**15 PhD positions in Translational Vision Science**

It is essential to know what visually impaired individuals can do with their residual vision in daily life activities, otherwise known as their "functional vision". Conventional ophthalmic tests (e.g. visual field tests) are able to detect the extent of a visual defect, but they yield little information about functional vision. This lack of appropriate tests impedes the optimal practice of diagnostics (in ophthalmic and neurological care, in particular of children and elderly), rehabilitation and classification (essential in sports competitions).

Our European MARIE SKŁODOWSKA-CURIE Innovative Training Network (ITN) **OptiVisT** aims to resolve this by (1) gaining new *Insights*: i.e. a fundamental understanding of the visual demands of activities of daily living and sports; (2) developing *Solutions*: i.e. creating new objective, inclusive and engaging tools for testing, training and augmenting functional vision; and (3) the *Application* of 1 and 2: evaluating the effectiveness of our new tools in diagnostics, rehabilitation and classification in practice.

Are you, like us, fascinated by vision, the brain and technology and consider it important to help visually impaired people? Do you have an inquisitive mind, and are you looking for a PhD position embedded in an international innovative training network in which you can develop your research, technical or clinical skills? Then consider applying with OptiVisT and join one of our 15 PhD projects (overview below). We offer PhD positions in academia, medical, technology and rehabilitation institutes, and high-tech companies.

Curious to see and hear more about what it means to be part of such Innovative Training Network? Check out these two short movies about our previous ITNs NextGenVis and EGRET+.

**The candidates we are looking for should:**

1. Have a strong interest in vision (psychophysics, eye-tracking, VR, non-invasive electrophysiology, neurological and ophthalmic disorders), computational approaches to vision science, deep learning and/or biologically motivated computer vision.
2. Be passionate about doing research and have or be willing to develop the skills to communicate this passion with other scientists and the general public.
3. Have relevant skills and experiences, and a strong interest in both theoretical and applied science.
4. Welcome the opportunity to conduct research abroad and to work within an international and multidisciplinary team.

5. Hold a MSc (or equivalent) in a relevant discipline (which can be, but is not limited to, biology, experimental and clinical psychology, medicine, physics, movement sciences, artificial intelligence, computer science, mathematics).
6. Be an eligible candidate according to the eligibility conditions indicated below.

Details on and the requirements for the specific projects can be found via:
http://www.optivist.eu/projects/

**OptiVisT offers three types of projects:**
**1. Projects with a focus on gaining new INSIGHTS** will identify and quantify the aspects of vision that are critical for successful interaction with the environment. This will inform us about those aspects of vision that need to be tested, trained or augmented to improve daily life abilities of vision-impaired individuals.

***Assessment of functional vision using eye-tracking, virtual-and augmented reality and artificial intelligence***
*Host:* University Medical Center Groningen, the Netherlands.
*Primary Supervisor:* Frans W. Cornelissen

***Gaze-based evaluation of functional vision in activities of daily living***
*Host:* Vrije Universiteit Amsterdam, the Netherlands.
*Primary Supervisor:* Eli Brenner

***Behavioral and gaze-data analysis with deep learning neural networks***
*Host:* Pattern Recognition Company, Germany
*Primary Supervisor:* Erhardt Barth

***Assessment of functional vision for daily life locomotion and navigation using Virtual Reality***
*Host:* Otto von Guericke University Magdeburg, Germany
*Primary Supervisor:* Michael B. Hoffmann

**2. Projects with a focus on designing new SOLUTIONS** will apply our fundamental insights into functional vision to create tools for testing functional vision in 1) adults, 2) children and 3) tools for training and augmenting functional vision.

***Visually Evoked Potential based assessment of functional vision via natural stimulus perception***
*Host:* Otto von Guericke University Magdeburg, Germany

*Primary Supervisor:* Michael B. Hoffmann

***Motion-sensitivity and other non-standard functional tests as predictors of functional vision in activities of daily living in glaucoma***
*Host:* University Medical Center Groningen, the Netherlands.
*Primary Supervisor:* Nomdo Jansonius

***Predicting functional vision via multisensory interactions***
*Host:* Italian Institute of Technology, Italy.
*Primary Supervisor:* Monica Gori

***Augmented Reality games for assessing and training functional vision and visual cognition***
*Host:* University Medical Center Groningen, the Netherlands.
*Primary Supervisors:* Frans W. Cornelissen and Sara Fabbri

***Using Virtual and Augmented Reality-based tests of functional vision to understand patients' real-world difficulties***
*Host:* CITY University London, UK
*Primary Supervisor:* David Crabb

***Augmenting functional vision using automated tactile guidance***
*Host:* FeelSpace, Germany
*Primary Supervisor: Peter König and* Silke Kärcher

**3. Projects with a focus on APPLICATIONS** will use our new tools to improve professional decision-making in three different fields: medical diagnosis, rehabilitation and athlete classification.

***Examining eye-movements made during activities of daily living for screening and rehabilitation of functional vision***
*Host:* CITY University London, UK
*Primary Supervisor:* David Crabb

***Classification of sports-related functional vision***
*Host:* International Paralympic Committee, Germany.
*Primary Supervisor:* David Mann

***Assessment and training of functional vision in rehabilitation using Virtual Reality***

*Host:* Royal Dutch Visio, the Netherlands.
*Primary Supervisor:* Gera de Haan

***Functional vision assessment of children with Cerebral Visual Impairment***
*Host:* Royal Dutch Visio, the Netherlands.
*Primary Supervisor:* Nienke Boonstra

***Functional vision screening in children recovering from Central Nervous System tumors***
*Host:* Rigshospitalet, University of Copenhagen, Denmark
*Primary Supervisors:* Miriam Kolko, René Mathiasen, and Sarah Linea von Holstein

**A unique, complete and international training program**

By joining the OptiVisT network, you will become part of the first pan-European research training program in Translational Vision Science. OptiVisT brings together experts in the field of vision science, technology and healthcare. You will follow OptiVisT's multidisciplinary 3-year PhD training consisting of a number of high-level training courses and workshops throughout Europe. You will learn how to integrate deep knowledge on the foundations of vision with expertise in applying both established and cutting-edge technologies (eye-tracking, EEG, psychophysics, machine learning, perimetry, and virtual reality) in conjunction with specialized ophthalmic and neurological knowledge. Besides working at your primary employer, you will get the option to carry out secondments at other academic and technology partners. Therefore, you will be able to experience working in industrial, health care and academic environments, and have the opportunity to develop both your hard skills (research & technology) and soft skills (e.g., academic, entrepreneurial, working with people). In addition to that, you will receive training at the institute in which you enroll for your PhD.

**The network**

The European MARIE SKŁODOWSKA-CURIE Innovative Training Network OptiVisT (*"Optimal support of Visually impaired individuals through inclusive Tests and Tools for testing, training and augmenting functional vision"*) is a collaboration between 15 European labs and companies in the field of translational vision science and technology. We offer 15 (3-year) full-time PhD positions. A detailed overview of the participating labs, their research interests and the projects can be found at www.optivist.eu. This network has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 955590.

**Eligibility conditions**

OptiVisT is supported by a MARIE SKŁODOWSKA-CURIE grant which requires transnational mobility. Therefore, to be eligible for a PhD position, you cannot have resided or carried out your main activity in the country of the recruiting institution for more than 12 months during the previous 36 months. Furthermore, we can only recruit Early-Stage Researchers who, at the time of recruitment, will be in the first four years (full-time equivalent research experience) of their research careers and not yet have been awarded a doctoral degree. Please keep this in mind when applying.

**Employment conditions**

PhD projects will start between July and October 2021, with some flexibility to negotiate the exact starting date with the relevant supervisor. All recruiting partners honor EU and national employment laws in relation to researcher recruitment and ensure that you will have the same rights, health and safety standards as local researchers.

**How to apply**

If you are interested in one of our PhD positions, visit our website (www.optivist.eu) for more information on our application procedures. The deadline for applying for this project is February 28th, 2021. General questions can be directed to info@optivist.eu. Project specific questions can be directed to the project contacts as mentioned on the website.

**Please do not use the digital application form at the bottom of this page!**