

## Special Session

Code: r17v3

### Title

*Intelligent computing and its application*

### Proposer / Main Organizer

*Prof. Guo-Ming Sung*

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*Biography: Guo-Ming Sung received the Ph.D. degree in Electrical Engineering from National Taiwan University, Taipei, Taiwan, in 2001. In 1992, he joined the Division of Engineering and Applied Sciences, National Science Council, Taiwan, where he became an Associate Researcher in 1996. Since 2001, he has been with the Department of Electrical Engineering, National Taipei University of Technology, where he is a Professor and Chairman. His research interests include USB/RS485 communication, analog-to-digital converter IC, motor control IC, radio-frequency harvester IC, magnetic sensor, mixed-mode IC, and Internet of Things (IoT).*

*Dr. Jen-Hsiang Chou*

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*Biography: Jen-Hsiang Chou, he received the BS degree in electrical engineering from National Taiwan Institute of Technology, Taiwan, in 1995, the M.Ed. degree in technological and vocational education from National Taipei University of Technology, Taiwan, in 2000. Since August 1995, he has been with the Department of Electrical Engineering as a teaching assistant, National Taipei University of Technology (NTUT). He received the M.S. and PhD degree in EE from NTUT in 2004 and 2013, respectively. Since 2017 till now, he has been an adjunct assistant professor of the ME department. His current research interests include motor servo control and optimal quadratic guaranteed cost control of uncertain time-delay system.*

### IEEE Member or SMC Society Member

*IEEE Member and SMC Society Member (G. M. Sung).*

### Category

*System Science & Engineering (SSE)*

### Number of Expected Paper Submissions:

*8 papers*

## Keywords

*Assistive Technology, Complex Network, Distributed intelligent Systems, Intelligent Power Grid, Smart Sensors Networks, System Modeling and Control, Machine Learning.*

## Brief Description and Justification (200-250 words):

*With the gradual maturity of AI technology, the intelligent computing is the most crucial topic in recent years. Consequently, the innovative applications based on intelligent computing and networking in consumer electronic products have become an important research field. Therefore, my proposed special session, intelligent computing and its applications, is focusing on the intelligent control and networking, which integrate on innovative techniques in different application fields of IC design, FPGA application, signal processing, wearable computing, and intelligent control theorem. These topics have been found in many practical applications, such as path planning, internet of things (IoT), sensor network, home care, networking, motor control, and consumer electronic products. Monitoring and controlling the research results of the proposed special session are beneficial and helpful to those conference attendees. This session invites 8 novel papers, including induction motor control, Ethernet packet transformation and transmission, smart protective mask, WSN transmission, monocular visual odometry, service quality of O2O platforms, photovoltaic power forecast, and intelligent-inspection functions in transmission grids. The aim of this special session is also to provide a platform to researchers and practitioners from both academia as well as industry to meet and share their latest research results on intelligent computing and innovative applications.*

*The related SMC 2022 topics are Assistive Technology, Complex Network, Distributed intelligent Systems, Intelligent Power Grid, Smart Sensors Networks, System Modeling and Control, and Machine Learning in System Science & Engineering (SSE) aspect. Furthermore, the proposers, Dr. Guo-Ming Sung and Dr. Jen-Hsiang Chou, attended the SMC conference from 2013 to 2021. In the above-mentioned period, Prof. Sung had published 12 conference papers and Dr. Chou had organized many special sessions in this conference. Prof. Sung is also a Member of the SMC Society now.*