Automatic Tracing and Registration of Multi-Dimensional Microscopic Images in High Resolution

Ching-wei Wang
National Taiwan University of Science and Technology, Taiwan

Abstract—Understanding how the brain works by acquiring profound knowledge of the structure, function, and development of the nervous system is of crucial importance, enabling development of drugs and therapies in treating neurological and psychiatric disorders. The three-dimensional neuroanatomical architecture plays a major role in determining the brain connectivity. However, reconstruction of neuron morphology is challenging and time-consuming. This lecture will discuss automatic methods in tracing and registration of multi-dimensional microscopic images in high resolution.

Index Terms—neuron tracing