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3 WEEK VISIT IN FORSCHUNGSZENTRUM JÜLICH

02.09.2013-22.09.2013

How it started

- In TSU competition was held , which aimed choosing students for visit in FZJ.
- Participants personally talked to local professors, who then made a decision.
- Aim of the talk was to better introduce yourself to professors and state your motivation for participating in this competition.
- I hopelessly took part in this competition and ,in addition, I was chosen for visit.

Arrival days

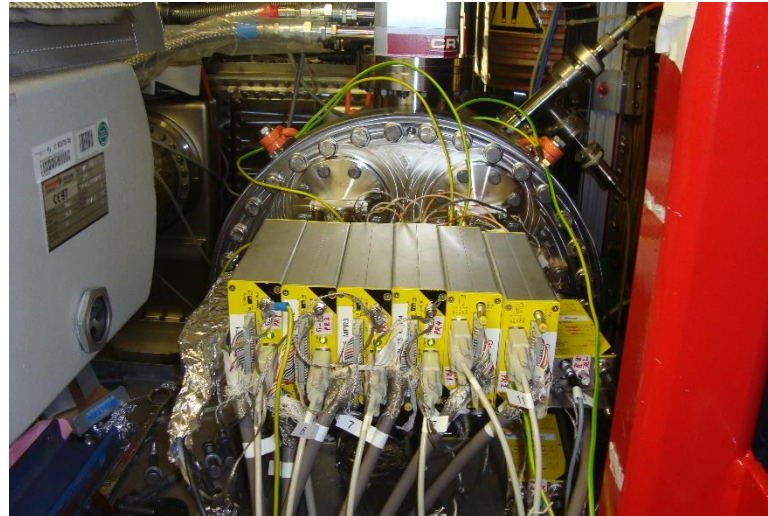
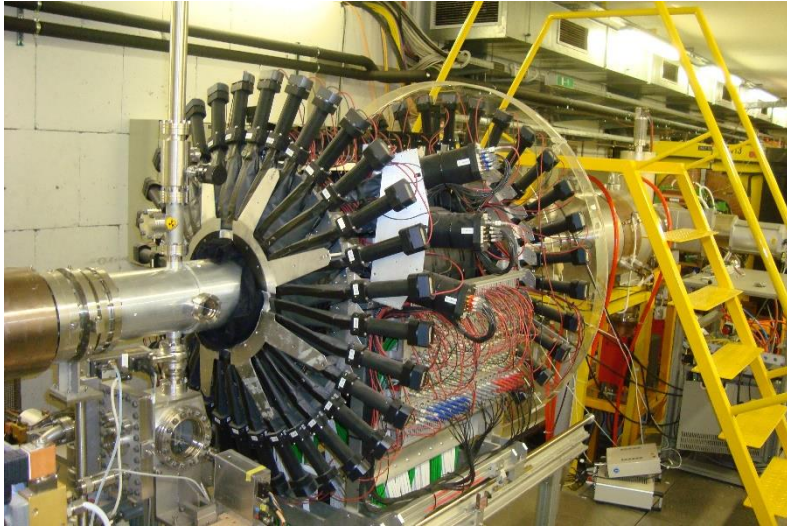
- Upon our arrival we had couple of free days, so we walked around Jülich .
- Despite the fact that Jülich is a small town, it has a long history.
- Jülich is first mentioned in Roman times as *Juliacum* along an important road through the [Rur](#) valley.
- Unfortunately , during the World War II much of Jülich was bombed by Allied , so many historical buildings were destroyed .



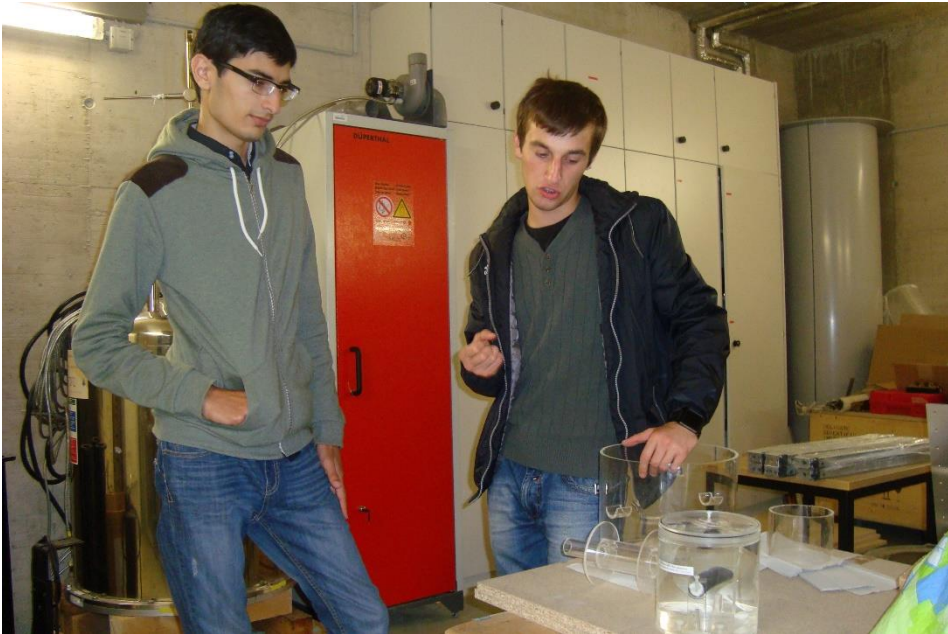
First days at FZJ

- Dr. Andro Kacharava met and took us at IKP (Institute for Nuclear Physics).
- FZJ consists of 11 institutes, IKP is one of them, each of them working in different fields of science.
- The main aim of IKP is to study matter at sub-atomic levels using the accelerator COSY ,which was commissioned in 1993
- "COSY" is an abbreviation of "COoler SYnchrotron", i.e. an accelerator for "cold" particles. COSY is not only an accelerator, capable of accelerating protons to 96% of the velocity of light, it's also a storage ring to store and manipulate these protons. The protons are cooled and supplied to internal, or after extraction, to external experiments. In principle, COSY is a 180 m closed loop vacuum tube.

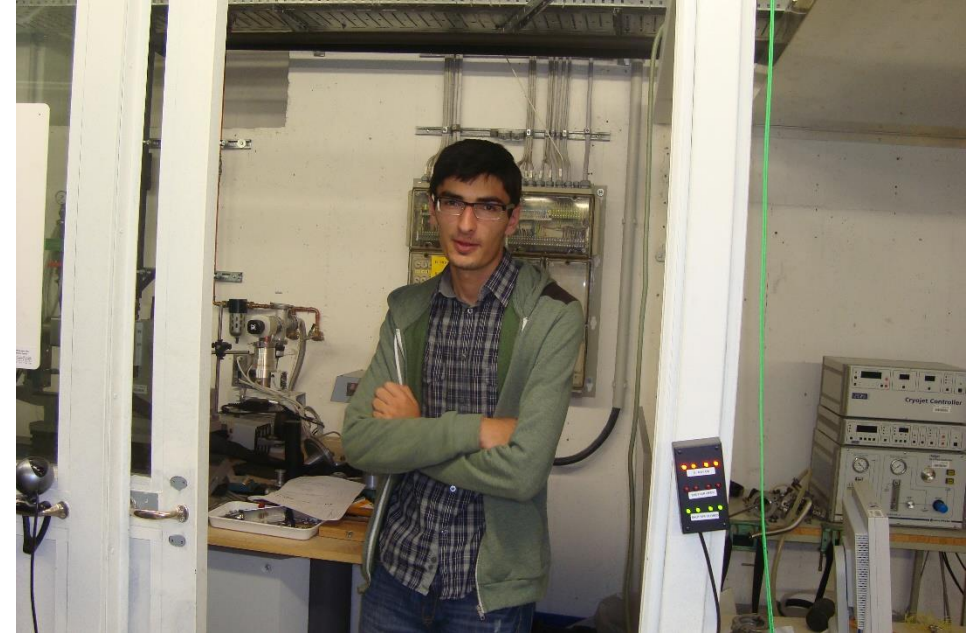
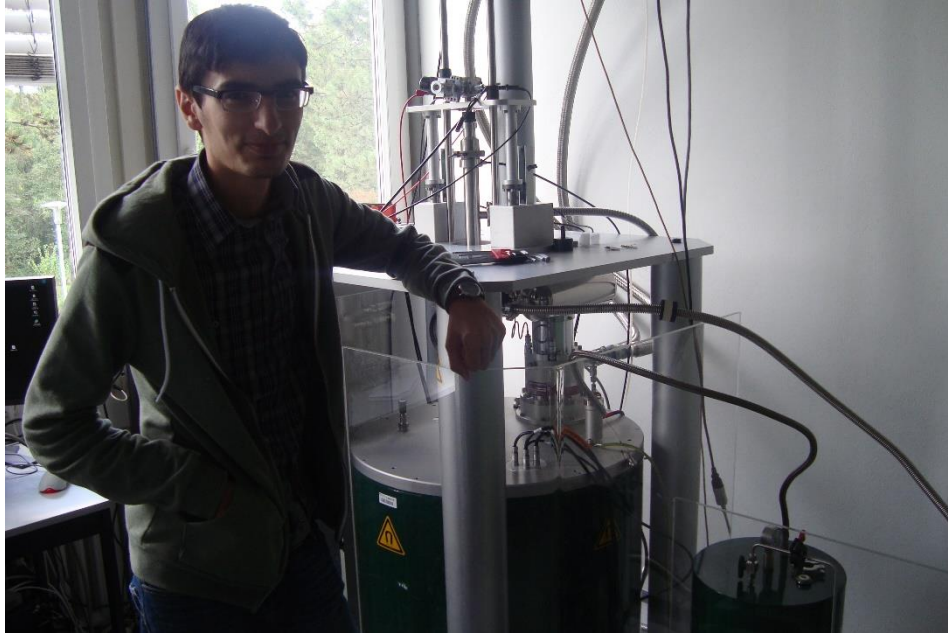
At the COSY facility



Visit at Institute of Neuroscience and Medicine (INM)

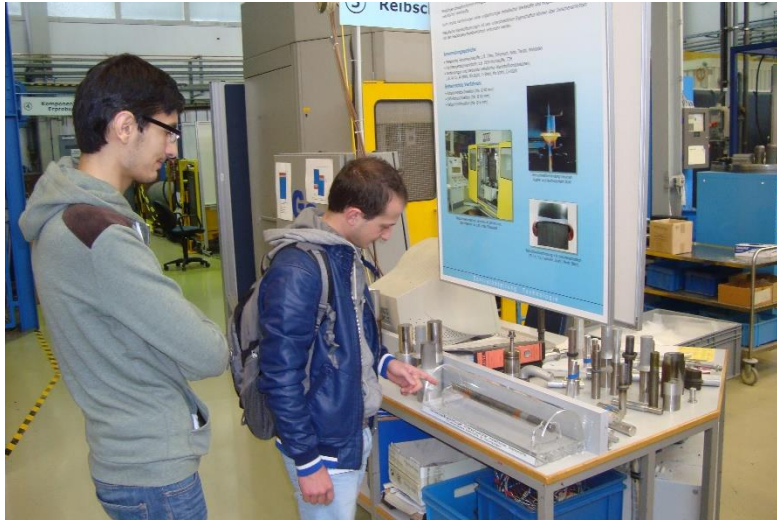


Visit at Peter Grünberg Institute (PGI)



Peter Grünberg won a Nobel prize for his discovery of **Giant magnetoresistance (GMR)** , phenomena which is the main working principle behind hard drives . He is working in this institute . Research at PGI focuses on electronic phenomena in condensed matter systems, which not only promise applications in future information technology, but may also become relevant in other technology fields.

Visit at Central Institute for Engineering, Electronics and Analytics (ZEA)



ZEA , the “Swiss blade” of FZJ

Results

- I saw how research is done nowadays and how problems ,that emerge during experiments, are solved with mutual discussions .
- Gained information about nuclear physics and accelerators , nuances of its experiments .
- Became more motivated to get involved in science .
- Realized that in FZJ there is a place for every type of scientist , not only for physicist .

Thank you for your attention

Special thanks to :

Prof. Dr. Hans Stroeher for inviting us in FZJ and giving us a chance to experience complex atmosphere of experimental research .

Dr. Andro Kacharava for being attentive towards us, guiding and introducing FZJ and for providing interesting information about IKP .

Professors of Tbilisi State University for giving me a chance to visit FZJ .

Prof. Avtandil Tavkhelidze for guiding through Peter Grünberg Institute.

Mikheil Kelenjeridze for showing Institute of Neuroscience and Medicine and for helping us to settle down in Jülich .

Dito Shergelashvili for introducing ZEA facility .

Georgian Staff for being friendly and always willing to help us .