

At the Visual Optics Lab Antwerp (VOLANTIS), part of the Antwerp University Hospital (Belgium), we have an active research line on the early detection of keratoconus. If detected early, the disease can be treated in its initial stages, giving patients a better long-term quality of vision. This research has led to the development of the Keratoconus Assistant, a machine-learning program that automatically detects unusual corneal shapes measured with the Pentacam corneal tomography system.

Current project aims to expand the parameters analysed from a purely shape-based program to one that integrates both corneal shape and biomechanics (elasticity). This may permit prediction of keratoconus progression and customization of treatment to the individual patient. For this project we are currently looking for a scientific researcher/ PhD student.

Job description

- You will work at the Department of Ophthalmology of the Antwerp University Hospital and the University of Antwerp (Belgium);
- You will investigate early detection of keratoconus and assessment of progression risk with the aim of writing a doctoral thesis;
- You will process a large amount of retrospectively collected topographical data from several European partners;
- You will prospectively perform clinical measurements on healthy volunteers and keratoconus patients for your research.

Job requirements

- You have a university master's degree in physics, optometry, computer science or engineering science, with a special interest in optics and statistics;
- You are willing to educate yourself on machine learning;
- You are fluent in English and are willing to learn basic Dutch;
- You can work independently and in a team;
- You are flexible and stress resistant;
- Experience with Matlab, Java, Machine Learning and Finite Element Modelling are important assets.
- You are available from 1 October 2018 onwards.

We offer

- Full-time contract for a limited period (4 years); extensions are possible through grant applications;
- Education in the operation and interpretation of the measurement equipment;
- Many possibilities for continued education;
- Recovery days (12 extra holidays per year);
- Meal vouchers of 4,00 EUR per day (8h);
- Various possibilities for children's daycare.

Application

Applications can be done through this link: <https://bit.ly/2MyMSD3>