



## Proceedings

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#### Open Source Systems In Digital Pathology

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##### *Introduction/ Background*

Digital pathology is rapidly becoming popular worldwide. It not only helps to understand the nature of the disease through the analysis of tissue-based images but also advances our statistical knowledge of the disease-related factors via high throughput analysis of the imaging data. Such analysis can be done by using either commercial or open source systems.

##### *Aims*

Generally in comparison to commercial software and depends upon the scientific question to be answered, implementation of open source systems tend to be more challenging. However, unlike commercial software, open source systems are free with a high level of flexibilities in their functionalities which in turn makes them suitable for designing complex image processing systems as well as performing massive data analysis.

##### *Methods*

Here I review OpenCV (Open Source Computer Vision), one of the most powerful library of programming functions mainly aimed at real-time computer vision and its application in Digital Pathology. I also briefly introduce the Image Segmentation & Registration (ITK) library which is another open-source, cross-platform system with extensive suite of software tools for image analysis. Finally I give an overview of two other open source software, i.e. Aladin and Topcat, developed mainly for astronomical applications, and their usage in Digital Pathology.

##### *Results*

Open source systems/software provide researcher with an alternative method to successfully address complex problems in Digital Pathology.