

The School of Natural Sciences

Presents

Mathematical Problems Arising in the Treatment of Breast Cancer

Seminar Series – Physics & Applied Mathematics.

Prof. David Isaacson

Rensselaer Polytechnic Institute, Troy New York

Monday, November 15, 2010

03:00 pm – 04:15 pm

COB 276

ABSTRACT

Some of the problems that arise in treating cancer patients with chemotherapy are, which drugs to choose, what doses to give, how frequently should the drugs be given, and in what order should different drugs be given. It will be explained how mathematical models of cancer proliferation, and treatment by chemotherapy, can be given, and used, to help guide the solution to these treatment planning questions.

A specific example will be given to illustrate how a mathematical model of breast cancer treatment can be used to explain why the order of administration of Doxorubicin, Cyclophosphamide, Methotrexate, and Fluorouracil may make a significant difference in outcome in the adjuvant treatment of breast cancer.



BIOGRAPHY

Professor Isaacson is Professor of Mathematical Sciences and Professor of Computer Science at Rensselaer Polytechnic Institute in Troy, New York. He has done extensive work in both mathematical physics and medical imaging. He received the Ph.D. in Mathematics from New York University in 1976.

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