

Review: “Strategic Partnership” between SPbSTU and LUH, 2014

March – June 2014

Leibniz Universität Hannover



1. Study

We came to Hannover for work on collaboration study project in TFD (Turbine and Fluid Dynamics) Institute. Turbines, Hydro Machines and Aero-Engines Department in Saint Petersburg State Polytechnical University has very big and good history of collaboration with Turbine and Fluid Dynamics Institute in Leibniz Universität Hannover. My scientific supervisor in Russia Prof. Dr. Chernikov and supervisor in Hannover Bastian Drechsel arranged to create collaboration project "Comparison of the Results of the Diffuser Test Rid of St. Petersburg and Hannover". TFD Institute has good, extensive and modern laboratory. I studied the fluid behavior in the axial diffuser with the last turbine stage by numerical simulation. I had the user account to access to the good computer in Institute and for cluster. Also I had possibility to enter in the Institute anytime. It was very good especially when I needed to do a lot of work in short terms. We had great supervisors. They helped us not just in study, at all. Also we had great parties with their. We had access to wi-fi near and inside of all University buildings. Also I participated in free German courses. It was fine, interesting and very usefull.

2. Accommodation

Nataliya Butych in International Office helped us during the staying in Hannover. She described us and done all necessary and important things, also she and Markus Remmers found for us rooms in dormitories. In Hannover dormitory room is for one person. In every room is similar stuff and free access to internet (but limited, just 5Gb per week). For room I paid about 200 euro. Entrance is open anytime. There is washing and drying machines inside every dormitory. Cost of washing is 1.50 euro, and for drying is 1 euro. Usually in the kitchen a lot of necessary stuff, but not always it is in good condition. When we come we bought pillow, blanket, bed linen, because we didn't take it, but here it is not possible to take in a rent. There is special party room in the dormitory.

3. Transport

In Hannover I used three types of public transport: S-bahn, U-bahn and bus. For all of that is one ticket or card. But the cost of tickets and cards depends from number of zone, which you want to use, and period of validity. Because I studied here I had special card and the cost of transport per month was about 46 euro. Nataliya from International Office helped to receive this card. But the most comfortable transport in Hannover is bicycle. We bought the cheap bikes on Sunday Market. It is not really good, because this bike could be stolen, and they often brake. But it is the cheapest (40-50 euro).

4. Food

On a week we had a lunch in the Studentewerk Hannover Mensa. It is the network of student canteens. The best price will be if you have the Mensa Card. Standard lunch costs about 3-5 euro.



5. Sport

Hannover is great city for jogging but also I visited several swimming pools. At first time I was in Fösse, which is free for students in Hannover, but that was just in certain time and was too far from my dormitory. So I defined to visit another one. Usually the entrance is cheaper than in Russia (about 2 euro). From end of May a lot of opened pools is open.

6. Travelling

During the staying in Germany I visited Wien, Austria, Amsterdam, Holland. In Germany I was in Hamburg and Bremen. For the last two cities the cheapest way was to buy Niedersachsen ticket. It allows travelling during the day in Lower Saxony. For group up to 5 people it becomes cheaper.



7. Fun in Hannover

We visited very big and interesting industrial and technology exhibitions CeBIT 2014 and Hannover Messe 2014. In Hannover every year the International Competition of Fireworks is held. It is very nice and it is located in Herrenhäuser Garten. But it is not necessary to buy the ticket and come into the garden. Good and free view is around park is also, just take plaid.

8. Result

I have done study project for my master thesis “Numerical simulation of influence turbine stage on the flow in diffuser” in Hannover, my work becomes more interesting and useful. During the staying in Hannover I solved next tasks:

- studied test rig for modeling diffuser;
- created numerical model for simulation in ANSYS CFX 14.5 for diffuser and stage;
- chose optimal turbulence model, mesh parameters, boundary conditions;
- calculated and analyzed flow in diffuser during the turbine stage operating.

I received very good experience. I have great emotions after studying in Hannover. Because it is quiet, green, interesting city with a lot of great and helpful people and with good opportunities for study. I met a lot of new interesting friends. I hope that collaboration between our Universities will be continued.