The Strategic Helmholtz Alliance “Physics at the Terascale” invites applications for several postdoctoral fellowships in particle physics theory, experimental particle physics and detector development. The Alliance Fellowships are intended to further the careers of individuals of outstanding potential and offer the opportunity to pursue research for a period of up to five years. Applicants must have a Ph.D. and have proved their ability as an individual and independent researcher.

### Particle Physics Theory

**with a focus on the research areas**

- a) Phenomenology beyond the Standard Model (in SUSY and non-SUSY theories, including also aspects of model building)
- b) Precision calculations and the development of dedicated higher-order Monte Carlo programs (Standard Model predictions, field-theoretical and calculational methods)
- c) Monte Carlo generators (multi-purpose Monte Carlo programs, including parton showering, hadronisation, etc.)

Applicants are encouraged to provide a preference list of up to three host institutes chosen from:

- RWTH Aachen (a, b)
- University Bonn (a, c)
- University Dortmund (a)
- University Freiburg (a, b, c)
- University Hamburg (a, b, c)
- University Karlsruhe (a, b)
- University Mainz (a, b)
- University Würzburg (a, b)

where the corresponding research fields are indicated in parentheses. Applicants should arrange for two letters of recommendation to be sent to the address below. Preference will be given to applications received by 15 December 2007.

### Experimental Particle Physics

**with a focus on analyses of data from the Large Hadron Collider LHC in the research areas**

- a) Precision measurements of the top quark
- b) Search for the Higgs Boson at LHC
- c) Search for extensions of the Standard Model such as supersymmetry or large extra dimensions
- d) Development of experimental analysis techniques such as high-level graphical analysis tools, statistical tools and novel techniques for detector calibration
- e) Contributions to the development of Monte Carlo generators

Applicants are invited to provide a preference list of up to three host institutes chosen from:

- RWTH Aachen (a, d)
- DESY (a)
- University Freiburg (b, c)
- University Hamburg (c, d)
- University Karlsruhe (c)
- University Mainz (c, d)
- LMU München (b, c)
- University Siegen (b, e)

where the corresponding research fields are indicated in parentheses. Please give the names of two persons who can provide further information about the candidate. Closing date for applications is 31 December 2007.

### Detector Development

**with a focus on the research areas**

- RWTH Aachen: Research and development for the SLHC upgrade of the CMS tracker with a focus on electronics system design, in particular improved powering schemes. The fellow will work in the RWTH Aachen CMS group which played a key role in the development and construction of the CMS tracker.
- University Göttingen: The fellow is expected to take a leading role in the development of modern particle physics detectors with an emphasis on the upgrade of the ATLAS pixel detector.
- University Heidelberg: The Kirchhoff-Institut für Physik is seeking a research fellow to work on the upgrade of the ATLAS level-1 calorimeter trigger to cope with the conditions imposed by a possible LHC luminosity upgrade. Experience in trigger related studies is required.

Applicants are encouraged to indicate their preferred institute. Please give the names of two persons who can provide further information about the candidate. Closing date for applications is 31 December 2007.

Applications should include a letter of application, CV, academic records as well as a list of publications and should be addressed to Prof. Ian Brock (Scientific Manager of the HGF Alliance) DESY, Notkestrasse 85, D-22607 Hamburg, (ian.Brock@desy.de).

The particle theory group of the Department of Physics at the University of Siegen has an opening for a Helmholtz Research Fellow (Tenure Track) for Particle Physics Phenomenology

**We are looking for a theoretical physicist with substantial postdoctoral expertise in high-energy collider physics, in particular in the phenomenology of electroweak interactions or of new physics beyond the Standard Model. The position is funded by the Helmholtz Alliance “Physics at the Terascale” until June 2012 and remunerated according to the TVL regulations for public sector employees. Based on an evaluation of the candidate’s scientific record which is scheduled after three years, the position may subsequently become that of a permanent scientific employee of the University of Siegen.**

The particle theory group at Siegen has interests in the areas of collider phenomenology, flavour physics, QCD and Monte Carlo development. The experimental particle physics group is involved in ATLAS and ILC. The university intends to increase the number of female scientists and encourages applications from women. Handicapped persons will be favoured in case of equal qualification.

Interested candidates should arrange for two letters of recommendation and submit their application including CV, list of publications, and a statement on past and future research, no later than 31 December 2007 to Prof. Ian Brock (Scientific Manager of the Helmholtz Alliance) DESY, Notkestrasse 85, D-22607 Hamburg, (ian.Brock@desy.de).

For further information, please contact:
Prof. Wolfgang Kilian (kilian@hep.physik.uni-siegen.de)

Detailed descriptions of the positions are available at [http://www.terascale.de](http://www.terascale.de) or from the Scientific Manager of the Helmholtz Alliance.