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Technical Seminar Organized by the IEEE Ottawa: Joint Chapter of Signal Processing, Oceanic Engineering, and Geoscience and Remote Sensing ([SP, OE, & GRS](#)), and the Joint Chapter of Communications Society and Broadcast Technology Society ([ComSoc/BTS](#)).

All interested IEEE members and non-members are invited to attend a seminar on:

The Particle Filtering Methodology in Signal Processing

By Prof. Petar M. Djuric,
Department of ECE, Stony Brook University, NY, USA

When: Monday, November 23rd, 2009, TIME: 2:00 PM - 3:00 PM

Where: University of Ottawa, School of Information Technology and Engineering (SITE-5084), Boardroom, 5th floor, 800 King Edward Avenue, Ottawa, Ontario, Canada. Map (look for SIT): URL: <http://www.uottawa.ca/maps/>

Admission: Free Registration. Please [contact in advance to reserve seats](#).

Refreshments: Will be served 15 minutes before the start of the meeting.

Abstract

Particle filtering is a Monte Carlo – based methodology for sequential signal processing. It is designed for estimation of hidden processes that are dynamic and that can exhibit most severe nonlinearities. Also, it can be applied with equal ease to problems that involve any type of probability distributions. Therefore, it is not surprising that particle filtering has gained immense popularity. In this talk, first, the basics of particle filtering will be provided with description of its essential steps. Then some important topics of the theory will be addressed including Rao-Blackwellization, smoothing, and estimation of constant parameters. Finally, a presentation of most recent advances in the theory will be given. The talk will contain signal processing examples which will aid in gaining valuable insights about the methodology.

Biography

Petar M. Djuric (Fellow, IEEE) received his B.S. and M.S. degrees in Electrical Engineering from the University of Belgrade, in 1981 and 1986, respectively, and his Ph.D. degree in Electrical Engineering from the University of Rhode Island (1990). From 1981 to 1986, Prof. Djuric was a Research Associate with the Institute of Nuclear Sciences, Vinca, Belgrade. Since 1990, he has been with Stony Brook University, where he is Professor, Department of Electrical and Computer Engineering. His research interests are in the area of statistical signal processing, and his primary interests are in the theory of modeling, detection, estimation, and time series analysis and its application to a wide variety of disciplines including wireless communications and biomedicine.

Prof. Djuric has served on numerous technical committees for the IEEE and has been invited to lecture at universities in the United States and overseas. His SPS activities include: Vice President-Finance (2006-09); Area Editor of Special Issues, IEEE Signal Processing Magazine (2002-05); Associate Editor, IEEE Transactions on Signal Processing (1994-96 and 2003-05); Chair, SPS Signal Processing Theory and Methods Technical Committee (2005-06); and Treasurer, SPS Conference Board (2001-03). He is an Editorial Board Member, IEEE Journal on Special Topics in Signal Processing, Elsevier Digital Signal Processing, Elsevier Signal Processing, and the EURASIP Journal on Wireless Communications and Networking. Prof. Djuric is an IEEE Fellow, as well as a Member of the American Statistical Association and the International Society for Bayesian Analysis.

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