

# THE HONG KONG POLYTECHNIC UNIVERSITY

## SCHOOL OF OPTOMETRY

### Post Specification

#### 3-year Doctoral contract in Optics

[with an elective 36-month engagement period subsequent to graduation]

The ITF-funded project: Towards an Intelligent Eyeglass with Autocorrection, hosted by The Hong Kong Polytechnic University (QS ranking: 65<sup>th</sup>), is inviting applications for a 3-year doctoral contract to develop a smart adaptive eyeglasses combining a wearable optics visual analyzer and an adaptive corrective focus. The smart adaptive eyeglass aims to capture the natural accommodative dynamics in real-world environments and provide in-depth adaptive optics adjustment for visual training and correction of accommodative deficiencies in presbyopic and low-vision populations.

The candidate will join an international team of experts in the field of Optics (Dr Charles-Edouard Leroux, Dr. Alexander Goncharov, Dr Elie De Lestranger-Anginieur), Visual Science (Dr Elie De Lestranger-Anginieur, Prof. Allen Cheong, Prof George Woo), and Electronics (Prof Eric Cheng) including:

- the School of Optometry [Home | School of Optometry \(polyu.edu.hk\)](http://polyu.edu.hk) and the Department of Electrical and Electronic Engineering [Home | Department of Electrical and Electronic Engineering \(polyu.edu.hk\)](http://polyu.edu.hk) at the Hong Kong Polytechnic University,
- the MIPA laboratory [Laboratoire MIPA – Mathématiques, Informatique, Physique et Applications \(unimes.fr\)](http://unimes.fr) at the University of Nimes and,
- the Applied Optics group [Applied Optics - University of Galway \(nuigalway.ie\)](http://nuigalway.ie) at the University of Galway.

As a member of the ITF-project, the doctoral candidate will be primarily based in Hong Kong. His/her degree will be delivered by the School of Optometry – an international research center recognized for its high-impact research on refractive anomalies and age-related ocular diseases.

The appointee is expected to develop the wearable adaptive optics visual analyzer to be integrated into the eyeglass for real-time optical correction. The development will involve designing, building, and testing a small eyeglass-integrated wavefront sensor, building an adaptive control system for real-time adjustment of the wearer's focus, and incorporating extra modalities, such as time of flight distance sensing and eye tracking into the eyeglass.

### Qualifications

- Master's degree in Optics, or related science disciplines.
- Proficiency in programming languages, such as C/C++, Python, or Matlab.
- Proficiency in English.

### Appointment details:

- Full-time fixed-term contract (36 months).
- Salary: HK\$ 24,150/month.

- Subsequent to the obtention of the doctoral degree, a fresh 36-month engagement period will be allowed [with the possibility of applying for a higher level of salary allowance and/or additional living allowance].
- Workplace: The Hong Kong Polytechnic University (Hong Kong).
- Starting date: 1 July 2024

### **Application procedure**

Interested applicants, please send your resume to Dr Elie De Lestranger-Angineur at [elie.delestrangeangineur@polyu.edu.hk](mailto:elie.delestrangeangineur@polyu.edu.hk) for further information.

### **Application deadline**

Consideration of applications will commence on 18/03/2024 until the position is filled.

Date 18-03-2023