

# **First Biennial African School on Fundamental Physics and its Applications**

## **Report of Contributions**

Contribution ID: 0

Type: **not specified**

## Welcome Address

*Monday, 2 August 2010 09:00 (10 minutes)*

Author: Pr Frederik Scholtz, NITHEP Director

**Presenter:** Prof. SCHOLTZ, Frederik (NITheP at Stellenbosch, SA)

**Session Classification:** School Startup

Contribution ID: 1

Type: **not specified**

## THR I - Theory Recaps

*Monday, 2 August 2010 09:30 (2 hours)*

Theory Recaps

Lecturer: Pr Jan Govaerts, Louvain U., BE

Back-up lecturers: other TH lecturers/organizers

Status: confirmed

**Presenter:** Prof. GOVAERTS, Jan (Louvain U., BE)

**Session Classification:** Theory Week

Contribution ID: 2

Type: **not specified**

## **Visit of Stellenbosch University**

*Monday, 2 August 2010 17:15 (45 minutes)*

**Presenter:** ORGANIZERS

**Session Classification:** Theory Week

Contribution ID: 3

Type: **not specified**

## THR II - Theory Recaps

*Monday, 2 August 2010 11:35 (1 hour)*

Theory Recaps

Lecturer: Pr Jan Govaerts, Louvain U., BE

Back-up lecturers: other TH lecturers/organizers

Status: confirmed

**Presenter:** GOVAERTS, Jan

**Session Classification:** Theory Week

Contribution ID: 4

Type: **not specified**

## THR - Theory Recaps Discussion Session

*Monday, 2 August 2010 15:00 (1 hour)*

Theory Recaps Discussion Session

**Presenters:** GOVAERTS, Jan; CLEYMANS, Jean (Department of Physics-University of Cape Town); EL-LIS, John; SKANDS, Peter

**Session Classification:** Theory Week

Contribution ID: 5

Type: **not specified**

## **TH1 I - Foundations of Nuclear and Particle Physics**

*Monday, 2 August 2010 16:15 (1 hour)*

Foundations of Nuclear and Particle Physics

Lecturer: Pr Jean Cleymans, UCT, SA

Back-up lecturers: none

Status: confirmed

**Presenter:** CLEYMANS, Jean (Department of Physics)

**Session Classification:** Theory Week

Contribution ID: 6

Type: **not specified**

## TH1 II - Foundations of Nuclear and Particle Physics

*Tuesday, 3 August 2010 08:45 (2 hours)*

Foundations of Nuclear and Particle Physics

Back-up lecturers: none

Lecturer: Jean Cleymans, UCT, SA

Status: confirmed

**Presenter:** CLEYMANS, Jean (Department of Physics)

**Session Classification:** Theory Week



Contribution ID: 7

Type: **not specified**

## TH6 I - Computer Physics

*Tuesday, 3 August 2010 17:00 (1 hour)*

Computer Physics

Lecturer: Peter Skands, CERN, CH

Back-up lecturers: none

Status: confirmed

**Presenter:** SKANDS, Peter

**Session Classification:** Theory Week

Contribution ID: 8

Type: **not specified**

## **TH1 - Foundations of Nuclear and Particle Physics: Discussion Session**

*Tuesday, 3 August 2010 11:00 (1 hour)*

**Presenters:** GOVAERTS, Jan (U. of Louvain); CLEYMANS, Jean (Department of Physics); ELLIS, John (CERN); SKANDS, Peter (CERN)

**Session Classification:** Theory Week

Contribution ID: 9

Type: **not specified**

## TH6 II - Computer Physics

*Wednesday, 4 August 2010 08:45 (2 hours)*

Computer Physics

Lecturer: Peter Skands, CERN, CH

Back-up lecturers: none

Status: confirmed

**Presenter:** SKANDS, Peter

**Session Classification:** Theory Week

Contribution ID: 11

Type: **not specified**

## TH2 I - The Standard Model

*Tuesday, 3 August 2010 13:45 (2 hours)*

The Standard Model  
Back-up lecturers: TBA  
Status: confirmed

**Presenter:** CORNELL, Alan (Wits U.)

**Session Classification:** Theory Week

Contribution ID: 12

Type: **not specified**

## TH6 - Computer Physics: Discussion Session

*Wednesday, 4 August 2010 11:00 (1 hour)*

**Presenters:** GOVAERTS, Jan; CLEYMANS, Jean (Department of Physics-University of Cape Town); SKANDS, Peter; MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Universite)

**Session Classification:** Theory Week

Contribution ID: 13

Type: **not specified**

## TH2 II - The Standard Model

*Wednesday, 4 August 2010 13:45 (2 hours)*

The Standard Model  
Back-up lecturers: TBA  
Status: confirmed

**Presenter:** CORNELL, Alan (Wits U.)

**Session Classification:** Theory Week

Contribution ID: 14

Type: **not specified**

## TH3 I - Beyond the Standard Model

*Tuesday, 10 August 2010 08:45 (2 hours)*

Beyond the Standard Model  
J. Gates, Maryland, U., USA  
Status: Confirmed

**Presenter:** GATES, Jim (Maryland U.)

**Session Classification:** Experiment Week

Contribution ID: 15

Type: **not specified**

## **TH3 II - Beyond the Standard Model**

*Tuesday, 10 August 2010 11:00 (1 hour)*

Beyond the Standard Model  
J. Gates, Maryland, U., USA  
Status: Confirmed

**Presenter:** GATES, Jim (Marylnd U., USA)

**Session Classification:** Experiment Week



Contribution ID: 16

Type: **not specified**

## **TH3 Beyond The Standard Model: Discussion Session**

*Tuesday, 10 August 2010 12:00 (1 hour)*

**Presenters:** DE ROECK, Albert; GATES, Jim (Maryland U., USA); KADO, Marumi (Laboratoire de l'Accelérateur Lineaire (LAL) (IN2P3) (LAL)); MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Universite)

**Session Classification:** Experiment Week

Contribution ID: 17

Type: **not specified**

## TH4 I - Astrophysics & Cosmology

*Wednesday, 4 August 2010 16:00 (2 hours)*

Astrophysics & Cosmology

Lecturer: B. Bassett, South African Astron. Observ., SA

Back-up lecturers: Dan Hooper, C. McGruder, F. Frescura

Status: TBC

**Presenter:** BASSETT, Bruce (South African Astron. Observ., SA)

**Session Classification:** Theory Week

Contribution ID: **18**

Type: **not specified**

## **TH2 The Standard Model: Discussion Session**

*Thursday, 5 August 2010 11:00 (1 hour)*

Discussion session

Tutors: R.DMK + 3 other TH lecturers/organizers

Status: confirmed

**Presenters:** CORNELL, Alan (Wits U.); GOVAERTS, Jan; SKANDS, Peter (CERN)

**Session Classification:** Theory Week

Contribution ID: **19**

Type: **not specified**

## **TH5 I - Theory of Heavy-Ion Collisions**

*Thursday, 5 August 2010 13:45 (2 hours)*

Theory of Heavy-Ion Collisions

Lecturer: E.G. Ferreiro, U. S. Compostela, ES and LLR Palaiseau, FR

Back-up: none

Status: OK

**Presenter:** GONZALEZ FERREIRO, Elena (Universidad de Santiago de Compostela)

**Session Classification:** Theory Week

Contribution ID: 20

Type: **not specified**

## THX - Theory Star Lecture

*Thursday, 5 August 2010 16:00 (1 hour)*

Theory Star Lecture

Lecturer: John Ellis, CERN, CH

Back-up: none

Status: confirmed

**Presenter:** ELLIS, John (CERN)

**Session Classification:** Theory Week

Contribution ID: 21

Type: **not specified**

## TH4 II - Astrophysics & Cosmology

*Thursday, 5 August 2010 08:45 (2 hours)*

Astrophysics & Cosmology

Lecturer: B. Bassett, South African Astron. Observ., SA

Back-up lecturers: Dan Hooper, C. McGruder, F. Frescura

Status: TBC

**Presenter:** BASSETT, Bruce (South African Astron. Observ., SA)

**Session Classification:** Theory Week

Contribution ID: 22

Type: **not specified**

## TH6 Computer Physics: Lab Session

*Friday, 6 August 2010 09:00 (3 hours)*

Computer Physics Lab

Tutors: Peter Skands, Henri Bachacou, Marumi Kado, Steve Muanza

Status: confirmed

**Presenters:** BACHACOU, Henri (CEA-Saclay); KADO, Marumi (Laboratoire de l'Accelérateur Linéaire (LAL) (IN2P3) (LAL)); SKANDS, Peter; MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Université)

**Session Classification:** Theory Week

Contribution ID: 23

Type: **not specified**

## **TH4 - Astrophysics & Cosmology: Discussion Session**

*Friday, 6 August 2010 13:45 (1 hour)*

Astrophysics & Cosmology Discussion Session

Tutors: B. Bassett, South African Astron. Observ., SA

+3 other TH

Status: TBC

**Presenters:** BASSETT, Bruce (South African Astron. Observ., SA); ELLIS, John (CERN)

**Session Classification:** Theory Week



Contribution ID: 24

Type: **not specified**

## **TH5 - Theory of Heavy-Ion Collisions: Discussion Session**

*Friday, 6 August 2010 14:45 (1 hour)*

**Presenters:** 2 OTHER TH; GONZALEZ FERREIRO, Elena (Universidad de Santiago de Compostela); CLEYMANS, Jean (Department of Physics)

**Session Classification:** Theory Week

Contribution ID: 25

Type: **not specified**

## **EPR I - Experimental Recaps: Part 1. Interactions Particle-Matter**

*Monday, 9 August 2010 08:45 (2 hours)*

Experimental Recaps (1. Interactions Particle-Matter, 2. Basics of Statistics)

Lecturer: D. Froidevaux

Back-up: M. Kado, S. Connell

Status: confirmed

**Presenter:** FROIDEVAUX, Daniel (CERN)

**Session Classification:** Experiment Week

Contribution ID: 26

Type: **not specified**

## EP1 I - Particle Detectors

*Monday, 9 August 2010 11:00 (1 hour)*

Particle Detectors

Lecturer: D. Froidevaux

Back-up: M. Kado, S. Connell

Status: confirmed

**Presenter:** FROIDEVAUX, Daniel (CERN)

**Session Classification:** Experiment Week

Contribution ID: 27

Type: **not specified**

## **EPR II - Experimental Recaps: Part 2. Basics of Statistics**

*Wednesday, 11 August 2010 10:00 (2 hours)*

Experimental Recaps (2. Basics of Statistics)

Lecturer: M. Kado

Back-up: S. Connell

Status: Confirmed

**Presenter:** KADO, Marumi (Laboratoire de l'Accelérateur Lineaire (LAL) (IN2P3) (LAL))

**Session Classification:** Experiment Week

Contribution ID: 28

Type: **not specified**

## EP1 II - Particle Detectors

*Monday, 9 August 2010 14:45 (1 hour)*

Particle Detectors

Lecturer: D. Froidevaux

Back-up: M. Kado, S. Connell

Status: confirmed

**Presenter:** FROIDEVAUX, Daniel (CERN)

**Session Classification:** Experiment Week

Contribution ID: 29

Type: **not specified**

## EPR - Experimental Recaps: Discussion Session

Experimental Recaps Discussion Session

Tutors: D. Froidevaux, M. Kado

+ S. Connell, J. Huston

Status: confirmation

**Presenters:** FROIDEVAUX, Daniel (CERN); Prof. HUSTON, Joey (Michigan State University); KADO, Marumi (Laboratoire de l'Accelérateur Lineaire (LAL) (IN2P3) (LAL)); CONNELL, Simon (Brookhaven National Laboratory (BNL)-Unknown-Unknown)

Contribution ID: **30**

Type: **not specified**

## **EP2 I - Particle ID & Data Analysis**

*Monday, 9 August 2010 13:45 (1 hour)*

Particle ID & Data Analysis

Lecturer: K. Assamagan, BNL, USA

Back-up lecturers: none

Status: confirmed

**Presenter:** ASSAMAGAN, Ketevi Adikle (Department of Physics)

**Session Classification:** Experiment Week

Contribution ID: 31

Type: **not specified**

## EP1 III - Particle Detectors

*Monday, 9 August 2010 16:00 (1 hour)*

Particle Detectors

Lecturer: D. Froidevaux

Back-up: M. Kado, S. Connell

Status: Confirmed

**Presenter:** FROIDEVAUX, Daniel (CERN)

**Session Classification:** Experiment Week



Contribution ID: 33

Type: **not specified**

## EP2 II - Particle ID & Data Analysis

*Tuesday, 10 August 2010 13:45 (2 hours)*

Particle ID & Data Analysis

Lecturer: K. Assamagan, BNL, USA

Back-up lecturers: none

Status: confirmed

**Presenter:** ASSAMAGAN, Ketevi Adikle (Department of Physics)

**Session Classification:** Experiment Week

Contribution ID: 34

Type: **not specified**

## **EP2 - Particle ID & Data Analysis: Discussion Session**

*Wednesday, 11 August 2010 08:45 (1 hour)*

**Presenters:** DE ROECK, Albert (CERN); BACHACOU, Henri (cea - Centre d'Etudes de Saclay-Unknown-Unknown); ASSAMAGAN, Ketevi Adikle (Department of Physics); CONNELL, Simon (U. of Johannesburg)

**Session Classification:** Experiment Week

Contribution ID: 36

Type: **not specified**

## EP3 I - Experimental Particle Physics

*Wednesday, 11 August 2010 13:45 (2 hours)*

Experimental Particle Physics

Lecturer: Steve Muanza, CPPM Marseille, FR

Back-up lecturers: none

Status: confirmed

**Presenter:** MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Universite)

**Session Classification:** Experiment Week

Contribution ID: 37

Type: **not specified**

## EP3 II - Experimental Particle Physics

*Wednesday, 11 August 2010 16:00 (1 hour)*

Experimental Particle Physics

**Presenter:** MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Universite)

**Session Classification:** Experiment Week

Contribution ID: **38**

Type: **not specified**

## **EP3 - Experimental Particle Physics: Discussion Session**

*Wednesday, 11 August 2010 17:00 (1 hour)*

**Presenters:** GRAY, Heather (Columbia University); BACHACOU, Henri (cea - Centre d'Etudes de Saclay-Unknown-Unknown); Prof. HUSTON, Joey (Michigan State University); MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Universite)

**Session Classification:** Experiment Week

Contribution ID: 39

Type: **not specified**

## **EP4 - Programmes in Experimental Nuclear Physics and applications in South Africa**

*Thursday, 12 August 2010 13:45 (2 hours)*

Programmes in Experimental Nuclear Physics and applications in South Africa

Lecturer: Z. Vilakazi, iThemba Labs, SA

Status: confirmed

**Presenter:** VILAKAZI, Zebulon (iThemba Labs)

**Session Classification:** Experiment Week

Contribution ID: 40

Type: **not specified**

## **EP4 - Programmes in Experimental Nuclear Physics and applications in South Africa: Discussion Session**

Discussion Session on:

Programmes in Experimental Nuclear Physics and applications in South Africa

Tutors: Z. Vilakazi, iThemba Labs, SA

Status: confirmed

**Presenter:** VILAKAZI, Zebon (iThemba Labs)

Contribution ID: 41

Type: **not specified**

## **EP6 I - High Energy Physics Computing: Part 1. ROOT**

*Friday, 6 August 2010 16:00 (2 hours)*

High Energy Physics Computing (Part 1: ROOT)

Lecturer: Andrea Dotti, CERN, CH

Status: confirmed

**Presenter:** DOTTI, Andrea (CERN)

**Session Classification:** Theory Week



Contribution ID: 42

Type: **not specified**

## EP5 - Heavy-Ion Collisions Experiments II

*Friday, 13 August 2010 11:00 (1 hour)*

Heavy-Ion Collisions Experiments

Lecturer: V. Barret-Ramillien, LPC Clermont-Ferrand, FR

Back-up lecturer: none

Status: confirmed

**Presenter:** RAMILLIEN BARRET, Valerie (Laboratoire de Physique Corpusculaire Clermont-Ferrand (LPC)-In)

**Session Classification:** Experiment Week

Contribution ID: 43

Type: **not specified**

## EP5 - Heavy-Ion Collisions Experiments I

*Friday, 13 August 2010 08:45 (2 hours)*

Heavy-Ion Collisions Experiments

Lecturer: V. Barret-Ramillien, LPC Clermont-Ferrand, FR

Back-up lecturer: none

Status: confirmed

**Presenter:** RAMILLIEN BARRET, Valerie (Laboratoire de Physique Corpusculaire Clermont-Ferrand (LPC)-In)

**Session Classification:** Experiment Week

Contribution ID: 44

Type: **not specified**

## EP5 - Heavy-Ion Collisions Experiments: Discussion Session

*Friday, 13 August 2010 13:45 (1 hour)*

Heavy-Ion Collisions Experiments: Discussion Session

Tutors: V. Barret-Ramillien

+ J. Cleymans

+ Z. Vilakazi

+ 1 other local member of ALICE

Status: confirmed

**Presenters:** 1 OTHER LOCAL MEMBER OF ALICE; CLEYMANS, Jean (UCT); RAMILLIEN BARRET, Valerie (Laboratoire de Physique Corpusculaire Clermont-Ferrand (LPC)-In); VILAKAZI, Zeblon (iThemba Labs)

**Session Classification:** Experiment Week

Contribution ID: 45

Type: **not specified**

## **EP6 - Physics Computing: Introduction to Geant4**

*Thursday, 12 August 2010 16:00 (2 hours)*

Tutors: Andrea Dotti, CERN, CH  
+ Bruce Becker et al.  
Status: confirmed

**Presenter:** DOTTI, Andrea (CERN)

**Session Classification:** Experiment Week

Contribution ID: 46

Type: **not specified**

## EPX - Experimental Star Lecture

*Thursday, 12 August 2010 12:00 (1 hour)*

Experimental Star Lecture

Lecturer: A. De Roeck

Status: Confirmed

**Presenter:** DE ROECK, Albert (CERN)

**Session Classification:** Experiment Week

Contribution ID: 47

Type: **not specified**

## **EP6 II: Part 2. Introduction to GRID Computing**

*Thursday, 12 August 2010 08:45 (2 hours)*

High Energy Physics Computing (Part 2: GRID)

Lecturer: B. Becker, Meraka Inst., SA

Back-up lecturers: none

Status: confirmed

**Presenter:** BECKER, Bruce (Meraka Institute, South Africa)

**Session Classification:** Experiment Week

Contribution ID: 48

Type: **not specified**

## EP6 Lab II

*Friday, 13 August 2010 16:00 (2 hours)*

HEP Computing Lab: GRID

Tutors: B. Becker, Meraka Inst., SA

+ TBA

Status: confirmed

**Presenter:** BECKER, Bruce (DAPNIA)

**Session Classification:** Experiment Week

Contribution ID: 49

Type: **not specified**

## EP7: Astroparticle Physics Experiments I

*Tuesday, 10 August 2010 16:00 (2 hours)*

Astroparticle Physics Experiments

Lecturer: M. De Naurois

Status: confirmed

**Presenter:** DE NAUROIS, Mathieu (LPNHE Paris)

**Session Classification:** Experiment Week



Contribution ID: **50**

Type: **not specified**

## **EP7 DS**

*Friday, 13 August 2010 14:45 (1 hour)*

Astroparticle Physics Experiments Discussion Session

Lecturer: M. De Naurois

Status: confirmed

**Presenter:** DE NAUROIS, Mathieu (LPNHE Paris)

**Session Classification:** Experiment Week

Contribution ID: 52

Type: **not specified**

## AT1 I - History & Applications

*Monday, 16 August 2010 08:45 (1 hour)*

Beam Optics (Part I: History & Applications)

Lecturer: B. Holzer,

Status: Confirmed

**Presenter:** HOLZER, Bernhard (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 53

Type: **not specified**

## AT1 II - Beam Dynamics & Stability

*Monday, 16 August 2010 09:45 (1 hour)*

Beam Optics (Part II: Beam Dynamics & Stability)

Lecturer: B. Holzer

Status: Confirmed

**Presenter:** HOLZER, Bernhard (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 54

Type: **not specified**

## **AT1 III - Beam Dynamics - Transversal / RF**

*Monday, 16 August 2010 11:30 (1 hour)*

Beam Dynamics - Transversal / RF

Lecturer: B. Holzer

**Presenter:** HOLZER, Bernhard (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 55

Type: **not specified**

## AT1 DS I - Accelerator Optics Design

*Monday, 16 August 2010 13:45 (2 hours)*

Discussion Session on Accelerator Optics Design

Tutors: B. Holzer, J. Weisend, C. Darve, U. Raich, A. Dabrowski

**Presenters:** DABROWSKI, Anne (CERN); HOLZER, Bernhard (CERN); DARVE, Christine (Fermi National Accelerator Lab. (Fermilab)); WEISEND, John (SLAC); RAICH, Uli (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 56

Type: **not specified**

## **AT1 DS II - IT, GRID & Application**

*Monday, 16 August 2010 16:00 (2 hours)*

Discussion Session on IT, GRID & Application

Tutors: B. Becker

Status: Confirmed

**Presenter:** BECKER, Bruce (bruce.becker@ca.infn.it)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 57

Type: **not specified**

## AT2 I - Fundamental Physics, Cryogenics

*Tuesday, 17 August 2010 08:45 (1 hour)*

Accelerators (Part I: Fundamental Physics, Cryogenics)

Lecturer: Ph. Lebrun

**Presenter:** LEBRUN, Philippe (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 58

Type: **not specified**

## AT2 II - Accelerator Operation

*Tuesday, 17 August 2010 09:45 (1 hour)*

Accelerator Operation

Lecturer: B. Holzer

Status: Confirmed

**Presenter:** HOLZER, Bernhard (CERN)

**Session Classification:** Accelerator & Applications Week



Contribution ID: 59

Type: **not specified**

## **AT2 III - Warm Magnets**

*Tuesday, 17 August 2010 11:00 (45 minutes)*

Accelerators: (Part III: Warm Magnets)

Lecturer: J. Weisend

**Presenter:** WEISEND II, John (SLAC)

**Session Classification:** Accelerator & Applications Week

Contribution ID: **60**

Type: **not specified**

## **AT2 IV - Cold Magnets**

*Tuesday, 17 August 2010 11:45 (45 minutes)*

Accelerators: (Part IV: Cold Magnets)

Lecturer: J. Weisend

**Presenter:** WEISEND II, John (SLAC)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 61

Type: **not specified**

## AT2 DS I - Accelerator System Design (Part I)

*Tuesday, 17 August 2010 15:00 (45 minutes)*

Discussion Session - Accelerator System Design (Part I)

Tutors: C. Darve, J. Weisend II, A. Dabrowski, U. Raich

Brainstorming session to prepare the following Question/Answer session with the CCC experts. Students will review the materials presented so far (TH, EP and AT week, LHC description, USB stickers, etc).

**Presenters:** DABROWSKI, Anne (Northwestern University); HOLZER, Bernhard (CERN); DARVE, Christine (Fermi National Accelerator Lab. (Fermilab)); WEISEND II, John (SLAC); RAICH, Uli (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 62

Type: **not specified**

## **AT2 DS II - Accelerator System Design (Part II) - CCC Video Conference**

*Tuesday, 17 August 2010 16:00 (1h 30m)*

Discussion Session - Accelerator System Design (Part II)

Tutors: C. Darve, J. Weisend II, Ph. Lebrun, A. Dabrowski, U. Raich

Video Conference with the CERN Control Center. Experts in the field of Accelerator science will be available to answer the students questions.

This session will link the CCC and SA (using Codec VC).

**Presenters:** DABROWSKI, Anne (CERN); HOLZER, Bernhard (CERN); DARVE, Christine (Fermi National Accelerator Lab. (Fermilab)); WEISEND II, John (SLAC); RAICH, Uli (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 63

Type: **not specified**

## AT2 DS III - Accelerator System Design (Part III)

*Tuesday, 17 August 2010 17:30 (30 minutes)*

Discussion Session - Accelerator System Design (Part III)

Tutors: C. Darve, U. Raich, A. Dabrowski, J. Weisend, Ph. Lebrun

Students discussion with the ASP2010 discussion. Homework will be proposed by John, Uli, Anne, Christine and Philippe. Goal design an accelerator and its instrumentation.

**Presenters:** DABROWSKI, Anne (Northwestern University); DARVE, Christine (Fermi National Accelerator Lab. (Fermilab)); WEISEND II, John (SLAC); LEBRUN, Philippe (CERN); RAICH, Uli (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: **64**

Type: **not specified**

## **AT3 I - Beam Diagnosis**

*Wednesday, 18 August 2010 08:45 (2 hours)*

Instrumentation (Part I: Beam Diagnosis)

Lecturer: U. Raich, CERN, CH

Status: Confirmed

**Presenter:** RAICH, Uli (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 65

Type: **not specified**

## **AT3 II - Use of Instrumentation in a Radiological Environment**

*Wednesday, 18 August 2010 11:00 (45 minutes)*

Use of Instrumentation in a Radiological Environment

Lecturer: C. Darve (FNAL)

**Presenters:** DARVE, Christine (Fermi National Accelerator Lab. (Fermilab)); WEISEND II, John (SLAC)

**Session Classification:** Accelerator & Applications Week

Contribution ID: **66**

Type: **not specified**

## **AT3 III -Instrumentation for Radiation Measurements**

AT3 III- Instrumentation for Radiation Measurements

Lecturer: M. Silari

**Presenter:** SILARI, Marco (CERN)



Contribution ID: 67

Type: **not specified**

## **AT Lab @ IThemba Lab - Detector Instrumentation (7 persons)**

*Wednesday, 18 August 2010 14:00 (4 hours)*

Practice Lab

1. Group I: @ iThemba Labs, S. Foertsch et al - 3 pers.
2. Group II: @ iThemba Labs, S. Foertsch et al - 4 pers.

**Presenters:** DOTTL, Andrea (CERN); Prof. ROHWER, Erich (Stellebosch U.); Prof. SCHWOERER, Heinrich (Stellenbosch U.); FOERTSCH, Siegfried Valentin (iThemba Laboratory for Accelerator Based Science)

**Session Classification:** Accelerator & Applications Week

Contribution ID: **69**

Type: **not specified**

## **ATX - Accelerator and Application Star Lecture - LHC**

*Tuesday, 17 August 2010 13:45 (1h 15m)*

ATX - Accelerator and Application Star Lecture - LHC

Lecturer: Ph. Lebrun

**Presenter:** LEBRUN, Philippe (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 70

Type: **not specified**

## AT4 I - Synchrotron Radiation

*Thursday, 19 August 2010 08:45 (1 hour)*

AT Applications (Part I: Synchrotron Radiation)

Lecturer: L. Rivkin, PSI, CH

Status: Confirmed

**Presenter:** Prof. RIVKIN, Leonid (Paul Scherrer Institute & EPFL)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 71

Type: **not specified**

## AT4 II - Applications of Synchrotron Radiation

*Thursday, 19 August 2010 09:45 (1 hour)*

AT Applications (Part II: Applications of Synchrotron Radiation)

Lecturer: G. Margaritondo (EPFL)

Status: Confirmed

Topics:

- Protein Crystallography
- Material Sciences
- Medical Imaging
- ...

**Presenter:** MARGARITONDO, Giorgio (EPFL)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 72

Type: **not specified**

## **AT4 III - Radionuclide production**

*Thursday, 19 August 2010 11:45 (45 minutes)*

AT Applications (Part III: Radionuclide production)

Lecturer: M. Silari (CERN)

Back-up lecturers: M. Dosanjh

Status: TBC

**Presenter:** SILARI, Marco (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 73

Type: **not specified**

## **AT4 IV - Medical Applications**

*Thursday, 19 August 2010 13:45 (1 hour)*

At Applications: Medical Applications

Lecturer: M. Dosanjh

Back-up lecturers: L. Tlustos

Status: TBC

**Presenter:** DOSANJH, Manjit (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 74

Type: **not specified**

## AT4 V - Treating Cancer with Particle Beams

*Thursday, 19 August 2010 14:45 (1 hour)*

AT Applications: Treating Cancer with Particle Beams

Lecturer: Dr T. Muanza, Mc Gill U. & Montreal Jewish Hospital, CA

Back-up lecturers: none

Status: confirmed

**Presenter:** Dr MUANZA, Thierry (Mc Gill U. & Montreal Jewish Hospital)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 75

Type: **not specified**

## **AT4 DS 1 - Radio-isotope; Cancer Therapy; eGRID**

*Thursday, 19 August 2010 16:00 (2 hours)*

Title : Radio-isotope; Cancer Therapy; eGRID

Tutors: M. Silari (CERN), L. Rivkin (PSI), G. Margaritondo (EPFL), M. Dosanjh (CERN)

Status: TBC

**Presenters:** MARGARITONDO, Giorgio (EPFL); RIVKIN, Leonid (PSI); DOSANJH, Manjit (CERN); SILARI, Marco (CERN)

**Session Classification:** Accelerator & Applications Week



Contribution ID: 76

Type: **not specified**

## **AT5 I - Magnetic Confinement Fusion**

*Friday, 20 August 2010 08:45 (2 hours)*

AT Applications (Part I: Magnetic Confinement Fusion)

Lecturer: N. Holtkamp (ITER)

Back-up lecturers:

Status: TBC

**Presenter:** HOLTKAMP, Norbert (ITER)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 78

Type: **not specified**

## AT5 II - Laser Driven Plasma Accelerator

AT Applications (Part III: Laser Driven Plasma Accelerator)

Lecturer: H. Schwoerer

Status: Confirmed

**Presenters:** ROHWER, Erich (Stellenbosch University); Prof. SCHWOERER, Heinrich (Stellenbosch)

Contribution ID: 79

Type: **not specified**

## AT5 III - Light Sources

*Friday, 20 August 2010 13:45 (1 hour)*

AT Applications (Part IV: Light Sources)

Lecturer: L. Rivkin

Status: Confirmed

**Presenter:** RIVKIN, Leonid (PSI)

**Session Classification:** Accelerator & Applications Week

Contribution ID: **80**

Type: **not specified**

## **AT5 DS I - Magnetic Confinement Fusion**

*Friday, 20 August 2010 14:45 (1 hour)*

AT Applications Discussion Session I: Magnetic Confinement Fusion

Tutors: N. Holtkamp

Status: Confirmed

**Presenter:** HOLTKAMP, Norbert (ITER)

**Session Classification:** Accelerator & Applications Week

Contribution ID: **81**

Type: **not specified**

## **AT5 DS II - Light Sources**

*Friday, 20 August 2010 14:45 (1 hour)*

AT Applications & Discussion Session on Light Sources

Lecturers: L. Rivkin

Status: TBC

**Presenter:** RIVKIN, Leonid (PSI)

**Session Classification:** Accelerator & Applications Week

Contribution ID: **82**

Type: **not specified**

## **LHC: Dream - Reality - Vision**

*Friday, 20 August 2010 11:00 (1h 15m)*

LHC: Dream - Reality - Vision

Tutor: Peter Jenni

**Presenter:** Mr JENNI, Peter (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: **84**

Type: **not specified**

## **AT3 IV: Introduction to Medical Accelerators**

*Wednesday, 18 August 2010 11:45 (45 minutes)*

**Presenter:** SILARI, Marco (CERN)

**Session Classification:** Accelerator & Applications Week

Contribution ID: 85

Type: **not specified**

## Welcome Address

**Primary author:** Dr VILAKAZI, Zeblon (Director iThemba Labs)

**Presenter:** Dr VILAKAZI, Zeblon (Director iThemba Labs)



Contribution ID: **86**

Type: **not specified**

## **ASP2010 Closure Address: School Host**

**Presenter:** Prof. SCHOLTZ, Frederik (Director NITHEP, Stellenbosch)

Contribution ID: 87

Type: **not specified**

## **ASP2010 Closure Address: Org. Committee**

**Presenter:** MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Universite)

Contribution ID: 89

Type: **not specified**

## Road Map for Discoveries at Hadron Colliders

*Saturday, 21 August 2010 09:15 (1 hour)*

Particle physics at the high energy frontier is dominated by experiments at hadron colliders. The Tevatron Collider at Chicago, USA, with its successful exploitation and many searches for new physics is now being followed by the Large Hadron Collider (LHC) at Geneva, Switzerland, which will explore a new territory of physics in the coming decades. The LHC will allow us to study, in a laboratory, for the first time fundamental physics phenomena as they occurred very shortly after the Big Bang. The experiments address questions like: why have particles mass, what is the mysterious non-visible dark matter in the Universe, are there more than four dimensions in Nature, what are the smallest building blocks of matter? South African teams are part of the challenging LHC experiments. Results and expectations from both projects will be discussed.

**Presenter:** JENNI, Peter (CERN)**Session Classification:** ASP Closure & Outreach, Forum Day: A Gateway to Innovation

Contribution ID: 90

Type: **not specified**

## Particle accelerators: ships of discovery, engines of development

*Saturday, 21 August 2010 11:00 (45 minutes)*

Particle accelerators were born a century ago, together with the discovery of elementary particles. Cross-fertilized by technical progress and emerging technologies, they have shown sustained development over the years to become the modern ships of discovery in high-energy and nuclear physics, and also –as powerful sources of probe radiation –in atomic, molecular and condensed-matter science. Today, particle accelerators have found their way as new tools in health and medicine, both for research and clinical applications, as well as in industry and security. We will present examples of such diverse applications and briefly discuss future paths of development.

**Presenter:** LEBRUN, Philippe (CERN)

**Session Classification:** ASP Closure & Outreach, Forum Day: A Gateway to Innovation

Contribution ID: 91

Type: **not specified**

## CERN –A Gateway to Collaboration & Innovation

*Saturday, 21 August 2010 11:45 (1 hour)*

This presentation describes how CERN is seeking to concretise the role of fundamental research as a driver for innovation. This has been a very evident aspect of high-energy physics research. This type of research needs very sophisticated instruments using technologies that often exceed the available industrial know-how. Many of these technologies have been spun-off to innovations that have made our daily lives more efficient, practical and comfortable. CERN actively encourages technology transfer, or generally speaking the access to technologies, expertise and industrial processes to universities, laboratories and industries.

Emmanuel Tsemmelis will highlight CERN's role as a catalyst for the exchange of knowledge. However, CERN is actually more than a hub because it plays the role of an active "catalyser" in the exchange of knowledge. Several concrete examples will be discussed. An additional aspect is the CERN Global Network. This network aims to facilitate knowledge exchange across the various groups described above and to improve the visibility of partnership opportunities related to CERN's activities. It will also enable CERN to gather data on knowledge transfer through mobility. This Global Network will welcome former and current members, drawn amongst others, from Users and companies from CERN's member states, universities and research institutes. It will deliver a database of members and a dedicated website, providing information about partnership and knowledge-sharing opportunities (training, new R&D projects, transferable technologies, jobs etc) across the community. It will also foster the creation of special interest groups and organize events.

For more about the CERN Global Network, see

- <http://globalnetwork.cern.ch>.
- <http://cerncourier.com/cws/article/cern/42339>
- <http://technologytransfer.web.cern.ch/TechnologyTransfer/>

**Presenter:** TSEMMELIS, Emmanuel (CERN)

**Session Classification:** ASP Closure & Outreach, Forum Day: A Gateway to Innovation

Contribution ID: 92

Type: **not specified**

## Energetics and Nuclear Fusion

*Saturday, 21 August 2010 13:45 (1 hour)*

ITER (in Latin “the way”) is designed to demonstrate the scientific and technological feasibility of fusion energy on an industrial scale. The principal goal of ITER is to generate 500 megawatts of fusion power for periods of 300 to 500 seconds with a fusion power multiplication factor of at least 10. The technical challenges of the project will be discussed together with the accompanying development program for the major components.

The ITER Organization was officially established in Cadarache, France, on 24 October 2007. The seven members engaged in the project –China, the European Union, India, Japan, Korea, Russia and the United States –represent more than half the world’s population. The costs for ITER, which are shared by the seven members, include a construction cost of approximately 5.5 billion Euros, with a similar amount foreseen for the twenty-five-year phase covering operation and the subsequent decommissioning. The status of the build up of the organizations will be discussed.

Since the establishment of the organization, the team in Cadarache and the supporting Domestic Agencies from each Member that have been created to deliver 90 % of the ITER hardware on an “In-Kind” basis, have executed a basic design review. Several changes, some major, have been incorporated in the present baseline as a result of this design review.

The present status of the construction project will also be presented. Many of the agreements between the ITER Organization and the Domestic Agencies have been signed, and active construction of superconducting strands, cables and other subsystems is underway, together with the supporting R&D necessary to ensure maximum performance. Preparation of the site and of the itinerary to transport heavy components to the site is essentially complete. Planning of building construction has reached a very mature state and preparatory excavations will commence soon.

**Presenter:** HOLTKAMP, Norbert (ITER)

**Session Classification:** ASP Closure & Outreach, Forum Day: A Gateway to Innovation

Contribution ID: 93

Type: **not specified**

## Progress in particle therapy in Europe

*Saturday, 21 August 2010 14:45 (1 hour)*

Hadrons play a critical role in the 21st century oncology: proton beams are now regularly used to treat cancer, and carbon-ion therapy starts to spread as well. State-of-the-art techniques borrowed from particle accelerators and detectors are a key element in particle therapy, and several European projects are actively fostering the connections between clinicians, physicists, biologists and engineers.

It is anticipated that the next decade will produce better outcomes from radiation techniques used in cancer therapy. There are many challenges along the way to achieve this for the largest number of suitable patients, as well as the integration of hadron therapy techniques into the multi-modality management of cancer. The generous contributions of the EU to this multidisciplinary effort by sharing training, education, research and development, is both exemplary and necessary in order to achieve progress as efficiently and rapidly as possible and at the lowest overall cost.

**Presenter:** DOSANJH, Manjit (CERN)

**Session Classification:** ASP Closure & Outreach, Forum Day: A Gateway to Innovation

Contribution ID: 94

Type: **not specified**

## Status of the SA GRID

**Presenter:** BECKER, Bruce (DAPNIA)



Contribution ID: 95

Type: **not specified**

## Opening Address

Contribution ID: 97

Type: **not specified**

## **FERMILAB Address**

**Primary author:** Prof. KIM, Young-Kee (FNAL & U. of Chicago)

Contribution ID: **98**

Type: **not specified**

## **Shuttles Airport-Bonne Esperance & Travellers' Lodge**

*Sunday, 1 August 2010 08:00 (14 hours)*

Contribution ID: 99

Type: **not specified**

## **DST Address - Dr. Daniel Adams (Chief Director: Emerging Research Areas and Infrastructure)**

*Saturday, 21 August 2010 09:05 (10 minutes)*

Dr. Daniel Adams (Chief Director: Emerging Research Areas and Infrastructure) (Department of Science and Technology)

**Presenter:** DST REP

**Session Classification:** ASP Closure & Outreach, Forum Day: A Gateway to Innovation

Contribution ID: **100**

Type: **not specified**

# Roadmap to High Energy Physics: SA-CERN and ALICE

*Saturday, 21 August 2010 10:15 (30 minutes)*

**Presenter:** CLEYMANS, Jean

**Session Classification:** ASP Closure & Outreach, Forum Day: A Gateway to Innovation

Contribution ID: **102**

Type: **not specified**

## **EP1 - Statistics & Detectors - Discussion Session**

*Monday, 9 August 2010 17:00 (1 hour)*

**Presenters:** FROIDEVAUX, Daniel (CERN); Prof. HUSTON, Joey (Michigan State University); KADO, Marumi (Laboratoire de l'Accelérateur Lineaire (LAL) (IN2P3) (LAL)); CONNELL, Simon (Brookhaven National Laboratory (BNL)-Unknown-Unknown)

**Session Classification:** Experiment Week

Contribution ID: **103**

Type: **not specified**

## **EP6: HEP Computing - Discussion Session**

*Thursday, 12 August 2010 11:00 (1 hour)*

**Presenters:** DOTTI, Andrea (CERN); BECKER, Bruce (DAPNIA); DASTRANJ TABRIZI, Roghaiyeh (Simon Fraser University-Unknown-Unknown)

**Session Classification:** Experiment Week

Contribution ID: **104**

Type: **not specified**

## **Visit & Practice at iThemba Labs**



Contribution ID: **105**

Type: **not specified**

## **Poster Session and Demonstration Stands**

by students and lecturers

Contribution ID: **106**

Type: **not specified**

## **FNAL - Fellowship Contest**

*Friday, 20 August 2010 12:15 (30 minutes)*

**Session Classification:** Accelerator & Applications Week

Contribution ID: **107**

Type: **not specified**

# Free Time

Contribution ID: **108**

Type: **not specified**

## **Public Lecture #1**

**Presenters:** DARVE, Christine (Fermi National Accelerator Lab. (Fermilab)); ELLIS, John (CERN); MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Universite)

Contribution ID: **109**

Type: **not specified**

## **Public Lecture #2**

*Saturday, 14 August 2010 16:00 (2 hours)*

Contribution ID: **110**

Type: **not specified**

## Free Time

*Saturday, 14 August 2010 08:00 (5 hours)*

Contribution ID: **111**

Type: **not specified**

## Physics at Fermilab

Presentation of HEP at Fermilab.

Presentation of the Fellowship.

**Presenter:** Prof. KIM, Young-Kee (FNAL & U. of Chicago)

Contribution ID: **112**

Type: **not specified**

## **Physics at Fermilab**

*Tuesday, 3 August 2010 16:00 (1 hour)*

**Presenter:** Prof. KIM, Young-Kee (FNAL & U. of Chicago)

**Session Classification:** Theory Week



Contribution ID: **114**

Type: **not specified**

## **Registration**

*Monday, 2 August 2010 08:00 (1 hour)*

**Session Classification:** School Startup

Contribution ID: **115**

Type: **not specified**

## Opening Address

*Monday, 2 August 2010 09:10 (10 minutes)*

**Presenter:** ELLIS, Jonathan R. (CERN)

**Session Classification:** School Startup

Contribution ID: **116**

Type: **not specified**

## **THR III**

*Monday, 2 August 2010 14:00 (1 hour)*

Theory Recaps III

**Presenter:** GOVAERTS, Jan

**Session Classification:** Theory Week

Contribution ID: **117**

Type: **not specified**

## **Presenting the ICTP**

*Friday, 6 August 2010 12:15 (15 minutes)*

**Presenter:** Dr ACHARYA, Bobby (ICTP)

**Session Classification:** Theory Week

Contribution ID: **118**

Type: **not specified**

## **Excursion #1: Peninsula Tour**

*Sunday, 8 August 2010 09:00 (9 hours)*

**Presenter:** DABROWSKI, Anne (CERN)

Contribution ID: 119

Type: **not specified**

## **Excursion #2 Wine and Chocolate Tasting at Lanzerac hotel followed by Banquet at Stellenbosch Lodge**

*Sunday, 15 August 2010 15:00 (8h 20m)*

Lanzerac Hotel for wine and chocolate tasting:

<http://www.lanzerac.co.za/index.php?page=location>

Stellenbosch Lodge for banquet

<http://www.stblodge.co.za/directions/index.html>

**Presenter:** DABROWSKI, Anne (CERN)

Contribution ID: **120**

Type: **not specified**

## **AT1 II - Beam Dynamics & Stability**

**Presenter:** HOLZER, Bernhard (Deutsches Elektronen-Synchrotron (DESY)-Unknown-Unknown)

Contribution ID: **121**

Type: **not specified**

## **AT1 II - Beam Dynamics & Stability**

*Monday, 16 August 2010 11:00 (30 minutes)*

**Session Classification:** Accelerator & Applications Week



Contribution ID: 122

Type: **not specified**

### **3. Laser Instrumentation: @ Stellenbosch U., E. Rohwer and H. Schwoerer**

Contribution ID: 123

Type: **not specified**

## **4. GEANT4: Computer Room, Andrea Dotti**

Contribution ID: 124

Type: **not specified**

## **5. Visit of IThemba Lab by Zeblon Vilakari + Radiation Environment by Marco Silari**

Contribution ID: 125

Type: **not specified**

## **AT4 II - Applications of Synchrotron Radiation**

*Thursday, 19 August 2010 11:00 (45 minutes)*

**Session Classification:** Accelerator & Applications Week

Contribution ID: 126

Type: **not specified**

## **Forum - Student's Opportunities**

Contribution ID: 127

Type: **not specified**

## **AT Lab - Laser Instrumentation:**

*Wednesday, 18 August 2010 14:00 (4 hours)*

Laser Instrumentation: @ Stellenbosch U., E. Rohwer and H. Schwoerer

**Session Classification:** Accelerator & Applications Week

Contribution ID: **128**

Type: **not specified**

## **AT Lab - GEANT4: Computer Room, Andrea Dotti**

*Wednesday, 18 August 2010 14:00 (4 hours)*

GEANT4: Computer Room, Andrea Dotti

**Session Classification:** Accelerator & Applications Week

Contribution ID: 129

Type: **not specified**

## **AT Lab - IThemba Lab Visit and Lectures by Marco Silari, Manjit Dosanjh and Thierry Muanza**

*Wednesday, 18 August 2010 14:00 (4 hours)*

Visit of IThemba Lab:

- + Lectures by Marco Silari (Radiation Instrumentation)
- + Manjit Dosanjh and Thierry Muanza (Medical Approach).

**Session Classification:** Accelerator & Applications Week



Contribution ID: 130

Type: **not specified**

## Experience of a Graduate Student

*Wednesday, 11 August 2010 12:10 (20 minutes)*

**Primary author:** GRAY, Heather (Columbia University)

**Presenter:** GRAY, Heather (Columbia University)

**Session Classification:** Experiment Week

Contribution ID: **131**

Type: **not specified**

## **DST Meeting**

*Saturday, 21 August 2010 16:00 (1 hour)*

**Session Classification:** ASP Closure & Outreach, Forum Day: A Gateway to Innovation

Contribution ID: 132

Type: **not specified**

## **ASP2010 Students Opportunities**

*Friday, 20 August 2010 16:00 (15 minutes)*

**Presenter:** MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Universite)

**Session Classification:** School Close-Up

Contribution ID: 133

Type: **not specified**

## **Personal Experience of a CERN Fellow**

*Friday, 20 August 2010 16:15 (35 minutes)*

**Presenter:** DABROWSKI, Anne (CERN)

**Session Classification:** School Close-Up

Contribution ID: 134

Type: **not specified**

## **Introduction to the ASP Closure & Outreach, Forum Day: A Gateway to Innovation**

*Saturday, 21 August 2010 09:00 (5 minutes)*

**Presenter:** DARVE, christine (Fermi National Accelerator Laboratory (Fermilab))

**Session Classification:** ASP Closure & Outreach, Forum Day: A Gateway to Innovation

Contribution ID: 135

Type: **not specified**

## Public Lectures #1

*Friday, 6 August 2010 19:00 (1 hour)*

**Primary authors:** DARVE, Christine (Fermi National Accelerator Lab. (Fermilab)); ELLIS, John (CERN); MUANZA, Steve Guy (Centre de Physique des Particules de Marseille (CPPM)-Universite)

**Session Classification:** Public Lectures 1

Contribution ID: 136

Type: **not specified**

## **Public Lectures #2**

*Friday, 13 August 2010 19:00 (20 minutes)*

**Presenters:** DABROWSKI, Anne (CERN); ASSAMAGAN, Ketevi Adikle (Department of Physics)

**Session Classification:** Public Lectures 2: Dr Ketevi Assamagan and Dr Anne Dabrowski