

WELCOME TALK

School Teachers Programme
CERN, June 30, 2003

I am glad to welcome you at the opening of the 2003 High School Teachers Programme.

- This year we welcome 40 new teachers in the programme,

- 31 from CERN MS
- 6 from the US (supported by an NSF grant via Northeastern University/ Steve Reucroft),
- 1 from Slovenia,
- 1 from China (travel paid for by the Shanghai School Authority),
- 1 from Mongolia (travel paid for by the Mongolian Government)

In parallel, we invited back 9 teachers from all 5 previous editions, who collected in the past couple of months data from participants of previous HST programmes. They' ll use these data to assess the impact of the programme.

CERN attaches much importance to the HST programme and we hope that support from the EU will make it possible to increase the effort in this area. Together with the other European Intergovernmental Research Organisations (EIRO, gathered into EIROforum), CERN is making an ambitious proposal to the EU, ESTI project, by which the HST programme will expand and join other activities, like Physics on Stage, to become part an organised support to your crucial role of diffusing scientific culture in the

young generations and encouraging young students to embrace a scientific career.

We welcome suggestions from you and from the 9 “senior” teachers I mentioned before for ways to improve the programme.

I shall not discuss what you will be doing at CERN, nor what CERN is (you’ll see it in my talk to the Summer Students on Wednesday), rather I would like to say a few words on the role that science teachers have in forming the new generations, and in preparing them to face the challenges of a society more and more reliant on scientific progress and technology.

We live in a time full of contradictions. As everybody says, our is a “knowledge based society” permeated by products of advanced science, (PC, transistors, cellular phones, GPS) which nobody could live without. Yet, very few understand what these objects are based upon, and, perhaps because of that, science is seen with diffidence and scepticism.

Not understanding what we use everyday leads to a sense of irreality and magic. Our young people live more and more in a virtual world, where impossible things happen (you must have seen the movie Matrix). Shortcuts that escape rational thinking are seen possible to alleviate our problems (cold fusion, homeopathy?).

True, science cannot answer all questions nor provide a rationale for the life of everybody. But this goes often into Esoterism, irrational, horoscopes and worst.

Long ago, there was a celebration of Galileo in Pisa with Richard Feynman among the speakers. Young physicists like me went in mass to listen to him, but to my surprise he did not speak about physics. Rather, he spent the full talk discussing the anti-scientific absurdities hidden in our society, like the industry of horoscopes or the religious sects, and warning us

about the danger that such irrational forces could grow and become important in shaping the political decisions of our society. He was far sighted as usual and the situation today is definitely worse than it was 40 years ago.

Science school teachers can do a lot to fight all this. Most important, you are those who tell the young what science is, what its method, what can we expect from science and what we cannot, when science has to cooperate and in case yield to politics, like in the great choices of our time: energy, environment, birth control.

Teaching science, fundamental science and particle physics in particular, can provide the students with a cultural enrichment and a more analytic *forma mentis*, which are of a fundamental value independently of their future careers.

In addition, the High School Teachers have the privilege to scout the young bright guys we need for the future of our discipline. At the beginning of any scientist's career there is someone who has first shown him or her the beauty of our trade, the satisfaction of understanding something we could not figure out before and the spectacular successes of modern science.

All this explains why we do care about HST and why we have (with the Euroforum and the EU Commissioner) chosen them as our target for the diffusion of scientific culture.

Thanks for having accepted to use part of your holidays to share with us these common goals and to understand what we are doing.

Before concluding, I would like to thank Michelangelo Mangano and his collaborators for their passionate work to organise the programme and the ETT Division and its leader Juan Antonio Rubio to provide critical support.

Have fun.