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Title: "Novel Routing and Protection Algorithms for Multicasting in Optical WDM Networks with Arbitrary Mesh Topologies"

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at the University of Cyprus

Wednesday, 5th September 2012, 17:00 – 18:30

Room ΚΕΝΤΡ. ΠΤΕΡ. - E113, Old Campus
University of Cyprus

Abstract:
Over the last years, the size and complexity of telecommunications networks has steadily increased. The number of Internet users, as well as the average usage time per person, are increasing every year, and this increase will continue for the next several years. Fibber-optic communication systems that provide a huge available amount of capacity and low bit error rates are widely used as the telecommunication medium of choice that is able to supply high-speed and reliable communications. Optical networks where the signal stays in the optical domain throughout and provisioning and fault recovery functionalities are dealt with at the physical layer have been at the forefront of research for the last few years, especially for unicast applications. However, new applications are currently emerging (such as video-on-demand, teleconferencing, distance-learning, etc.) that require multicasting in the physical domain. This presentation addresses precisely the problem of survivable multicast routing in wavelength-division multiplexed (WDM) optical networks with arbitrary mesh topologies. A novel multicast protection algorithm is presented. The developed approach has enhanced performance in terms of average cost and blocking probability, compared to the existing ones. The proposed algorithm has polynomial time complexity. Its enhanced performance is proven through examples and simulations.

Biography:
Costas K. Constantinou received his Diploma from the Department of Physicsat the Aristotelion University of Thessaloniki, Greece in 2004. In January 2005 he joined the Department of Electrical and Computer Engineering at the University of Cyprus as a PhD student where he has been conducting research initially on telecommunication systems and subsequently on optical networks.

Costas has performed research for several research projects funded by the Cyprus Research Promotion Foundation. He has published 2 journal articles, 4 articles in refereed conferences, and he currently has several journal and conference papers under preparation. His research interests include routing and protection algorithms in arbitrary mesh optical networks for multicast and broadcast applications. Costas is a student member of IEEE.