

COLOUR CONTRAST ENHANCEMENT BASED ON BRIGHT AND DARK STRETCHING FOR ZIEHL-NEELSEN SLIDE IMAGES

Abstract:

The Ziehl-Neelsen stain, also known as the acid-fast stain, was first described by two German doctors; Franz Ziehl (1859 to 1926), a bacteriologist and Friedrich Neelsen (1854 to 1894), a pathologist. It is a special bacteriological stain used to identify acid-fast Mycobacteria. The preparation of Ziehl-Neelsen slides require several procedures and the slide should be examined under oil immersion by using the 100X magnification. There are some factors that may degrade the image quality such as under expose, over expose, under stain and thick samples. Thus, the images should be enhanced to improve the image quality in term of contrast and intensity. This paper proposes a contrast enhancement technique based on bright stretching and dark stretching algorithms for color images. Although the adopted image processing technique is quite simple, the results indicate that our method may have some potential to be used for improving the quality of Ziehl-Neelsen slide images.