

若手研究者インターナショナル・トレーニング・プログラム(ITP)
バイオインフォマティクスとシステムズバイオロジーの国際連携教育研究プログラム
ワークショップ参加レポート

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Title: Poster presentation in IBSB 2009
Workshop report : I participated in “The Ninth Annual International Workshop on Bioinformatics and Systems Biology (IBSB 2009)”, which was held from July 27, 2009 to the 29th in Boston University as part of the ITP. This year we had 28 oral and 28 poster presentations for three days. I had a poster presentation entitled as “Analysis of conserved pattern in enzymatic reactions and its application to EC prediction”, and reported on the detailed results of examining the effectiveness of our enzyme prediction system according to the difference of structural similarities and the main category of EC number classification. This prediction system is based on the structural changes between reactants and products during the enzymatic reactions, which are referred to reaction patterns. As expected, we could observe there was the general tendency that the higher structural similarity two given query compounds had, the more reasonable reaction pattern was computed, and thus the higher accuracy rate we found. Next, we tried finding the conserved reaction patterns that were strongly correlated with specific enzymatic reaction mechanisms and could divide the prediction results into the highly reliable class and a less reliable one. Most of sessions in IBSB 2009 were spent on the oral presentations during three days, and the session of the poster presentation had been set only for three hours on the afternoon of the 28th. However, because the poster was always displayed around the entrance hall and in the room for a coffee break, we were occasionally requested to give explanations on our poster by many participants while taking a rest. There seem to be two prominent types of questions that we received a lot about our presentation: the first is about our prediction method like "How can you successfully detect the correct EC numbers?" and the second is the EC classification scheme itself. As a result, we could make many discussions on the effectiveness of this type of EC prediction scheme and obtain valuable recommendations and advices to improve our research. The most significant points to be accomplished are to compute the practical set of reactant pairs from a given reaction equation and to integrate it into our reaction prediction system. Through this opportunity I could realize that we had both advantage and weak point in our current study and could also make friends from many different countries including U.S. and Germany. Finally, I wish to express my gratitude to all people I met in Boston and professor Minoru Kanehisa who gave me this valuable chance and experience.