1st annual retreat of

GRK 2149

Strong and Weak Interactions - from Hadrons to Dark Matter

Heidehotel Waldhütte, Telgte, Nov. 24-26, 2015

DFG Deutsche Forschungsgemeinschaft

Motivation for the RTG

Strong interaction

- study questions of high complexity described by established theory, aiming for precision in experiments and theoretical predictions

Weak interaction

- study more speculative questions beyond the Standard Model aiming especially at dark matter & neutrinos

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- between theorists & experimentalists & astrophysicist (regularly visiting guest) & computer scientists & mathematicians

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Qualification

Excellent training

- of very promising young researchers at the doctoral (and postdoctoral) level
- develop scientific independence on top science questions
- with added value from the qualification programme

The PIs ...

← Experiment

Theorie →

Alfons Khoukaz

Jochen Heitger

Christian Klein-Bösing

Michael Klasen

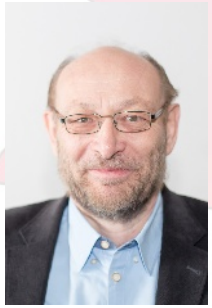
Christian Weinheimer

Anna Kulesza

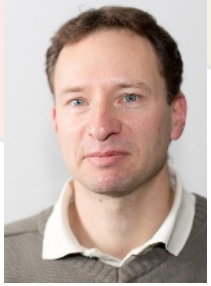
Johannes Wessels

Gernot Münster

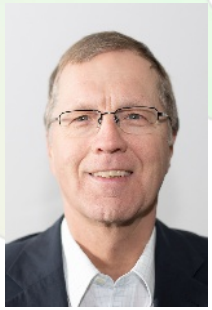
Dieter Frekers



Raimund Vogl



Raimar Wulkenhaar



Strong and Weak Interactions - from Hadrons to Dark Matter

... and a new colleague ...

← Experiment

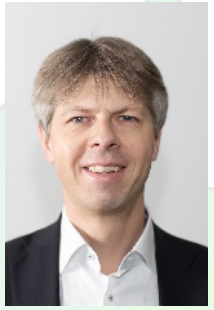
Theorie →

Alexander Kappes

Alfons Khoukaz

Jochen Heitger

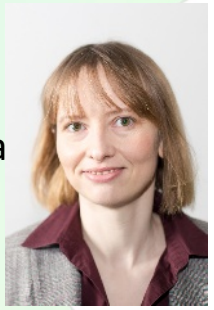
Michael Klasen



Christian Klein-Bösing

FSP Teilchenphysik

Anna Kulesza

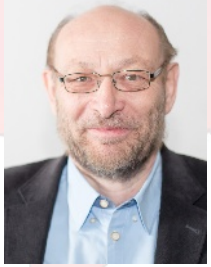


Christian Weinheimer

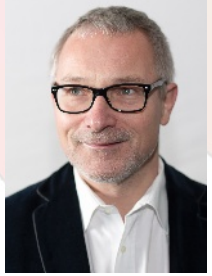
Gernot Münster

Johannes Wessels

Dieter Frekers



Raimund Vogl



Raimar Wulkenhaar

Strong and Weak Interactions - from Hadrons to Dark Matter

... with the regularly visiting guests

Korinna Zapp

Alfons Khoukaz

← Experiment

Theorie →

Alexander Kappes

Jochen Heitger

Michael Klasen

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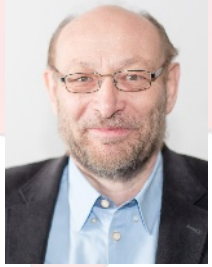
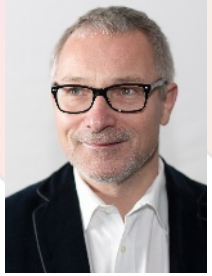


Raimund Vogl



Raimar Wulkenhaar

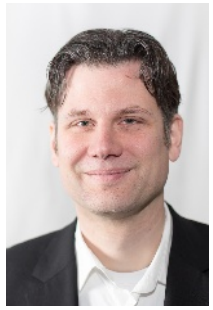
Steen Hannestad

AARHUS UNIVERSITY

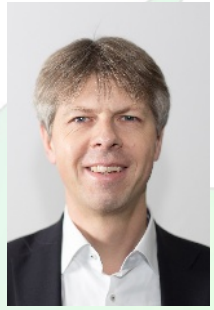
Strong and Weak Interactions - from Hadrons to Dark Matter

.. connected via the planned PhD projects

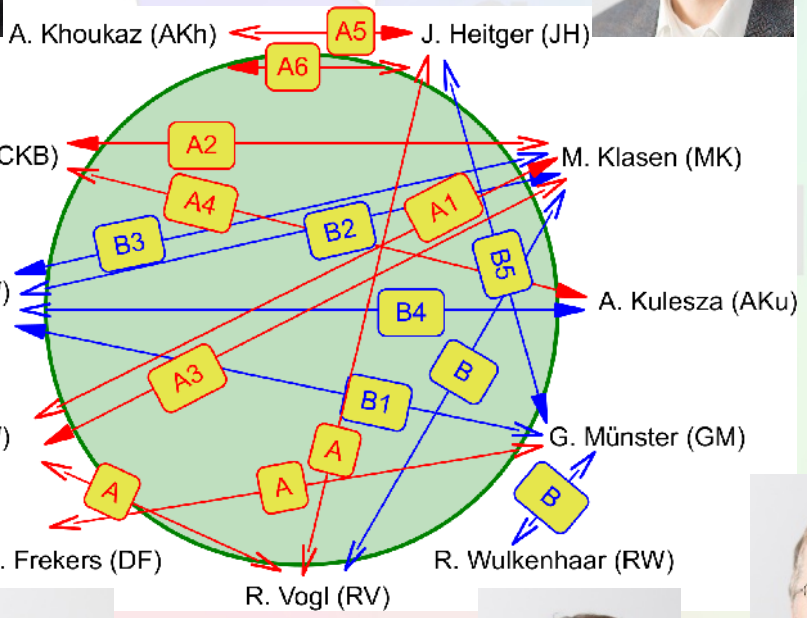
Korinna Zapp



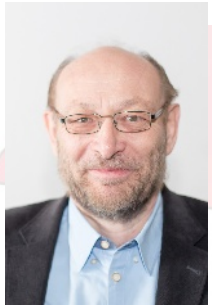
topic A
topic B
qualification

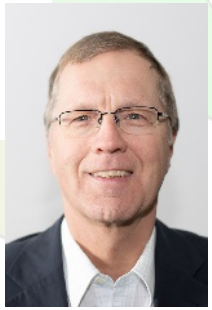


CERN



+ successor
Dieter Frekers





AARHUS UNIVERSITY

Steen Hannestad

Strong and Weak Interactions - from Hadrons to Dark Matter

Successful application to DFG

... after a finally not successful application in 2012/2013

July 2014: submission of a “Draft Proposal” to DFG

October 2014: positive evaluation and feedback from DFG

November 2014: full application to DFG

February 2, 2015: evaluation by DFG and external review panel at Münster

May 8, 2015: positive decision by DFG

Funding of RTG (Research Training Group)

funding for 4.5 years with the possibility for a renewal for another 4.5 years

11 PhD positions: 7 starting Sept 1, 2015, 4 starting March 1, 2016
PhD students with other funding but fitting to the same spirit can be associated

1 secretary position: Petra Voß, since Nov. 1, 2015
(still office at PI, will move to us on Jan. 1, 2016)

travel money for the PhD students, also for longer internships

money to invite guests

funds to organize annual retreats

funds for transition postdocs (independent period after graduation)

publication funds

equal opportunity funds

outreach funds

= 2.9 MEuro + 20% overhead

⇒ huge opportunity for all of us !

Our first 7 PhD stuents

from the announcement:

The structure of the newly founded Research Training Group (Graduiertenkolleg) is based on joint education and research of theorists and experimentalists in nuclear, particle and astroparticle physics as well as computer scientists and mathematicians.

In strong interactions we aim at precision in experiments and theoretical predictions. Examples are the transition from the quark gluon plasma into bound hadrons, the parton distributions in cold nuclear matter or properties of mesons. In weak interactions we investigate more speculative questions beyond the Standard Model, especially those related to dark matter and neutrinos.

Applicants with a very good master's degree or diploma in physics are expected to submit the usual application documents (curriculum vitae, copies of transcripts and certificates) as well as two letters of reference and a letter explaining their motivation to join our research training group and their research interests.

written applications with reference letters, letter of motivation

& interview in front of the board

-> accepted (preliminary):

Keven Eckert
(WWU)

Sonja Esch
(WWU)

Oleh Fedkevych
(Ecole Polytechnique)

Alexander Fieguth
(WWU)

Henning Gerber
(Bielefeld)

Florian Herrmann
(WWU)

Hendrik Poppenborg
(WWU)

announcement for 4 more positions starting March 1, 2016 is out (Physik Journal, WWU)

Associated PhD students

Students with other funds (DFG, BMBF, WWU, ..)
can apply and can be selected using the some criteria:

- written application incl. 2 letters of reference and
  letter of motiviation
- interview

On Nov. 20, 2015 four associated PhD students were accepted (preliminarily):

Sajid Ali
(Punjab, Pacistan)

Daniel Mühlheim
(Gießen)

Daniel Schartländer
(WWU)

Nicholas Steinbrink
(WWU)

more associated PhD students to join

Advertisement and selection

- advertised via community webpages, CERN Courier, Physik Journal,

- require: statement of motivation,
  very good master degree,
  two letters of recommendation

- decisions about acceptance by the Selection Board, final acceptance by RTG Board after 6 months (incl. PhD and postdoc representatives)

this is really important

Supervision

- by two advisors, usually an experimentalist and a theorist, mutual PhD agreement including research plan
- PhD student meets regularly with the two advisors
- PhD student reports every 6 months to the two advisors, a statement about the progress of the PhD work will be given to the RTG Board signed by the PhD student & the two advisors

Additional qualification measures

- experimentalists will work on a short project in a theory group and vice versa

excellent opportunities

- PhD students are encouraged to do an international research visit, preferentially combined with the short project in theory/experiment
- PhD students will attend a summer school or topical workshop in the 1st year & present their work at national/international conferences in the 2nd and 3rd years
- high-potential graduates can apply for start-up funds (6 months postdoc + extra funds) (follow-up financing also with own contribution)
- invite senior physicists to report about career opportunities

RTG Board

- decides on all important and structural decisions, accepts PhD students
- reviews progress of the RTG & follows later career of alumnis
- members: all 8 (+1 successor DF) applicants, 2 PhD student representatives, 1 postdoc representative, 3 associate members without vote
- PhD and postdoc representatives give feedback to the RTG Board

Selection Board

- selects new PhD students for the RTG, applicants

Advisory Board

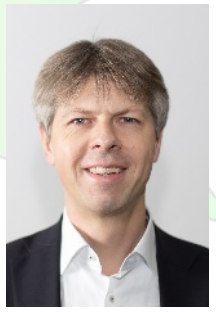
- Karl-Heinz Kampert
- Manfred Lindner
- Norbert Sachser (Forschungsbeirat WWU)

Designated Spokespersons of RTG

- Christian Weinheimer
- Michael Klasen (deputy)

Scientific and Administrative Secretaries

- Jochen Heitger (designated scientific secretary, manager)
- Petra Voß (administrative secretary)



Steering Committee

our annual retreat / graduate days

Our goals

- coming together and getting to know each other
- discuss progress and future projects
- presentation of our newly accepted PhD students
- presentation of our research groups / PIs
- presentation of our visiting scientists
- discuss possible collaborations
- shape the future of our RTG

- celebrate inauguration on Thursday afternoon

Proposed Research Training Group: Strong and Weak Interactions – from Hadrons to Dark Matter

- close cooperation between theorists & mathematicians and experimentalists, astrophysicist as well as computer scientists
- based on an emerging and growing collaboration
- three innovative components (exp & theo, PhD projects, computational methods)
- excellent training of very promising young researchers
  - ✗ at the doctoral (and postdoctoral) level
  - ✗ on top science questions
  - ✗ added value through strong qualification programme

excellent opportunities and funds are available please make profit from them