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**Abstract**

Non Uniform Illumination in an image often leads to diminished structures and inhomogeneous intensities of the image due to different texture of the object surface and shadows cast from different light source directions. This effect is adverse in case of biological images. Techniques such as segmentation, edge detection and contrast or brightness enhancement using

Histogram Equalization could not differentiate between some of the particles and their background or neighboring pixels. This paper is aimed to remove these problems in microscopic image processing by removing the problem of non-uniform background illumination from the image using Morphological Opening, Adaptive Histogram Equalization and Edge detection techniques for particle analysis .A comparative study have been shown and a new algorithm is proposed for removing the problem of non-uniform background illumination in biological images for visualizing and estimation of growth of fungus in a particular sample to transform the input image to its indexed form with maximum accuracy involving morphological openings and structuring element design using Morphological Processing.

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Computer Science

## Index Terms

Image Processing

## Key words

Morphological opening  
Equalization

Skeletonization

Histogram

Thresholding

Structuring Element.

