

Centre for Fisheries and Aquaculture Management and Economics (FAME); and the Nordic Network in Resource and Fisheries Economics and Management (NorFame) and the Nordic Marine Academy in cooperation with Faculty of Agriculture and Forestry, University of Helsinki, Finland is arranging:

Ph.D.-course on:

Game Theory and Fisheries

20th- 24th August 2007 in Helsinki, Finland

GUEST LECTURES

Dr. Marko Lindroos, University of Helsinki (Economics), Finland

Prof. Veijo Kaitala, University of Helsinki (Ecology), Finland

Dr. Maria Dementieva, University of Jyväskylä, Finland

Ass. Prof. Pedro Pintassilgo, University of Algarve, Portugal

Ass. Prof. Lone Kronbak, University of Southern Denmark, Denmark

Course description

The aim of the course is to explore the advances and recent methods of game theory applied to economics of fisheries management. During the course students learn the basics of cooperative and non-cooperative game theory and how these can be applied to fisheries problems. We do not expect the students to have any basic knowledge of game theory, yet some knowledge of it would be beneficial. The course is mainly targeted to PhD students in fisheries economics, but is open to PhD students and post docs from other disciplines as well.

The course includes 30 hours of lectures during one week, Monday 20 to Friday 24, August 2007. Credits are 5 ECTS for an approved participation of the course. In addition to attending the lectures the course will include exercises and a joint report among 1-3 participants on a relevant game-theoretical topic of their choice of interest.

The course is divided in three parts: **I Theory, II Applications, III Practice.**

I Theory

The course begins by exploring the essence of game theory and why and how it should be applied to fisheries and fisheries economics. This introduction lecture is followed by the basics of non-cooperative games and cooperative games. The content of the theory lectures is application oriented and we go through already here a number of simple applications to fisheries problems. The final lecture concerns the important topic of dynamic/differential games.

II Applications

The aim of this part is to give an overview of the existing applications. A further aim is that after the course the students would be able to independently apply the methods to the problems of their interest. We begin by a historical lecture describing the development of non-cooperative and cooperative game applications and the important recent developments where these approaches have been combined. We then proceed to detailed analysis of benefit sharing and the partition function game approach. These two approaches have been recently among the most discussed topics in environmental and resource economics in general.

III Practice

Finally, we provide the students with some basic knowledge of numerical game-theoretical modeling by using the Matlab software. The aim here is simply to introduce bioeconomic and game-theoretic modeling by applying Matlab's computer language.

Includes:

- a) Total 27 hours of lectures
- b) 8 hours of team exercises during the course
- c) a report (journal manuscript) after the course including 1-3 students and 1-2 supervisors

Application

Deadline: April 17, 2007

Download the application form from

<http://armauer.uib.no/nma/default.asp?k=16&id=79&aid=69> and send it to:
marko.lindroos@helsinki.fi

Twenty research students and young researchers are selected based on the following criteria:

1. NMA membership of the student's University
2. Experience/interest in game theory applications
3. Experience/studies in economics, ecology and applied mathematic.

Selected students will be informed April 27.