

Introduction

The decision regarding the Swiss representative in ACCU (Advisory Committee of CERN Users) belongs to the CHIPP Plenary. The decision is taken on the basis of a recommendation of the Board.

Proposal

At present, CHIPP (and Switzerland) is represented in ACCU by M. Weber. He has served now for two terms (2009/10; 2011/12). A further extension of his mandate is possible.

M. Weber has indicated his willingness to serve for another term, i.e. for the period 2013/14. His CV will be provided separately.

The Board (in conformity with Article 19, litt. e) is requested **to recommend to the Plenary:**

- the election of M. Weber for a third term (2013/14) as ACCU representative.

Required majority: simple

The CHIPP Chair will submit the recommendation to the Plenary for decision.

Curriculum Vitæ

PD Dr. Michael Weber

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Education

Privatdozent (PD), University of Bern (June 2009).

Doctor of philosophy and science (Dr. phil.-nat.), University of Bern (April 2001).

Diploma in Physics (lic.phil.-nat), University of Bern (May 1997).

Career

2010–

Dozent (tenured) at the Laboratory for High Energy Physics of the University of Bern, Switzerland. Research: High energy collider physics with the ATLAS experiment at the LHC. Liquid Argon TPC development. Detector R&D for particle physics.

2007–2010

Oberassistent at the Laboratory for High Energy Physics of the University of Bern, Switzerland. Research: High energy collider physics with the ATLAS experiment at the LHC and D0 at Fermilab. Detector development for particle physics.

2002 – 2007

Research associate at the Fermi National Accelerator Laboratory, USA. Research: High energy collider physics with the D0 Collaboration at the Tevatron collider. Top quark physics. Top quark physics group convener. Run Coordinator. Silicon detector group leader.

2001 – 2002

Post-Doc and teaching at the University of Bern, Switzerland. Research: Long baseline neutrino oscillation physics with the OPERA collaboration (ν_τ appearance in a ν_μ beam). Scintillator target tracker design. Design and construction of automated emulsion scanning.

1995 – 2001

PhD student and teaching at the University of Bern, Switzerland. Research: Heavy ion physics (NA52 experiment). Strangelet search and (anti)particle production in Pb-Pb collision. Detector development, data acquisition and analysis.

Work and research experience

I am Dozent (tenured lecturer) at the Laboratory for High Energy Physics of the University of Bern and as such heavily involved in University teaching at all levels. I advise and guide several Master and PhD students in Bern, mainly on p-p collider physics but also on detector R&D and I am regularly acting as a referee for publications and serving theses committees. I value outreach by organizing events and giving lectures and talks for the general public, high school students or teachers.

During my career I have **designed, built and operated detectors using all major techniques common in particle physics**. I consider the hands-on hardware activity a fundamental ingredient of my work as experimental physics. I am currently working on the optical readout of a silicon pixel detector for ATLAS and on the development of Time Projection Chambers (TPC) in liquid Argon for neutrino experiments. I am coordinating

the mechanical and electronics workshops in Bern for all hardware activities of the lab. I also have a great experience in data analysis, including the application of most modern analysis techniques both to precision measurements and searches for new physics.

Since 2007 I am a member of the ATLAS collaboration at the CERN LHC. I am coordinating a group of several Post.-Docs and PhD students and we **search for yet undiscovered particles**, so-called supersymmetric particles. So far no such particles have been found and we regularly update exclusion limits as the sensitivity increases. After two decades of planning, detector construction and commissioning, the ATLAS collaboration has **discovered a new particle, consistent with a Standard Model Higgs boson**, in July 2012. I am also working on the development and implementation of the optical readout of a new Pixel Detector layer (IBL) to be added to ATLAS during the 2013 shutdown.

Since 2002 I am a member of the D0 Collaboration at the Fermilab Tevatron collider. I am involved in the silicon detector and top quark physics groups, where I provide expert knowledge and review results and publications. I made major contributions **in top quark physics group, detector operations and the silicon detector group**. I was leading the top quark physics efforts in D0 and served as Run Coordinator and silicon group leader.

The top quark physics program is one of the most important deliverables of the Tevatron RunII project. Important publications from my research include the evidence for electroweak production of top quarks (“single-top”) and a first direct measurement of the $|V_{tb}|$ element of the CKM matrix (Phys. Rev. Lett 98, 181802 (2007)). **I personally performed a precise measurement of the top quark mass** (“Measurement of the top quark mass with the ideogram method”, Phys. Rev. D 75, 092001 (2007)). As Run Coordinator I had the responsibility for the operation and safety for one of the world largest and most complex particle physics experiments I coordinated all the detector groups and acting as link to the Accelerator Division Integration Group as well as to the Fermilab management for operational issues. During my term I **kept the data taking efficiency at around 90%, while improving the data quality and its monitoring**. As silicon detector group leader I had the responsibility over the newly installed silicon detector, for which I assessed the lifetime from radiation damage and failures from aging electronics. Major improvements were made to the monitoring and operations significantly **reducing the failure rate and substantially reducing the dead time** of the experiment. I am still being consulted as expert on silicon detector issues.

On the **OPERA experiment**, I planned and performed **test beam measurements for the design of scintillator target tracker walls**. I made trigger rates studies from radioactivity and evaluated and **tested novel multi-anode photo-multipliers**. I also **built a first computer controlled emulsion scanning station in Bern**. This was the prototype for a very successful series of microscopes now in operation in the largest European emulsion scanning laboratory in Bern.

As graduate student I was doing **research on fixed target Pb-Pb collisions at CERN**, looking for strangelet production with a small-acceptance focusing spectrometer (500m long) with very good particle identification. In the final phase of the experiment I was the **primary analyzer of the data recorded and published the results** in several conference proceedings and reviewed major journal. The final publications include the world best limits on strangelet searches and the measurement of (anti)-particle and (anti)-nuclei production cross sections (including anti-helium-3). **I designed and built an electro-magnetic calorimeter**, designed and installed new time of flight scintillators, maintained the time-of-flight system, hadronic calorimeter, Čerenkov detectors and wire chambers as well as the data acquisition, on-line software and triggering.