The 4th International Congress on Electron Tomography Influences My Research
- a brief conference report and my neuronal tomography research-

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The Investigation of an object with 3-dimensional tools provides a profound information on nature. Although the benefits of 3-dimensional analysis are well documented, most studies have been undertaken 2-dimensionally.

Stereo-pair images based on the tilting method were often used to catch rapid 3-dimensional configuration of the structures. Three dimensional reconstruction based on serial sections is a powerful tool to demonstrate 3-dimensional configuration of the structures. I have employed these two classical experimental methods for neuronal morphology analyses. Recently, electron tomography has been introduced, which was expected to affect to my future researches. I had a chance to attend the 4th international congress on electron tomography(ICET) on Nov 5-8, 2006.

The first ICET was held in 1997 with 49 attendees. The 4 ICET has grown to the scale of 150 attendees. The program was organized as following sessions; 1) instrumentation 2) imaging of dynamic structures, 3) 3-D reconstruction algorithms, 4) visualization and quantitative analysis 5) Moving tomography to the main stream, 6) Emerging technology for multi-scale. In addition to these lectures, there were two poster sessions. Comprehensive topics covering from computational mechanics to real software for reconstructions and from macromolecule to cell-tissue improved my understanding on electron tomography.

The inspiration from this conference made me to construct an electron tomography of neuronal dendrites with high voltage electron microscope in addition to my series of 3-dimensional reconstruction projects..

On this occasion, I would like to present my tomographic works and some snatches from other researchers' works presented in the conference and published papers.