

## **PhD Dissertation Defense**

**Candidate:** George Siaway

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**Title:** Evaluation of The Relationship Between Indoor Radon And Geology, Topography And Aeroradioactivity

**Dissertation Director:** Dr. Douglas Mose

### **ABSTRACT**

It would be extremely useful to determine if, on a county-size scale, there might be some predictability to indoor radon. One approach is to make an application of GIS and 3D visualization to explore the radon problem in Fairfax County, to evaluate spatial autocorrelations between indoor radon and geology, elevation, slope, and aeroradioactivity. It was found that there is a tendency for indoor radon to be greater in some parts of Fairfax County in homes on some geological units, in homes constructed on lower slopes, on sites at lower elevations, and in areas of higher aeroradioactivity. However, none of these physical variables exhibits a strong enough control on indoor radon to be used to construct radon potential maps that carry a high confidence of accuracy.