

Special Session on Signal Processing for Biomedical Applications

Name and affiliation of organizers:



Wing-Kuen Ling
School of Information Engineering,
Guangdong University of
Technology
yongquanling@gdut.edu.cn

Prof. Wing-Kuen Ling obtained his B.Eng. degree and the M.Phil. degree from the Hong Kong University of Technology in 1997 and 2000, respectively, as well as the Ph.D. degree from the Hong Kong Polytechnic University in 2003. He joined King's College London as a Lecturer in 2004. In 2010, he joined the University of Lincoln as a Principle Lecturer. Then, he promoted to a Reader in 2011. He joined the Guangdong University of Technology as a Full Professor in 2012. He was honored as the IET Fellow and the IEEE Senior Member in 2013 and 2008, respectively, and the China National Young Thousand Scheme Distinguished Professor and the Guangdong Province Jiangjing Scholar in 2013 and 2015, respectively. His research interests include symbolic dynamics of nonlinear digital signal processing systems, time frequency analysis, optimization theory, control theory as well as multimedia and biomedical applications.



Jinchang Ren
Department of Electronic and
Electrical Engineering
University of Strathclyde
jinchang.ren@strath.ac.uk

Dr Ren obtained B. Eng. in Computer Software, M. Eng. in Image Processing and D. Eng. in Computer Vision from Northwestern Polytechnical University (NWPU), China, in 1992/1997/2000, respectively. His research interests include image processing/analysis, intelligent multimedia information processing, visual computing, computer vision, content-based image & video retrieval/understanding, pattern recognition and hyperspectral imaging. He serves in the editorial board of Journal of the Franklin Institute, Big Data Analytics, Multidimensional Signal Processing and Systems, and Int. J. Artificial Intelligence and Pattern Recognition. He is also the chair/co-chair of EUSIPCO (2015/2017), IEEE Big Data (2015), HIS conference (2012, 2014, 2016), IEEE Smart Data (2017) and ICIP (2017).

Scope of the session

As the average national income increases, people spend more money on health products such as on sleep quality monitoring products, breathing monitoring products, diabetes monitoring products and mood monitoring products. In fact, it is required to acquire and process biomedical signals such as ECGs, EMGs, EGGs, PGGs, blood oxygen levels, blood glucose levels, blood lipid levels, blood pressure levels and body temperatures. The objective of this special session is to collect ideas for solving the fundamental signal processing problems in these biomedical applications.

Prospective authors are invited to submit original and unpublished work on the following research topics related to this Special Session:

- Biomedical signal denoising
- Biomedical signal retrieval
- Pattern recognition for biomedical diagnosis
- Mammogram processing
- Elastography processing
- EGG processing
- ECG processing
- EMG processing
- PPG processing
- Blood glucose estimation
- Blood oxygen estimation
- Blood lipid estimation