**Diabetes from 3D Modelling to Retinal Scan: A technical perspective**

**Abstract:** Diabetes concerns every family; it is a condition that impairs the body's ability to process blood glucose. Without careful management and control, diabetes can lead to a buildup of sugar in the blood, which can increase the risk of dangerous complications, including blindness, stroke, and heart disease. In Algeria, prevalence of diabetes in adults reached to 7.4% in 2021 according to IDF [1]. That is a total of 2,013,000 cases in Algerian adults which forms a challenge for the healthcare section. In this talk, we will shed some light on two techniques in our attempt to better understand the disease and/or detect it at its earliest stage. Namely, we will present computational approaches to give a sight to machines, on the one hand to quantify beta-cell mass in a pancreas of adult and diabetic mice and on the other hand to analyse fundus images via a segmentation-based deep learning approach [3].

**References:**

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