

A Report on the International Conference

“Differential Equations and Applications in Mathematical Biology”

which was held on July 18-23, 2004 in Nanaimo, British Columbia, in the framework of PIMS Period of Concentration in Mathematical Ecology and Evolution 2003-05

Organisers: E. Braverman (University of Calgary, Canada, coordinator), L. Idels (Malaspina University-College Nanaimo, Canada, local coordinator), L. Berezansky (Ben-Gurion University, Israel), A. Ponosov (Institutt for Matematiske Fag, Norway), E. Litsyn (Ben-Gurion University, Israel), Michael Y. Li (University of Alberta, Canada),

Plenary and invited speakers: Fred Brauer (UBC), Herb I. Freedman (U of A), Odo Diekmann (Utrecht University, Netherlands), Istv'an Györi (University of Veszprém, Hungary), Thomas Hillen (U of A), T.A. Burton (Northwest Research Institute, WA, USA), I.P. Stavroulakis (University of Ioannina, Greece), J.T. Schnute (Pacific Biological Station, BC)

Contributed speakers: B. Aggarwala (U of C), H. Akça (Saudi Arabia & Turkey), L. Berezansky (Israel), E. Braverman (U of C), C. Carrillo (U of Oxford, UK), J.C. Clements (Dalhousie U), R.S. Dahiya (Iowa, USA), A. Edwards (Dalhousie U), K. Ghanbari (Iran), Ya. Goltser (Israel), S. Hota (TN, USA), L. Idels (Malaspina University College, BC), A. Ioffe (Israel), P.S. Kim (Stanford, USA), E. Litsyn (Israel), E. Meron (Israel), S.M. Moghadas (Institute for Biodiagnostics, NRC Canada, MB), S.I. Niculescu (France), M.C. Nucci (Italy), A. Ponosov (Norway), A. Shindiapin (Mozambique), B. Shklyar (Israel), D. Shoikhet (Israel), R. Tauraso (Italy), M.I. Teboh-Ewungkem (PA, USA), J Turi (TX, USA), B. van Brunt (New Zealand).

The conference brought together a wide international forum of experts in mathematical biology and ecology, delay, integral, differential and difference equations, population dynamics, control and optimization, numerical methods for dynamical systems. Such world known experts in the field of Mathematical Biology as Fred Brauer (UBC), Herb Freedman (U of A), Odo Diekmann (Netherlands) and Thomas Hillen (U of A) and some others came to give plenary talks at the meeting. The part of delay differential equations was presented by such recognized mathematicians as T.A. Burton (WA, USA), I. Györi, I.P. Stavroulakis and many others. David Shoikhet (Israel) organized a special session on Complex Dynamical Systems and Applications in Mathematical Biology.

The opening ceremonies on July 19 included greetings on the part of the Malaspina University College and Math Department in MUC (Ian Bailey, chair), of the Scientific Committee (Fred Brauer, UBC), PIMS (Thomas Hillen, U of A, coordinator of PIMS CRG in Mathematical Ecology and Evolution) and Organizing Committee (Elena Braverman, coordinator, U of C), which was followed by 3 plenary lectures. There were 2 parallel sessions in the framework of the conference.

Presentations at the conference covered the topics of modeling infectious age-dependent diseases, industrial applications, population dynamics, including spatial and structured

models, especially for marine populations (fish, shrimps etc.), mathematical modeling in medicine, qualitative theory of functional differential equations: stability, bifurcations, oscillation, numerical methods, complex dynamics and controllability.

The geography of the conference involved participation from Europe (Netherlands, UK, France, Norway, Greece, Hungary), Asia (Israel, Iran, Saudi Arabia, Turkey), Africa (Mozambique), North America (US, Canada) and New Zealand; in Canada - from the East (Dalhousie University, Halifax, NS) to the West (Vancouver Island, Nanaimo, Malaspina University College), including Alberta (U of A and U of C), Manitoba and Quebec. Among graduate students participating in the conference, Peter Kim (Stanford, USA) made a half-an-hour presentation which arose a lively discussion. Apart from graduate students, there were Canadian and foreign postdoctoral fellows, university and colleges faculty members and some lecturers from biological research institutions (such as Institute for Biodiagnostics of NRC and Pacific Biological Station, Fisheries and Oceans Canada).

The conference had an extensive social program. It involved a guided tour at Pacific Biological Station, Department of Fisheries and Oceans. In the framework of another tour the participants could observe the unique plants and trees of the Cathedral Grove (see, for example, <http://web.mala.bc.ca/education/sc403/cathedralgrove/Cathedral%20Grove.htm>) and view the Vancouver Island from the top of Mount Washington.

The conference was supported by Malaspina University College, Pacific Institute for Mathematical Sciences and Alberta Ingenuity Fund. The webpage of the conference was <http://web.mala.bc.ca/math/conference/> A new site with conference pictures (lectures and social program) is being constructed by Mr. Kelly Choo.

E. Braveman, University of Calgary, July 29, 2004