

KW-IEEE Joint Chapter on Signal Processing/Neural Networks  
The Department of Electrical & Computer Engineering and the Department of Systems  
Design Engineering Present:

**Prof. David Zhang**  
**Hong Kong Polytechnic University**

Tuesday, June 22, 2004  
ICR 1304  
10:30 a.m.

***Palmprint Authentication***

Palmprints have a number of unique advantages: they are rich in features such as principal lines, wrinkles, and textures and these provide stable and distinctive information sufficient for separating an individual from a large population. Having worked on palmprints since 1996, our team certainly regards the palmprint as a very effective biometric. In this presentation, we would like to provide a comprehensive introduction to palmprint technologies. It reveals automatic techniques for palmprint authentication, from the first approach based on offline palmprint images, to the current state-of-the-art algorithm using online palmprint images. We will discuss various algorithm design methodologies, and architectures, as well as at the different stages of implementation of a palmprint system including palmprint segmentation, feature extraction, matching, and classification. Also, a palmprint acquisition device and a palmprint identification system prototype are given. To encourage more people to join us in our research into palmprint technology, we have made available part of our palmprint database for the public to download. Further details can be found on <http://www.comp.polyu.edu.hk/~biometrics/>.

**Biography of Dr. Zhang**

David Zhang graduated in Computer Science from Peking University in 1974. In 1983 he received his MSc in Computer Science and Engineering from the Harbin Institute of Technology (HIT) and then in 1985 his PhD from the same institution. From 1986 to 1988 he was first a Postdoctoral Fellow at Tsinghua University and then an Associate Professor at the Academia Sinica, Beijing. In 1994 he received his second PhD in Electrical and Computer Engineering from the University of Waterloo, Ontario, Canada. Professor Zhang is currently at the Hong Kong Polytechnic University where he is the Founding Director of the Biometrics Technology Centre (UGC/CRC) ([www4.comp.polyu.edu.hk/~biometrics/](http://www4.comp.polyu.edu.hk/~biometrics/)) a body supported by the Hong Kong SAR Government. He also serves as Adjunct Professor in Tsinghua University, Shanghai Jiao Tong University, Harbin Institute of Technology, and the University of Waterloo. Professor Zhang's research interests include automated biometrics-based authentication, pattern recognition, and biometric technology and systems. He is the Founder and Editor-in-Chief, International Journal of Image and Graphics (IJIG) ([www.worldscinet.com/ijig/ijig.shtml](http://www.worldscinet.com/ijig/ijig.shtml)); Book Editor, Kluwer International Series on Biometrics (KISB) ([www.wkap.nl/prod/s/KISB](http://www.wkap.nl/prod/s/KISB)); and Program Chair, the First International Conference on Biometrics Authentication (ICBA), Associate Editor of more than ten international journals including IEEE Trans on SMC-A/SMC-C, Pattern Recognition, and is the author of more than 130 journal papers, and 35 books/book chapters.

All are welcome – refreshments will be served.

**Invited by Prof. M. Kamel**