

## Application of Organic Semiconductor for Direct Ionizing Radiation Detection

Shae Cole  
 Advisor: Anna Erickson  
 Georgia Institute of Technology  
[scole45@gatech.edu](mailto:scole45@gatech.edu)

### Abstract:

Organic based semiconductors have been extensively studied and have found uses in solar cells, LED's, detectors, and transistors. The proposed research involves the fabrication of a photodiode based organic photodetector for direct ionizing radiation detection. Several advantages are possible with the use of organic based semiconductors including low-cost fabrication, flexible material, and approximate water equivalence for dosimetry purposes. A brief picture of the proposed structure is shown below for reference with the PM6:Y6 as the copolymer film that represents the active region.

