

SEMINARS SEMINAIRES

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<http://wwwas.cern.ch/Bulletin/Seminars/current.html>

Monday 15 September

TECHNICAL PRESENTATION

at 09.30 hrs – IT Auditorium, bldg. 31/3-004-5

What's new in visual hdl

by M. DELCROIX / European technical manager;

P.L. GUTTLA / Sales Manager France.

SUMIT DESIGN / European Headquarters, France

Visual HDL is a design entry system for development of executable system specifications.

It employs graphical languages mixed with VHDL or Verilog text to capture a design.

Visual HDL includes an interactive VHDL simulator which provides visual feedback annotated on the original source deceptions in their respective editor windows for functional and timing analysis. It also translate the mixed VHDL/Verilog and graphical specification into a complete VHDL or Verilog description for simulation or synthesis.

Visual HDL is the first HDL graphical design entry tool to offer full text-to-graphics capabilities that allow electronic designers to utilise any existing HDL code by turning it into easy-to-understand graphics, including block diagrams, state diagrams, and flow charts.

09h30-12h00:

- **Up data of Summit Design Profile**

- **What's new in Visual HDL:**

- New features of vers. 5.0 (new release)
- Text to Graphic tool presentation
- Demonstration of Visual Hdl 5.0 with Text to Graphic

- **Visual Hdl road map:**

- Visual control designer family (HDL Code Analyser & Optimizer)
- Visual IP (Provide IP models for several environments)
- Visual HDL 6.0 schedule

- **CERN /Summit Design Open discussion**

14h00/16h00: **How to use Altera LPM in Visual HDL**

Technical Information : N. Bosco / IT / 75025

Organiser : S. Cannon / IT / 75036

Monday 15 September

TECHNICAL SEMINAR

at 11.00 hrs – ECP Conference Room, bldg 13/2-005

Use of Modern Software Development Methodologies in the Re-engineering of the OPAL Trigger Software

by Klaus ACKERSTAFF & Arash KHODABANDEH / CERN-ECP

The OPAL trigger software originating from the start of the LEP experiments in 1989 has been completely re-engineered in the winter shutdown 96/97. The project has been realized in collaboration between the OPAL online and the ECP/IPT group. Lack of reliability and maintainability as well as changing demands of the LEP2 era initiated the project.

The software had to be delivered on time for the 97 LEP start up, preserve all interfaces to the existing OPAL environment and stay backward compatible with the old software and hardware until final approval. The requirements and constraints were met using modern software develop-

ment methodologies (e.g. URD, OMT, configuration management, quality control) and tools like CVS, SNiFF+, Rose, Logiscope and FrameMaker/WebMaker, etc.

The presentation will focus on the benefits of the approach and its correlation with the success of the project.

Tuesday 16 to Thursday 18 September

FIELDBUS WORKSHOP

09.00 to 17.00 hrs – Council chamber

A CERN working group created by the Controls Board recommended that the usage of fieldbuses for CERN project be limited to Profibus, Worldfip and CAN bus. These products offer a complete choice of features which can satisfy the wide range of requirements encountered at CERN. The technical staff involved in controls projects should be knowledgeable in fieldbuses in order to make the best use of them.

The objective of this three-day-workshop is to familiarise potential users with the characteristics of these three buses. Technical presentations will be done by experts from industry, about forty companies will present their products and hands-on will be proposed. The requirements of CERN in matter of fieldbuses will also be expressed for some applications. More information can be found on the Web at URL <http://ecpcowwww.cern.ch/fieldbus/Plan1.html>

Those who are interested to participate in this workshop are asked to register either by phone at 76 77160, or by Email at Claudie.Nebout@cern.ch.

Mercredi 17 Septembre

PRESENTATION TECHNIQUE CAO

à 09.00 h – Amphithéâtre LHC, bât. 30/7^e étage

La Business Unit "Performance Engineering" de Cadence vous propose de participer à un séminaire technique le 17 septembre, au cours duquel sera présentée la nouvelle stratégie de Cadence vis à vis de la conception de cartes électroniques hautes performances.

09.00 Introduction

09.15 (Front-end): Simulation analogique et mixte, schématique, analyse et prise en compte des contraintes physiques et technologiques (Boardquest)

14.00 (Back end): Windows NT, intégration multi-plateformes (UNIX, NT), placement-routage (Allegro), routage automatique (Spectra)
par Pascal CHENAIS / CADENCE (Performance Engineering).

Langue: français

Informations: P. Baehler/IT /75016 ou S.Brobecker/IT/78693

Wednesday 17 September

THEORETICAL SEMINAR

at 14.00 hrs – TH Conference Room

Quantum field theory and the Bose-Einstein condensation of atoms

by Eric BRAATEN / Ohio State University

The Bose-Einstein condensation of atoms is a problem that can be described with great accuracy using quantum field theories with local interactions. Effective-field-theory ideas provide insight into the approximations that are involved in the field theoretic description. Modern calculational methods provide a powerful tool for calculating the effects of quantum fluctuations on the Bose-Einstein condensate.

Wednesday 17 September

COMPUTING SEMINAR

at 16.00 hrs – IT Auditorium, bld. 31/3-005

Modelling and Simulating Data Flows in Distributed Computing Systems

by Christoph VON PRAUN / CERN-IT

The complexity of computing services provided for physics data processing at CERN has increased significantly in recent years. System design, modelling and simulation gain importance, especially with respect to LHC computing systems.

A framework for modelling and simulating distributed computing systems is proposed. The framework covers abstract modelling techniques and corresponding C++ library procedures enabling a discrete event simulation mechanism.

The talk will introduce the modelling technique on the computing configuration used for NA48 Central Data Recording. An essential characteristic of the modelling approach is to distinguish system components revealing static aspects and a process model featuring system dynamics. Simulation results will be compared with measured figures.

Organiser : G.Folger / IT

Thursday 18 September

HEAVY-ION FORUM

at 11.00 hrs* – ECP Conference room, bld. 13/2-005

Experimental searches for Disoriented Chiral Condensates

by Bolek WYSLOUCH

Disoriented Chiral Condensates (DCCs) have been predicted to form in hot nuclear matter where the approximate chiral symmetry of QCD has been restored. The non-equilibrium relaxation of the pion and sigma modes are expected to form domains where the fraction of neutral pions can deviate significantly from 1/3, leading to large fluctuations in the relative multiplicity of neutral and charged pions. Such fluctuations are postulated to provide a clear experimental signal of phase transition in nuclear matter.

We present the theoretical motivation of the DCC phenomenon as well as the present status of the ongoing experimental searches for DCC. We will discuss the plans for the DCC searches in future experiments at RHIC and LHC.

** Please note change of time!*

Thursday 18 September

LHC TECHNICAL SEMINAR

at 16.00 hrs – LHC Auditorium, bld. 30/7th floor

Beam losses in the LHC arcs and their detection

by T. SPICKERMANN / CERN-SL

The energy stored in the intense LHC beams is without precedence in any other accelerator. The effect of beam losses on superconducting magnets and other accelerator

components is of major concern. A large effort is being devoted to predicting the amount of radioactivity in different parts of the LHC tunnel and experimental areas. Fast and efficient beam loss monitors are required around the accelerator to prevent magnet quenching and irradiation of sensitive components. The Monte Carlo shower codes GEANT3.21 and FLUKA96 have been used to determine the efficiency of different kinds of detectors.

These calculations also allow one to estimate the radiation level for electronics in the tunnel due to point losses. In this seminar the results of the calculations will be presented.

Friday 19 September

IT TRAINING TUTORIAL

10.00-12.00 hrs – IT Auditorium, bld. 31/3-004

Introduction to Programming in Mathematica

by Raul RAMOS POLLAN / CERN-IT

Mathematica is a general system for technical computation. It supports, numerical, symbolic and graphical computation. It can be used both like a simple calculator, and as a full symbolic programming language with many powerful capabilities.

The present tutorial is aimed at giving you some insight into the organisation of the system and provide you with the basic knowledge to be able to begin exploiting its functionality. You will see how to work with it interactively and how to write your own programs. It is a starting point to anyone wanting to use it intensively or to people who just want to know what it is about. No previous knowledge is required although some familiarity with programming languages and environments would be very convenient.

Friday 19 September

SPECIAL SEMINAR

at 14.00 hrs – TH Conference Room

Spontaneously broken symmetries

by W. THIRRING / Universität Wien

The possibility of broken symmetry can be decided in the fixed-point algebra of the symmetry group by solving an appropriate eigenvalue problem. The method is applied for the fermi algebra and spin systems.

Monday 22 September

DETECTOR SEMINAR

at 11.00 hrs – ECP Conference Room, bld. 13/2-005

The Large TPC-System of NA49 – experience from p+p to Pb+Pb collisions

by Siegfried WENIG / CERN-PPE

The NA49 experiment uses four large volume TPCs with pad readout (182 000 electronics channels) for the large acceptance study of p+p, p+Pb and Pb+Pb collisions at the SPS.

The detector concept will be described with particular emphasis on the new construction principle of the field cage which is independent of the gas envelope. The experience with the use of the gas mixtures Ne/CO₂ and Ar/CO₂/CH₄ at small drift velocities (1-2 cm/μs), as well as the radioactive Krypton calibration method will be presented. The performance with respect to tracking and particle identification will be discussed for the different track densities encountered.

Tuesday 23 September

IT TRAINING TUTORIAL

14.00-16.00 hrs – IT Auditorium, bld. 31/3-004

The CERN Library Web Services

by Vesa SIVUNEN and Jens VINGEN / CERN-AS

The tutorial will consist of two parts of about one hour each.

The first part will focus on the problems concerning navigation in the information space on the border line between non published material, preprints and published articles. Commercially available tools, inhouse developments and future perspectives will be presented.

The second part of the tutorial is for people who are using www, but have very little or no experience of the basic tools which are used to create web services. HyperText Markup Language capabilities and syntax will be discussed. Methods to make www pages interactive will also be briefly presented.

Tuesday* 23 September

SALAM MEMORIAL

Special Colloquium in Memory of Abdus SALAM

at 15.00 hrs* – Auditorium**

15.00–15.45 T.W.B. KIBBLE

15.45–16.30 Sheldon Lee GLASHOW

16.30–16.45 Coffee Break

16.45–17.30 Carlo RUBBIA

Recollections of Abdus Salam at Imperial College

by T.W.B. KIBBLE / Blackett Laboratory, Imperial College, London

I shall give a personal account of Professor Salam's life and work from the perspective of a colleague at Imperial College, concentrating particularly but not exclusively on the period leading up to the discovery of the electro-weak theory.

Memories of Abdus Salam

by Sheldon Lee GLASHOW / Harvard University, Cambridge, MA, USA

My interactions with Abdus Salam, weak as they have been, extended over five decades. I regret that we never once collaborated in print or by correspondence. I visited Abdus only twice in London and twice again in Trieste, and met him at the occasional conference or summer school. Our face-to-face encounters could be counted on one's fingers and toes, but we became the best of friends. Others will discuss Abdus as an inspiring teacher, as a great scientist, as the creator and guiding spirit of the Institute for Theoretical Physics, and as a champion of Third World science and technology. I would take this opportunity to recall a few personal and memorable moments I have enjoyed with one of the warmest, gentlest and most gracious people I have ever known.

The standard model, Abdus Salam and CERN

by Carlo RUBBIA / LHC Division, CERN, Geneva

CERN's contributions in establishing the experimental foundations of the Glashow-Salam-Weinberg Electro-Weak model will be briefly reviewed: (1) the early neutrino ex-

periments and the discovery of neutral currents, (2) the development of the p-pbar collider and the discovery of the IVB's and (3) the systematic consolidation work of LEP will be discussed.

The catalysing role of Abdus Salam for the experimental HEP community will be underlined. His vision and his scientific message for much higher energies (LHC) and bold explorations beyond the SM (proton decay and neutrino oscillations) will be briefly recalled, mostly out of personal recollections.

* Please note unusual day and time.

** Tea & coffee will be served at 16.30 hrs.

Wednesday 24 September

TAPE AUTOMATION REVIEW MEETING

at 11.00 hrs – IT Auditorium, bld. 31/3-004

Welcome & Introduction R. Minchin

STK status – our experience so far J.-P. Baud

Hardware – how it has behaved

Software – how it performs

How to use it successfully

Migration status - how far we have got C. Curran

Limited support for manual mounting in '98 L. Robertson

HPSS - current status F. Gagliardi

Future plans: C. Curran /

F. Gagliardi

DLT 7000

3rd STK silo

Other Business & Open Discussion

Wednesday 24 September

COMPUTING SEMINAR

at 16.00 hrs – IT Auditorium, 31/3-005

WIRED – Components for Physicists

by Eberhard WOLFF / ECP/IPT, CERN

In the WIRED project (WWW Interactive Event Display) ECP/IPT has developed software for embedding event displays in Web page (<http://wired.cern.ch/>).

The version currently under development is based on the Java Beans component architecture. Java Beans as a part of Java is fully platform independent. With this new technology one can develop event displays from prebuilt parts (components) without writing any code. We also provide an application for building up compound documents consisting of event displays and other components. Compound documents can be used as electronic logbooks and as e-mail messages.

During the talk the building of event display applications and the logbook will be demonstrated using data from the CHORUS experiment and the Java Beans component architecture used for this project will be explained.

Eberhard Wolff is a computer science student at the University of Hamburg, Germany. His main areas of interest are object technologies, design of distributed applications and componentware. He is currently working as a Summer Student in the Information and Programming Technology group of ECP at CERN.

Thursday 25 September

CAREER SEMINAR

at 14.00 hrs – Council Chamber

From the Weinberg Angle to Cardiac MRI – a career change

by Ingrid TEN HAVE / Philips Medical Systems
(formerly with ALEPH)

In summer 1994 I left particle physics to pursue a career in industry. Now three years later I am working for Philips Medical Systems in the Netherlands. I am responsible, both technically and commercially, for adapting the existing Magnetic Resonance Imaging (MRI) technique for cardiology applications.

In this seminar I will talk about the interesting challenges my current position holds for me. I will present the substantial added value of my working experience at CERN: the physics research, working at technological frontiers, the international collaboration, expatriate life. Finally I will also describe what I have done to actively support this career change.

Speaker:

1985-1989 – University of Nijmegen and CERN - Ph.D. on B⁰-B⁰bar mixing, Eurojet, top quark cross-sections, test of the $O(\alpha_s^3)$ QCD matrix element, calculations for future hadron colliders, UA1.
1989-1994 – University of Glasgow and CERN - ALEPH - Jet charge studies, measurement of the Weinberg Angle.

1994-1996 – Master of Business Administration with technology focus, TSM International Business School, Enschede, Netherlands.

1996-now – Product Manager Cardiac MRI, Philips Medical Systems, Best, Netherlands.

Information: W. Blair / 73364

Thursday 25 September

SL SEMINAR

at 16.00 hrs – SL Auditorium, Prévessin, bld. 864

Measurement of Chromaticity via Head-tail Phase Shift

by Owain JONES / CERN-SL

The most common method of measuring the chromaticity is to measure the tune as a function of the machine energy and then calculating the chromaticity from the slope of the measurements. Even as a simple difference method for two machine energies this method does not allow instantaneous measurements for instance during energy ramping or beta squeezing.

In preparation for the LHC a new approach has been developed which uses the energy spread in the beams for a chromaticity measurement. Transverse beam oscillations are excited with a single kick and the chromaticity is measured from the phase difference of the individually sampled head and tail motions of the beam.

This way a chromaticity measurement can be made during one synchrotron period (about 50 msec in case of the LHC). This talk describes computer simulations of the measurement, the experimental setup and first measurements made in the SPS.

* Coffee and tea will be served at 15:30 in front of the auditorium

Friday 26 September*

LHC TECHNICAL SEMINAR

at 14.00 hrs* – LHC Auditorium, bld. 30/7th floor

EDMS

by T. PETTERSSON / CERN-EST

The LHC will be the most complicated machine built at CERN yet. Once the machine is installed and commissioned the main visible items are two welded tubes hundreds of meters long, the machine in its cryostat and the cryogenic supply line. The engineering data (the drawings, the documents, measurement protocols, etc.) that describe the machine inside its cryostat will be the only external references available. An inspection tour to verify what is really installed will not be possible since a warm-up, open-close, cool-down cycle is of the order of six weeks. The EDMS (Engineering Data Management System) project's goal is to ensure that up-to-date information about all installed equipment is always available and this during the entire LHC life-time, from design to de-commissioning, about 25 years! This will not happen by itself nor without changes to our working methods and procedures.

The seminar will present the pilot projects done for the feasibility studies and product selection and then our plans for the next twelve months.

* Please note the unusual day and time.

EDUCATION SERVICES EDUCATIFS



Information sur les cours, dates et places disponibles sur WWW:
Information about the courses, dates and places available on WWW:
<http://www.cern.ch/Training/>



Madeleine PINCOTT ☎ 3674
madeleine_pincott@macmail
Nathalie DUMEAUX ☎ 8144
nathalie_dumeaux@macmail

Formation en Management et en Communication Management & Communication Training

There are still a few places free for the following seminar :

**Making presentations
13, 14 October & 10 November 1997**

If you are interested, please contact us as soon as possible.