

**LEP I era (1984-1994) with a
celebration of H. Schopper's
90th birthday**

Report of Contributions

Contribution ID: 0

Type: **not specified**

Coffee

Contribution ID: 1

Type: **not specified**

The Spirit counts - People at and around CERN

Tuesday, 16 September 2014 17:15 (45 minutes)

Abstract

After a few biographical remarks I shall concentrate on human aspects which are not covered by official documents, but which are as important to the success of CERN as scientific and technical competence. The approval of LEP, general problems of the project management and the approval of the LEP experiments under conditions never encountered before at CERN will be covered. The special spirit created at CERN based on the competence and solidarity of the CERN staff and its users made it possible to find new ways of successful international collaboration combining competition with cooperation.

Career Summary

Physics diploma and doctorate from Hamburg University, now Prof. emer.; research assistant at Stockholm Technical University (with Lise Meitner); Cavendish Laboratory UK (with O.R.Frisch); Cornell University (with R.R. Wilson); research in optics, nuclear and elementary particle physics. various professorships in Germany and director of university institutes; Director of DESY, Hamburg, 1973-1980; Director-General of CERN, Geneva, 1981-1988; former presidencies: Association of German Research Centres (now Helmholtz Association); German and European Physical Societies; SESAME Council; Chair of Scientific Board of International Basic Science Programme (UNESCO). member of various academies, several academic and other distinctions.

Presenter: SCHOPPER, Herwig (CERN)

Contribution ID: 2

Type: **not specified**

CERN's support for LEP machine and the collaborations during the LEP construction period 1984 to 1989 and preparation for the LEP energy upgrade and for LHC during LEP I operations 1989 to 1994

Tuesday, 16 September 2014 16:30 (45 minutes)

Abstract

With the approval of the LEP programme and of the four LEP experiment proposals, followed by the groundbreaking start of LEP construction during the years 1980 to 1983, the year 1984 saw the closure of the ISR and bubble chamber programmes allowing CERN's resources to be focussed on the new challenging activities associated with LEP. Based on contributions from colleagues, I will talk about the support for the LEP machine and describe CERN's technical involvement with the collaborations of the four LEP experiments during the LEP construction period 1984 to 1989. In addition, I will talk about the preparations for the LEP energy upgrade and for the LHC during the LEP I operation period 1989 to 1994.

Career summary

1965 Ph.D. thesis work in nuclear physics at the University of Heidelberg

1968 Staff member CERN, Geneva, Switzerland: Big European Bubble Chamber (BEBC) project

1981 Leader of BEBC Group at CERN

1984 Leader of Experimental Facility Division (EF) at CERN

1990 Leader of Accelerator Technology Division (AT/LHC) at CERN

1993 LHC Deputy Project Leader at CERN

1994 Research/Technical Director at CERN

2000 -2003 R&D superconducting RF cavities CERN-DESY /CERN Future

Since 1982 Member of various boards (BMBF Bonn, DESY, GSI, Jülich)

1997-2000 Chairman of Scientific Advisory Board, Helsinki Institute of Physics

2000 –2004 Member of Scientific Review Group for Norwegian Research Council

2000 –2013 Member of Technology Panel, European Physical Society

2005 - 2013 Facility for Antiproton Ion Research, GSI

Activities: Nuclear physics spectroscopy, bubble chamber physics, neutrino physics, LEP physics experiments, particle physics detector and accelerator R&D

Presenter: WENNINGER, Horst (GSI - Helmholtzzentrum für Schwerionenforschung GmbH (DE))

Contribution ID: 3

Type: **not specified**

LEP1: the Ascent of the Standard Model

Tuesday, 16 September 2014 15:45 (45 minutes)

Abstract

When LEP was conceived, the Standard Model was not a phrase that appeared in the titles of particle physics papers. By the end of LEP1, the Standard Model had been established as the theory describing the visible matter in the Universe. In addition to testing the Standard Model, the accurate measurements at LEP1 enabled predictions to be made for new physics, such as the masses of the top quark and the Higgs boson, and provided a hint for possible physics beyond the Standard Model, such as grand unification.

Career summary

John Ellis is Maxwell Professor of Theoretical Physics at King's College in London. After obtaining a PhD from Cambridge University and post-doctoral positions at SLAC and Caltech, he worked at CERN from 1973 to 2011, where he was Theory Division Leader for six years. He was awarded the Maxwell Medal (1982) and the Paul Dirac Prize (2005) by the Institute of Physics. He was elected Fellow of the Royal Society of London in 1985 and of the Institute of Physics in 1991, and holds seven honorary doctorates and fellowships.

His research is on many areas of elementary particle physics and its connections with astrophysics, cosmology and quantum gravity. Much of his work relates directly to experimentation: interpreting the results of searches for new particles and exploring the physics that could be done with future accelerators. A proposal he made in 1976 led to the discovery of the gluon in 1979 and he was one of the first to study how the Higgs boson could be produced and discovered. He has authored nearly a thousand scientific papers, with over fifty thousand citations in total. He is currently very active in efforts to understand the Higgs particle discovered recently at CERN, as well as its implications for possible new physics such as dark matter. He participated in the pioneering studies of possible physics with LEP, the LHC and CLIC and is now studying the physics possible with future large electron-positron and proton-proton particle accelerators.

Presenter: ELLIS, Jonathan R. (CERN)