Degree of Doctor. - Experience will be evaluated in one of the following areas: - Solar resource evaluation (narrow band, broadband, modeling, machine learning, big data, territorial characterization, Optics and soiling). - Development of new photovoltaic cells adapted to high solar radiation conditions, geographical height, and soiling. - Solar thermochemistry (materials, salts). - Thermosolar storage. - Operation and application of solar thermal systems in industrial processes. - Integration of renewable energies in electric energy networks. - Corrosion of metals. - Reduction of operational costs: Welding processes, Fault Analysis, Maintenance Management Systems.

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III. MAIN FUNCTIONS (ESSENTIAL TASKS OF THE POSITION)

Join the body of researchers of the Energy Development Center of Antofagasta, (CDEA) to position the University of Antofagasta as Regional and National Referent in Solar Thermal Systems in industrial processes, Developments of new Materials for Energy Storage using molten salts, Solar Metallurgy or Integration of renewable energies to electric energy networks. The applicant must perform the following activities:

• Formulate, direct and participate in Research, Development and Innovation projects in the consortium's research lines in any of the aforementioned areas.

• Publish in indexed journals (WoS, ex ISI).

• Participate, as required, in the delivery of undergraduate or graduate courses, lectures, workshops, seminars or other scientific events.

• Participate in R & D & i activities associated with the Engineering 2030 project.

During his stay, the applicant will be under the supervision of Director of the Antofagasta Energy Development Center, PhD Edward Fuente alba Vidal, associated with the Faculty of Engineering of the University of Antofagasta.

IV. WORK CONDITIONS

1. Work Contract financed by the renewable project annually, with maximum completion date September 2020.
2. Monthly gross salary in the range of USD 2700 to USD 3500 [1], which will depend on the experience and productivity of the applicant, (ISI publications, participation and direction of research projects, professional experience and / or teaching) which will be evaluated during the candidate selection process.
3. Tickets from the place of origin to the city of Antofagasta in economic class for the only time.
4. Workday of 44 hours a week.
5. Communication of the results: April 26, 2019, start of work month of April or after 2019 (it will depend on the availability of the applicant).
6. Custom expenses at the Chilean immigration office (if any) and others will be paid by the applicant.

[1] The gross value should be discounted social laws (health, pension fund, taxes), which are in the order of 22%.

Interested, please send letter of intent, curriculum and copy of the certificate of degree and academic degree. If you are in the process of graduation, you must attach a letter from the doctorate program certifying that the degree exam will be given at the most, before hiring.
to: PhD. Victor Vergara Díaz, Director Axis 3, Engineering 2030 project.
victor.vergara@uantof.cl.

DEADLINE: April 19, 2019.

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