

# Minutes of the general discussion of the CRC review

July 14, 2010

## Participants:

- **Representatives of the DFG:** Dr. A. Bormann, Dr. K. Zach, Dr. C. Balleier, Dr. V. Damerow
- **Review panel:** Prof. Dr. M. Röckner, Prof. Dr. R. Rosenberg, Prof. Dr. A. Czarnecki, Prof. Dr. L. Dixon, Prof. Dr. N. Glover, Prof. Dr. G. Hiller, Prof. Dr. U.-G. Meißner, Prof. Dr. G. Münster, Dr. P. Weisz, Prof. Dr. U.J. Wiese, Prof. Dr. D. Wyler
- **Representatives from the universities and DESY:** Prof. Dr. E.M. Schmachtenberg (RWTH), M. Nettekoven (RWTH), Prof. Dr. M.W. Linscheid (HU), Prof. Dr. D. Löhe (KIT), Prof. Dr. J. Mnich (DESY)
- **Representatives of the ministries:** R. Hoogeveen (Baden-Württemberg), N. Hilger (Nordrhein-Westfalen)
- **Principal investigators (PIs):** Prof. Dr. M. Beneke, Prof. Dr. W. Bernreuther, Dr. J. Blümlein, Prof. Dr. M. Czakon, Prof. Dr. M. Krämer, Prof. Dr. J.H. Kühn, Dr. K. Jansen, Dr. S. Moch, Prof. Dr. M.M. Mühlleitner, Prof. Dr. M. Müller-Preußker, Prof. Dr. U. Nierste, Dr. T. Riemann, Dr. R. Sommer, Prof. Dr. M. Steinhauser, Prof. Dr. P. Uwer, Prof. Dr. U. Wolff, Prof. Dr. D. Zeppenfeld  
excused: Dr. L. Mihaila

Begin: 9:00 h

End: 10:05 h

Dr. Bormann opens the meeting and welcomes all participants, in particular the review panel and the representatives of the ministries and of the universities and DESY. She provides an outline for the meeting: First the universities present their view and contribution to the CRC/TR 9, and afterwards there are final questions from the review panel to the PIs.

## Statements of the universities and DESY:

- *Prof. Schmachtenberg* outlines the structure of the RWTH Aachen as an integrated technical university where natural sciences play a crucial role, and mentions that the areas of theoretical particle physics and cosmology have been strengthened recently by two new junior professorships and a Heisenberg professorship. He stresses that

increasing the number of female professors in natural sciences is an important part of the overall RWTH strategy. Moreover, through the center of doctoral studies, the RWTH provides a coordinated program for the training of young scientists and PhD students.

- *Prof. Löhe* explains how the CRC/TR 9 is embedded in the KIT center for elementary particle and astroparticle physics (KCETA), which is one of the four centers at KIT. He stresses the efforts of KIT to support young scientists, like the “Karlsruhe house of young scientists” (KHYS) and the young investigator network (YIN). As far as equal opportunities are concerned Prof. Löhe emphasizes that it is important that female scientists do not need to interrupt their career in case a child is born. Thus child care is important. KIT has doubled its capacity and will double it again by 2012.
- *Prof. Linscheid* underlines the importance of theoretical particle physics for the HU. He mentions a second CRC “Space, time and matter”, which is relevant to theoretical particle physics, and the appointment of three professors (Prof. Plefka, Prof. Staudacher, and Prof. Kreimer with a Alexander-von-Humboldt professorship) who work on more mathematical aspects of theoretical particle physics. With respect to gender issues, Prof. Linscheid mentions that Berlin has good facilities for families in general, and he points out that there is a special funding program at the HU for early replacements of professorships by women.
- *Prof. Mnich* stresses that DESY will remain a leading institution of particle physics at a national and international level in the future, and that the CRC/TR 9 is important for DESY, in particular the research in the areas of precision calculations for the LHC, and in lattice gauge theories (NIC research group). He emphasizes that DESY supports the CRC whole-heartedly. Prof. Mnich mentions the various programs to promote young scientists, like the program for PhD students, the “Schülerlabor” and the summer student program. He also points out that in the recent years there have been nine successful applications for Helmholtz Young Investigator Groups. As far as gender issues are concerned Prof. Mnich reports an increasing number of female PhD students and female postdoc fellows at DESY. Furthermore, four out of the nine leaders of the Young Investigator Groups are female.

## **General discussion and questions to the universities and DESY:**

- In the context of family measures and childcare, *Dr. Weisz* questions whether it is good to keep parents away from their young children.

*Prof. Mühlleitner* reports from her own positive experience; she went back to work three months after her child was born.

*Dr. Zach* mentions that she always worked and she has two children.

- *Prof. Rosenberg* asks Prof. Löhe what “doubling of the child care places” at KIT means in terms of actual numbers.

*Prof. Löhe* explains that starting from originally 25 child care places at campus north and 25 places at campus south of KIT, there are currently more than 100 places and about 220 will have been established by 2012.

- *Prof. Rosenberg* asks Prof. Mnich whether gender plays a role in the “Schülerlabor”.

*Prof. Mnich* answers that there is no distinction between boys and girls in the context of this event, but that DESY participates actively in the yearly Girls’ Day.

*Prof. Krämer* adds that for the “Schülerwoche” in Aachen the schools are explicitly encouraged to send female students, which has a positive effect.

- *Prof. Münster* mentions that it is not always possible to get the best applicants for junior research groups if there is no tenure option.

*Prof. Kühn* replies that one has to look at the individual cases as the absolute numbers are small. He mentions two examples from KIT: R. Harlander who had a Emmy Noether group without tenure option and who, after three years, became Professor in Wuppertal, and M. Mühlleitner who is currently junior professor with tenure option.

*Prof. Linscheid* adds that there are currently around 50 junior professors at the HU and that about 50% get permanent positions afterwards. All positions have a tenure option, and the HU offers fixed-term W2 professorships to bridge the period until a professorship is available.

*Prof. Löhe* points out that a problem is the “Stellenplan” where the number of professorships is fixed, and that KIT tries to abandon the “Stellenplan”. While KIT usually tries to offer a tenure option, it is not always possible, and one has to look at the individual cases. He emphasizes that flexibility is important.

*Prof. Mnich* adds that the leaders of Emmy Noether groups do have a tenure track option at DESY,

and *Prof. Schmachtenberg* mentions that more and more professorships are now paid through research grants which increases the flexibility.

- *Prof. Wyler* asks if there is a coordinated German effort to promote particle physics.

*Prof. Schmachtenberg* returns the question and asks Prof. Wyler whether he thinks that one has to increase the support for particle physics.

*Prof. Wyler* replies that it is crucial not to decrease support for particle physics.

*Prof. Löhe* mentions KCETA in this context.

- *Prof. Rosenberg* asks Prof. Schmachtenberg about the plans of the RWTH Aachen to compensate the loss of the student fees, which are set to be abandoned by the new government of NRW.

*Prof. Schmachtenberg* replies that the RWTH does not know yet, and that one has to talk to the new minister.

- *Prof. Dixon* raises the issue of family support and asks what is meant by “reduction of administrative and routine work”?

*Prof. Mühlleitner* replies that the reduction of administrative work, like the responsibility for web pages, computing administration etc., should help women and men, who have taken leave for child care, to come back to research as quickly as possible. It may also mean technical support for the time-consuming task of preparing slides for conference talks.

*Prof. Dixon* considers this a very good idea.

*Dr. Bormann* concludes the general discussion. She emphasizes that it is commendable and important that the CRC and the participating institutions pay close attention to gender issues and the promotion of young researchers.

## Questions to the projects:

- Project B3:

*Prof. Wiese* asks about the personnel listed in the table on page 290 of the project proposal: Is there an application for two PhD students and will both work on lattice topics?

*Dr. Jansen* replies that there is a misprint in the table. The project applies for one PhD student who will work on lattice topics.

*Prof. Wiese* states a question about the work plan on page 284 of the proposal. He thinks that the computation of the disconnected diagrams is very complicated and a plan B should be worked out.

*Dr. Jansen* points out that experience has been gained in the past in project A4 and that the technology to do the calculation has been developed. Thus the calculation of disconnected diagrams for baryons appears to be possible. If one fails, one has to rely on perturbation theory.

- Project C4:

*Prof. Meißner* asks about the distribution of tasks between the PIs.

*Prof. Bernreuther* replies that the project involves three tasks. The most involved one is project part A, the two-loop calculation for single top quark production. The main work on this project part will be done at HU Berlin. A postdoc and a PhD student in Aachen will work first on project part B (NNLO subtraction terms). It is planned that they will then bring in their results into project part A to jointly

tackle the NNLO real radiation problem. Furthermore, also Dr. Moch (Zeuthen) will bring in his expertise into project part A.

*Prof. Meißner* asks how the work is divided between Berlin and Zeuthen.

*Prof. Uwer* points out that the two-loop calculation is the most complex part of C4 and all PIs and the postdocs will work on this. At HU a postdoc and Ph.D. student from core support are working on project part A. The requested postdoc position will be located at the Humboldt-Universität. He/she will work on project part A and also on the project part related to “BSM and top”.

*Dr. Moch* states that also his main interest is in the project part dealing with single top quark production. He furthermore plans to work on the aspects of four- versus five-flavour scheme calculations and phenomenological issues in top physics.

## **Concluding remarks:**

*Prof. Röckner* emphasizes that he is impressed by presence of the rectors and presidents of the four institutions.

*Dr. Bormann* thanks all participants of the review session. She mentions that the project proposal is very well written. She also thanks for the nice atmosphere and hospitality at the RWTH Aachen. She asks the PIs for patience since the final decision will only be taken in mid November.

*Prof. Beneke* finally thanks all participants of this review process.

Minutes:

M. Krämer, M. Steinhauser, M. Beneke

July 19, 2010