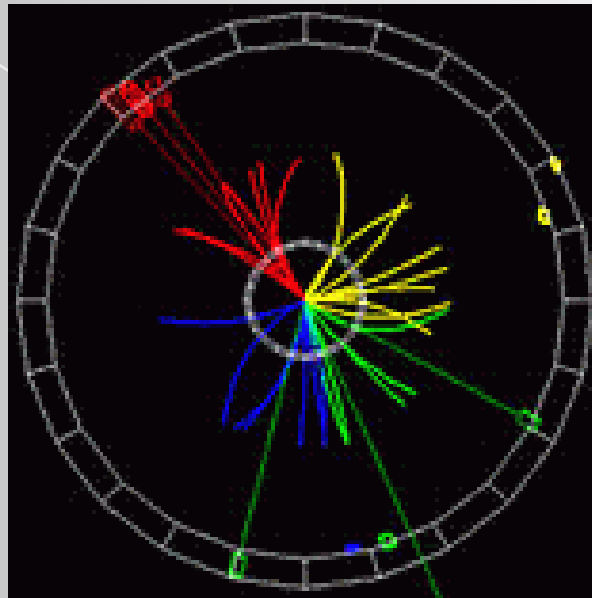


*4. International Masterclasses
"Hands on Particle Physics"
28.2.2008-14.3.2008*

<http://wyp.physicsmasterclasses.org>



EPPOG outreach meeting, Prague, 18.4.2008

Thomas Zoufal on behalf of
Michael Kobel and Peter Steinbach

Outline

● **Organisation**

- Statistics
- Media Echo
- Team, corporate identity

● **Evaluation**

- Questionnaire
- our (i.e. PS+MK 's) personal impressions

● **Funding**

- Current
- Possible future

● **Plans for the Future, funding assumed**

1) Statistics of Masterclasses 2008 (2007)

● International Masterclass Weeks w/ video conf

- **12 (12)** pure student days: 28.2. – 14.3.08
- **1 (1)** pure teacher's day: Mo 3.3.08
- **1 (1)** mixed day students(1) + teachers: Sa 1.3.07
- ~ **5-8 (7) institutes/ day = 72 (92) masterclasses**
- 7 days: Z^0 decays (DELPHI + OPAL)
- 3 days: $Z^0 + \alpha_s$ (DELPHI)
- 1 day: $Z^0 + WW$ (mostly OPAL)
- 1 day: $Z^0 + \mathbf{LHC}$ (DELPHI, OPAL, ATLAS)

● Institute masterclasses w/o video conference

- January – April: **20 (9) masterclasses**
(not counting the UK masterclasses)

● Schedule

<http://www.physicsmasterclasses.org/mc/schedule.htm>

Participation

- **72 (74) institutes from 21 (20) countries**
 - countries
 - ✦ new: Brasil
 - ✦ Interest for 2009: France
 - **8 new institutes** (not counting re-joiners)
 - ✦ BRA: Rio de Janeiro, Sao Paolo
 - ✦ GER: München (LMU/MaxPI.), Würzburg
 - ✦ HUN: Budapest
 - ✦ ITA: Ferrara
 - ✦ POL: Poznan
 - ✦ POR: Faro
 - ✦ US: program with 11 Institutes
 - **2 (8) institutes w/ more than one student day**
 - **7 (6) institutes w/ additional teacher´s day**
- **Estimated number of students: 4936 (4589)**

Media Echo

- **local media echo 2008:**

<http://www.physicsmasterclasses.org/mc/articles.htm>

- TV (Riverside, Rome)
- radio (Rome)
- newspapers (Italian, Greek, Suisse, German, American press release)
- ...? → please let us know!
(we need more for successful funding applications)

- **Larger articles back in 2007**

- **Physics Education 42 (Nov 2007), 636 - 644**
- German Physical Society Journal „Physik Journal“
1 1/2-page article by science writer (May 07)

Organisation Team

● Central organisation

- People and infrastructure at Dresden
 - ✦ **Michael Kobel**
 - ✦ **Peter Steinbach** (ATLAS PhD student)
 - ✦ **Felix Krüger** (physics student) CD and Web Site

● EVO Video Conference

- technics:
 - ✦ **Joao Fernandez, Marek Domaracky, Viktor Michalcin plus EVObeta team** (CERN, Caltech, VK Slovakia)
- moderators: (4 new)
 - ✦ **Silvia Schuh, Dave Barney, Mike Lamont, Kate Shaw, Kate Bradshaw, Claire Timlin, Michael Hauschild, Katherine Leney**
- Quiz: (good to have it in local languages!)
 - ✦ **Silvia Schuh, Ken Cecire, Peter Steinbach et**

● National Organisation

- contact persons in each country
 - ✦ **esp. big support in US by Quarknet (Ken Cecire)**
- Local responsables for each institute

Thanks

Corporate Identity

- **DESY Zeuthen Experiments Support (ExpS) made**
 - [Announcement Poster](#) - A3, ppt, 2.8MB
 - [Announcement Transparency](#) - ppt, 0.7MB
 - [Letter \(e.g. for invitation\)](#) - A4, word, 0.7MB
 - [Presentation, Lecture](#) - ppt, 1.9MB
 - [Participation Certificate](#) - ppt, 0.4MB
 - **Corporate Identity material** - jpg/png, ~1MB

Thanks

- **Deduced from that at Dresden:**
 - Quiz winners certificate (prizes still to be sent in the coming weeks)



2) Evaluation

- **Evaluation 2005: just published in Physics Education**

- **Evaluation 2007: two Volunteer Groups**

- Slovak Virtual Collab (esp. Kosice, Presov, Zilina)
- Quarknet (Ken et al)
- Tedious work, typing in all by hand
- results available:

www.physicsmasterclasses.org/mc/orga_eva.htm

- **Evaluation 2008:**

- no global effort
- local evaluation encouraged

- **Plans for 2009 and beyond (proposal):**

- Charge professional survey group at TU Dresden with
 - ✦ making questionnaire machine-readable
 - ✦ Reading data into SPSS
 - ✦ Making pre-defined set of standard plots
 - ✦ Sending SPSS data to us for further/deeper evaluation

Thanks

J´avais des HAUTs 😊, j´avais des BAS ☹

- **Making of... schedule** worked out well, **faster than 2006/2007**
(not easy to distribute 72 institutes evenly, **very cooperative** 😊)
- **Web pages of new institutes:**
chaotic but smooth update
- **Distribution of CDs and DESY brochures (only GER)**
Thanks to CD company (CUE) and Veronika Werschner (DESY)
ready and shipped well in time
CD delivery problems reduced to 1, **solved in time**
- **Communications to (some) institutes**
(„... as already explained in my previous emails and on the Web...“)
→ need shorter (and thus even more?) e-mails, Wiki?, both?,
- **Collaborative tools for Organizers** (Wiki blog & Sharepoint site)
→ proved to be very useful
→ extension to global use for participants

● **Bad Technical preparation of EVO**

Lack of participants to give EVO & equipment the attention needed

Most Frequent flaws:

- **Equipment not tested in relevant environment**
- **No/bad echo cancelling devices used**
- **Low Bandwidth (a-priori !)**

Clear consequence for 2009:

Again strict admission procedure to Video Conf

Enforce consequent coaching of participants

Video Conf is **the** part which makes the Corporate ID!

● **Admirable:**

- **Patience and competence of EVObeta team**
- **Amount of testing by EVObeta team with 74 institutes in multiple sessions**
- **Patience of moderators in case of**
 - ✦ **Sound problems**
 - ✦ **Quiet or tired students**

Video Conf part is still the weakest part of the program,
but also the central connecting part!

Handling the EVO equipment becomes crucial!

3) Funding

- **So far funding (often in-kind) for**

- people (CD+updates, Website, Organisation):
2005+2006: German research ministry BMBF
2007: TU Dresden (not possible long-term)
2008: TU Dresden (2 students, not possible long-term)
- hardware (CD, brochures, comics, card games)
2005: EPS-HEPP(CDs) + CERN(comics) + DESY(brochures)
2006: BMBF(CDs) + CERN(prizes) + DESY(brochures)
2007: EPS-HEPP(CDs) + CERN(prizes) + DESY(brochures)
2008: 66% EPS-HEPP+EDU(CDs) + CERN(prizes) + DESY(brochures)
- VRVS/EVO support
2005-2008 CERN + Caltech + Slovak ministry

- **Future funding prospects**

- Chance to get 4-5 year complete funding for a project
„Transformation of Masterclasses from LEP to LHC aera“
from BMBF within special „Awareness of CERN“ program
Application submitted in March 2008
- Project Coordinator (half-time for 3 years)
granted from Helmholtz Alliance
(employment expected for August 2008)

Thanks

• **Let's be
optimistic !**

4) Long term planning (assuming 4 years funding)

a) MAIN needs and questions

Most to be coordinated by new management person to hire:

● **New exercises**

- HYPATIA & RAL LHC exercise (Athens, RAL)
- Advanced (like WW, alpha_s, Higgs Search) in preparation
- Maybe astro-particlephysics exercise (France, Erlangen?)
- Trial sessions / trial days

● **Involvement of teachers**

- Preparation and wrap-up at school (example: quarknet)
- Teacher's day(s)?
 - ✦ same format, more/different discussions
 - ✦ strong cross-European attendance
- Combined with in-service training?
 - ✦ teachers stated strong interest in updating school material and teaching

● **Video conference**

- Needs thorough revisiting every year!
- Strict technical quality rules to be assured
- Make moderator team larger: young scientists proven well

● **Assure long-term funding**

- Project Coordinator: Ample time for applications during next years
- Exercise developers, in-service training material
 - ✦ Do we need funding for that?
 - ✦ Or e.g. cover it in student teacher theses?

b) Further points for future discussion

- **Improve Media coverage, articles**
- **Travels of students (and teachers) as prizes?**
- **Automatize evaluation (see plans above)**
- **Schedule**
 - How many days maximum: 14
 - How many institutes/day maximum: 6
(two parallel sessions possible)
 - How many masterclasses outside of central weeks:
Masterclasses as offline School project
 - Some separated Masterclasses in other time zones:
US proven very successful
Brasil building up
- ...

Summary

● We made it again!

Students in Sao Paolo
(BRA)



Students in London
(UK)