

Wednesday, 9 JULY 2014

HST Working Group : Masterclasses for Developing Countries

SESSION I:

Identify. Address. Adapt.

Lead by : IPPOG Working Group – Masterclasses for Developing Countries -- members *Abha Eli* from ATLAS Education & Outreach Team, and *Konrad Jende* from CERN Outreach and Education Group.

Participants :

Ravjeet Kour from England/India, *Robert Mugisha* from Rwanda, *Yulin Wang* from China, *Seddigheh Rezapour* from Iran, *Phongtorn Kaewyongphang* from Thailand, *Marina Furkes* from Croatia, *Manuel Arismendy Batista Villa* from Dominican Republic, *Bishnu Lamsal* from Nepal.

Subject range of teachers : general science, physics & cosmology, physics and math, physics, sciences

Age range of students : 13 to 18

The existing problems:

- no access to books and resources
- no access to local scientists or physicists to interact with students
- no support from school, community, fellow local science teachers
- lack of skilled, competent teachers, and passionate/interested teachers
- too many students (upto 100 in a classroom)
- no computers, or technicians to maintain if acquired
- outdated syllabi
- not enough textbooks for students (eg. 20 to be shared among 100 students)
- no electricity/internet
- students have to commute long-distances, may have irregular attendance
- not enough emphasis on fundamental science vs math
- no labs. If labs exist, rudimentary tools to conduct simple experiments
- families only want students to take the exam and pass, not to really learn
- students don't see a future in science, no access to opportunities
- language problem since most resources are in English
- developing resources to allow insights into fundamental science for other disciplines

What teachers would like students to take away :

- a sense of wonder and curiosity about the world
- to think independently for themselves, to want to understand deeply, to learn the basic concepts of science
- to have more practical, hands-on experience

Discussion session: Possible solutions to the existing problems. How can we adapt and create ?

RESOURCES :

<http://home.web.cern.ch/students-educators>

<http://ippog.web.cern.ch/>

<http://education.web.cern.ch/education/>

<http://www.cernland.net/>

<http://www.particleadventure.org/>

<http://www.teilchenwelt.de/>

<http://ed.ted.com/>

<https://cds.cern.ch/?ln=en>

<http://quarknet.fnal.gov/>

<http://atlas-minerva.web.cern.ch/atlas-minerva/>

<http://hypatia.phys.uoa.gr/>

<http://www.learningwithatlas.eu/>

EXTRA :

Cascade competition

<http://www.birmingham.ac.uk/schools/physics/outreach/activities/cascade-competitions.aspx>

Organize a TEDxCERN@yourschool <http://tedxcern.web.cern.ch/participate>

Follow and maybe even encourage your students to participate in

<http://home.web.cern.ch/students-educators/spotlight/2013/competition-beam-line-schools>

Organize an

<http://atlas-live-virtual-visit.web.cern.ch/atlas-live-virtual-visit/>

Follow or participate in

<http://hangouts.web.cern.ch/>