



Type of proposed activity: Other

Title: "Galaxies, Quarks and the Shareholder Value"

Organiser: Ties Behnke, DESY Hamburg

Target audience: Other: Podium discussion with accompanying exhibition

Detail of interactiv exhibits: We will assemble a small exhibit which will try to introduce the lay-person to the current large scale accelerator based projects. We will focus on the LHC and the ILC. Exhibits will include an interactive model of an accelerator, will include a working model of a detector (cloud chamber), and several detector pieces using different technologies. A series of posters will introduce the different projects, explain the scientific goals and show ways how they are going to be realised. If the technological problems can be solved we intend to establish a life connection to a running accelerator (HERA in Hamburg) as a demonstration. We will staff the exhibit with volunteer scientists which will be available to the public for discussion and for background information.

Date and Location: 00.00.0000, 00:00 bis 00.00.0000, 00:00



Synopsis:

Understanding our world, what it is made of, and why it is the way it is, has always been at the core of scientific research. Over the last decades the field of particle physics has achieved astonishing insights into the simplicity that belies the complexity of the microworld. Forces that govern the atomic and subatomic world have been measured, and the building blocks of matter, quarks and leptons, have been discovered. A unified model of matter and its interactions has thereby been established. Still, open questions remain. We do not yet understand what gives rise to the mass that we see all around us. Why does the universe contain almost entirely matter, and almost no antimatter? What is behind the recent discovery that ghostly neutrinos are massive? What is the role played by gravity? Do the four forces of nature become 'unified' at some high energy scale? Are there hidden extra dimensions in nature? These questions are intimately related to cosmology, to the first fraction of a second of the universe after the big bang. Why is the universe flat? Why does it have almost the same temperature everywhere? What are the particles that form the elusive dark matter present everywhere around us? And what is the mysterious dark energy that makes the universe expand faster and faster?

Trying to answer these fundamental questions require large facilities, some of which will cost the tax-payer in excess of several billions EURs. CERN in Geneva, DESY in Hamburg are prime examples of central laboratories where large facilities are being build and used by an international community.

At the moment the LHC is being constructed at CERN, and should start data taking in 2007. The International Linear Collider is the next big project on the road map of particle physics. These multi-billion Euro projects can only be realised in international cooperation. But is it really worth it? What is the benefit of such basic research to the society. Why should we spend money to answer these questions?

We propose a twofold activity to explore these topics: A round table discussion will try to give insights how such large projects function, how they are being organised, and try to explore whether such efforts are worth the expense. We will assemble experts from research, from politics, and from public life, to explore a wide range of viewpoints.

The discussion will be complemented by an exhibition which shows how limited resources of single countries are joined on an European and worldwide scale to tackle the most pressing questions in basic research. For this exhibit we propose the title "Joining forces to push back the frontiers of science".