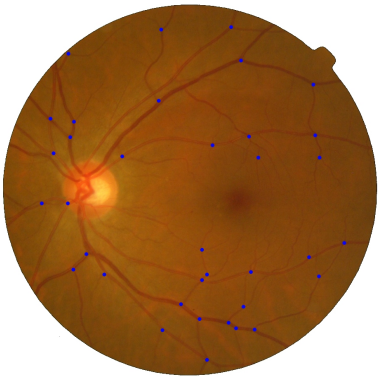
Note

This assignment is dedicated to retinal image processing. It should illustrate different parts of the image processing tools, for example: filtering, segmentation and some geometrical analysis. Groups of 2 (maximum) are allowed. Deadline will be fixed in class. Send your through over the campus website. Do not forget your names.

1 Introduction

Ophthalmologists need to observe the retina to detect diseases (like diabete). A wide field observation of the retina is sometimes necessary, but needs a registration process of several images (in order to create a panoramic image). The first step for this process is to detect the T-junctions (bifurcations) of the vessels.



2 Objectives

Your objective is to

- write a report to explain your method. Please cite your sources and references.
- code one or several matlab functions to detect these T-junctions.

At least one of the functions should have this prototype:

```
function T = t_junctions(retinal_image)
% retinal_image: color (RGB) image of the retina
% T            : binary image representing the T-junctions (points)
```

You are free to develop a method of your own or to look for scientific publications. Cite the references. An anti-plagiarism software will be employed.