Postdoctoral researcher in Solar Radiation Modification and impacts on the climate system

Spanish National Research Council

Application closing date: 24 November 2024

Start date: Spring 2025 or as soon as possible

Topic: Solar Radiation Modification and its effects on climate

Advisors: Gabriel Chiodo

Institution: Geosciences Institute (IGEO), National Research Council. Madrid, Spain

Duration: 2 years

Call

The Spanish National Research Council (Consejo Superior de Investigaciones Científicas, CSIC) is seeking researchers to investigate the environmental effects of climate intervention strategies via Solar Radiation Modification (SRM). She/he will join the CLIMA research team at the Instituto de Geociencias (IGEO-CSIC-UCM) and contribute to the SolParGeo project funded by the US Simons Foundation, as well as the EU-funded ERC Starting Grant project SOCLIM. We invite applications from scientists with research experience in climate modeling and atmospheric / climate dynamics.

The researcher will perform numerical model simulations to investigate the effects of SRM via stratospheric aerosol injections (SAI) on the climate system, with particular emphasis on alternative SAI strategies involving solid particle injections (calcite, alumina, etc.) into the stratosphere. Climate modeling will be used to simulate the broader effects of SAI in the climate system, including the impacts on the large-scale atmospheric circulation, stratosphere-troposphere coupling, surface climate and hydro-climate extremes under climate change and a variety of SAI scenarios.

Candidate's profile

1. Applicants must have (or be close to completion of) a PhD degree in a relevant discipline with demonstrable experience in atmospheric and climate dynamics.

2. Good scientific programming skills (python, Fortran, etc.) and experience with shell scripting, GNU/UNIX/Linux operating systems.

3. Ability to work independently and as a team member, achieving objectives within given deadlines and attending conferences and meetings.

4. Good English skills (both writing and speaking).

Other desired skills

• Some previous experience in modeling of stratospheric aerosols and/or Earth System Modeling. In particular, experience using the Earth System Model CESM2.x developed at NCAR would be a plus.

• Background in climate data (NetCDF, Xarray, etc).

• Experience in publication of research in peer-reviewed journals.

Job description

• The position is full-time, initially until Spring 2027, but with possible extension up to Fall 2028, subject to performance and funding availability.

• The position is already available and the starting date is somewhat flexible, but should not be later than Summer 2025.

• Salary is based on experience according to the CSIC salary scale and includes benefits (healthcare, social security, etc.). The salary range will be 41,000 - 46,000 €/year (before taxes), depending on previous experience.

• The successful applicant will be based in Madrid, Spain, under the supervision of Dr. Gabriel Chiodo

• Extensive collaboration with the climate modeling group led by Dr. Timofei Sukhodolov at PMOD/WRC (Switzerland), as well as other colleagues at ETH-Zurich and NCAR (USA), is foreseen.

How to apply

Applicants should send an email to Dr. Gabriel Chiodo (gabriel.chiodo@csic.es), with the title "CSIC SRM Postdoc position". The deadline for applications is Nov 24th. Applications should include a single PDF file with your name, including:

1. A comprehensive CV, including publication list.

2. A brief statement of motivation, research experience, qualifications and how these meet the selection criteria.

3. The names and contact information of two references who can provide recommendation letters.

The Institution

CSIC (Spanish National Research Council) is the largest public research institution in Spain and the third one in Europe. It plays a key role in scientific and technological policy in Spain by carrying out research in all fields of knowledge. CSIC produces ~20% of the national scientific output and within H2020, is listed the 1st organization in Spain and the 4th in Europe.

The successful candidate will join the Geosciences Institute (IGEO, Madrid), a Joint Research Center of CSIC and Universidad Complutense de Madrid (UCM). IGEO gathers employees and resources from both institutions and carries out cutting-edge multi-disciplinary research in different topics related to climate. The researcher will also benefit from close collaborations with the STREAM research group at UCM, which has a long-standing experience in the fields of climate variability and change, atmospheric dynamics, transport and air quality.