

様式 2 帰国報告書 (ITP Research Report)

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Research Report of JSPS-ITP

(The international sending-elevating project for young mathematicians based on singularity, topology and mathematical analysis: Hokudai model)

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Period of ITP-Stay: April 1-8, 2011

Research Report:

Thanks to ITP, I visited the University of Maryland in the United States. The university is located in the city of College Park, just outside Washington, D.C and within a 30-minute subway ride from the National Mall and Memorial Parks. The campus of the university is so wide and we can see small animals, the squirrels and the birds, here and there. In the trim garden the flowers are blooming. Luckily, the cherry blossoms were at their peak when I visited. The landscape is lush and green, so I never get tired of stroll through the beautiful scenery.

During my stay I joined the workshop "the Workshop on Dynamical Systems and Related Topics" on April 1-5, 2011. There were many sessions about symbolic dynamics because the workshop was with special sessions in honor of Professor Mike Boyle (He is a famous mathematician in symbolic dynamics) on his 60th birthday. I enjoyed the sessions about "combinatorics of orbit", "Apollonian circle packings" and "Ehrenfest model", because they inspired a feeling of curiosity and the topics seemed to relate the subject of my study. I'm interested in Cellular Automata (CA), which are discrete mathematical models and CA can represent some rich and complex phenomena by some simple rules. From the mathematical point of view, there is a strong relationship between CA and symbolic dynamics, so some mathematician began to study CA by using the theory of symbolic dynamics. Much to my delight, in this workshop I met many Professors famous for the research of symbolic dynamics and CA, Mike Boyle, Douglas Lind, Alejandro Maass, William Geller and so on. It was a good experience to me to talk with them about my study.

This was my first time to go abroad. I was surprised many differences between Japan and the U.S. and I got into everything in sight. In particular the workshop was so active and the discussions are heated. I have never seen like that in Japan. It was a good opportunity to get a new point of view, so I would like to join the international workshop again.

