Hands-On Research Schools

for science faculty (ages 25-35) from developing countries

PARTICIPANTS

♦ learn to do science using inexpensive modern instruments

♦ learn powerful computational methods

♦ develop communication and networking skills
Hands-on table-top science

- Inexpensive instrumentation
e.g., web camera -- $60

- Inexpensive computation
  1 TB disk memory

cost: ~$1000  time: ~year(s)  scientists: ~few
Proposal rejected by World Bank, Dell, HP, Acer, Schlumberger, US National Science Foundation, American Physical Society

2006: ICTP (Trieste) decides to sponsor three schools
2010: three more approved
Each school:  
- 50-60 participants from about 18 countries  
- two weeks duration
317 applicants.
50 participants selected from 17 countries
Hands-On Research School in Cameroon (2010):
participants received full travel & subsistence support

ICTP/UNESCO through the International Centre for Theoretical Physics (Trieste, Italy)

U.S. National Science Foundation

Nigeria LNG, Limited

University of Buea and the Ministry of Higher Education of Cameroon
Buea: at foot of Mount Cameroon
4,040 meters
Opening Day
2 August 2010
FACULTY: 12 senior scientists and 12 graduate student assistants (all pro bono)

[not all pictured]
Hands-on laboratories

turbulence

chemical reaction
Human locomotion laboratory: study a peanut vendor walking
Fluid flow laboratory

fluid between rotating cylinders
Fiber optics systems laboratory
Interactive teaching/learning

Develop communication and teaching skills
Develop communication skills

poster presentations

talks
Tutorials
Hands-On computation laboratory
Teaching Lecture Demonstrations
Faculty-participant mealtime interaction
Faculty-participant mealtime interaction
Hands-On School outing to the beach

8 August 2010

On the only day with no rain before 4 pm!
• need: year-long schools
• fixed locations
• alumni organization and continuing education