

Advanced Programming Concepts

Welcome and Remarks from the Analysis Centre

The poster features the Helmholtz Alliance logo and the "PHYSICS AT THE TERASCALE" logo. It includes a list of participating institutions and a large background image of handwritten C++ code.

Advanced Programming Concepts
8 - 12 October 2012
DESY, Hamburg

The 2012 school and workshop on „Advanced Programming Concepts“ continues the series started in Dresden in 2010, and it supplements the educational programming part of the GridKa school 2012 <<https://indico.desy.de/conference-display.py?confid=5195>>.

The school, after quickly repeating basic programming concepts like class design, UML and design patterns, will turn the participants into members of two developer teams working, in a highly coordinated way, on a programming project. In the course of the work, basic and advanced programming techniques (Class design, design patterns, revision control, integration, build systems etc.), but also project management skills (agile Planning, software lifecycle, distributed teams, management styles etc.) will be taught.

The participants of the school are expected to have good knowledge of the C++ programming language and preferably, also of Python.

Registration deadline: 21 September 2012
The school fee is 50 Euro.
Please register via the school webpage.

Organising Committee:
Benedikt Hegner (CERN), Stefan Kühn (MPI München), Thomas Schörner-Sadenius (DESY),
Harald Städle (IHT Hamburg), Peter Steinbach (TU Dresden)

<http://www.terascale.de/apc2012>

Thomas Schörner-Sadenius
DESY-FH



Hamburg, 8 October 2012

WELCOME ...

- ... to the third of a series of computing and programming schools under the roof of the Analysis Centre.
 - The two previous editions were hosted at and organised by TU Dresden.
 - Schools organised by the Analysis Centre were always considered one of the strong points of the Alliance “Physics at the Terascale”, and previous feedback showed us that more training on computing and software is desired by many.
- ... to five days of lectures, tutorials, and discussions.
 - Plus a dinner (Wednesday, 7:30 pm)
 - Plus a presentation from industry (Thursday, 17:00 pm).
- ... to Hamburg ...
 - Maybe you have some time – and good wheather - to enjoy the city?
 - I assume that of those not based in Hamburg most have already been to Hamburg (and DESY) before. Who is here for the first time?



ALLIANCE “PHYSICS AT THE TERASCALE”

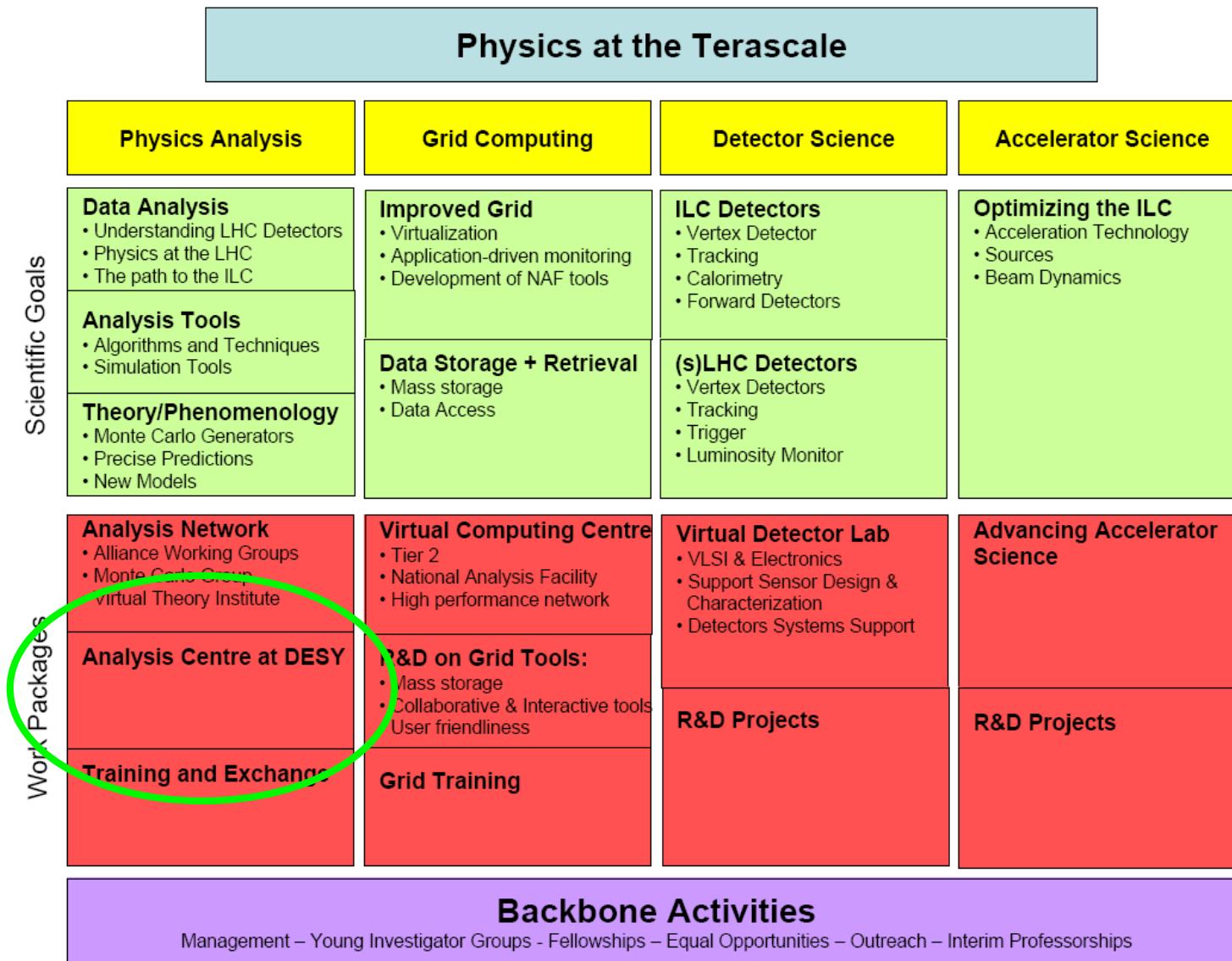
From the Alliance proposal (2007):

In order to optimally place German particle physics in an increasingly global environment, it is now the right moment to create **new and improved structures for particle physics** in Germany.

The Strategic Helmholtz Alliance 'Physics at the Terascale' is a structured research network comprising 18 universities, 2 Helmholtz institutes and 1 Max Planck Institute. The Alliance acts as a tool for a more effective collaboration, in particular between experimentalists and theorists.



THE ANALYSIS CENTRE



THE ANALYSIS CENTRE

1. Member support (MC, statistics, PDFs, etc.)
2. “Education”: Schools, workshops, ...
3. Networking; definition and exploitation of synergies
4. Contributions to the LHC programme



SCHOOLS AND WORKSHOPS

The poster features the Helmholtz Alliance logo and the "PHYSICS AT THE TERASCALE" logo. It lists various workshops and schools:

- Introductory School to the Terascale, 5-9 March 2012, terascale.de/intro2012
- Monte Carlo School 2012, 12-16 March 2012, terascale.de/mc2012
- Detector Workshop 2012, 14-16 March 2012, terascale.de/detw2012
- Top Quark Workshop 2012, 22-23 March 2012, terascale.de/top2012
- SM4 and Single-top Workshop, 26-28 March 2012, terascale.de/singletop2012
- Statistics School 2012, 2-5 April 2012, terascale.de/statistics2012
- Event Generators & Resummation, psr12.desy.de
- Software & Computing Workshops and Schools, terascale.de/computing2012

www.terascale.de/schools_and_workshops

http://www.terascale.de/schools_and_workshops



SCHOOLS AND WORKSHOPS



OTHER ACTIVITIES

- Analysis Centre seminar on relevant issues, somewhat orthogonal to standard seminars.
- Workshops on any topic of relevance and interest.
- “Theorist of the week” programme at DESY and elsewhere.
- Analysis Centre studentships – allowing students to enrich their CVs with one more topic they have worked on for a limited time, supported by the Analysis Centre
- Guest support
- ...



FUTURE OF THE ALLIANCE

- > The “Terascale Alliance” comes to an end in 2012.
- > During the past 5.5 years, HGF has supported the Alliance with 25 MEU.
- > Future support much diminished, will finally become part of DESY base funding.
- > School and workshop programme will continue, largely funded by DESY.
- > Your wishes and input vital – please let us know what you think we should organise!!!



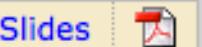
THE ANALYSIS CENTRE

anacen@desy.de

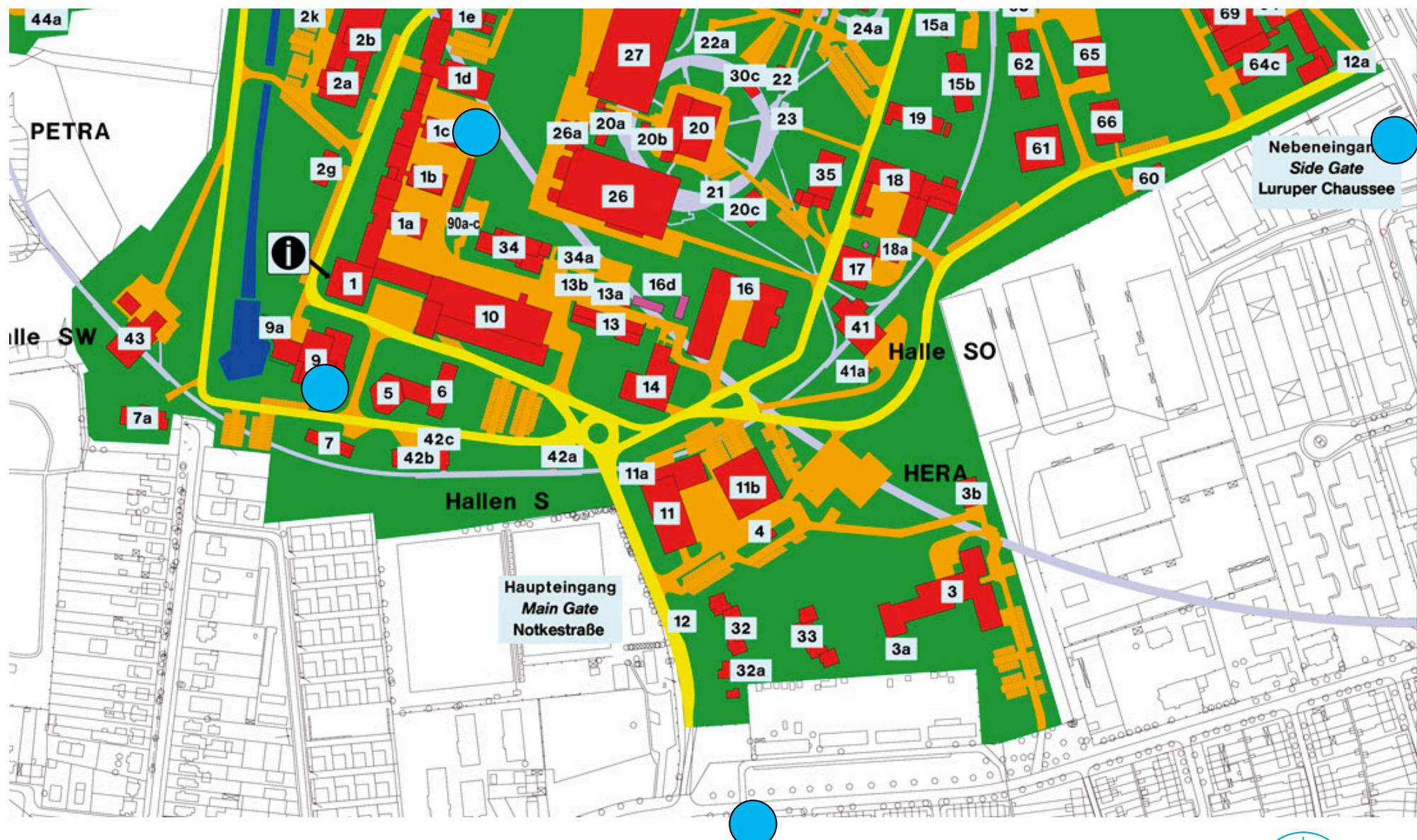
www.terascale.de/anacentre



APC 2012

Monday 08 October 2012		Tuesday 09 October 2012		Wednesday 10 October 2012		Thursday 11 October 2012		Friday 12 October 2012	
AM		09:00 Refactoring - Maria Grazia Pia (CERN) 10:30 --- Coffee break --- 11:00 Class design - Peter Steinbach (Institut für Kern- und Teilchenphysik) Slides 	09:00 Design patterns 1 - Stefan Kluth (MPI für Physik) 10:30 --- Coffee break --- 11:00 Design patterns 2 - Stefan Kluth (MPI für Physik) 12:30 --- Lunch brek ---	09:00 OO Basics - Stefan Kluth (MPI für Physik) 10:30 --- Coffee break --- 11:00 Good software practice 12:30 --- Lunch break ---	09:00 (tba) - Raphael Ahrens (U Wuppertal) 10:30 --- Coffee break --- 11:00 Project work and discussion				
PM	13:30 Welcome - Thomas Schoerner-Sadenius (DESY) Slides  13:45 An introduction to UML - Stefan Kluth (MPI für Physik) 15:00 --- Coffee break --- 15:30 Test-Driven Development - Peter Steinbach (Institut für Kern- und Teilchenphysik) Slides 	13:30 Project work Slides 	13:30 Project work 19:00 Dinner(DESY Canteen appendix)	13:30 Project work 17:00 Experience from industry: Basler - Mark Hebbel (Basler)					

DESY – LOCAL FACILITIES



REQUESTS

- > You are going to work in teams → if you start now, please don't drop out and be there all the time; don't desert your team.
- > Please keep your laptops shut during lectures – this is a question of courtesy towards the speaker.
- > Please fill in the feedback questionnaires we will hand out on Friday – they will help us to improve!
- > In case of (organisational) questions, don't hesitate to ask me or our secretaries (DESY phone numbers 4453, 3429, 93429)
- > Listen, work, discuss – and enjoy!



THANKS TO ...

- ... to your home institutes
 - ... for contributing to the budget and sending you here!
- ... to the Helmholtz Alliance
 - ... for the money and the framework!
- ... to all lecturers and tutors
 - ... for their immense work!
- ... and finally to all people behind the scenery which are necessary to put things in place:
 - Secretaries, technicians, IT, ...
 - Especially Stefan Kluth, Benedikt Hegner, Peter Steinbach, Raphael Ahrens, Jan Engels, Hartmut Stadie.

