

Monday, June 14, 2010

Final Report for project title:

Travel to Israel
to develop a joint proposal for a partnership with Ben-Gurion
University of the Negev and the Center for Advanced Studies in
Mathematics

My research trip to Israel April 22- May 2 2010.

1. **Visit** to the Center for Advanced Studies in Mathematics at Ben-Gurion University of the Negev.

Informal presentation: Vancouver Island University Research Programs.

2. **Presentation** at the scientific seminar at Ben-Gurion University of the Negev,
Title: Open Nonlinear Problems in Mathematical Biology.

The meaning and limitations of certain mathematical models of tumor growth are discussed, and some new derivations of the existing models are given. A theoretical justification for modified Gompertz's law of growth for tumors is presented. Existence, uniqueness and stability problems are addressed.

3. **A Joint Proposal** for a Partnership with Ben-Gurion University of the Negev,
Collaborative Research Project with Prof. L. Berezansky (Math Department at Ben-Gurion University of the Negev)

Title: New Spatial Models of Marine Reserve Areas

In this project we formulated new marine reserve areas (MRA) models that incorporate spatial characteristics, dispersal with delay loss, variable fishing mortality and harvesting rates. We believe that this is the first time such spatial models of marine reserves have appeared in the literature. In contrast to earlier models, our models are relatively general, generate very complicated dynamics and may be used to depict a wide variety of circumstances regarding the design of marine reserves, lead to accurate estimates and predictions, and thus are worth focusing on.

4. **Budget.** Monies spent: \$ 2,528. Monies received: \$1000 (See attached copies).

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