# Intra-Operative Medical Fluorescence Imaging Improvement

Rob Jones
Department of Electrical Engineering, Stanford University

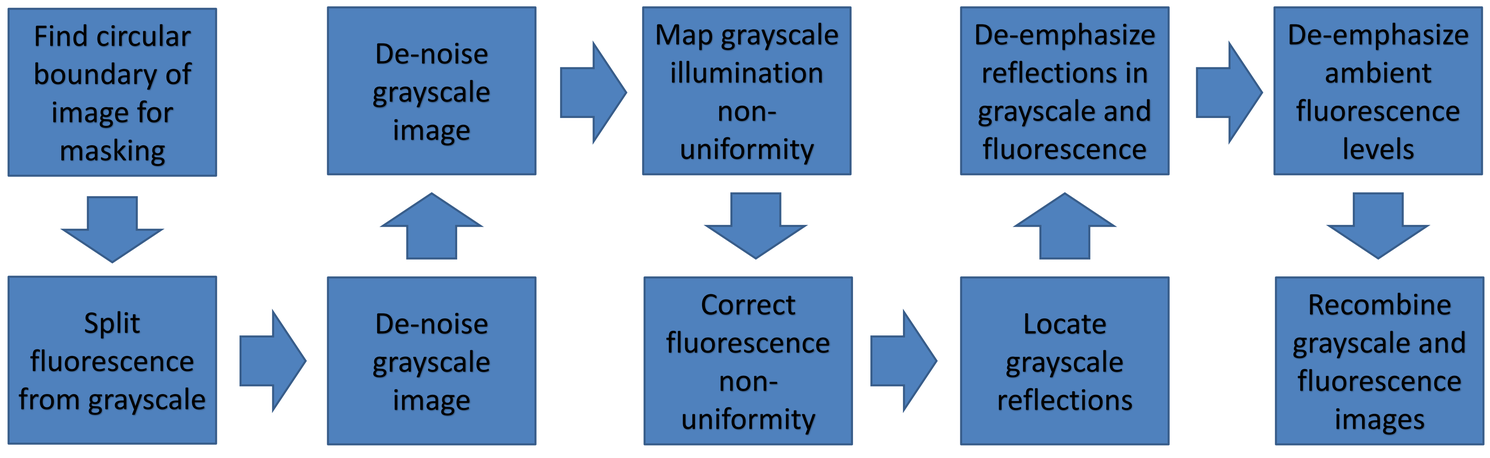
## Motivation

Several surgical disciplines have relied solely on visible spectrum imaging for years. Many exciting developments are emerging in the field of hyperspectral fluorescent dyes that can be designed to help locate critical anatomy and pathology or visualize blood flow. Often the quality of the fluorescence images is substandard compared to visible light images and could use improvement.

## Related Work

1. Xiujie Qu, Fu Zhang, and Huan Jia, “An Efficient Adaptive Denoising Algorithm for Remote Sensing Images,” Mathematical Problems in Engineering, vol. 2013, Article ID 207461, 5 pages, 2013. doi:10.1155/2013/207461
2. Yuanjie Zheng, Stephen Lin, Sing Bing Kang, Rui Xiao, James C. Gee, Chandra Kambhamettu. Single-Image Vignetting Correction from Gradient Distribution Symmetries. IEEE Transactions on Pattern Analysis and Machine Intelligence, Volume 35 Issue 6.
3. Shafer, S. A. (1985), Using color to separate reflection components. Color Res. Appl., 10: 210–218. doi:10.1002/col.5080100409

## Fluorescence Improvement Algorithm




## Experimental Results