## 4-YEAR PHD POSITION IN DEVELOPMENTAL COGNITIVE NEUROSCIENCE & VISION REHABILITATION

## Institute of Information Systems, University of Applied Sciences Western Switzerland (HES-SO), Sierre, Switzerland &

## Service of Ophthalmology, –Fondation Asile des Aveulges and University of Lausanne, Switzerland

Applications are invited for a PhD position under the supervision of <u>Dr. Paul Matusz</u> on the project "Understanding the role of attention in visual rehabilitation: Amblyopia as a model" funded by the Swiss National Science Foundation Ambizione programme. The project uses a combination of ophthalmology, psychophysics, eye-tracking and EEG in school-age children with amblyopia ("lazy-eye syndrome") and healthy children. Its aim is to provide much-needed insights into the role of sensory, perceptual and attentional brain mechanisms in the aetiology as well as recovery from paediatric amblyopia, by testing promising novel treatments grounded in the latest advances in vision rehabilitation and cognitive neuroscience.

The project will reach its aim by achieving 3 main objectives: (1) By capitalizing on synergies across the latest advances in ophthalmology, cognitive neuroscience and experimental



psychology, we will identify the core sensory, cortical and cognitive deficits of paediatric amblyopia, (2) We will verify the efficacy of game platforms in rehabilitating functional vision in amblyopia, and (3) We will establish the relative importance of sensory and cortical-cognitive processes in mediating functional vision recovery in paediatric amblyopia.

The successful applicant will 1) hold or be in the course of obtaining a Master's degree in experimental psychology, cognitive neuroscience or a related discipline, 2) be fluent in speaking and writing in French and 3) have experience with testing pre-school and/or school-age children. The ideal candidate should also have a strong background in cognitive neuroscience of attention, object perception and/or multisensory processing as well as experience with using neuroimaging/electroencephalography techniques and eye-tracking. The applicant should have a demonstrated capacity for data analysis and scientific writing. Expertise in programming, mathematical modelling, and advanced statistical analyses would be highly desirable.

This project is part of a new interdisciplinary initiative between the HES-SO and University of Lausanne with synergies across neuroscience, neuro-technology, neuro-ophthalmology, and neuro-rehabilitation to improve the diagnosis and rehabilitation of sensory disorders. The IIS at the HES-SO is unique in Switzerland by being dedicated to integrating new technology and data approaches for innovation in medicine. The FAA includes the ophthalmology department of the University Hospital Center and University of Lausanne as well as a low-vision unit and school for visually-impaired children. The student will split his/her time between HES-SO and CHUV, allowing them to develop a wide range of skills via close interactions with clinicians, computer scientists, neuroscientists, neuropsychologists, biomedical engineers and vision rehabilitation practitioners.

The student would be enrolled in the Lemanic Neuroscience Doctoral Program of the University of Lausanne. This is a full-time post and the preferred start date is 1<sup>st</sup> January 2018 or as soon as can be arranged. Evaluation of application will begin the **1st of December 2017** until the position is filled. Contracts are for a fixed term of 12 months with the possibility of renewal up to a total duration of 48 months. Estimated gross salary is in the range of approximately 50kCHF per annum, and is determined in accordance with regulations of the Swiss National Science Foundation. Applications must include a motivation letter, CV, preprints/reprints, as well as references from at least 2 individuals. Application materials, as well as any informal inquiries, should be sent electronically to Dr. Matusz (Pawel.matusz@gmail.com). Full postal address: Paul Matusz, Institute of Information Systems, HES-SO, Techno-Pôle 3, 3960 Sierre, Switzerland.