

Report: International Workshop on Bioinformatics and Systems Biology

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1 Conference

International Workshop on Bioinformatics and System Biology (IBSB) 2011 was held in Berlin, Germany. It was first time for me to visit Germany and I had many chances to discuss the various topics of this field, such as the modelling of gene regulation. I also had an opportunity to listen presentation of researchers that of Boston University, Humboldt University and so on. On the fourth day of this work shop, conference and poster session was held at Humboldt University. In this conference, I presented my research that the methods to derive conserved quantity in nonlinear continuous dynamical system, such as Lotka-Volterra competitive interaction by using Noether's theorem. There was one professor and who showed interest in my presentation and another researcher was also interested in my research. They asked such questions as the relation between Lyapunov function of classical Lotka-Volterra model and conservation law derived from my model, and if it was general or not. They also asked whether the variables of my model are correspond to time series gene expression data. I was inspired by their questions and ideas. Their questions seem to be pragmatic and tend to emphasize mathematical modelling.

2 Summer School

Summer school was also held as programs of IBSB. In the summer school, on the first day, we learned to use the library AUTO, which is a software for numerical bifurcation analysis, and we also learned xpp-auto. Both of them is numerical simulation based on ordinary differential equation, and we are able to simulate the oscillation of circadian clocks. In the summer school, the students were very active and many questions and discussion were presented. It was different atmosphere from classes in Japan. I realized how important to exchange and discuss ideas with professors.

3 Excursion

On the third day, we had an excursion, we took a boat tour on the river Spree. The scenery around there was very beautiful with green leaves and traditional building of the city. There was many swans on the river. It was very good and fruitful experience for me.

