Reviewer's report

**Title:** Automated Measurement of Heterogeneity in CT Images of Healthy and Diseased Rat Lungs using Variogram Analysis of an Octree Decomposition

**Version:** 1  **Date:** 10 March 2013

**Reviewer:** Ayman S El-Baz

**Reviewer's report:**

**Paper Summary:**
The authors presented a computer graphic method to assessing heterogeneity in lung images. They combined a three-dimensional (3D) computer graphics method – octree decomposition – with a geostatistics-based approach of assessing spatial relationships.

**Major Compulsory Revisions**

1. They mentioned in the abstract that the existing methods fall short in their utility in such problems without making any comparison with these approaches.


3. They can test the robustness of their system by making ROC analysis.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

**Statistical review:** Yes, and I have assessed the statistics in my report.