

# Report on the “Strategic Partnership” between SPbSTU and LUH, 2014

March – June 2014

Leibniz Universität Hannover

Reshetnikova Lyubov



## **1. First impression**

We came to Hannover at the beginning of March and my first impression was that it is totally different country with its own culture, people food and etc. We came at the weekend so, we had time to know the city, people and got used to it. Hannover is a wonderful city with a lot of pleasant places, sport activities, green parks, lakes and rivers. At first month the weather was not good, but nevertheless we had a great time.

We visited very big and interesting industrial and technology exhibitions CeBIT 2014 and Hannover Messe 2014. Every year in Hannover the International Competition of Fireworks is held. It is wonderfull and it is located in Herrenhäuser Garten. Good and free view is around park is also, just be ready that it is cold at night.

## **2. Study**

After the first weekend we went to the University. It impressed us a lot. We had great supervisors who helped us not only at work, but we also had a great time after the working hours. Everybody had a computer with all necessary soft programs, internet and books. We had 24 hours excess to the university if needed to make your task on time. If we had any problems, help was always provided.

The scope of my work was to research and to study the active flow control in the presence of an additional injection of the mass flow not over the entire height of guide vanes of the first stage of a 4-stage-high-speed axial compressor described by Vorreiter (2011), but only partially.

As described in Vorreiter (2011), the flow separation phenomenon on the surface layer is observed on the guide vanes of an axial compressor at the hub region of the blade, and (to a less extent) at its casing. It has been suggested that the use of an additional blowing (active flow control) over not the entire height of the blade, but only at its hub region (since at this point the largest flow separation is situated) will be able to increase the overall efficiency of the compressor. Reduced passage area of the slot surface will reduce the mass flow needed to ensure the active flow control, thus can improve efficiency.

I also attended German classes in LUH. It was very useful and I liked German language with all my heart thanks to our wonderful teachers! I definitely will continue to study German language.

### 3. Accommodation

During our stay in Hannover we lived in 2 different dormitories one at Bishofscholer Damm and one at Schneiderberg strasse. We liked it a lot it was comfortable single rooms with all the facilities we needed. The cost of the room was approximately 200 Euro per month. Special thanks I want to say to Nataliya Butych and Markus Remmers in International Office who helped us during our staying in Hannover. They did all necessary and important things, they also found for us rooms in dormitories. For room I paid about 200 euro.

### 4. Food

During the week we had lunch in the Hannover Mensa. It is good student canteen which is situated near our institute and the cost of food was not high. We had a great time there during our lunch.

We liked German food also. There are a lot of restaurants, bars and cafes where we went in our free time and were we tried traditional German food and drinks.



## **5. Transport**

There are different types of transport in Hannover: S-bahn, U-bahn and bus. But the most comfortable transport is bicycle. We bought bikes for us and went to university and just for a walk by them. It is the cheapest way to travel across the city and you can see a lot of beautiful places and to know city well.

## **6. Sport**

Hannover is great city for sport. We were able to attend different kinds of sport during our stay. Football, volleyball, dances, swimming, tennis this and many others were introduced to us with the help of Nataliya Butych in International Office. Almost all of the sports was free but even if it is not, the entrance was not that high as in Russia. We were glad to have such opportunity.

## **7. Travelling**

We visited a lot of places during our stay in Germany. But the most impressive was Hamburg and Holland. The cheapest way to travel in Germany is to buy Niedersachsen ticket. It allows travelling during the day in Lower Saxony. For group up to 5 people it becomes cheaper. We used it to go to Hamburg and Bremen. In Holland it was also cheap.





## **8. Results**

To sum up I had a wonderful time in Germany, I say thank you to my university and Leibniz University Hannover and also to German Academic Exchange Service (DAAD) for this great opportunity to be a participant of such exchange program. I have finished my project in Hannover on time, had a great experience abroad, learn more in my sphere of interests and started to prepare for my master thesis. My stay was interesting and useful for my future. I met a lot of interesting friends. I very hope that this partnership between our universities will be continued and I am looking forward to come back to Hannover.