



HR EXCELLENCE IN RESEARCH



Germans Trias o Pujol Research Institute (IGTP) endorses the Requirements and Principles of the European Charter for Researchers, the Code of Conduct for the Recruitment of Researchers, and Open, Transparent, Merit-based recruitment promoted by the European Commission and follows Equal Opportunities policies. On 22 August, 2019, IGTP was awarded the "HR Excellence in Research" logo. This recognition reflects the commitment of the Institute to the continuous improvement of its human resources policies in line with the Charter & Code. The Institute works to ensure fair and transparent recruitment and appraisal procedure

BIOINFORMATICIAN (REF.: 2023/19)

1. JOB DESCRIPTION:

IGTP requires to incorporate to the **GCAT| Genomes for the Life Lab** a Post-doctoral fellow for MCIM funded project "Genome Profiling in the GCAT, an electronic health-record population-based cohort study to improve prevention, diagnosis and treatment of common diseases by using PRSs: **GePeTo**".

- The **GCAT|Genomes for Life** conduct its research on human genomics through a well-characterised cohort and linked with existing European and international initiatives.
- The project **GePeTo**, through genome profiling, aims to identify genetic homogenous clusters, to improve disease risk prediction, diagnostic refinement and disease progression, to deploy precision therapeutics and improve strategies based on population-level screening.
- The project **GePeTo**, will define the genetic risk for the whole **diseasome** in 20,000 cohort participants, through the array-genotyping using last technological developed arrays (1.2M variants) and *in silico* genotyping using the WGS GCAT|Panel, to compute Genomic Risk Scores for all identified diseases (ICD-10) and biologic traits using the comprehensive GCAT metadata. Phenome-wide-association, shared genetic analysis, pleiotropic profiling and disease risk representations (decile-plot, disease prevalence, etc) will be conducted to disentangle the genetic architecture of human disease. A visualization platform will be also developed.

We are looking for an outstanding person, good nature, with **data science and bioinformatics biology skills**, intrepid with interest to work in the analysis of cutting-edge high-throughput OMIC data generated from a **population-based cohort of 20,000** individuals, **linked with existing European and international initiatives**.

- The candidate will be primarily taking care of the **genotyping project**, then will work as data analysts, with **genomic, environmental and epidemiology researchers** focused on translational genomics of complex traits and diseases to develop the first genetic risk clusterization of the GCAT **diseasome**.



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- The **candidate will develop the skills in the field of human genomics**, from currently available methodology for interpretation and visualization of human genetic data, from raw array SNP data to genomic imputation, GWAS and Post-GWAS analysis; gene mapping, genetic networks; signalling pathways, physiological or metabolic systems, integration of –OMIC datasets are some of the skills in which the candidate should be expert at the end of project.

2. QUALIFICATIONS AND EXPERIENCE:

- a) PhD or MSc in Bioinformatics or computer science and experience in bioinformatics software use and/or development (Python, R, and other relevant programming languages) **is required**.
- b) Knowledge in computing analysis of OMIC data, database management, statistical analysis, data engineering and visualization in the human health / genome field **is desired**.
- c) Genome biology background is a plus. Experience working in the field of human genomics, proteomics, **would be acknowledge**.
- d) Ability to collaborate with the team and translate existing research into practical solutions and products.
- e) Drive project execution and implement a robust plan for measuring success.

3. MAIN RESPONSIBILITIES:

The specific tasks will be:

- a) Built a comprehensive map of common genetic variants of 20,000 individuals from the GCAT cohort.
- b) Comprehensive PRSs scoring for all identified medical ICD diagnostic and biologic traits identified in the 20,000 individuals of the GCAT cohort.
- c) Risk clusterization for the GCAT *diseasome* by genetic risk profiling.
- d) To build a visualization and analysis tool for cohort-mining using PRS genetic tools.
- e) To implement web-based tool for *PheWAS* (Phenome Wide Association Analysis) for GCAT.

4. WHAT WE OFFER:

- a) 24-months full-time contract (desirable extension)



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- b) The gross salary commensurate with qualifications of the applicant and consistent with the grant pay scale, distributed in 12 pays, ticket childcare, etc.
- c) 23 days of Holidays and 5 personal days per year, Teleworking (1 out 5 days).
- d) Career development opportunities organized by the IGTP.
- e) Join an Excellent multidisciplinary centre awarded with the HRS4R- mention.
- f) Join Can Ruti Campus, a unique first-class translational research and stimulating scientific environment in the nearest Northern Barcelona Area. The IGTP offers a supportive, friendly and collaborative ecosystem, to promote professional development and to achieve personal research objectives.

5. FOR MORE INFORMATION:

For more information follow the link: [GCAT Genomes for Life](#) , [IGTP](#),

6. APPLICATIONS:

Those interested must send a letter of motivation explaining their interest in the post, a CV and details of 2 referees to the address seleccio@igtp.cat

APPLICATIONS THAT DO NOT INCLUDE THE REFERENCE CODE IN THE SUBJECT LINE WILL NOT BE CONSIDERED

Applications will be reviewed on a rolling basis until the position is filled, and the pre-selected candidates will be contacted for interviews.

7. DEADLINE FOR APPLICATIONS:

The call for applications will close on November 29, 2023.

The IGTP, in its commitment to equal opportunities, guarantees equal treatment between candidates and persons with a degree of disability equal to or greater than 33 per 100, as accredited by the Spanish Autonomous Regions or the State Administration, or who have been declared to have a total permanent disability in a different profession through a resolution of the National Institute of Social Security, while retaining functional capacity for the completion of the tasks of the post will be positively considered.