

## Reinhardt Abraham Memorial Foundation

**Newsletter 2008**

**Edition No. 11**

Dear Readers and Friends of the Reinhardt Abraham Memorial Foundation,

The past year has been eventful and all our activities could be accomplished to our agreed work scope.

This year's outstanding "take off" of the Foundation could be achieved thanks to Boeing's and Lufthansa's generous funds contribution in 2006, the year of our 10<sup>th</sup> anniversary. As of now we are able to support two more students per year.

To improve the support of our alumni we introduced a few organizational changes in October 2007. The entire student relationship management has been transferred to the Lufthansa Technik human resources organization. The department responsible for international university relations and academic talent promotion will proactively manage individually for each student the support starting with the selection process until –and hopefully- the end of the exchange program. This includes among others integration of our students into Lufthansa Technik's "Technics Talents" program, the offer of a masters theses with LHT , specific LHT education modules during our students final university phase and a career proposal within Lufthansa Technik. Mrs. Savenia Budinic has, under supervision of Hans-Hellmuth Reztlaff-Schröder, the responsible HR Manager, taken over the responsibilities from Marianne Grütjen.

Despite the organizational changes the RASf will remain fully integrated in the Deutsche Lufthansa Berlin-Stiftung (DLBS), Wolfgang Hübel remaining the treasurer and myself as the chairman of DLBS guiding RASf and representing LHT senior management support.

I am very confident that these organizational changes will further improve the performance of RASf.

Again, thank you for supporting RASf. On behalf of the entire RASf team I wish you success and all the best for the year 2008!

Bernhard Conrad  
Chairman of the Board  
Deutsche Lufthansa Berlin-Foundation



Savenia Budinic



Hans-Hellmuth Retzlaff-Schröder

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**Good bye Marianne and  
welcome to Petra in our team**

Dear RASf Friends,

during 2007 we had a personal change within the secretary's office. The most of you could read in a special round letter send by Bernhard Conrad last October, that Marianne Gruetjen left the foundation at the end of September after more than 10 years managing successful our RASf students. She started to work for Lufthansa Technik again. In succession to her, Petra Ruediger-Pellinen took over her place on January 1<sup>st</sup>, 2008.

Beside our new colleagues at Lufthansa Technik Human Resources Organization, you are welcome to contact Petra or me all time and in any case. For the active students in our program I like to say let us be in the future also a part of your exchange program and keep us informed regular. Thanks!

Wolfgang Hübel, Secretary of the Foundation

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## Henning Kroll

Student Exchange Program  
from Sept. 2006 to Jul. 2007



This report is about my year abroad at the University of Washington, Seattle.

After all application procedures and organisational issues I had to face and to take care of, I was finally ready to get started.

With the help of the Foundation for International Understanding Through Students (FIUTS), a community non-profit organization on the University of Washington campus, I found a host family which took care of me during my first week in Seattle. I can highly recommend contacting FIUTS before leaving, and try to get the nice possibility for a host family that can welcome you in the new environment. Besides that, FIUTS is a place to meet people from around the world or around the corner to establish links of friendship and communication. They offer a variety of events during the whole school year, and it's always nice to attend and to meet new people, especially internationals.

During the first week at my host family's place in Capitol Hill, I had the chance to organize things like enrolment at the University, getting a FIUTS membership and to find a place to live.

I focused on housing opportunities in the U-District, which is the residential area around the UW campus and the place in which most students live. After I took a look at a couple of places, I decided to move into a nice house, which is located approximately 5-10 minutes walking distance to campus, and within a nice neighbourhood. All my roommates were very nice people, and we had a manager who lived in the house too, and who was also responsible for taking care of the house and getting the leases from the tenants.

The University itself is well organized, and everything works out through your UW account. This is a computer account offered by the University every enrolled student gets automatically. There you can register for your classes, pay your tuitions and fees, have a look at your grades and it contains all necessary information around campus life. I was enrolled at the Department of Aeronautics and Astronautics, where I also participated in a research project for which I worked on throughout the entire academic year. In addition to that, I attended several classes at the Department of Atmospheric Science.

The classes at the university seemed to be more "school like" in comparison to German lectures I was used to, and they are structured very well at the same time. Within the research project I was working on, I made experimental measurements in a water tunnel, and also data evaluation and verification. I worked close together with another American student under the supervision of two professors from the Aeronautics and Astronautics Department. It was a very nice cooperation between both, the students and the professors.

The campus, facilities, and the integrated faculties and institutions belonging to the UW are versatile, well equipped and maintained. The atmosphere is friendly and always showing the strong company within the interior university community. There is a big variety of international and American students at the UW. Therefore, it is a great chance to get connected to different people with different ethnic and social backgrounds, which is for me one of the most valuable experiences I collected during my time overseas.

Seattle, with its nice surrounding landscape, offers besides a modern well infrastructure city, a cultural interesting environment. I had a wonderful time overseas, and want to thank RASf for giving me the chance to participate in the program, and supporting me in any issue.

Thanks,  
Henning Kroll

## **Pawel Piotrowski**

Student Exchange Program  
from April 3<sup>rd</sup>, 2007 to September 5<sup>th</sup>, 2007  
Course of Study: Aeronautics & Astronautics

## **My time at the University of Washington**

by Pawel Piotrowski

After completing my internship at The Boeing Company in Renton, I was looking forward to continuing my studies at the University of Washington. Before my studies started, I was able to discuss classes and potential research projects with professors in the Aeronautics and Astronautics department, as well as become acquainted with department advisors and students.



Skyline of Seattle and Mt. Rainier at the horizon

## **Housing**

About one month before classes started, I found an apartment in the University District by looking on the internet. It was the third apartment I saw, and I knew immediately I would take it. The apartment was within walking distance of campus and essential stores. I shared the apartment with two other students.

## **The Campus**

Riding my bike to my department and passing through the University of Washington's campus, I was always impressed by its beauty. In the spring, the elaborate English-architecture style buildings were surrounded white and pink blooming Japanese cherry trees. Often I could see the snow covered peak of Mt. Rainier in the horizon.

## **My selection of Classes**

For Spring Quarter I registered for a couple classes in the Department of Aeronautics and Astronautics. I chose my courses depending on whether they would fill gaps in my TU-Berlin studies; I decided on the Aerodynamics of Viscous Fluids class, because Aerodynamics is one of my favourite fields, and on the Flight Test Engineering class, because flight operations is another focus of my studies. Additionally, I attended a Propulsion class and a seminar.

## **The American way of teaching**

I was absolutely satisfied with my class choices, as all classes I selected were very interesting. I enjoyed all of them and I learned a lot.

The way the lectures were structured reminded me a slightly of my time at high school. Each class was only 50 minutes long and ended when the bell rang. The professors

told the students which pages they should learn or which books they should read. Also, the professors tended to give much more homework than I was accustomed to receiving during my time at the university in Germany. The ultimate grade was determined based on homework, two quizzes, a midterm and a final.

The professors were always well-prepared and were willing to use any possible equipment and techniques to give examples or to answer questions. I was surprised how friendly and personal the relationships between students and professors were; the professors care about each student and want them to understand everything. Frequently, professors told us educational stories or talked about their experiences, teaching us how to apply the things we learned in real life. These were my favorite parts of the lectures.

## My research Project

In the Summer Quarter I was working under supervision of Professor Breidenthal on my research project "Drag Maximization of Bluff Bodies". Everybody who hears that title for the first time usually asks me why I intended to maximize drag, because it sounds absurd. However for high drag applications like airbrakes, spoilers, retarders and parachutes this thought is appropriate. My study was divided into two parts. The first part looked into the flow around two-dimensional trapezoidal cylinders, which I designed and manufactured in the University's workshop. In both water and a wind tunnel I measured the influence of several geometrical parameters on the total drag of those bodies. From the results of the first part I explored the design of three-dimensional, rotational-axis-symmetric bodies. An important aspect of the research was the significant influence of vortex shedding on the total drag. The vortices created by those bodies have a large contribution to the drag, but our current knowledge of turbulence and vortex dominated flow is elementary. The scientific goal was to understand the flow and to learn how to make use of it to maximize the drag. Such optimization can decrease the size

and the weight of high drag devices and have a positive influence on reducing expenses.



Vortex dominated flow around two-dimensional trapezoidal cylinders

## Leisure Activities

Even though there was much work during the week that kept me busy, I still had enough time to take advantage of the awesome sport facilities of the University of Washington. Together with my roommates I regularly played badminton and went swimming afterwards. To combine fun and cultural activities I decided to attend a swing dancing class once a week.

## Flying in Arlington

During the weekend I often explored Seattle and its surroundings, and when the weather was not promising I studied to prepare for my glider pilot license examination. Flying has always been my passion and since I successfully obtained my private pilot license in March, I wanted to gain more flying experience. Consequently, I became a member of the Washington State Soaring Association in order to continue my flight training in a glider. At the end of August I was happy, because I had passed the check ride, despite poor weather.



Piper Warrior PA-28-151 my favourite Airplane

## Places I have seen

Together with some friends from Boeing I planned long sightseeing tours across Washington. Washington has so many beautiful and interesting places, and almost all can be reached easily by car. For example, one can drive to visitor centers that are very close to the peak of Mt. Rainier or the crater of Mt. St. Helens. In the Olympic Mountains a road leads to the top of Hurricane Ridge. Washington also has a wide range of landscapes and climates across the state. On the Olympic Peninsula one can explore a real rain forest, while east of the Cascade Mountains there is a desert-like landscape. And there are many other beautiful places like the Snoqualmie Falls and the San Juan Islands. In the Cascade Mountains there is an out of place village called Leavenworth where everything is built and made in Bavarian style. But the adventure I enjoyed the most was a trip to San Francisco and Sacramento. I drove south on Highway 101 along Oregon's Pacific coast and through the Giant Redwood Forest.

## Closing Words

While in the US I always tried to use the limited precious time wisely. I am very happy and grateful I could take advantage of all the wonderful possibilities this great program offers. Without the help and support of the team of the Reinhardt Abraham Memorial

Foundation I would have not been able to do all this. Thank you so much.

## Jan Lesemann

Trainee Program  
from Mar. 2007 to Sep. 2007



The last days before my departure were very busy. Pack the bags, vacate the apartment, say goodbye, and all that on the last evening in Berlin. It was around Greenland that I started thinking about my time in Seattle. What can I expect? I have never been in the US and was looking forward to learn more about this extraordinary country. The arrival was not very surprising: It was raining. Light drizzle coming from a grey sky – I expected that. But I did not expect everything else: the breathtaking marvellous landscape around Seattle (which revealed it's full beauty later in the summertime), the different dimensions to which I had to become accustomed, and the friendly Americans who are glad to help you. It was the same at work: I was welcomed very warmly and it was no problem to get started, even though these cubicles appeared a bit strange to me. I was part of the group "Fuel System Technology" and worked at first on a project to find a suitable computer application for one-dimensional flow calculations. In the first step, it was necessary to get an overview of the existing software and its capabilities. After that, I performed a deeper evaluation of the two most promising programs. Another project, in which I was involved, was a study

about innovative fuel system architectures based on the Boeing 767. I had to model these systems with software I used in the first project, and perform several simulations for appropriate sizing. The goal was to make a statement about potential weight or cost savings. I think I profited very much by this internship, especially since I didn't have a clue about fuel systems. It was great to learn more about such an important aircraft part in detail! But working is not the only thing you can do in Seattle. I took the opportunity to start flight training and am now proud owner of a private pilot license – a great feeling! And the landscape around Seattle is almost more beautiful from above than on the ground. And take the chance to go farther! I spent my last weeks in the US on a road trip following the coast down to San Francisco – an unforgettable experience! Unfortunately, there was neither a whale nor a bear to be seen... so I have to come back!

I can certainly say that these six months in America were an unforgettable experience which I don't want to miss! Thank you, RASf, Lufthansa, Boeing, thank you, America!

## Jean Rosado

Trainee Program  
from Mar. 2007 to Sep. 2007



It's difficult to find something to say about this wonderful program which has not already been said. If I had to pick a few words to describe it, it would be "a great experience". Unlike many previous students involved in this program, it was not my first experience abroad

(it was in fact my third exchange program), so I didn't have so much apprehension before leaving the "Old Europe", which doesn't mean that the last days in Berlin were not stressful. But the very good organization of the program from both sides makes everything much easier.

I was assigned to the Sales Support - Aerodynamic Performance division and joined the Asia/Pacific group, working at the exact same desk as Jork a year ago. The transition at Boeing was very smooth: the whole team was very friendly and I could very easily ask someone for help if needed (which I did a lot, especially during the first weeks of my internship...). The work atmosphere is very pleasant at The Boeing Company but there are high expectations to meet too: my first assignment came two hours after I arrived, a small mission to learn on the job. No time for industrial tourism and laziness during work hours.

My main missions were: 1- to support the Marketing & Sales Departments (which means to provide technical data to show performance and capability of the fleet for the airlines) 2- to write guarantees for the airlines about the performance of ordered airplanes with specific interior and configuration and 3- to write compliances to show that the level of performance of the delivered airplane actually meets the guaranteed level. I really liked the diversity of the different jobs: each airline has its own way to operate an airplane and I had the occasion to work on the whole fleet. One important aspect of the job was the strong link with the customers and the respect of their expectations and deadlines. It was very interesting to experience this relationship manufacturer/customer from the inside, a major aspect which can not really be understood at the university. This program is the perfect opportunity to gain valuable experience.

Besides, I attended the program in the summer, so I had the opportunity to know better The Company thanks to a weekly intern class (5 sessions, with many presentations about the various divisions of the Company

and with tours to see the production lines). I was curious to learn more about the global strategy of such a big company in a global market and my curiosity was more than satisfied.

Last but not least, I would like to thank all the people involved in the Reinhardt Abraham Memorial Foundation for their help and commitment and all my colleagues for the constant support during my internship.

Elisa and Wolfram sent us a preliminary report

## Elisa Langnickel

Trainee Program  
from Aug. 2007 to Mar. 2008



A new exciting period in my life started on September 18<sup>th</sup>, the day I left Berlin to visit the United States of America for the first time of my life.

Even just after one month, I can say, that I'm really thankful for the opportunity given by the

DLBS; RASf and the Boeing Company and that I'm enjoying my time here very much.

My life here started with a lot of organizing. Means opening a bank account, looking for a place to stay, buying a car, getting a drivers license and a Social Security Number, and doing a lot of paperwork for getting started to work with Boeing.

Many things became easier with the help of my predecessor Jan: I bought his car together with some other useful stuff for my place.

I decided not to rent an apartment for myself but moving into a room in a very nice house in Everett. I have great housemates and everything is already set up, so all I had to bring was the furnishing for my room.

The American mentality is so different from the German one, everybody is really friendly. The cashiers are asking about somebodys feeling and everybody is willing to talk and to help. That makes settling in here much easier.

I live really close to Boeing, so I need only about 15minutes to work in the morning.

Working for Boeing, especially RM&T is awesome. The atmosphere is so much gentler as in all companies I worked before – I think one reason for this is the fact, that everybody is addressed by its first name, even the biggest boss.

RM&T, which means Reliability, Main tenability and Testability simulates and calculates among other things probabilities for possible occurrences in order to optimize the maintenace circles. My department develops software, statistics and of course, does a lot calculating. I will probably work in this department for the next two month, afterwards I will get the possibility to experience how it is to work in another department of RM&T: flight controls, hydraulic and mechanics.

Boeing really cares about its employees and offers a lot of clubs and leisure activities for a small amount of money. Through this I could find people to go climbing with once a week, I will lean skiing and I'm joining the fitness club. I also will start taking lessons for my private pilot licence soon, which is also cheaper through Boeing.

I already met a lot of people here to spend my spare time – so I had the pleasure to celebrate Halloween the real American way. Now I'm really curious about the other upcoming holidays like Thanksgiving, Christmas and New Year.

Even if the weather is mostly rainy I enjoy the nature in the vicinity. Washington is just great: there is the rainforest, the Pacific and the Mountains.

I'm glad, that I have still 5 months left to discover this interesting state and hopefully also some places in other states of the U.S.

## Wolfram Martens

Student Exchange Program  
from Aug. 2007 to Feb. 2008  
Course of Study: Aeronautical Engineering TU-Berlin



After a long and exhausting flight to Portland and an almost more exhausting bus transfer to Seattle including a minor accident on the freeway we finally arrived in the Emerald City on late August 31<sup>st</sup> 2007.

Thanks to FIUTS, an organization that helps international students to get along at the

University of Washington, I had a host family where I could stay for the first week after my arrival in Seattle. They picked us up at the bus station and helped me getting settled during the first couple of days.

After a week and a half and having been to many different houses I had finally found a place to stay right next to the campus and could from then on concentrate on taking part in the orientation program organized by FIUTS and getting to know fellow students. As we still had almost two weeks to go before the quarter started this was a great opportunity to get to see many of the beautiful sights in and around Seattle.

At the same time I tried to figure out a detailed plan for my studies in the Fall quarter as well as for the whole time I am going to be in Seattle. It was clear to me that I wanted to concentrate on a scientific thesis rather than taking classes although there were many classes that would have been interesting to me. During my search for a suitable topic for a thesis I talked to many different professors at the Aeronautics and Astronautics Department and hence got a broad overview of the different research fields. In the end I had to decide between two very interesting problems in the field of flight dynamics and control and finally got started just around the time the quarter began. In addition to my research work I am signed up for two classes, one of them an undergraduate class on FEM, another one a graduate class on Nonlinear Optimal Control. So far I seem to find a good balance between preparing homework and exams for the two classes and working on my thesis.

Up to this point my stay in Seattle has been an outstanding experience, in academic as well as social and cultural terms. I am enjoying the great opportunities the University of Washington offers its students, the great city of Seattle and its surroundings and the many social events where I get to be with students from all over the world. I have got the feeling that I am well prepared for the things yet to come and looking forward to the next months of living and studying at the University of Washington.

To All of You A Happy  
& Successful New Year

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