

Call for Postdoctoral Fellow Positions 2021

The Solar Energy Research Center (SERC Chile, <http://serc.cl/en/>) was created in 2012 by the Chilean Government as a center of excellence on solar energy research. The Center is a consortium integrated by seven Chilean Universities (Universidad de Chile, Universidad de Tarapacá, Universidad de Antofagasta, Universidad Técnica Federico Santa María, Universidad Adolfo Ibáñez, Universidad de Concepción, and Pontificia Universidad Católica de Chile) and Fraunhofer Chile, and hosts about 90 researchers, students, and staff. The Center aims to be a leader in basic and applied research on solar energy technology and applications, with a particular emphasis on developing the solar potential of Chilean Atacama Desert, one of the prime locations in the world for the study and development of solar energy. To promote collaborative research and increase impact, SERC Chile has defined four strategic research focuses:

1. Massive integration of large-scale solar energy to the electric interconnected systems
2. Solar energy-based mining in Chile
3. Development and widespread adoption of small-scale solar solutions
4. Optimization and characterization of materials and solar resource under local conditions

SERC Chile has opened two Postdoctoral Fellow Positions for two of its research lines: Material Science and Evaluation of Solar Resources (RL3) and Power Electronics and Energy Conversion (RL5). Applicants should have expertise and research productivity in at least one of the following topics:

For Material Science and Evaluation of the Solar Resources (RL3):

- Territorial characterization through the analysis of solar resource and environmental conditions, and their effects on solar energy technologies (e.g., soiling, corrosion, aging).
- Characterization, synthesis and optimization of local components and mining byproducts or waste to contribute to the development of new materials for energy storage that improves the profitability of solar technologies and energetic efficiency of buildings.
- Synthesis, processing, and characterization of materials for the development of cells and PV modules adapted to local conditions.
- Development of green chemistry assisted by solar radiation for local applications.

For Power Electronics and Energy Conversion (RL5):

- Theoretical analysis, simulation, and experimental prototype development of power converters and photovoltaic energy systems.
- Application of power converters for integration of photovoltaic systems for large-scale plants, distributed generation or microgrids.
- Power electronic interfaces of photovoltaic energy systems with battery energy storage systems, green hydrogen production, data centers, electric vehicle charging infrastructure and other energy transition applications.
- Advanced modulation and control of power converters used in photovoltaic energy systems.



IMPORTANT INFORMATION

- Applicants must be in possession of a PhD or Doctoral degree at the moment of application.
- The postdoctoral fellowships positions are held up to three years.
- Required documents should be provided in English in a single PDF file.
- Selected applicants are expected to live in Chile.
- Selected applicants are expected to produce high-quality scientific results (publications, research grants, projects with industry, research networks)
- **Selected candidates are expected to join SERC no later than October of 2021**
- **Application deadline is September 10.**
- Applications should be sent to fernanda.soler@uchile.cl and crahmann@ing.uchile.cl with the following subject: "SERC POSTDOCTORAL APPLICATION 2021".

Required Documents

1. Statement of purpose explaining your interest in becoming part of SERC Chile. Applicants should also indicate research topics addressed during the last 2 years and mention results obtained (papers, conferences, patents). Please, clearly state the research line you are interested applying to (RL3 or RL5).
2. Updated Curriculum Vitae including a list of publications. Please indicate whether these are conference articles or indexed publications.
3. Documentation attesting possession of a PhD or Doctoral degree.
4. Contact details of at least two references that may be contacted by SERC to provide a reference letter on your behalf.

For more details about SERC Chile, please visit the web page: <http://serc.cl/en/>. Applications and further enquiries can be sent to fernanda.soler@uchile.cl and crahmann@ing.uchile.cl.