PhD Position Available on Chromatin Dynamics & the DNA Damage Response

ESR7: DNA damage-driven chromatin changes and immunometabolism"

A PhD position is available for a highly motivated Early Stage Researcher (ESR) position as part of the new H2020, EU-funded, Marie Skłodowska-Curie Joint Training and Research Programme on Chromatin Dynamics & the DNA Damage Response "aDDRess".
The aDDRess consortium is a joint European Program of excellence in training and research with a core intellectual focus on, chromatin dynamics, DNA damage signaling and repair mechanisms and their impact on development and disease. aDDRess-ITN (www.itn-aDDRess.gr) brings together leading academic and industry research groups to train a new generation of researchers.

The project

The objective of PhD research is to identify the SATB1-mediated 3D chromatin architecture changes in $CD4^+$ T cells exposed to DNA damage.
Higher-order chromatin structure is mediated by multiple architectural proteins such as SATB1 (Special AT-rich binding protein 1), which is a pleiotropic molecule with functions that evolve early in development, as it is expressed in ES cells regulating the expression of Nanog and it acts as a silencing factor for the Xist RNA. It is also expressed in CD4 cells regulating the coordinated expression of cytokine genes by forming a higher ordered chromatin structure. Moreover, SATB1 globally reprograms gene expression during metastasis by tethering hundreds of gene loci onto its regulatory network. Elucidating the SATB1 roles in "loopscape" formation by means of genome-wide approaches will unravel its role as chromatin organizer and coordinator of global gene transcription that shapes chromatin under normal and upon DNA damage conditions.
The study will be performed in primary $CD4^+$ cells, where SATB1 is highly expressed, isolated from either wild type or genetically modified [tissue specific CD4-Cre conditional knockout of *Satb1*] C57BL/6 mice. We will employ a novel approach to obtain a high-resolution picture of the CD4 T cell chromatin organization and identify the differences on the SATB1-mediated chromatin networks upon induction of DNA damage.
The PhD candidate will work with the Genevia group in analyzing ChIP-seq data for the SATB1 protein in CD4 cells, with the Norgenotech in the development of assays for the detection of Inflammation-driven DNA lesions and with the Garinis group for the detection immunosecretory factors in the sera of *Satb1*$^{-/-}$ and NER-defective mice.

Who we are

The candidate (ESR7) will be enrolled in the University of Crete Biology PhD programme and supervised by Charalampos Spilianakis (www.SpilianakisLab.gr), an Associate Professor of Molecular Biology & Epigenetics at the Department of Biology of the University of Crete (www.uoc.gr) in Heraklion, Crete, Greece, who is also an affiliated Professor at the Institute of Molecular Biology and Biotechnology (www.imbb.forth.gr) of the Foundation for Research and Technology (www.forth.gr). More information about the programme (www.itn-aDDRess.gr).

Who we look for

A highly motivated student with a background in molecular biology, biochemistry and/or immunology or other relevant field with excellent analytical, communication and interpersonal skills. A team player. Applicants should have an excellent proficiency in written and spoken English and should hold a Diploma or Master's degree in Biology or Biochemistry. Experience in biocomputing analysis will be positively considered. Extensive practical experience through lab rotations and internships are of advantage.

We offer

- a comprehensive, interactive and international training programme covering innovative and state-of-the-art approaches to the field of DNA damage and chromatin dynamics.
- a series of research-specific, complementary and soft skills, that involve both the academic and industry sectors and are tailor-made to prepare young researchers for their future careers.
- a competitive salary, which is adjusted for their host country.
- a mobility allowance and a family allowance (where applicable) as part of the employment package.

Eligibility criteria

- The applicants can be of any nationality.
- They should hold a Master's degree.

- They should be within four years of the diploma granting them access to doctorate studies at the time of recruitment,
- The applicant must not have resided for more than 12 months prior to the singing her/his contract in the country of the host institute.
- Applicants should be proficient in written and spoken English.

How to apply

Applications should be uploaded through the Program's website link: www.itn-aDDRess.gr/index.php/vacancies/apply, with **ESR7** tick box checked).

Applications should include:

1. an up-to-date CV (max. 4 pages),
2. a cover letter that describes the applicants' motivation to apply (max. 1 page) and,
3. the contact details of at least two referees.

All requested information should be submitted as a single PDF file of less than 2Mb. Only complete applications will be considered.

Potential Start Date September 1, 2019
Deadline of application: May 1, 2019