Kalman Filter

$\dot{x}(t)=rx(1-x/K)$

Runge-Kutta
Algorithm

$x_{t+\Delta t}=f_{RK}(x_t)$

**NILS Science
and Sustainability
International Seminar on**

Continuous vs
Discrete-Time
Bioeconomic Models:
Seasonal Fisheries

Tuesday, 17 November 2015, 11.45 h.

SEMINAR PROGRAMME

11.45-12.00
Welcome speech: NILS science and sustainability project "Stochastic bioeconomic and population dynamics modeling of collapsed fisheries"
Speaker: José María Maroto Fernández (UCM)

12.00-12.30
A bridge between continuous and discrete-time bioeconomic models: Seasonal fisheries
Speaker: José María Maroto Fernández (UCM)

12.30-12.45
Questions and Answers

12.45-13.15
Stock assessment methods and reference points for Northeast Atlantic fish stocks
Speaker: Carmen Fernández (ICES)

13.15-13.30
Questions and Answers

13.30-14.00
Some important aspect in Ecosystem Based Fishery Management (EBFM) of commercial fisheries
Speaker: Leif K. Sandal (NHH)

14.00-14.15
Questions and Answers

14.15-14.45
From deterministic to stochastics: modeling and numerics
Speaker: Carlos Vázquez Cendón (UDC)

14.45-15.00
Questions and Answers

15.00-16.00
Lunch

16.00-16.30
Battling seasonality – experiences from norwegian interventions to smooth supply
Speaker: Øystein Hermansen (NOFIMA)

16.30-16.45
Questions and Answers

SPEAKERS

Carmen Fernández (Ph.D. in mathematics, Universidad Autónoma de Madrid) works as vice-chair of the Advisory Committee of the International Council for the Exploration of the Sea (ICES). She has a background in mathematics and statistics and her main areas of interest are in fish stock assessment and related aspects of advice for fisheries management (such as the development of reference points and the evaluation of fisheries management plans). In her current job, she oversees many of the ICES fisheries advisory processes and the advice provided by ICES. She has also participated in meetings related to fisheries stock assessment and reference points in other parts of the world, such as the USA, South Africa and Latinamerica.

Øystein Hermansen is a scientist at the Norwegian Institute of Food, Fisheries and Aquaculture Research (NOFIMA) which carries out research and development for the fisheries, aquaculture and food industries. He has published in seasonal fisheries, marine policy, fisheries and aquaculture, and climate impact on fisheries. He has been particularly involved in studying effects of several government introduced regulatory schemes. He also served as secretary for two government appointed expert groups on fisheries policy.

José María Maroto is Associate Professor in Operations Research, Statistics and Economy at the Dept. of Statistics and Operations Research II at Complutense University of Madrid (UCM). He is also member of the Institute of Interdisciplinary Mathematics (IMI) at UCM. He has published in economy, marine resource economics, applied mathematics, and ecological economics. His research interests include stochastic dynamic optimization, non-concave dynamic optimization, the danger of collapse of commercially valuable fish stocks, population dynamics of collapsed fisheries, and the lack of recovery of collapsed fisheries. He has been involved in many research projects funded by both National and International institutions. Currently, he coordinates the NILS Science and Sustainability project "Stochastic Bioeconomic and Population Dynamics Modeling of Collapsed Fisheries" funded by the EEA Financial Mechanism. The Norwegian School of Economics (NHH) is the partner institution of this project.

Leif Sandal is Full Professor in Applied Mathematics, Management Science and Natural Resource Modeling at Norwegian School of Economics (NHH). He has published widely in resource economics, applied mathematics, operations research, and statistics. He has supervised many PhD thesis, authored more than 80 papers in scientific journals, been appointed as invited speaker in a large number of international conferences. He pioneered the use of stochastic optimization and perturbation methods in fisheries economics. In 2006 he initiated a unique international Master and PhD Programme at NHH in Energy, Natural resources and the Environment (ENE) and he is currently the director of the ENE Center at NHH and deputy head of the department of Business and Management Science. He is on the Executive board of Science City Bergen and is heading the Management Science branch of the Norwegian National Research School in Business Economics and Administration.

Carlos Vázquez Cendón is Full Professor in Applied Mathematics at the Dept. of Mathematics at University of A Coruña (UDC), where he also coordinates the research group "Mathematical and numerical models in engineering and applied sciences". His research can be framed into the modeling, mathematical analysis and numerical methods, including computer implementation, for problems arising in different fields of engineering and applied sciences, for example, in finance and insurance, environment, geophysics, mechanical engineering and biology. He has supervised 10 PhD thesis, authored more than 80 papers in scientific journals, been appointed as invited speaker in a large number of international conferences. He has also a large experience as responsible of scientific projects and contracts with the industry. In addition, he is the coordinator of a Master on Industrial Mathematics and an associated PhD Program in the UDC, jointly delivered by several universities. He is currently associate editor in Journal of Computational Finance, SIAM Journal of Scientific Computing, Applied Mathematics and Computation and SeMA Journal, among others. Also, he participates in the European Marie Curie ITNs "Strike" and "Wakeupcall".

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