Sensory Disorders JTC2020

Artificial Intelligence for Diagnosing Retinal Diseases (AI D)

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Blindness tremendously affects the quality of life of the patients. Treating and helping patients that suffer from diseases that lead to vision loss results in huge economic costs for society. Two major diseases that involve the light sensitive neural tissue at the back of the eye (the retina) are age related macular degeneration (AMD) and Stargardt disease (SD). To help patients optimally, the disease has to be diagnosed and treated as early as possible. In addition, if new treatments are introduced, sensitive methods should be available to monitor their effects. It is the goal of AI D to create these methods and techniques. The consortium will develop novel methods, with which the structure and function of retinal cells and cell circuitries can be studied and compared in patients and healthy subjects. New imaging techniques for the visualization of cell structures that are thought to be involved in AMD and SD will be established. Techniques for capturing the function of retinal cells and cell circuitries will be developed and refined. We expect a wealth of data that are difficult to analyse with conventional methods. Therefore, the large data sets will be analysed by novel techniques, such as artificial intelligence.