

PhD training position in EU doctoral network "MyoTreat": The effects of different wavelength of light on the choroidal thickness on OCT (optical coherence tomography) imaging (DC 6)

Dept of Ophthalmology, Erasmus University Medical Center, Rotterdam, The Netherlands

Research group: Eye-Epidemiology group headed by Prof.dr. C.C.W. Klaver

Deadline for application: Nov 10 2023

Intended starting date position: Feb 1 2024

Job description:

Funded by the European Commission through the Marie Skłodowska-Curie program, the MSCA Doctoral Network 'MyoTreat', offers a PhD student/training position. The theme of the network is 'Myopia - from genes and environment to cellular responses and treatment'. The PhD student at Erasmus University Medical Center, Rotterdam, The Netherlands, will investigate the role of light and different wavelengths of light on the choroidal thickness in humans. The position will provide state-of-the-art training in vision research using non-invasive optical measuring techniques with application to the eye disorder, myopia.

Myopia is the most common eye disorder in developed countries. The prevalence of myopia has increased over the last decades. Over 80% of the university students in East Asia are currently myopic; in Europe about 50% of the young adults are developing myopia. Myopia develops during childhood and is influenced by genetic factors and environmental factors, and has high risk of visual impairment in adult life. The choroid is the vascular structure underneath the retina and can facilitate signaling between the retina and the sclera to induce axial length growth and myopia.

You will join and work within our Eye-Epi research group headed by Prof.dr. Caroline C.W. Klaver at Depts. Ophthalmology & Epidemiology of Erasmus University Medical Center Rotterdam, The Netherlands. The Erasmus MC is the largest academic hospital in Netherlands. We are a team of scientists, clinicians, engineers, and artificial intelligence experts, experienced in investigating causes and risk profiles of eye diseases, and develop innovative, automated, and technologically advanced solutions for eye health through integration of predictive models and analytical insight. We have large experience in studying myopia with studies with children, adults, animal studies, intervention studies and clinical trials. We have one of Europe's largest and most comprehensive datasets on eye diseases which includes multimodal imaging, genetics, lifestyle factors, and blood biomarkers, and have close collaboration with international consortia.

We are looking an enthusiastic PhD student with lots of natural intellectual curiosity to work on a project addressing the role of the choroid on the development of myopia by studying different wavelengths of light on the choroidal thickness by OCT measurements. The project aim is to improve the diagnostic and prognostic methods and treatment options for myopia. The PhD candidate will benefit from networking with, and secondment to, other project partners within the MyoTreat network in order to gain understanding and access knowledge from others and implement this into your own research.

The candidate will utilize cutting-edge techniques:

- non-invasive optical measurement techniques for measurement (optical coherence tomography)
- Light sources emitting specific wavelength of light
- Artificial intelligence to automatically segment retinal layers

The MyoTreat Doctoral Network offers 14 PhD student projects in 8 European countries. More information on these individual projects can be found on EURAXESS (<https://euraxess.ec.europa.eu/jobs/search>) in the individual job offer postings; to find them please enter the keyword 'MyoTreat' into the search option.

Skills/Qualifications:

- A Master`s degree in life sciences (medicine, biology, optometry, neurobiology, computer science or closely related fields).
- Excellence in oral and written English, with good presentation skills.
- High motivation with an interest in myopia research and good organizational skills.
- Work effectively both independently and as part of a team in a multidisciplinary research environment

The following skills are desirable:

- Knowledge of eye biology, physiology, optics and/or neuroscience.
- Statistics/computer science

The PhD training will be 3-3.5 years. We offer a highly competitive salary and the possibility to obtain a Master's degree in Epidemiology in addition to the doctoral degree.

The PhD student will be hired and located at Erasmus University Medical Center in Rotterdam. Rotterdam is an energetic city with an innovative and enterprising character. It is famous because of the architecture and the harbour. The Erasmus MC, with its roots in Rotterdam, is an international leading academic hospital. Erasmus MC staff, volunteers and students work with passion and dedication to achieve a safe, first-rate healthcare for patients with complex disorders, rare condition or acute needs. Erasmus MC is recognized as a world class scientific research organization.

Eligibility criteria

The applicant

- Can be of any nationality.
- Shall not have resided or carried out his/her main activity (work, studies etc.) in the country of the host institution (i.e. The Netherlands) for more than 12 months in the 36 months immediately before the recruitment date (unless as part of a compulsory national service or a procedure for obtaining refugee status under the Geneva Convention).
- Shall not already be in possession of a doctoral degree. Researchers who have successfully defended their doctoral thesis but who have not yet formally been awarded the doctoral degree are not eligible.

- Has to participate in all network-wide activities foreseen by the MyoTreat project (training courses, secondments, annual meetings, local doctoral programme, communication activities, etc.).

Selection process

Doctoral candidates will be selected based on scientific qualification and experience, research interest, additional knowledge/skills and their motivation to participate in an intersectoral research-training programme.

How to apply

Please send your CV, a one-page motivation letter, and the contact details of one or two academic referees to: Dr. Sigrid Diether sigrid.diether@uni-tuebingen.de. Please specify in your letter that you are applying for: The effects of different wavelength of light on the choroidal thickness on OCT (optical coherence tomography) imaging (DC 6)

If you have informal enquiries - please contact Dr. J. Tideman: j.tideman@erasmusmc.nl or Dr. M. Meester-Smoor m.meester-smoor@erasmusmc.nl