



CHAIR

Bertram Shi  
Department of Electrical and Electronic Engr.  
Hong Kong Univ. of Science and Technology  
Clear Water Bay  
Kowloon, HONG KONG SAR  
email: [eebert@ee.ust.hk](mailto:eebert@ee.ust.hk)

SECRETARY

Ronald Tetzlaff  
Institut für Angewandte Physik  
Johann Wolfgang Goethe-Universität  
Robert-Mayer-Str. 2-4  
Raum 7, Erdgeschoß  
60054 Frankfurt am Main, Deutschland  
email: [R.Tetzlaff@iap.uni-frankfurt.de](mailto:R.Tetzlaff@iap.uni-frankfurt.de)

PAST CHAIR

Luigi Fortuna  
Università di Catania  
Dipartimento Elettrico, Elettronico e Sistemistico  
Viale A. Doria, 6,  
95125 Catania, Italy  
email: [lfortuna@dees.unict.it](mailto:lfortuna@dees.unict.it)

## Annual Report of the Cellular Neural Network and Array Computing Technical Committee 2004

### TCAS Special Issue

In order to bring researchers up to date with current trends in CNNAC, Bertram Shi, Paolo Arena and Akos Zarandy guest-edited a special issue on CNN Technology and Active Wave Computing of the IEEE Transactions on Circuits and Systems-I: Regular Papers. The paper submission deadline was 31 July 2003. Thanks to the diligent efforts of our reviewers, final decisions were made on which papers to accept to the special issue by January 2004. Fifteen papers will be included in the special issue, which is to appear in the May 2004 issue. The special issue is separated into three sections that highlight several trends that have emerged in recent years. The sections are entitled "Single-layer arrays," "Multi-layer arrays" and "Emerging Technologies." Each section contains five papers, which are a mix of theory, application, design and implementation, consistent with the broad multidisciplinary scope of CNN research.

### ECCTD-2003

There was a plethora of CNNAC activity at the recent European Conference on Circuit Theory and Design, which was held 1 - 4 September 2003 in Kraków, Poland. Tamas Roska and Akos Zarandy gave a plenary lecture entitled "Proactive, Adaptive, Cellular Sensory Computer Architecture via Extending the CNN Universal Machine." Within the regular program there were 10 sessions specifically devoted to CNNAC, as well as a demo session, where attendees were able to see several demos of CNN technology in action.

Because the SARS crisis in Asia prevented many of the committee members from attending ISCAS 2003 in Thailand, the CNNAC TC annual general meeting (AGM) was held at ECCTD.

### ISCAS-2004

The technical committee members organized three special sessions to be held at ISCAS in Vancouver in May 2004. The sessions are entitled: "Silicon Implementations of CNN and Programmable Mixed-Signal Vision I," "Silicon Implementations of CNN and Programmable Mixed-Signal Vision II," and "Bionics and Theory of Cellular Neural Networks."

The chairman of the CNNAC technical committee, Bertram Shi, served as chair for the CNNAC track at ISCAS. Technical committee members Paolo Arena, Marco Gilli, Ari Paasio, Csaba Reckezcky and Ronald Tetzlaff served as review committee members.

We saw a tremendous increase in the number of CNNAC papers submitted to ISCAS. This appears to be in part due to the increased visibility of CNNAC because it had its own track, rather than being combined with Neural Systems, as in 2002 and 2003. In 2003, only 10 papers were submitted to the CNNAC sub-track of the combined CNNAC/NN Track. This year, 47 papers were submitted to the CNNAC track, almost a five-fold increase. In comparison with 2001, which was the last year that there was a separate CNNAC track, this was an increase of 123% (more than two-fold).

## **CNNA 2004**

The 8<sup>th</sup> IEEE International Workshop on Cellular Neural Networks and Their Applications (CNNA 2004) will be held in Budapest, Hungary on 22-24 July 2004. This workshop was organized by Tamas Roska, and takes place the week before the International Joint Conference on Neural Networks, which will also be held in Budapest. Program co-chairs are Bertram Shi and Akos Zarandy. The final program will be single track to encourage multidisciplinary interaction, and will include 75 papers presented in either lecture or poster format.

Prof. Chin-Teng Lin is organizing the next IEEE CNNA, which will be held in 2005 in Hsinchu, Taiwan.