

Overview of the International Activities in 2013

Teaching Staff Mobility



Instituto Politécnico de Lisboa IPL

In June 2013 **Ms. Britta Zupfer** visited the "**Instituto Politécnico de Lisboa IPL**", invited by the Department of Mechanical Engineering. She spent a few days teaching in the framework of the ERASMUS teaching programme for bilateral exchange. The Portuguese students were particularly interested in her seminar on German cars and her presentation "Mercedes Benz Düsseldorf: Daimler's Largest Van Plant". Many students could imagine studying in Düsseldorf or working in Germany after their graduation.

International Research



Prof. Weber with two members of his team and the research aircraft DA 42 MPP

With his research group (Labor für Umweltmesstechnik), **Prof. Weber** successfully continued his international research activities on the investigation of volcano emissions



Prof. Kameier (the left photo) visited the AGH University in Cracow, **Poland** in September 2013, for the duration of one week, for presentation and for establishing a research cooperation.

Prof. Niemann (photo right) supervised the Practical Training at the company Continental in Shanghai, **China**, and a Master Thesis at the company Doppelmayr in **Austria**.



Prof. Benim hosted three researchers, namely Prof. Özsert, Assoc. Prof. Zengin and Assist. Prof. Coban from the Sakarya University, **Turkey**, for a period of three months, who worked on combustion modelling.



A further researcher, who visited the CFD Lab of Prof. Benim was the Ph.D. student Mr. Sofiane Aberkane (the right photo) from the University of Boumediene, **Algeria**, who performed a part of his Ph.D. thesis on computational heat transfer during a period of one month, under the supervision of Prof. Benim

Another visitor to the CFD Lab of Prof. Benim from **Algeria** was Ms. Anissa Talamali. She was a Ph.D. student at the University of Tizi Ozou and performed a part of her Ph.D. thesis on computational heat transfer during a one-month period of stay, under the supervision of Prof. Benim.



Assoc. Prof. Nikbay from the Department of Aeronautics and Astronautics of the Technical University of Istanbul, **Turkey**, visited the CFD Lab of Prof. Benim for a period of three months, within the framework of a research project funded by the German Research Foundation (DFG) on computational fluid-structure interaction. The photo left shows Prof. Nikbay with Prof. Benim.

Assist. Prof. Khafizova from the Mechanical Engineering Department of State Mining University in Saint Petersburg, **Russia** visited the CFD Lab of Prof. Benim within the framework of the DAAD research program "Mikhail Lomonosov", for a period of three months. She worked in the field of computational simulation of liquid metal flows with phase change. The photo right shows Assist. Prof. Khafizova (in the middle) with Dipl.-Ing. Nahavandi (left), and Prof. Benim (right).



Incomings and A Survey on their Experience at our University

During 2013, totally 17 students visited our university through the Erasmus program.

Two of them, G. Ciobanu and V. I. Ibanescu were from **Romania (Technical University of Cluj-Napoca)**. They were enrolled in our Master degree program.

The rest, i.e. 15 of the incoming students were from **Turkey**: 10 from **Sakarya University** (T. Günyeli, E. G. Kaynak, H. Dereci, M. K. Pehlivan, Ö. Esmer, S. L. Uzun, B. Özer, C. E. Samlioglu, O. Örengül, U. Örengül), 3 from the **Istanbul Technical University** (D. Ak, P. Caglayan, C. A. Ipek) and 2 from the **Yildiz Technical University** (C. Cicioglu, E. Bülbül). They took courses from our Bachelor degree programs.

We performed a survey for getting their feedback. Main results are summarized below:

Please make a list of things that were good:

- The instructors and the International Office were very appreciative and helpful
- The courses were not purely theoretical, but supported by practical trainings
- Attendance to courses was not compulsory
- Social and cultural events organized for the Erasmus students were good
- Public transportation in Düsseldorf was good

Please make a list of things that were bad:

- Erasmus students cannot use the online system for registration to exams and checking the grades

Suggestions for improvement:

- The offered German language course was not sufficient. More hours would be helpful
- The number of technical courses in English should be increased
- A website in English should be provided

Any further comments:

- "If I had another chance, I would again choose the FH Düsseldorf!"

Outgoings

Also in this year, a number of our students visited institutions in foreign countries for their studies. There are variety of channels through which the students can go abroad. One of them is the Erasmus program, utilized e.g. by N. Stenzel and J. Merz (**Univ. Valencia, Spain**). Via bilateral cooperation agreements and individual applications, our students found placements also in non-Erasmus countries. C. Gropp visited **Southern Polytechnic State University, Marietta** where I. Ben Moussa and N. Büscher visited **California State University, Fullerton** in **USA**.



A number of students (S. Goudis, M. Guntermann, A. Kothen, B. Lebedev, T. Sagel, S. Siegert, M. Top) made their internship (practical semester) in industrial companies such as Chiron Inc., Continental Automotive Systems CO Ltd., Chiron Inc., Siemens Energy Inc. OOO Sick, SMS Siemag LCC in countries such as **China, England, Russia** and **USA**. J. Szonn made his internship at the **University of Maryland, USA**. The contact to the Univ. Maryland was established by **Prof. Neef** (the photo), who is also mentoring several internships abroad. Prof. Niemann manages the internship program of the department. **Prof. Bongartz** contributed to establishing links to industrial countries abroad.

Publications in International Journals

Al-Halbouni A, Rahms H, Chalh-Andreas B, Giese A and Benim AC, „Entwicklung eines Kombibrenners für den Kohlevergasungsprozess“, Gaswärme International 4 (2013) 67-72.

Ammourah SA, Benim AC, Maqableh AM, Khadrawi AW and Al-Nimr MA, „Flow Characteristics of a Micro Orifice“, JP Journal of Heat and Mass Transfer 7 (2013) 17-34.

Dalchow CW, Hagemeyer KC, Muenscher A, Knecht R and Kameier F, „Investigation of noise levels generated by otologic drills“, Eur. Arch. Otorhinolaryngol 270 (2013) 505-510.

Publications in International Conferences

Aslan E, Nahavandi A, Taymaz I and Benim AC, „A Study on Representing Irregular Boundaries by the Lattice Boltzmann Method“, Proceedings of the „10th WSEAS International Conference on Fluid Mechanics (FLUIDS'13) January 9-11, 2013, Milano, Italy“, Recent Advances in Mechanical Engineering 2 WSEAS Press, 2013) 19-26.

Benim AC, „Computational Investigation of Turbulent Swirling Flows in Industrial Gas Turbine Combustors“, 3rd Conf. on Modern Energy Technologies, Systems and Units“, 16-18 Oct. 2013, Cracow, Poland, Invited Planery Lecture.

Benim AC, Iqbal S, Nahavandi A, Meier W, Wiedermann A and Joos F, „Validation of Turbulence Models for Confined Swirling Flows“, Eighth Mediterranean Combustion Symposium, 8-13 September, 2013, Cesme, Izmir, Turkey, Conference Proceedings, Paper No: EGTSC-11, 2013.

Benim AC and Kuppa K, „Numerical Simulation of an Entrained-Flow Coal Gasifier by an Eulerian-Eulerian Two-Phase Flow Model“, in: G. Özbayoglu and A. I. Arol (Eds) Proceedings of the „XVII. International Coal Preparation Congress (ICPC), October 1-6, 2013, Istanbul, Turkey“ (Aral Group, Ankara, 2013) 749-754.

Benim AC, Pfeiffelmann B, Wollny P, Giese A, Al-Halbouni A and Rahms H, „A Validation of Turbulent Combustion Models for Oxy-Natural Gas Diffusion Flames“, Eighth Mediterranean Combustion Symposium, 8-13 September, 2013, Cesme, Izmir, Turkey, Conference Proceedings, Paper No: RKC-7, 2013.

Heinze R, Beckers S, Wahl T, Kameier F and Paschereit CO, „Enforcement of Flow-Induced Oscillations of a Circular Cylinder due to Interference Effects-Numerical Simulations and Experimental Studies“ AIAA, June 2013, San Diego, USA.

Heinze R and Kameier F, „The flow over a cylinder-plate-configuration: FSI-Simulation of the hysteresis-effect and conclusions for the acoustic phenomenon“, AIA-DAGA, March 2013, Meran, Italy.

Kameier F, Köhl M and Pohlmann T, „Wind turbines – could they be too noisy?“, AIA-DAGA, March 2013, Meran, Italy.

Kameier F, Schönwald S, Heinze R, and Pohlmann T, „Industrial centrifugal fans-low energy consumption and low noise design“, Internat. Conf. of Power Engineering and Environmental Protection, 26-27 Sept. 2013, AGH, Cracow, Poland.

Krumm A, Pfeiffelmann B, Gottschald J, Dunke S, Benim AC, Adam M and Ebling DG, „Influence of the Incident Coolant Flow and Thermal Coupling on the Heat Transport of the Cool Side of a Thermoelectric Generator“, 11th European Conference on Thermoelectrics (ECT 2013) 18-20 November 2013, ESA/ESTEC, Amsterdam, The Netherlands, Book of Abstracts, pp.91,92.

McLean S, Giese A, Al-Halbouni A, Benim AC, Kuppa K, „Entwicklung eines effizienten, schadstoff- und pulsationsarmen Überschall-Sauerstoff-Öl/Gasbrenners für energieintensive Anwendungen“, Combustion and Furnaces – 26. German Flame Day, VDI-Berichte 2161 (VDI-Verlag, D'dorf, 2013) 687-691.

Riegebauer P and Oesterwind D, „Flexible Demand as a Key Factor for Cost Efficient Renewable Energy Integration“, 36th Annual IAEE International Conference – „Energy Transition and Policy Challenges“, International Economics, 16th-20th June 2013, Daegu, Korea.

Riegebauer P and Oesterwind D, „Power to Heat as a component of German Energy Transformation“, 13th European IAEE Conference – „Energy Economics of Phasing out Carbon and Uranium“, International Association for Energy Economics, 18th – 21th August 2013, Düsseldorf, Germany.

Weber K, Vogel A, Fischer C, Pohl T, Böhlke C, Lau H, Eliasson J and Palsson T, „First results of an airborne release of volcanic ash for testing of volcanic ash plume measurement instruments“, Proceedings of 8th IASME/WSEAS international Conference on Energy and Environment (EE'13) Rhodos, Greece, July 16-19, 2013.

EDITORIAL STAFF



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This is an overview, which is not claimed to be exhaustive. Some activities have been omitted due to space limitations. We apologize, in advance, for any activity that might have unintentionally be omitted due to an oversight.



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