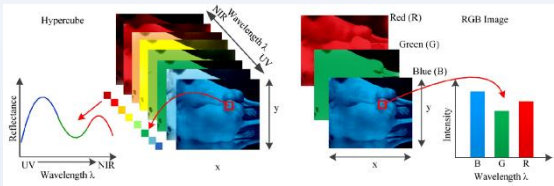


ABSTRACT

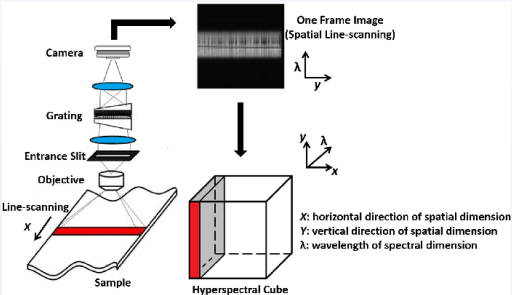
The image acquisition methods always have gotten a great importance for medical research.

In this project will be studied an emerging technology known as hyperspectral imaging based on the studied of different spectral bands to get important information from the subject of study.



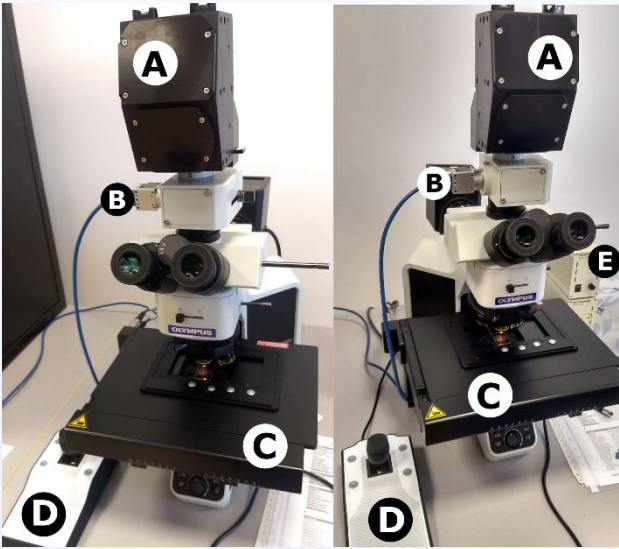
OBJECTIVES

Characterization and development of a software that allows to control and acquisition of microscopic hyperspectral images.



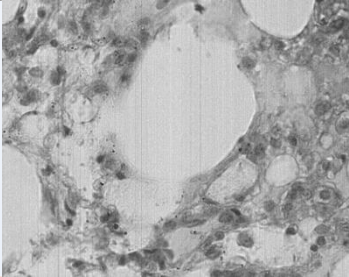
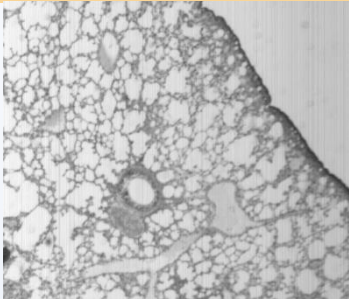
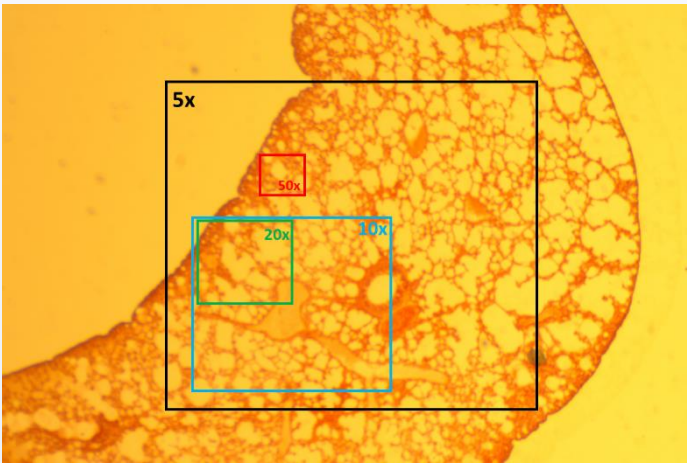
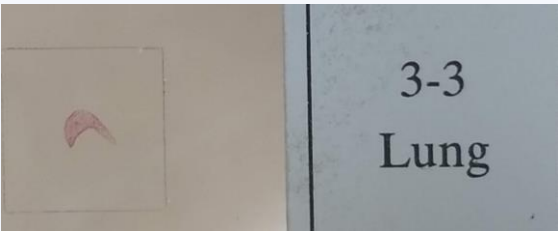
METHODOLOGY

1. To analyse and to study hyperspectral systems and applications
2. To characterize the acquisition system
3. To develop the software of the hyperspectral image acquisition subsystem
4. To integrate the system and to develop a graphic interface
5. To evaluate the image acquisition system
6. To document the project



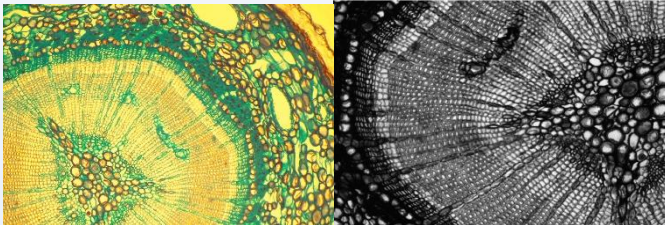
RESULTS

Results obtained of the second sample, the lung of a rat, at different magnifications



CONCLUSIONS

Hyperspectral Imaging is a very powerful technique for image acquisition but required of complex and specific systems with also specific software for a nice behaviour of the system. The studied system has been correctly characterized, thank to it, the applications have been correctly developed.



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- [2] Z. Jiang, Z. Yu, Y. Yu, Z. Huang, Q. Ren, and C. Li, "Spatial resolution enhancement for pushbroom-based microscopic hyperspectral imaging," *Appl. Opt.*, vol. 58, no. 4, pp. 850–862, 2019, doi: 10.1364/AO.58.000850.