



2022-IPR-E1-FGIV-020188

FG IV - Scientific Officer - Scientist to contribute to the development of tools and applications in support the pan-European and global analysis of wildfire trends and impacts

POSITION FOR:

Member of the contract staff FGIV – art. 3b of the Conditions of Employment of Other Servants

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG:1962R0031:20110101:EN:PDF>)

WE ARE:

As the science and knowledge service of the Commission, the mission of DG Joint Research Centre is to support EU policies with independent evidence throughout the whole policy cycle.

The JRC is located in 5 Member States (Belgium, Germany, Italy, the Netherlands and Spain). Further information is available at: <https://ec.europa.eu/jrc/>

The current vacancy is in Directorate for Space, Security and Migration - Disaster Risk Management Unit.

Its mission is to focus on emergency preparedness, disaster risk management and resilience in cases of natural and man-made hazards. It covers the fight against crime and terrorism, including combatting the illicit tracking of people, drugs and weapons; it focuses on cyber security, data protection and space infrastructures as well as the use of communications data by security and intelligence agencies. It also includes certain technical aspects relating to the implementation of Treaties and Conventions on the non-proliferation of nuclear, chemical and biological weapons. It studies the implications of demographic change and analyses the root causes, likely scale, timing and impact of migration. It will also serve the Foreign and Security, Humanitarian Aid and Civil Protection, Human Rights, Justice and Home and Institutional Affairs policy areas including the perspective of the emerging Digital Single Market.

The work on early warning and monitoring of wildfires is getting even more attention in recent years due to the effects of climate change in fire regimes and the unprecedented wildfire events in Europe and worldwide. In the context, the JRC plays a vital role through the operation and further development of the [European Forest Fire Information System](#) (EFFIS), under the Copernicus Emergency Management Services (CEMS). Furthermore, the JRC is currently developing a [Global Wildfire Information System](#) (GWIS) in synergy between the Group on Earth Observations (GEO) and the EU Copernicus programs, with the support of international organizations across the globe. The job entitles the support to the operation of EFFIS under CEMS, as well as the contribution to further development of tools and applications to enhance wildfire early warning and monitoring systems that provide critical data to European Commission services and the European Parliament, along with other EU Institutions.

WE PROPOSE:

The selected candidate will contribute to the assessment of wildfires and development of tools and applications in EFFIS and GWIS:

- S/he will gain an overview of all potential sources, identify the scope and the type of data required to enhance existing wildfire early warning and monitoring systems, facilitate acquisition, storing and modelling of the data.
- S/he will undertake processing of structured and unstructured data, analyze large amounts of information to discover trends and patterns, build predictive models and machine-learning algorithms and combine models through ensemble modelling.
- S/he will support in preparing analytical situation reports, scenario building, policy briefs and customizing them for the targeted audience (e.g., policy makers, operational bodies, academia, citizens).

- S/he will leverage information design concepts and principles to create compelling and effective charts, tables, presentations, and other visuals that convey analytical results clearly and effectively.
- S/he will put workflows in production from those research tasks that have been successfully and proven.

WE LOOK FOR:

We are looking for a scientist to help us develop and improve applications for the analysis of wildfires at the European and global scales, through the processing of multi-scale remote sensing data and ancillary information. The primary focus will be in applying data processing techniques, including AI methods, performing statistical analysis, and building high quality prediction systems that integrate data collected at different scales from local to regional and from pan-European to global scales.

The ideal candidate has a science background and experience in computer science, data processing, modelling and remote sensing.

The following skills are essential:

- Experience with processing remote sensing and meteorological data.
- Experience with big data processing, data analysis, image processing, modelling and data visualization.
- Experience in dealing with geospatial information, like spatial databases (PostgreSQL and Oracle), Netcdf, Grib2.
- Understanding machine-learning and operations research.
- Excellent programming skills, bash script, Python, R, Java, C++ and using repositories.
- Experience working with Linux environments, AWS, Kubernetes, and remote servers.
- Good code reader.
- Use of virtual environments and docker containers.
- Ability to provide hands-on analytical support and be involved in day-to-day activities of the team.
- Good communication skills (written and spoken) in English (C1).

The following skills are useful:

- Experience in wildfire risk analysis.
- Experience in fire spread modelling.
- Experience in wildfire risk assessment.
- Capacity to translate data into policy messages.
- Experience with multi-disciplinary teams.

The candidate should have a proven track record of peer reviewed scientific publications.

INDICATIVE CONTRACT’S DURATION:

36 months initial contract with possible renewals up to maximum 6 years.

PLACE OF WORK:

Ispira (IT)

ELIGIBILITY CRITERIA:

Candidates for this contract agent post shall:

– (i) have passed a valid EPSO CAST selection procedure;

or

– (ii) be registered in the EPSO Permanent CAST https://epso.europa.eu/documents/2240_en

or

- (iii) be registered in the specialised call for researchers <https://ec.europa.eu/jrc/en/working-with-us/jobs/vacancies/function-group-iv-researchers> (used mainly by the JRC).

With a valid application number to one of the above, you may then apply for this specific vacancy at JRC through: <http://recruitment.jrc.ec.europa.eu/?type=AX>.

RECRUITMENT POLICY:

The JRC

- Cultivates a workplace based on respect for other people and the environment.
- Embraces non-discriminatory practices and equality of opportunity. In case of equal merit, preference will be given to the gender in minority.