



**IEEE**

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Robotics and Automation/Control Systems Joint Chapter

*Jointly presents*

**SEMINAR SERIES ON CHAOS, CONTROL AND COMPLEX NETWORKS**

**Analysis of Dermoscopic Images for Computer-Assisted Diagnosis**

**Prof. Maciej Ogorzalek**

Jagiellonian University, Poland, and Hong Kong Polytechnic University

Date and Time: Friday, 24 April 2009, 4:30pm – 5:30pm

Venue: Room B6605, City University of Hong Kong

Reception starts at 4:15pm

(Language: **English**)

**Abstract**

Dermoscopy is a special photography technique which enables taking photos of skin lesions in chosen lighting conditions. Digital photography allows for seeing details of the skin changes under various enlargements and coloring. Computer-assisted techniques and image processing methods can be further used for image enhancement and analysis and for feature extraction and pattern recognition in the selected images. Special techniques used in skin-image processing are discussed in detail. Feature extraction methods and automated classification techniques based on statistical learning and model ensembling techniques provide very powerful tools which can assist the doctors in taking decisions. Performance of classifiers will be discussed in specific case of melanoma cancer diagnosis. The techniques have been tested on a large data set of images.

**About the Speaker**

Maciej Ogorzalek is professor and Head of the Department of Information Technologies, Jagiellonian University, Krakow Poland and DSS Chair professor of Bio-signals and Systems at PolyU. IEEE Fellow (1997), Recipient of the IEEE Guillemin-Cauer Award (2002), IEEE-CAS Golden Jubilee Award (2004). Author of over 280 technical papers and one book (Chaos and Complexity in Nonlinear Electronic Circuits - World Scientific). He served as an Associate Editor of IEEE TCAS-I (1993-1995 and 1999-2001), the Editorial Board of the Proceedings of the IEEE since 2004, the Editor-in-Chief of the IEEE Circuits and Systems Magazine 2004-2007, member of editorial boards of Int. J. Circuit Theory and Applications since 1999, Journal of The Franklin Institute since 1997, and Editorial Board of International Journal of Bifurcation and Chaos (since 2004). He was the Founding member of the IEEE CASS Technical Committee on Biomedical Circuits and Systems, the General Chairman of ECCTD 2003. Keynote speaker at numerous conferences and guest editor of special issues of journals - recently Special Issue on Computational System Biology for the Proceedings of the IEEE (August 2008). He was CAS Society President 2008.