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BOOK OF ABSTRACTS

UNIVERSITÄT SIEGEN

Ministerium für Innovation, Wissenschaft, Forschung und Technologie des Landes Nordrhein-Westfalen

EURO

Deutsche Forschungsgemeinschaft DFG

GOR

INFORM

3 - Comparative forecasting and a test for persistence in the el nino southern oscillation

Belinda Chiera, School of Mathematics & Statistics, University of South Australia, South Australia, Australia., 5001, Adelaide, SA, Australia, belinda.chiera@unisa.edu.au, *Jerzy Filar*, *Daniel Zachary*, *Adrian Gordon*

We present an analysis of two separate single-indicator forecasting methods for the El Nino Southern Oscillation based on oscillation persistence. We use the Southern Oscillation Index (SOI) to produce 5 month forecasts and a Bayesian approach to explore SOI persistence with results compared to a benchmarking Taylor Series expansion. We find signal persistence is important when forecasting more than a few months and the models presented may provide a relatively simple approach to environmental risk forecasting in situations where the underlying phenomenon exhibits substantial persistence.

4 - Uncertainty from model calibration — global models and regional data

Bas van Ruijven, Netherlands Environmental Assessment Agency (PBL), Antony van Leeuwenhoeklaan 9, 3712 MA, Bilthoven, bas.vanruijven@pbl.nl, *Jeroen P. van der Sluijs*, *Detlef van Vuuren*, *Peter Janssen*, *Peter Heuberger*, *Bert J.M. de Vries*

Uncertainties in energy demand modelling allow for the development of different models, but also leave room for different calibrations of a single model. We apply an automated procedure to analyse calibration uncertainty in energy use modelling of the TIMER 2.0 global energy model. The model simulates energy use on the basis of energy intensity changes, technology development and price responses. We found that different implementations of these factors yield behavioural model results. Model calibration uncertainty is identified as influential source for variation in future projections.

■ TD-45

Tuesday 12:55-14:15
GSI - S 33

III: Societal Complexity and Healthcare

Stream: Methodology of Societal Complexity

Invited session

Chair: *Cor van Dijkum*, Methodology and Statistics, Utrecht University, Heidelberglaan 1, 3508TC, Utrecht, Utrecht, Netherlands, c.j.vandijkum@uu.nl

1 - The complexity of the communication between gp and patient

Cor van Dijkum, Methodology and Statistics, Utrecht University, Heidelberglaan 1, 3508TC, Utrecht, Utrecht, Netherlands, c.j.vandijkum@uu.nl

The communication between a GP and a Patient is far more complicated than was thought in the medical profession. The social aspect of the communication, not well included in the medical education, is nowadays accepted as an element that can facilitate the medical diagnosis. Complex non linear models has to serve as a foundation for a model of the Patient-GP interaction. In earlier simulation studies the non chaotic dynamics of a model is reproduced with the aid of simulation software. In this paper the non linear chaotic dynamics of such models is further investigated by using Matlab.

2 - Economic impact of new malaria diagnostic devices on the malaria control program in brazil

Breedge Quinn, University Twente, Oberdorf, 53804, Much, NRW, Germany, b.p.quinn@student.utwente.nl, *Marjan Hummel*

This study focuses on the economic impact of a new malaria diagnostic device on the Malaria control processes in Brazil. Current diagnostic tools have disadvantages which prevent the total coverage of malaria risk regions. As a consequence, there is a high demand for a portable, fast, accurate device which can be used in remote settings. The objective of this research is to study the cost-effectiveness of new diagnostic devices. Process mapping and Markov modeling are used to gain insight in the expected cost reduction of overtreatment and improvement of health benefits for the patient.

3 - The complexity of healthcare handled by clients with the aid of Internet

Cor van Dijkum, Methodology and Statistics, Utrecht University, Heidelberglaan 1, 3508TC, Utrecht, Utrecht, Netherlands, c.j.vandijkum@uu.nl

E-health is improved by doing action-research. Decision support systems were developed to help(potential) clients with choosing professional help; to overcome their psychic problems and to participate in the modern society concerning work, housing and free time. By involving (ex)clients as associated researchers DSS knowledge was generated from inside experience. The decision support systems were also made interactive, to involve visitors of the website to add their own (ex) client's knowledge to the website, and made it available for other (potential)(ex)clients.