The 1st international conference on cognitive neurodynamics was held in Shanghai last November

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The 1st International Conference on Cognitive Neurodynamics—2007 (ICCN'07) was held in East China University of Science & Technology, Shanghai, China Nov. 17–21, 2007, which was sponsored by East China University of Science & Technology, Shanghai Society for Biophysics and the journal of “Cognitive Neurodynamics”. About 250 scientists and students from more than 30 countries or areas attended the meeting, two third among whom came from outside of mainland of China.

The conference was co-sponsored by The National Natural Science Foundation of China (NSFC); Shanghai Association of Science & Technology; International Neural Network Society (INNS); Japanese Neural Network Society (JNNS); RIKEN BSI, Japan; Brain Science Center, Tamagawa University, Japan; Brain Science Research Center, KAIST, Korea; Singapore Neural Network Society; Chinese Society of Theoretical and Applied Mechanics (CSTPM); Chinese Society for Neuroscience (CSN); Zhejiang University, China; Xi'an Jiaotong University, China; Beijing University of Aeronautics and Astronautics, China; Beijing University of Technology, China; Tongji University, China; Nanjing University Aeronautics and Astronautics, Shanghai University, China etc. General chair

of the conference is Prof. Rubin Wang, Editor-in-chief of “Cognitive Neurodynamics”, from East China University of Science & Technology. Honorary chairs are Prof. Shunichi Amari, Prof. Walter J. Freeman, Prof. Stephen Grossberg, Prof. Hermann Haken, Prof. Barry J. Richmond and Prof. Louis Sokoloff. Within the chairpersons of the International Advisory Committee, the chairpersons of the program committee and co-chairpersons of the conference, there are Profs. Haiyan Hu, Qishao Lu, Guy Sandner, John Taylor, Kazuyuki Aihara, Wlodzislaw Duch, Aike Guo, Rolf Kötter, Gregor Schöner, Deliang Wang, Shiro Usui, Fanji Gu, Soo-young Lee, Hans Liljenström, Shigetoshi Nara, Paul E. Rapp and Lipo Wang.

There were ten 45-minutes keynote talks at the first day, which were the follows: “Proposed renormalization group analysis of nonlinear brain dynamics at criticality” given by Walter J. Freeman and Tian Yu Cao; “The Emergence of Spatio-temporal Patterns in Neural Citivity – A Renormalization Group Analysis” by Tianyu Cao; “Comprehensive EEG signal analysis for brain-computer interface” by Shangkai Gao et al.; “Congnition-like Activities in Drosophila Brain” by Aike Guo et al.; “Dynamic Field Theory as the interface between neuronal dynamcis and embodied cognition” by Gregor Schöner; “When is it worth working: calculating the motivational value of working” by Barry J. Richmond; “Regulating Cortical Neurodynamics at Different Scales” by Hans Liljenström; “Unsupervised extraction and supervised selection of features based on information gain” by Soo-young Lee; “The Time Dimension for Scene Analysis” by DeLiang Wang and “Functional roles of feedback signals from higher-order areas to lower-order areas in the visual cortical pathways” by Tiande Shou.

All the above talks gave a comprehensive view of the latest progresses in cognitive neuroscience, neurodynamics

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and their applications, especially the intercrossing area between the two fields at various levels from microscopic level to macroscopic one. Comprehensive expositions about hot spots and prospects in this new field of cognitive neurodynamics were also given in these talks.

About 24 oral sessions were held at the second and the third day, including fourteen mini-symposia organized by leading scientists. There were a poster session and the closing ceremony at the last day. The contents of these oral and poster sessions cover a variety of topics such as cognitive machines, dynamics in learning and memory, neuroinformatics, brain signal analysis, brain imaging analysis, neural computing, higher brain functions, synchronous oscillations, realistic neural networks, sensory and perceptive dynamics, models of mental disorders, etc. Almost all the areas in cognitive neurodynamics were involved in. As for the distribution of the contributions, about 54% of the papers are related to dynamic coding, neural population dynamics, neural network dynamics, neural computing, learning and memory, neuroinformatics, sensory and perception dynamics and functional imaging. 33% are about molecular neurodynamics, chaotic dynamics of nerve cells, synaptic dynamics, motor dynamics, neural engineering and intelligent robotics.

About 214 submissions were accepted and will be published in a proceedings published by Springer.

An Editorial Board Meeting of “Cognitive Neurodynamics” was also held during the period. About 70

distinguishing scientists including more than 50 editorial board members of the journal “cognitive neurodynamics” attended the meeting. The meeting was chaired by Prof. Rubin Wang, editor-in-chief of the journal. Prof. Fanji Gu, managing editor of the journal, gave a brief report about the journal. The members expressed their satisfaction with the journal, some of them applied for publishing special issues.

Almost all the participants think that this meeting is a high quality international conference. Some of the leading scientists said that the success of the meeting was beyond their best expectation. All the participants think that the conference provides a marvelous opportunity for mutual understanding, exchanging ideas and experiences, and further cooperation. Several scholars from US, Canada, UK and Korea hoped that the conference could be developed into a series of conferences, and proposed to organize the next conference. Finally, it was decided that the 2nd International Conference on Cognitive Neurodynamics would be held in Hangzhou, China in 2009, which would still be sponsored by East China University of Science & Technology, and organized by Zhejiang University as a local organizer. The editorial board of the journal “cognitive neurodynamics” will be the standing organization of the conferences. Beginning from the 3rd International Conference on Cognitive Neurodynamics, all the proposals for organizing the conference should be applied to the board and be voted by all the board members.