

Dear Faculty, IGERT Fellows, IGERT Associates and Students,

You are cordially invited to attend a Seminar presented by Asong Tambo.
Please plan to attend.

Asong Tambo

IGERT Fellow

Date: Friday, Oct 17, 2014

Location: Bourns A265

Time: 11:00am

Integrated Model for Understanding Pollen Tube Growth in Video

ICPR 2014

*Winner of IBM Best Student Paper in Biomedical Image Analysis Track

Abstract:

Pollen tube growth is an essential part of the sexual reproductive process in plants. It is the result of a complex interaction of cytoplasmic contents (proteins, ions, cellular structures, etc.). Existing pollen tube models use differential equations to represent these complex intra-cellular interactions that lead to growth. As a result of this complex nature, these models are not used to verify the shape and growth behavior observed in living cells. We present a method of analyzing the growth behavior of pollen tubes in experimental videos through affine transformations on the detected cell tip. The method relies on underlying biological knowledge about the growth process and leverages these processes to determine tip morphology. Experimental results on videos of growing pollen tube cells show that our method is superior to the current method of treating cell tip morphology.

