

## PhD position in Cellular senescence and age-related pathologies

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**Department** European Research Institute for the Biology of Ageing (ERIBA)

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**Work location** Groningen

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**Apply no later than** 04 August 2019

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### Working environment

[The European Research Institute for the Biology of Ageing \(ERIBA\)](#), is an institute at the University Medical Center Groningen (UMCG). The central theme at the ERIBA is the molecular mechanism of (cellular) ageing. We aim to identify physiological and molecular changes that can explain the loss of cells and functional decline of cells and tissues with age. For this, we make use of state of the art technology and a variety of model organisms. Furthermore, we heavily invest in Systems Biology to integrate our findings in the various mechanisms of ageing that have been proposed. The ERIBA is housed in a brand new building and part of the central UMCG campus in central Groningen, a small (200,000 inhabitants) but vibrant city (with over 25,000 students) in the north of the Netherlands.

### Job description

Background:

Cellular senescence is a complex tumor-suppressive mechanism induced by many different stresses. Senescent cells are characterized by growth arrest, changes in morphology and gene expression, and the secretion of inflammatory cytokines, proteases and other molecules that can alter the tissue microenvironment (a phenomenon termed the senescence-associated secretory phenotype or SASP). For an unknown mechanism, senescent cells increase with age, and are evident at sites of numerous age-related pathologies and pre-cancerous lesions. Recent results show that life-long elimination of senescent cells can prevent the development of certain age-related pathologies in a mouse model of segmental accelerated aging, strongly supporting the idea that senescent cells can be deleterious.

The Demaria lab is interested to dissect the molecular phenotypes of cellular senescence induced by different stimuli, and to characterize how they can promote age-related dysfunctions.

The proposed project aims to determine the gene expression and the secretory profiles of senescent cells associated to musculoskeletal dysfunctions by using animal models and ex vivo systems, including organoids. A major focus will be to produce and analyse whole-population and single-cell gene and protein expression datasets. This project is part of a large nation-wide consortium and will include extensive collaborations with other national and international universities and medical centers.

## What do we need

The PhD student will be part of a young and enthusiastic research group and should have the following requirements:

- Required education/skills: MSc in Molecular/Medical Biology or Bioinformatics.
- Experience in a wide variety of molecular and cellular biology techniques (e.g. qPCR, FACS, Western blots, histology) is desirable.
- Developed skills in R programming and large datasets analysis is a plus.
- Should be enthusiastic, ambitious, and organized.
- Collaborative, communication and networking skills are mandatory.

The UMCG has a preventive Hepatitis B policy. The UMCG can provide you with the vaccination, should it be required for your position.

In case of specific professions a 'Certificate of Good Conduct' is required.

## What do we offer

It concerns a fulltime appointment (36 h/week) for a period of four years to be concluded with a PhD examination. After one year, the performance of the candidate will be evaluated to decide whether there is sufficient progress to expect a successful completion of the PhD thesis within the coming three years.

The University Medical Centrum Groningen offers a salary of € 2.357,- gross per month in the first year up to a maximum of € 3.020,- gross per month in the last year.

In addition, the UMCG will offer you 8% holiday pay and 8.3% end-of-year bonus.

The terms of employment comply with the Collective Labour Agreement for Medical Centers (CAO-UMC).

## More information

For more information about this vacancy you may contact:

dr. Marco Demaria, team leader of the laboratory, e-mail: [m.demaria@umcg.nl](mailto:m.demaria@umcg.nl) (please do not use e-mail address for applications)

## Applying for a job

Please use the the digital application form at the bottom of this page - only these will be processed.

You can apply until **4 August 2019**.

Within half an hour after sending the digital application form you will receive an email- confirmation with further information.