

EU Science and Technology Fellowship Programme China

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Some Teachers and Tutors from Beijing Foreign Studies University

Teachers: **LIANG Dongmei** (left 3): Everyone of you has made rapid progress in Chinese learning, and became more and more familiar with China, congratulations! Hope you will lead a happy and fruitful life in the following days in China!

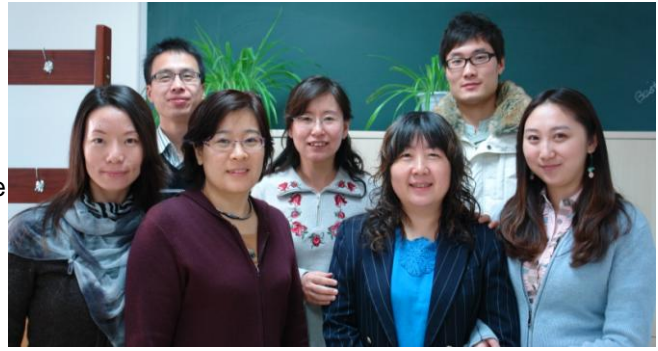
FANG Jie (right 3): Hi, Intake2 fellows. I really appreciated your co-operation, and very enjoyed the every moment we stayed together. Good luck, everyone! Hope to meet you somewhere someday!

WU Sina (middle): I think they are very wonderful students, and I really have a good experience and spend unforgettable days with them. **TANG Ling**

(left 1): I am very happy to be a Chinese teacher of STF program and favorably impressed with students' hard work and friendship! Their progress is amazing! I hope their achievements are big help to their future life in China and wish they enjoy their time in China! **LI Yonghui**: I think it's not an easy job to teach in this project, but I start to miss it before it's finished. So there is some charming that I can't not clearly express about it. I wish everybody revolved feel that he did the right choice to have joined in. **QI Mingming** (right 1): I'm honored to attend the teaching of STF programme. During these several months, I've been spending a very happy time with these lovely fellows and I really enjoy it. I learn a lot from them, too.

Tutors: **LIU Bo** (right 2): It's a rather pleasant journey to help these elites with their Chinese, seeing their language level ascend amazingly and a precious experience to enjoy the time together with them.

HUANG Jianping (left 2): Having been a tutor of a multilingual genius is half bitterness and half enjoyment. It is bitter to be invited to question almost all the rules of Chinese grammar by Jan and it's a complete delight to manage to put across things to him in any kind of mixture of languages, Chinglish, Germañol.



Doing Research in China - Joint DAAD-STF-Fulbright Forum, 29 to 30 October

The STF organised, together with the German DAAD and the US Fulbright, a Joint Forum for 60 young Western academics from 29-30 October 2010. The Joint Forum *Doing Research in China* was the Second joint event of the three institutions in Beijing. The Friday afternoon session opened with messages from Mr. Johan Cauwenbergh from the EUD in Beijing, Ingrid D. Larson from the US Embassy and Dr. Hack from the German Embassy. The keynote speech by Prof. Dr. Jean-Francois Monin, LIAMA, University of Grenoble that offered many practical insights into Chinese-European research co-operation was followed by an interesting Q&A session and a networking dinner.

Prof. Dr. Muennemann, Free University of Berlin and Nanjing University, focused in the first input speech on Saturday *Experiences of doing Research in China - Chances and Challenges: Geo-sciences* on the natural water availability in China and desertification. The input speech laid ground for six theme group discussions in which the participants shared their research interests and discussed opportunities and challenges of doing research in China.

Dr. Moritz de Greck and Dr. Aurelien Stalder, both current STF 1 Fellows, shared their research experiences of doing research in China in the afternoon. Dr. de Greck's very dedicated speech *The basis of emotional sharing* and Dr. Stalders presentation about *Atherosclerosis* and his research environment were followed by an Open Space Session, in which scientific and practical challenges were discussed and problem solving strategies discovered.

The day concluded with a networking dinner and the possibility for the participants to further explore their joint research interests in a relaxed atmosphere.



From the Fellows and Their Chinese Hosting Institutions

STF 2 fellow, Martin Andersson (Department of Physics, Faculty of Science, Lund University, Sweden / Institute of Modern Physics, Fudan University, Shanghai, China):



Martin escaping Shanghai and exploring the old China in Xitang

My name is Martin Andersson and is from Sweden. During my PHD at Lund University, Sweden, we had a close collaboration with the Shanghai EBIT Laboratory at Fudan University in Shanghai. After finishing my PHD I joined the Fudan group for a postdoc under the support of China Postdoc Foundation. During these years we continued our theoretical studies of effects of off-diagonal hyperfine interaction in certain types of atomic systems. We showed that the hyperfine interaction could be a problem or a possibility for a much wider range of ions in plasma diagnostics than earlier had been understood. The work got a wide acknowledgement by the science community and I was twice invited to talk about our findings at conferences.

My research will now gradually change focus to investigate ions in an external magnetic field, and in particular focus on the effect of off-diagonal Zeeman interaction. From a theoretical point of view, the hyperfine and the Zeeman interaction have a lot in common and my work on hyperfine interaction therefore forms a good fundament for my studying Zeeman interaction. The plan is to improve our understanding of such system by combining theory with experiment. For this purpose a new small EBIT (LEIF) has been constructed at Fudan and at the moment it undergoes testing.

My first task will be to write a set of programs that theoretically predicts how a spectrum of an ion would look depending on the strength of the magnetic field and the angle to the same. These will then be compared to experimental ones taken by LEIF. Through these comparisons we hope to get a better understanding of ions in magnetic fields and in particular the influence of the off-diagonal Zeeman interaction.

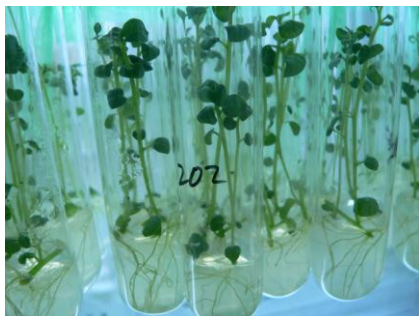
From Our Readers: Collaboration with Vilnius University (Lithuania)



Kinetic Phenomena in Nanosystems based on quantum mechanical models and search for the potential of their optimal control are the main scientific issues carried out in Theoretical Physics group of Vilnius University under supervision of prof. Leonas Valkunas. The research also includes the development of exciton theory and its application to the nonlinear spectroscopy of molecular complexes, excitation dynamics in complex molecular systems and nanostructures, coherent control and optimization of nonlinear optical signals of biomolecules and nanosystems. Theoretical background of multi-dimensional spectra of molecular complexes is also the subject under consideration.

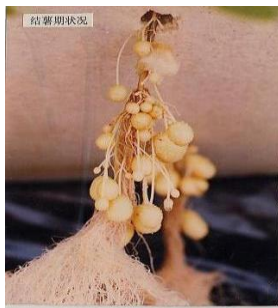
Theoretical Physics group in the Department of Physics of Vilnius University very recently has established firm ties with several research organizations in China, which include State Key Laboratory of Supramolecular structure and Materials of Jilin University in Changchun, National Laboratory for Physical Sciences at Microscale, University of Science and Technology of China in Hefei, and Dalian Institute of Chemical Physics in Dalian. Prof. Darius Abramavicius of the Vilnius University was appointed as the visiting professor at the State Key Laboratory of Supramolecular structure and Materials of Jilin University in Changchun and is spending several months per year in China performing teaching and research together with Chinese colleagues. Undergraduate and graduate students in Lithuania and in China have now possibility to share expertise and experience. In carrying this project the Theoretical Physics group is hoping to develop permanent student exchange programs for European and Chinese students, professional training programs for postdoctoral researchers and professors at various levels. This may ultimate lead to higher scientific standards in fundamental fields of physics. Additionally in the future it is planned to hold meetings with industry groups interested in know-how development and exchange of bright ideas.

This article is provided by Professor Darius Abramavicius of Vilnius University and Dr. Juozas Sulskus, vice-dean of Physics Department of Vilnius University



Brief Introduction: The Biotechnology Research Institute (BRI) is a scientific research unit which is composed of the Key Laboratory of Crop and Livestock Molecular Breeding of Heilongjiang, Gene Engineering Department, Cell Engineering Department, Biomass Energy Department, Rice Molecular Breeding Department, Maize and the Wheat Molecular Breeding Department and the Biosafety Department.

More than 20 scientific programs are currently in progress. Meanwhile, the institute also is involved in 10 sub-projects linked to the national transgenic key project, which involves soybean, maize, rice and wheat. One national transgenic key project is done by the institute too. The BRI has won 6 province awards for



New Variety "Long Yinshu No.1"

science and technology advancement, 1 national invention award for N6 culture medium research, 2 invention patents and 1 utility model patent. Through many years of research, the exogenous gene transformation method of various crops has been built by the institute, including pollen-tube pathway, Agrobacterium-mediated transformation, particle-bombardment, etc. 6 breeds in 4 kinds of crops were successfully bred by pollen tube pathway, such as 1 high-protein soybean variety, 1 cyst nematode resistance, saline-alkali tolerance, high yield soybean variety, 1 high cellulose, lodging tolerance, high yield flax variety, 2 super-rice varieties and 1 early maturity maize variety. The BRI possesses stress-resistant genes (drought resistant, saline alkali resistant and low temperature tolerance), insect resistant genes and crop quality improvement genes, which have independent intellectual property. Expression vectors such as herbicide resistance selectable marker gene vector and efficient non-toxic selective marker gene vector have been built by the institute. All these achievements have been used in the field of crop genetic transformation.

International Academic Exchange and Technical Cooperation

The **Biotechnology Research Institute** is always interested in increasing the cooperation and communication with other institutes both in China and abroad. Already strong relationships in China exist with the Genetic Development Institute of Chinese Academy of Sciences, the Botanical Institute of Chinese Academy of Sciences, Peking University, Shanghai Plant Physiology Research Institute, China Agricultural University, Hainan University, Biology Center of Chinese Academy of Sciences, etc. On an international level, strong relationships with many universities and research units from Japan, American, Korea, Australia, Canada, the Czech Republic, Russia and Poland. The **Biotechnology Research Institute** welcomes any parties interested in cooperating in the area of biotechnology. We look forward to creating new relationships with institutes both in China and throughout the world.

Key Laboratory of Crop and Livestock Molecular Breeding of Heilongjiang was founded by Heilongjiang Science and Technology Department, Finance Department and Heilongjiang Academy of Agricultural and Sciences in November 2006. The occupied area of laboratory is 2400 square meters. 8 million and 8 hundred thousand were invested to buy 248 instruments and equipment. To carry out director employment system and chief expert responsibility system, subjects of the laboratory are supervised by chief experts. The laboratory provides an experimental platform for master students, doctors, post-doctoral researchers and biotechnology researchers who are from 30 different research institutes in HAAS. The laboratory is also open to biotechnology researchers who are from other cities and other countries. To satisfy the needs of biotechnology research and to absorb biotechnology talents, Heilongjiang Crop and Livestock Molecular Breeding Laboratory is endeavor to be the first-class agricultural biotechnology laboratory.

Postdoctoral Workstation of Heilongjiang Academy of Agricultural and Sciences was founded in 2005. The academic echelon, scientific research and postdoctoral training were all got rapid development in the five years. 11 postdoctoral researchers are working at the station now. The Workstation provide a good academic atmosphere and work environment for post-doctors, in the meantime, it also promote the communication and cooperation between institutes.

This article is provided by Zhugang Li, Assistant President of the Heilongjiang Academy of Agricultural Sciences (HAAS) and Director of Biotechnology Research Center of HAAS



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The EU STF is designed to build bridges between the EU and China in the Science & Technology domain. It promotes the mobility of EU researchers to the Chinese research and development area.