

CHIPP Outreach Report

***25 August 2009
CHIPP Plenary Meeting
Appenberg***

HP Beck – LHEP Bern

➤ **CHIPP Outreach Group**

- mandate
- composition
- meetings

➤ **Recent Outreach Activities in Switzerland**

➤ **Outreach Activities planned**

- web-sites: <http://www.chipp.ch> and <http://www.swiss-lhc.ch>
- travelling exhibition
- funding

➤ **Conclusions**

CHIPP Outreach Group

- The **CHIPP Outreach Group** is a revamp of the *CHIPP LHC Communication Network*, which was installed as reaction to the
 - EUROPEAN PARTICLE PHYSICS COMMUNICATION NETWORK (EPPCN) installed in 2007 <http://www.cern.ch/EPPCN>
 - *CHIPP LHC Communication Network*
 - *focus on LHC*
 - *Thanks to Günther Dissertori for having run the CHIPP LHC Communication Network in the past and having started up CHIPP wide outreach initiatives*
- The new **CHIPP Outreach Group** will promote all Swiss particle physics activities
 - 3 pillars of CHIPP roadmap
 - collider, neutrino, astro-particles
 - dark-matter, low-energy physics,...

CHIPP Outreach Group

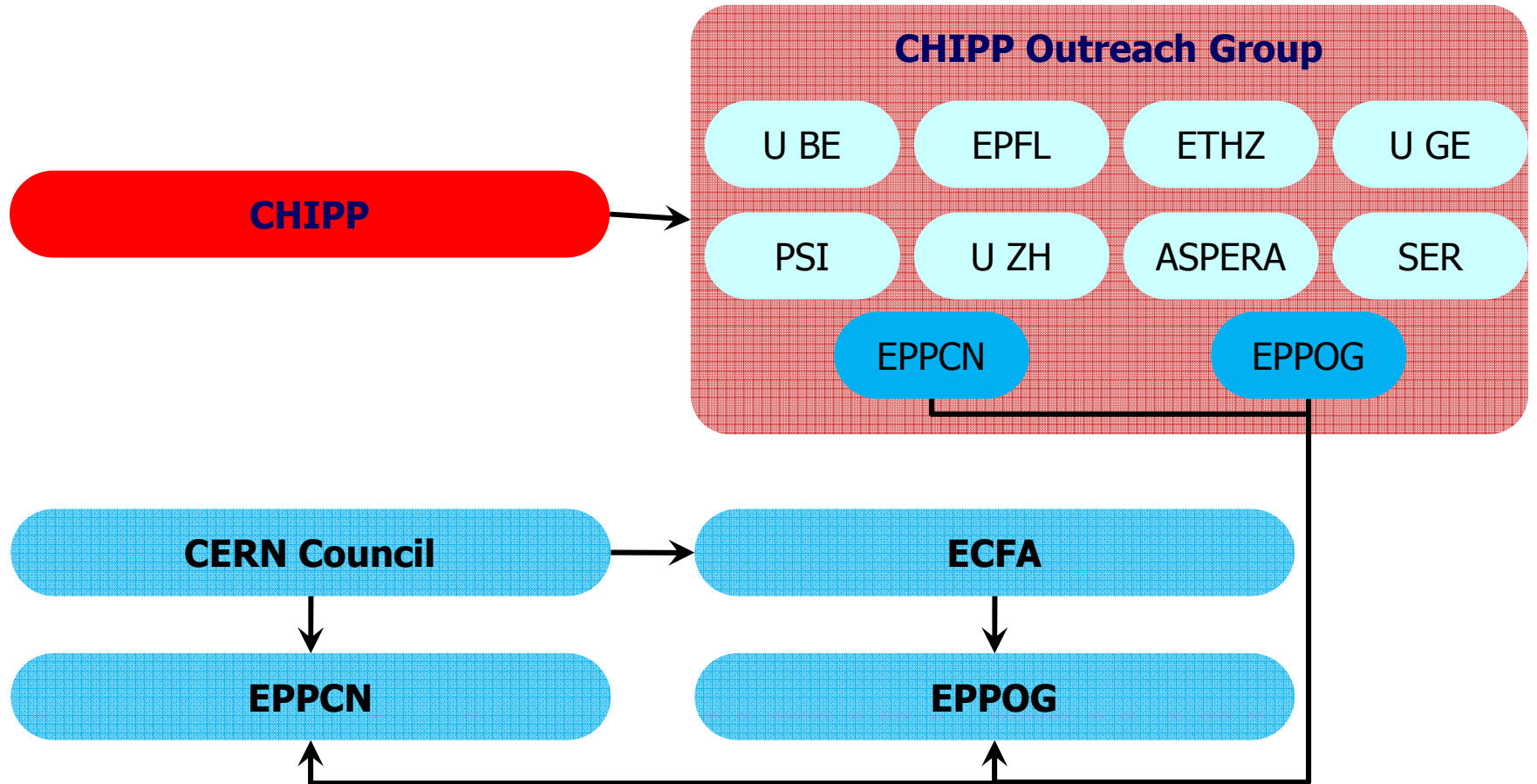
- **CHIPP Outreach Group will meet ~ twice a year**
 - Notably one meeting shortly before the yearly CHIPP Plenary Meeting in preparation of reporting to CHIPP
 - **kick-off meeting was 19 August 2009 in Bern**

- The **primarily role** shall be **the coordination of outreach activities in Switzerland**
 - Outreach will normally be done by individual institutes
 - but should emphasize CHIPP and our common or related activities wherever this is sensible
 - **Benefit** from activities being done at one site to also be cloned at another site
 - good communication between Swiss groups → CHIPP Outreach Group
 - common web-site, mailing list, database of activities, exchange of material, brochures, etc.

- **Orchestrate** common (bigger scale, bigger money) outreach activities CHIPP wide
 - needs professional support (outsourcing activities to professionals)

- **Target Audience**
 - General Public
 - Schools
 - pupils
 - teachers
 - Universities
 - ...

CHIPP Outreach Group



CHIPP Outreach Group

One **delegate** (+one **alternate**) physicists from every CHIPP site
 – alternate physicist to ensure better coverage of activities at each site
 not (necessarily) required to participate in meetings

One **delegate** from **ASPERA, EPPCN, EPPOG & SER**

<u>Bern</u>	HP Beck (chair) & <u>EPPOG</u> Thomas Becher	contact alternate
<u>EPFL</u>	Frederic Blanc Aurelio Bay	contact alternate
<u>ETHZ</u>	Christoph Grab Marie-Christine Sawley	contact alternate
<u>Geneva</u>	Olivier Gaumer Bernard Révaz & <u>ASPERA</u>	contact alternate
<u>PSI</u>	Tilman Rohe Malte Hildebrand	contact alternate
<u>Zürich</u>	Angela Buechler-Gehrmann Teresa Marrodan-Undagoitia Vincenzo Chiochia	contact alternate
<u>SER</u>	Laurent Salzarulo	
<u>EPPCN</u>	Beat Gerber & <u>ETHZ</u>	

- EPPCN is a **network of closely cooperating professional communication officers from each Member State**, and reports on a regular basis to Council.

- The **EPPCN mandate**
<https://espace.cern.ch/forum-EPPCN/Shared Documents/1207CouncilEPPCN-3.pdf>
 - Strengthen communication between communications officers in the Member States;
 - Review existing communications practices at CERN and in the Member States with a view to sharing best practice and maximising benefit in the Member States;
 - Offer constructive advice on communication issues to Council based on consensus decisions made by the network;
 - Prepare and implement communication activities based around the start-up and results from the LHC;
 - Propose, implement and monitor strategies designed to foster long-term support for sciences related to CERN's mission, in support of the European strategy for particle physics.

- In addition to EPPCN, there is the **European Particle Physics Outreach Group (EPPOG – <http://www.cern.ch/eppog>)**, reporting to ECFA, installed in 1997.
- **EPPOG** is a **network of physicists from Member States** who are active in physics education and outreach, and its purpose is to allow scientists to share best practise in outreach across borders.
- The **EPPOG mandate**
 - promotes the outreach activities of particle physics institutes and laboratories in the CERN Member States.
 - acts as a forum for the exchange of ideas and experiences related to particle physics outreach.
 - was formed under the joint auspices of the European Committee for Future Accelerators (**ECFA**) and the High Energy Particle Physics Board of the European Physical Society (**EPS-HEPP Board**).
 - is composed of
 - one member nominated by the particle physics community of each CERN Member State (normally the responsible person for outreach activities in the state concerned).
 - one member each from DESY and CERN, appointed by the managements of those laboratories.
 - additional representatives from particle physics experiments, astroparticle physics and non-Member States of CERN.

- **EPPCN chair:** James Gillies
(CERN, Head of Communication and CERN's spokesman)
- EPPCN Swiss delegate:** Beat Gerber
(ETHZ, Referent des Präsidenten für
Öffentlichkeitsbelange)

- **EPPOG co-chairs** David Barney (CERN, CMS)
Michael Kobel (Dresden, ATLAS)
- EPPOG Swiss Delegate** Hanspeter Beck (Bern, ATLAS)

- Last EPPOG Meeting: 2-4 June in Milan
 - <http://indico.cern.ch/conferenceDisplay.py?confId=56016>

 - a good summary on outreach activities throughout Europe
 - Other countries (UK, D, E, PL, ...) seem to be much more active in outreach than CH

 - few examples and goodies on following slides

EPPOG – CERN Travelling Exhibition

Common development between **Uni Geneve** and **CERN**
Funded by Dudley Wright Foundation, Geneva
Present for the 450th Anniversary of University of Geneva

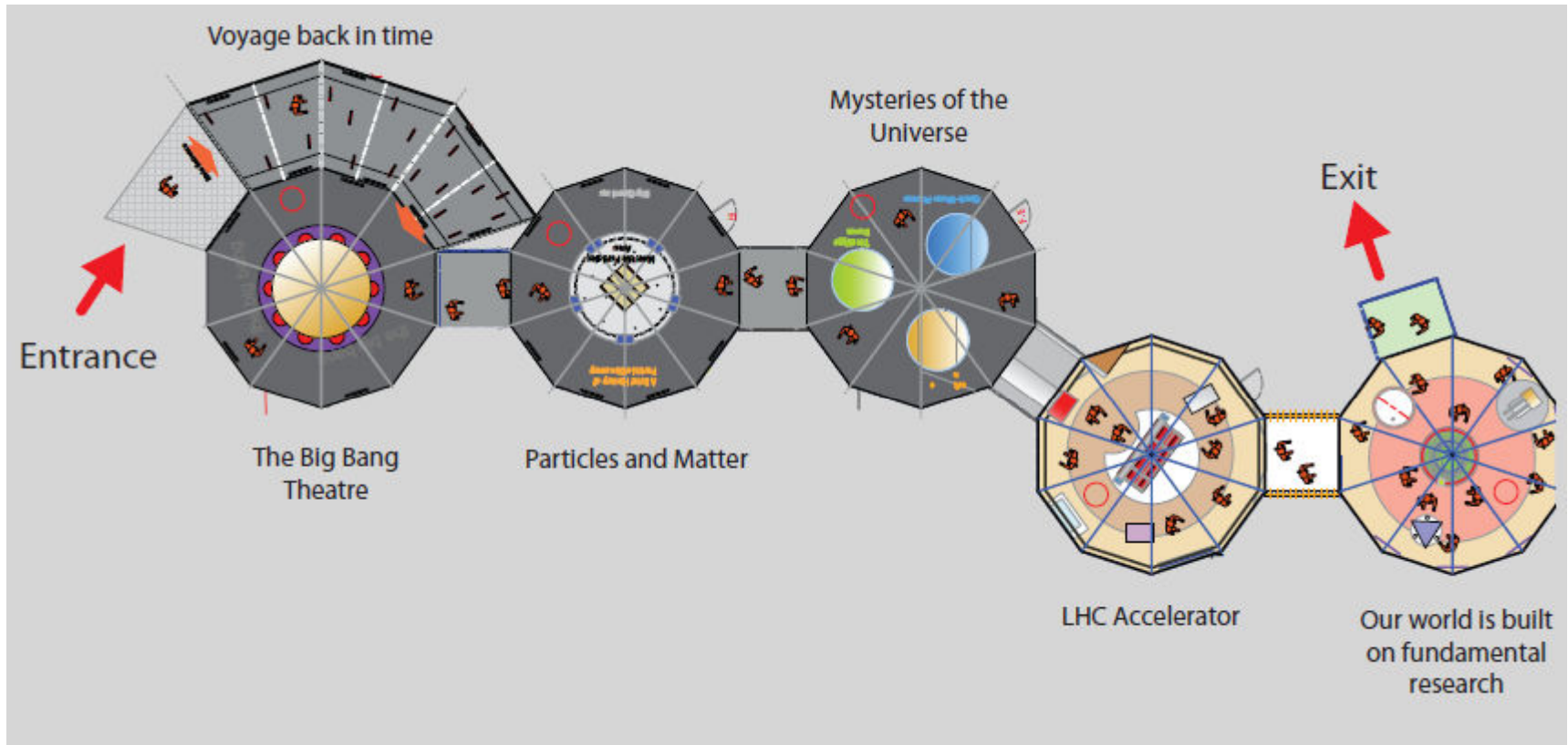


Matière Première
We are all 14 Billion Years Old

Inspire a sense of wonder and curiosity about the origin of the Universe and the basic constituents of matter

- **entrance tunnel**, taking the visitor back to the time of the Big Bang;
- **Big Bang theatre**, narrating the history of the Universe;
- **particle zone**, displaying the basic structure of matter;
- **mystery domes**, talking about the mysteries of matter and the Universe;
- **CERN research area**, showing how research at the LHC is done;
- **display 'our world is built on basic research'**, linking basic research to our daily life.

EPPOG – CERN Travelling Exhibition



EPPOG – CERN Travelling Exhibition

Pod 1 - Big Bang Theatre



Pod 2 - Particles and Matter



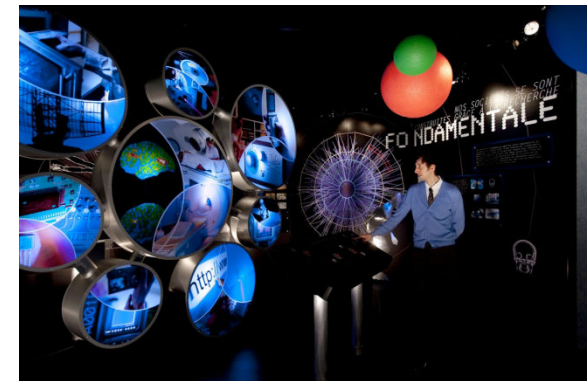
Pod 3 - Mystery Domes



Pod 4 - LHC and experiments



Pod 5 - Our world is built on fundamental research



It's a travelling exhibition – initially at Uni Geneva; being set up at CERN Globe (mid September); later at Deutsches Museum (Munich); **could also be moved to some site(s) in CH**

→ costs money

EPPOG – Photographic exposition



- **58 photographic panels shown in Geneva lake shore during Summer '08**
- Made during LHC construction by German photographer **Peter Ginter**
- Organized in eight different themes: Lord of the Rings, Magnificent Magnets, a World of precision, 100% High Tech, Particles without Frontiers, Detectors, a Giant Puzzle and Science & Conscience

EPPOG – Photographic exposition transported to Spain



➤ 100 k€ for

- Construction of panels in order to hold the photographs
- Construction of concrete pedestals to support the panels
- Transportation and handling of the full exhibition to 10 different cities (Santander, Oviedo, Santiago de compostela, Madrid, Barcelona, Valencia, Terrassa, Granada, Huelva and Seville)
- Starting end of August 2009 in Santander, ending end of January 2010 in Barcelona
- MoU being signed between:
 - CSIC and CERN (**10k€**) including translation to Spanish, reprinting of panels and transport to local installations.
 - P. Ginter and CSIC (**30k€** for 10 cities)

- Throughout Europe, **Science Museums often do not have** exhibition halls on the
 - structure of matter,
 - the Big Bang,
 - the connection of elementary particle physics with cosmology
 - Accelerator physics
 - use of accelerators in modern applications
 - medical treatment (proton/carbon therapy)
 - material treatment, quality control, research

- Big exception: **CERN Microcosm**, + cosmic muons at PSI-Forum ...

- **Switzerland**
 - Need for travelling exhibition
 - room for permanent exhibition...?

Recent Outreach Activities

- **A lot of Outreach** is being done throughout Switzerland
 - small scale, individual initiatives, all Swiss sites are active, no (or only little) coordination

- **Everybody (Be, Ge, ETHZ, EPFL, PSI, ZH) active in**
 - Visits to Experiment sites (ATLAS, CMS, LHCb, ...)
 - Schools, Journalists, VIPs
 - Open day events at local site
 - Student/Fresher days at local site
 - Public talks at schools, clubs (rotary, lions,...), industry, ...
 - Interviews @ TV / Radio / Printed press
 - Maturitätscommissionen

- a few selected activities in the following slides

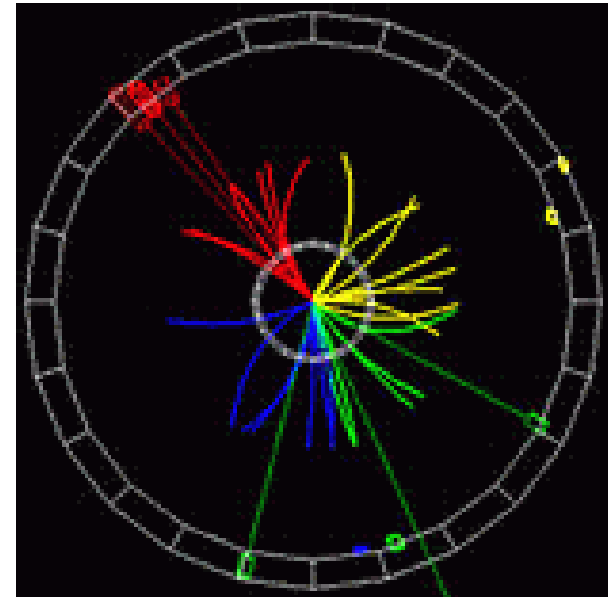
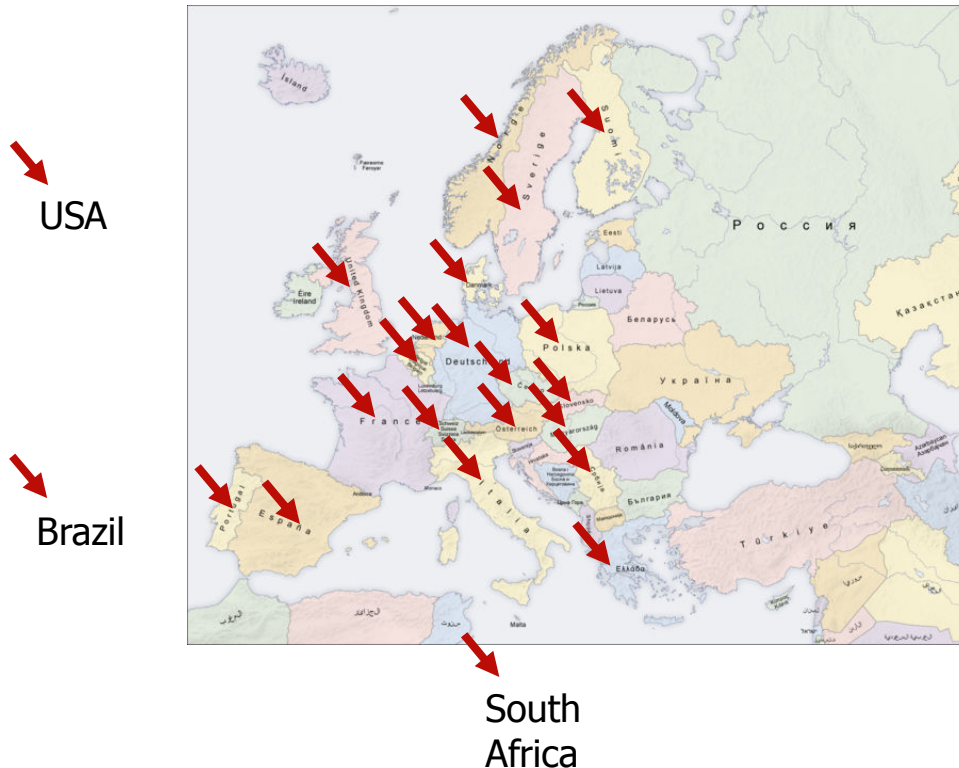
Bern & Zürich Outreach Activities

➤ Physics Masterclasses – EPPOG

➤ *International Masterclasses* *"Hands on Particle Physics"*

16.3. - 3.4.2009

<http://www.physicsmasterclasses.org>



23 Nations
~4800 students (~16-18 years old)

Switzerland: Bern & Zürich participated
Geneva & Lausanne expressed interest to join for 2010.

➤ Angels & Demons

➤ The Hollywood blockbuster movie triggered quite some activities in the media, which was used by CERN and by Bern and ETHZ to promote particle physics – **Angels & Demons Lecture Nights**

➤ **Many articles (Anti-Matter, Bomb, CERN, Vatican, ...) in print media**

➤ 20 Minuten, Der St. Galler Landbote, Der Bund, Berner Zeitung, etc. etc.

Das Cern surft auf der Hollywood-Welle

GENÈVE «Es ist schon cool, in einem Hollywood-Streifen so im Rampenlicht zu stehen», schwärmt James Gillies, Sprecher der Europäischen Organisation für Kernforschung (Cern). Er verweist auf die Vorlesungen an der ETH Zürich (18. Mai) und der Universität Bern (19. Mai). «Für uns ist das eine hervorragende Gelegenheit, um mit den vielen Mythen um unsere Organisation endlich aufzuräumen», so Cern-Mitarbeiter Hanspeter Beck von der Universität Bern.

20 Minuten

➤ Physics on Saturday

- The Physics department of Uni Bern organizes Saturday morning lectures during the winter semester.
 - 6 Saturdays every Winter since 2006
 - Topical lectures for high-school students and general audience
 - From Climatology, over Planetary physics to Particle Physics
 - Der Large Hadron Collider am CERN: Erforschen was die Welt im Innersten zusammenhält <http://www.physics.unibe.ch/pdf/beck2009.pdf>
 - Typically 40 to 70 persons (pupils, teachers, parents, other) per lecture
 - Very positive feedback
 - <http://www.physics.unibe.ch/>

➤ **Teachers education (ETHZ, ZH, BE)**

- Following the success in the Masterclasses where (few) teachers also (partially) participated, the idea came up to organize a teachers education day in Bern.
- **PH** (Pedagogical Highschool) organizes every year a series of teachers education programs.
 - **full day teachers session** – The Physics of Elementary Particles.
 - Zürich already active since few years
 - Bern in preparation for 2010

Teachers education

- CERN has a teachers program
- <http://education.web.cern.ch/education/Chapter1/Intro.html>
- The three-day **Physics Teachers Programme** is an international weekend course in English for teachers from all over Europe and includes seminars, visits and educational activities. Click [here](#) to find out more.
- The **High School Teacher Programme** is a comprehensive international course held in English, aimed at teachers who would like to spend the first three weeks of July at CERN. The next session will take place from 28 June - 18 July 2009. Click [here](#) to find out more.
- The **National Teacher Programmes** are held in the mother tongue language of the participants from CERN member states. Click [here](#) to find out more about their content, when the next session is planned for your country, to access the agenda, to find archived material of previous sessions and contact information.
- **Swiss teachers do not participate** (quote Rolf Landua, Head of CERN Education Group)
→ Needs to be changed...

➤ Today, two web-sites exist

➤ <http://www.chipp.ch>

➤ <http://www.swiss-lhc.ch>

➤ few comments mainly regarding **lack of swissness** of this page

Swiss-LHC ist gut gefungen und stellt aktuell einen guten Start zur schweizerischen LHC Outreach dar. Trotzdem gibt es natürlich einige Punkte die man besser machen kann und sollte:

<http://www.swiss-lhc.ch/> Homepage:
Diese Homepage sollte einen anderen Titel als Homepage erhalten.
Anstelle von <title>Homepage</title> sollte zum Beispiel <title>Swiss-LHC Portal</title> stehen.

Die Swissness von dieser Seite fehlt leider komplett. Es könnte sich hier um eine beliebige deutsche oder französische Webseite handeln. Man sollte hier geschickt schon auf die Schweiz, CHIPP, schweizerische Beteiligung etc. hinweisen.

Der Videoclip unten rechts ist sehr gelungen. Allerdings ist das Standbild für einen Erstbesucher völlig nichts sagend. Ein besseres "Teaser" Bild, damit man auch auf das Video klicken wäre nötig.

->Der LHC

Das Bild rechts zeigt ein Detektorbild. Besser wäre hier ein Bild des Beschleunigers zu zeigen. Für die meisten wird wohl der Unterschied Beschleuniger/Detektor am Anfang Schwierigkeiten bereiten - da sollte man nicht noch zusätzlich zu Verwirrung beifügen.

->Der LHC -> Funktion -> Beschleuniger

Hier wird auf LEP verwiesen, ohne dass LEP erklärt wird. Dies ist nicht unbedingt hilfreich...

Die bestehenden Kavernen des LHC-Vorgängers LEP reichten nicht aus, um die neuen Detektoren unterzubringen.

Nur gerade der ATLAS-Detektor wird erwähnt. Ein Link auf Experimente wäre angebracht.

Man sollte hier wohl klarstellen, dass Detektoren und Experimente (in diesem Zusammenhang)

Synonyme sind.

->Der LHC -> Funktion -> LHC Computing Grid

Das Bild vom CERN Rechenzentrum ist vollständig veraltet - hier muss ein neues her. Zusätzlich fehlen Bilder die die globale sowie die schweizerische Vernetzung des Grids zeigen.

->Der LHC -> Funktion -> Nutzen

Hier müsste man noch etwas ausbauen. Es gibt gute Technologietransfer Fyers vom CERN. Man kann auf Medical Applications (detection devices, imaging) verweisen; etc.

Das Bild von der CMS Bombe ist in diesem Zusammenhang nichts sagend.

->Der LHC ->Die Experimente

ALICE, TOTEM und LHCf sollten einen Link erhalten. Ansonsten muss der User erst Google bemühen um zu verstehen, was hinter diesen Begriffen steht.

->Der LHC ->Forschende

Hier hätte ich ein Bild mit Schweizerkarte und den Instituten erwartet. Der Globe of Innovation hilft hier nicht wirklich.

->Für Schulen

Links 'Poster' und 'Videos' ist identisch.

->Für Schulen -> Für Lehrkräfte

Das 'Standbild' aus dem Video: 'The ATLAS Experience' passt nicht zum ATLAS Experiment.

Man kann hier leicht ATLAS mit einem LHC Dipol verwechseln.

Das Video wird zwar erwähnt, es gibt aber keinen Link....

->Für Medien

Es wäre nicht schlecht, wenn zusätzlich zu jedem Experiment noch ein Kontakt angegeben werden könnte.

->Für Medien ->Medienberichte

Hier gibt es eine Fülle weiterer Berichte, die man anbringen könnte.

->Aktuelles

Hier muss man aufpassen, dass diese Seite wirklich nie veraltet...

Weiter allgemeine Bemerkungen:

Zu den Bildern - es scheint, als ob das erste Bild, das man auf jeder Seite zu sehen bekommt mit hoher

Wahrscheinlichkeit ein CMS Bild ist. Hier müssen auch LHC und ATLAS vertreten sein, und zwar nicht erst nachdem man sich weiter durchgesehen hat.

Es ist nicht sofort klar, wie man die Bilder vergrößert, verkleinert, und, falls mehrere Bilder zusammen sind, wie man von einem aufs nächste kommt. Zur Erläuterung dazu:

Der Titel jedes Bildes verändert den Maus-pointer, man kann aber trotzdem nicht klicken: erst wenn man auf das kleine Symbol links vom Titel klickt passiert was. (Habe lange gebraucht, bis ich diese Funktion gefunden hatte!)

Das vergrößerte Bild kann nur wieder verkleinert werden, wenn man das kleine Kreuz oben rechts gefunden hat.

Bei mir war dieses Kreuz jedoch erst sichtbar, nachdem ich meinen Browser (Firefox) auf maximale Bildschirmgröße geschaltet hatte. Zumal kann man das Bild nicht scrollen - wenn das Kreuz nicht sichtbar ist, hat man keine Chancen es sichtbar zu machen (ausser den Browser zu maximieren).

Das selbe gilt für die kleinen Pfeile nach Links und nach Rechts, wenn man durch mehrere Bilder scrollen will...

Es wäre nützlich, wenn man direkt in ein Bild hineinklicken könnte, um zu vergrößern, zu scrollen und zu verkleinern.

Zur Navigation -

Der Text ist jeweils in der mittleren Spalte gesetzt. Typischerweise muss man diesen nach unten scrollen, wenn man den ganzen Text lesen will.

Dass dies nur durch klicken auf die kleinen Dreiecke unten rechts geht habe ich erst nach einiger Zeit realisiert.

Ich habe intuitiv nach einem Scrollbar auf der Seite gesucht - aber keinen gefunden...

Swissness -

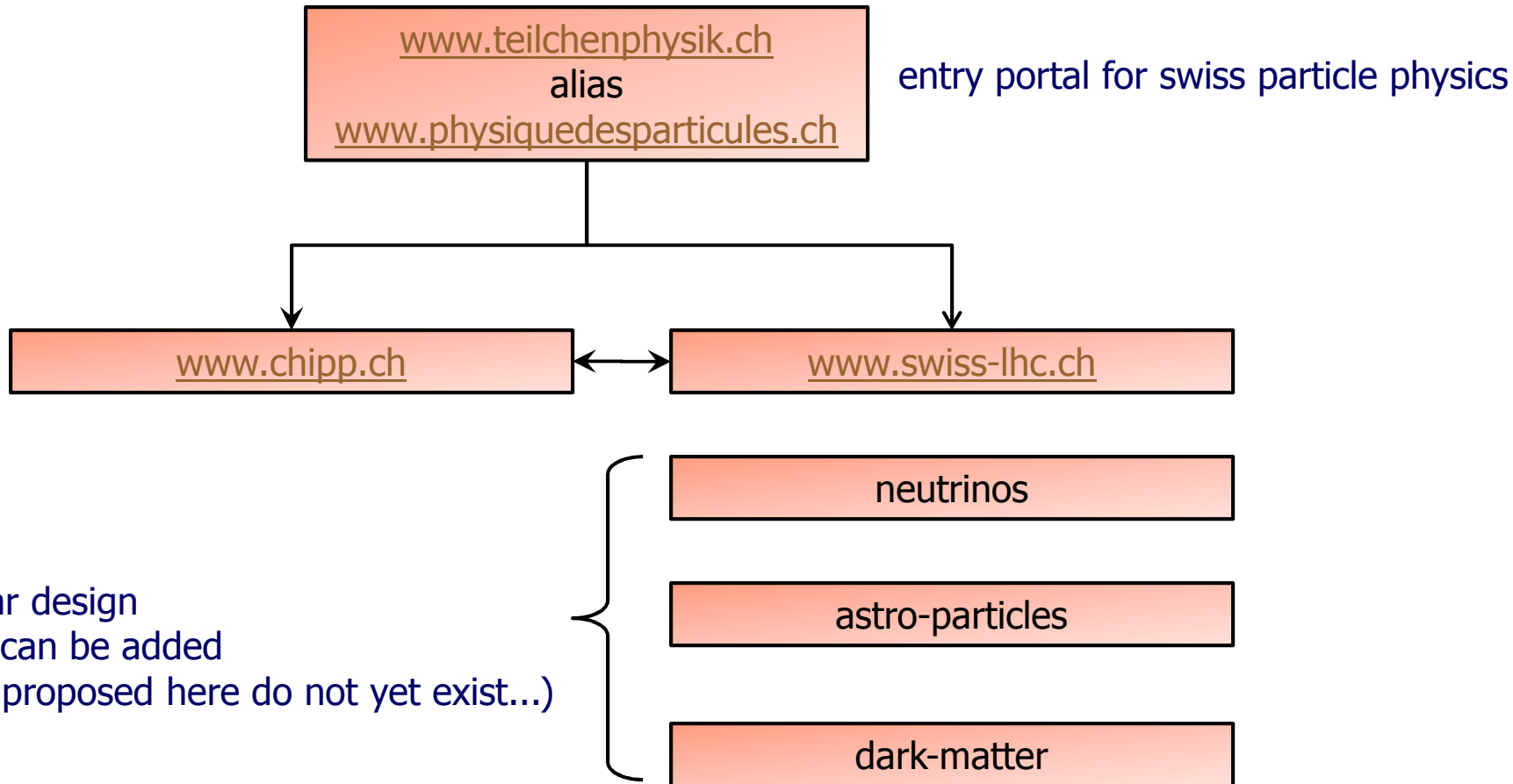
oder das Fehlen davon, habe ich schon zur Homepage weiter oben bemerkt. Dies gilt eigentlich für alle Seiten, da man erst im Text selbst bemerkt, dass es sich hier um schweizerische Beiträge handelt.

➤ Want to bring chipp.ch and swiss-lhc.ch together.

➤ Need also to think how to add non-LHC particle physics

Outreach Activities planned

Be active / visible on the web !!



Tender bid exists to get this done ready for LHC start-up – some money still needs to be found

Outreach Activities Planned

Should arrange travelling exhibition with posters, brochures, flyers

- Could be Matière Première (time scale unclear)
- New smaller scale exhibition (time scale Spring 2010)

ETH has done a recent exhibition on **sustainability**

⇒ **Experience exists:**

- logistics
- cost estimates
- companies willing to design and set up
- Involving media (press, TV, ...)

We can profit from an existing network!

Detailed plan in preparation

Need funds not manpower

- should outsource manpower where ever possible
- (we are physicists and can coordinate outreach in our spare time)

Outreach is important to get backing from (Swiss) Society

See recent letter from R-ECFA Chair: Point 6) Improve Outreach

Basically, CHIPP Outreach is poor

Need to establish source for funding:

Possible sources are

FORCE (not all CHIPP activities w/ CERN)

SNF

SER

CRUS

Institutes

and also

Foundations

Industry

Aim for 100–200 kCHF / year

Very little overhead in view of our global budget

...but could have **big impact**

Conclusions & Next Steps

- Outreach is fundamentally important **as stressed by R-ECFA Chair**
 - backing from Society
 - if understood that our world we live in a is built on basic research
 - stimulate young people to enter physics studies
 - Need to increase number of physics students
 - as pointed out in a recent e-mail from (BE) Physics Department Head
- Small scale outreach activities in all places is being done
- New CHIPP Outreach Group
 - is a coordination body becoming active now
 - can address outreach Swiss wide
 - better coordinated than having individual efforts at each site
 - ideas for web portal and travelling exhibition
 - outsourcing to professionals
- Needs proper funding structure
 - 100 – 200 kCHF / year
 - without – we will look like amateurs



BackUp

Spoken 50'000 CHF from Secretary of State
but few constraints exist on how to spend it

The state secretary has 2 conditions for releasing the money:
The project must be further (financially)
supported by all involved Universities and institutes.

The project should be for young people who are about
to take the decision what to study

The 50k CHF are still available.
Should be a global project targeted for young people.
Preferably the project is long term (3 years)

We are very thankful, but cannot yet spend the money