HUMANITAS UNIVERSITY

Selection procedure for a Type B Research Fellowship in Biological science in compliance with art. 22 of law 240/2010 – Ref. D.R. 006/2017

Humanitas University invites applications for 2 positions as Research Fellow in Biological Sciences.

- JUNIOR PROFILE

Research Program Title	Promoting Resolution Of Inflammation to Enhance Current Therapies (PROIECT) in Inflammatory Bowel Disease (IBD)
Research supervisor - Tutor	Prof. Silvio DANESE
Scientific Area	05- Biological science
Gross amount of the fellowship	19.300 Euro
Duration of the fellowship	24 months
Objectives of the research	The applicant will be primarily responsible for the selection and stratification of IBD patients based on clinical parameters. The data manager will collaborate with the study director in determining the inclusion and exclusion criteria for IBD patients enrolled in the clinical trials. In addition, clinical data from every single patient must be collected and organized in such a way that a correlation between disease stage and lipid mediator expression can be made.

- SENIOR PROFILE

Research Program Title	Promoting Resolution Of Inflammation to Enhance Current Therapies (PROIECT) in Inflammatory Bowel Disease (IBD)
Research supervisor - Tutor	Prof. Silvio DANESE
Scientific Area	05- Biological science
Gross amount of the fellowship	27.000 Euro
Duration of the fellowship	36 months
Objectives of the research	The candidate will entirely follow and develop the project, with the responsibility of both the scientific and technical part. He will personally take care of IBD patient selection and clincial stratification, including processing of human biopsies for the metabololipidomic analysis. He

	will isolate primary cells from both mouse and human intestines, and will test the effects of selected pro-resolving lipid mediators. Moreover, these molecules will be validated on both chemically-induced and genetic mouse models of IBD. He will also study the possible interactions between pro-resolving lipid mediators and different cell compartments, such as the endothelium, the epithelium and the immune system. More in detail these will be the specific aims: 1) Patient cohorts: selection criteria, clinical stratification, and allelic variant analysis. 2) Distribution of genetic variants related to resolution phase mediators in patients cohorts. 3) Ex-vivo analysis of resolution phase mediators. 4) Role of resolution phase mediators in animal models of IBD.

The work place is in Rozzano - Milano.

A brief description of the: project, activities to be carried out, mandatory requirements to take part into the selection process, information on the application procedure and on the selection criteria are presented in the following.

RESEARCH PROJECT:

- JUNIOR PROFILE:

The resolution phase of inflammation is an active process that involves multiple biochemical and molecular pathways including lipid mediators, cytokines, genetic and epigenetic mechanisms. However, the relevance and potential exploitation of promoting mechanisms of resolution is still a largely unexplored field of research, and in particular the role of locally active mediators and their potential relevance for interindividual differences in terms of clinical evolution or therapeutic response is presently unknown for most chronic inflammatory disorders, including Inflammatory Bowel Disease (IBD). Novel approaches targeting resolution-phase mediators represent a promising strategy to control the excessive inflammatory reaction that characterizes this pathology. The general aim of this grant proposal is to identify new mediators involved in the resolution of inflammation in order to define new molecules predictive of patients non-responders to currently used therapies, and potential targets for new therapeutic strategies. To this goal will work on an integrated program that spans from patient selection and stratification, biochemical and molecular analysis of biological samples, validation of the targets using preclinical models of disease, and development of new therapeutic approaches. We will concentrate on effector molecules known to be involved in the resolution process, namely long chain omega-3 polyunsaturated fatty acids and their protein receptors.

- SENIOR PROFILE:

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ACTIVITIES TO BE CARRIED OUT:

- JUNIOR PROFILE:

The applicant will be primarily responsible for the selection and stratification of IBD patients based on clinical parameters. The data manager will collaborate with the study director in determining the inclusion and exclusion criteria for IBD patients enrolled in the clinical trials. In addition, clinical data from every single patient must be collected and organized in such a way that a correlation between disease stage and lipid mediator expression can be made.

- SENIOR PROFILE:

The candidate will entirely follow and develop the project, with the responsibility of both the scientific and technical part. He will personally take care of IBD patient selection and clincial stratification, including processing of human biopsies for the metabololipidomic analysis. He will isolate primary cells from both mouse and human intestines, and will test the effects of selected pro-resolving lipid mediators. Moreover, these molecules will be validated on both chemically-induced and genetic mouse models of IBD. He will also study the possible interactions between pro-resolving lipid mediators and different cell compartments, such as the endothelium, the epithelium and the immune system. More in detail these will be the specific aims:

1) Patient cohorts: selection criteria, clinical stratification, and allelic variant analysis.

2) Distribution of genetic variants related to resolution phase mediators in patients cohorts.

3) Ex-vivo analysis of resolution phase mediators.

4) Role of resolution phase mediators in animal models of IBD.The successful candidate will mainly carry out the exploration of the transcriptional and epigenetic bases of human neutrophil and monocyte dysfunction in aging.

MANDATORY REQUIREMENTS:

- JUNIOR PROFILE:

In order to be considered for the post candidates must hold University degree in Biological Sciences.

- SENIOR PROFILE:

In order to be considered for the post candidates must hold University degree in Biological Sciences, at least 10 years experience (Post-Doc)

SELECTION PROCESS:

Applications should be written on plain paper according to the application form attached (ALLEGATO A) to the Rectoral Decree n. 112/2016 (available at page http://www.hunimed.eu/it/lavora-con-noi/) and must be produced, under penalty of exclusion, within twenty (20) days from the day of the publication of the notice. If the specified deadline falls on a public holiday, the deadline is the next working day.

The application form, duly signed, under penalty of exclusion, can be sent in one of the following ways:

1. via certified email (PEC) by sending the application and all relevant documents, in PDF format, to hunimed@pec.it (quoting in the subject: "*Research Project title as stated in the table above*" with the indication scientific area relevant for this post. Please note that certified email can only be received by other PEC; therefore will not be considered valid, the application sent by an e-mail address that is not certified as PEC.

2. Either via registered letter with acknowledgment of receipt, courier or hand-delivered to the Rector of the University Humanitas, "Segreteria del Rettorato della Università Humanitas" via Manzoni No. 113-20089 Rozzano (MI), by the deadline mention above specifying on the envelope the "Research Project title as stated in the table above", the name and address of the candidate.

Applications must include:

1. a curriculum vitae dated and signed, containing the description of any professional or research experience (including publications and participation at conferences);

2. a copy of a valid document of identity or, for Non-EU citizens, a copy of applicant's passport.

For EU citizens or equivalent, that which has been declared in the application form (ALLEGATO A) assumes substitute value of certifications according to DPR 445/2000;

Applications can also include:

3. a dated and signed list of the titles presented;

4. a dated and signed list of the publication presented;

All the titles and publications presented together with the application can be produced on plain paper together with a declaration made according to the model attached (ALLEGATO B) to the Rectoral Decree n. 112/2016 (available at page http://www.hunimed.eu/it/lavora-con-noi/)

As part of the selection process, a Selection Committee will evaluate the curriculum, titles and publications presented by the candidate.

SELECTION CRITERIA:

- JUNIOR PROFILE:

The Candidate should have Computer applications for data collection; Principles and practices of data management; Data collection; Data utilization; Data validation; Research; Statistics;

Database Management; Knowledge of analysis software; Data Reporting and analytics competencies (content knowledge); good knowledge of English.

- SENIOR PROFILE:

The Candidate should have excellent knowledge and manipulation of both chemically-induced and genetic mouse models of IBD; isolation and culture of primary cells (in particular endothelium, epithelium and immune cells) from human and murine intestinal biopsies; evaluation of epithelial and endothelial functions in the intestinal mucosa; excellent knowledge of IBD and IBD pathogenesis with at least two publications as first or last author; good knowledge of English.

FURTHER INFORMATION:

For more details on the selection process please refer to the Rectoral Decree n. 112/2016 (http://www.hunimed.eu/it/lavora-con-noi/) or send an inquiry to ufficiodocenti@hunimed.eu or contact the following number +39 02.8224.5642.