

**INFORMATION CALL 2019**  
**DOCTORAL INPhINIT FELLOWSHIPS PROGRAMME – INCOMING FRAME**

**PhD POSITION OFFER FORM**

**Position**

1. Project Title/ Job Position title:  
GeoInf+ (PI18/01512) / GeoINF + project. Genetic study of the impact of geographic environmental exposure on inflammatory markers in the adult population. / PhD student
2. Area of Knowledge: Life Sciences
3. Group of disciplines: Human Biology, Microbiology, Molecular Biology, Genetics, Cellular Biology, Genomics and Proteomics, Biochemistry
4. Research Project description / Research Group description (màx. 2.000 caràcters)

**Project description**

**BACKGROUND:** Low-grade systemic inflammation is a common hallmark in the most prevalent chronic diseases in adulthood. Environmental exposure is a risk factor in chronic diseases that constitute the greatest burden of the healthcare system in economically developed countries. **OBJECTIVE:** To define at a personal level the impact of exogenous exposure on inflammation markers through the use of massive, clinical, genomic and exposure data at the population level.

**Group description**

The GCAT| Genomes for Life Project has as ultimate goal to define the genomic architecture of complex traits and diseases from a global approach, providing new insights into normal physiology and disease pathophysiology to help the precision medicine of complex common disorders. We want obtain the maximum of information from the minimum four letter code personal book.

GCAT cohort is generated from the GCAT project. Composed of 20.000 participants, has characterized near 6.000 individuals with genomics, whole genome sequence data, SNP-array genome, and *metabolomics* data. Currently as part of the project we are developing tools for complete *exposome* (environmental factors) for the whole cohort.

The GCAT lab is a dry lab, small group looking for new active and passionate people dreaming to develop skills and knowledge in the field of genomics of complex diseases. GCAT lab has an active, diverse and expert "cloud" of collaborators in a multidisciplinary functional network; from public health and epidemiological risk assessment, environmental risk assessment, bio computational analysis, clinical translation to clinical register data mining. We develop our scientific task for all complex diseases research landscape, to fertilize and apply new approaches for genome integration and analysis in the precision medicine of common disorders.

The GCAT Lab group is part of the Health Research Institute Germans Trias i Pujol (IGTP), in Can Ruti Campus, near Barcelona in the Badalona Hills.

5. Job position description (màx. 2.000 caràcters)

We are looking for an outstanding student, good nature, bioinformatics/computational biology skills/ formation, and intrepid with interest to work in the analysis of cutting-edge high-throughput OMIC data generated from a Catalan-Spanish population-based cohort of 20.000 individuals. The candidate will be working in a collaborative environment with data analysts, genomic, environmental and epidemiology researchers focused on a project to analyze environmental-genomic impact on common disease aetiology and architecture; the GeoINF+ project has been granted by Spanish Ministry for the next three years.

We are interested in students looking for develop his/her thesis and his/her life in the coming years in our city.

The candidate will develop the GEOINF+ proposal, developing his skills in the field, from currently available methodology for interpretation of genomic data, whole genome, array SNP data genome, exposome data ( environmental captured data using cutting-edge technologies). Computational representation and simulation of genetic and genomic systems: population genetics, gene mapping, genetic and biochemical networks, genetic and epigenetic systems biology, signaling 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 stage.

## Group Leader

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