

# Colorado State University

presents



## Dr. Pascal Bouvry

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Communications (CSC) Unit,  
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University

## Abell Distinguished Lecture in Computer Engineering

in conjunction with the  
Electrical and Computer Engineering Department and  
Computer Science Department Seminar Series

### “Optimization of Strategies/Heuristics for Delay Tolerant Ad-Hoc Networks”

Monday, April 21, 2008

Reception 10:30 am

Lecture 11:00 am to 12:00 noon

Shepardson Room 118

### ABSTRACT

Delay tolerant mobile ad-hoc networks (DTN) and hybrid networks require new generations of protocols and middleware in order to enable context-aware services and mobile grid computing. The underlying optimization issues are multi-objective by nature: e.g. optimizing the bandwidth use, the cost and efficiency of such services. We propose an approach based on the use of meta-heuristics for fine-tuning parameters of distributed lightweight strategies/heuristics for local decision-making. The fitness function representing the global behavior of the network relies on network characteristics such as network density and mobility models. We demonstrate the use of this approach for broadcasting and information gathering on DTNs, for trust management for MANETs, and for choosing injection points for hybrid networks. New generations of meta-heuristics such as co-evolutionary and cellular genetic algorithms are used for the optimization process.

## **SPEAKER BIOGRAPHY**

Pascal Bouvry earned his undergraduate degree in Economical & Social Sciences and his Master degree in Computer Science with distinction ('91) from the University of Namur, Belgium. He went on to obtain his Ph.D. degree ('94) in Computer Science with great distinction at the University of Grenoble (INPG), France. His research at the IMAG laboratory focused on mapping and scheduling task graphs onto Distributed Memory Parallel Computers. Next, he performed post-doctoral research on coordination languages and multi-agent evolutionary computing at CWI in Amsterdam, the Netherlands. Dr Bouvry gained industrial experience as manager of the technology consultant team for FICS (NASDAQ: SONE) a world leader in electronic financial services. Next, he worked as CEO and CTO of SDC, a Saigon-based joint venture between SPT (a major telecom operator in Vietnam), Spacebel SA (a Belgian leader in Space, GIS and Healthcare), and IOIT, a public research and training center. After that, Dr. Bouvry moved to Montreal as VP Production of Lat45 and Development Director for MetaSolv Software (NASDAQ: ORCL), a world-leader in Operation Support Systems for the telecom industry (e.g. AT&T, Worldcom, Bell Canada, etc.).

Dr. Bouvry is currently heading the Computer Science and Communications (CSC) research unit of the Faculty of Sciences, Technology and Communications of Luxembourg University, and serving as Professor. Pascal Bouvry is also a member of the administration board of CRP-Tudor and a member of various scientific committees and technical workgroups (ERCIM WG, COST TIST, LIASIT, etc.).