

Global COE Program
World Center of Education and Research for Inter-disciplinary Flow Dynamics
2012 Internship Program for Students of Tohoku University Experience Report

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Supervisor: Prof. Wei Gao
Internship Period: Dec 05, 2012~ Jan 20, 2013 (47 days)
Internship Institute: Erlangen-Nuremberg University, Germany
Internship Supervisor: Prof. Tino Hausotte
Internship Topic: The nanopositioning and nanomeasuring machine for surface profile measurement

It was very lucky for obtaining the opportunity and the funding assistance from the GCOE office of Tohoku University for this 47 days' internship in the Erlangen-Nuremberg University.

The Erlangen is a very small and quiet city, which located in the southeast of Germany. It is famous because of the Siemens medical research center and the Erlangen-Nuremberg University. I think the most famous person for everyone is Mr. Ohm because of his Ohm' law. Mr. Ohm was born in Erlangen and got his doctor degree in the Erlangen-Nuremberg University. This city is also famous of Christmas market which only exists in the Christmas period, plenty of conventional foods and artware are sold in the market. As for me, it was very happy for eating different kinds of sausages and drinking hot wine with friends in the Christmas market.

My internship supervisor, Prof. Tino Hausotte, who is the co-inventor of the nanopositioning and nanomeasuring machine (NPM-Machine), is a very kindly and experienced advisor. Some doctor students and researchers there also gave me a lot of help for living and support for research.

Some planed experiments were implemented successfully on the NPM-Machine. The resolution and the stability of each axis of the NPM-Machine were checked by experiments. And a new developed sensor, the near tactile electrical sensor was introduced. Some standardized workpiece were measured by the new developed sensor, and the measured results were also compared with the results measured by other coordinate measurement machine. These research experiences gave me some ideas for improving the performance of the prototype Scanning Electrostatic Force Microscopy (SEFM) which is developed in our laboratory.

In the weekend and the Christmas holiday, I travelled to other cities, like Praha, Vienna, Salzburg and so on. Plenty of different sceneries, buildings, cultures were caught sight of and felt. These experiences also expanded my vision of the world.

This internship experience was really valuable for the further progress in my research work as well as in my life. At last, I want to thanks again for the support of the GCOE program, thanks to Prof. Gao for helping me applying for this project, also thanks to Prof. Hausotte for hosting me

in his lab, as well as thanks to the colleagues in his lab.



Experiment with Mr. Schuler



Photo with Prof. Hausotte and his girlfriend



Christmas party with Germany style



Peculiar food sold in the Christmas market