

Discover the Cosmos Kick Off Meeting

WP2: Pedagogical Framework and Implementation Scenarios

Leader: TU Dresden / IAP

Geneva, 01.09.2011



Task 2.1

The Pedagogy of Inquiry Teaching: Strategies for Developing Inquiry as part of Scientific Literacy

Responsible: TU Dresden / Ellinogermaniki Agogi

- → Common methodological approach
- Inquiry-based teaching and learning in the classroom
- Reversal of conventional school science teaching pedagogy

Benefits:

- Students actively engage in the learning process
- Improve their conceptual understanding in various scientific topics
- Have the opportunity to think like a scientist
- Develop creative thinking and problem solving

Example: International Masterclasses

www.physicsmasterclasses.org



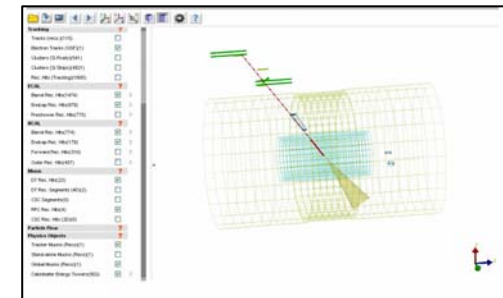
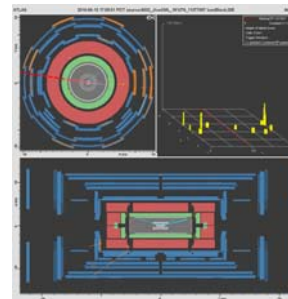
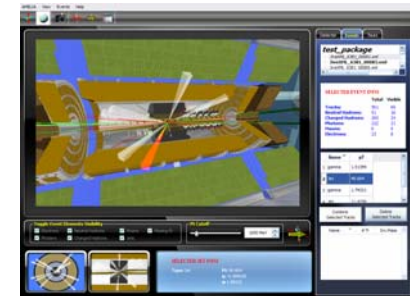
Deliverable 2.1: essential features of inquiry-based teaching pedagogy, incl. literature review; methodology for educational practices following the scientific inquiry-based approach (TU Dresden)

Task 2.2

Review of eScience Applications (software tools, archives, databases)

Responsible: CERN / Institute d'astrophysique de Paris / Lawrence Berkeley National Lab

- Review existing eScience applications (Minerva, Hypatia, iSpy....)
- Scattered over the web, not widely accessible, only few systematically used
- Organize them in pool: helps optimization of use



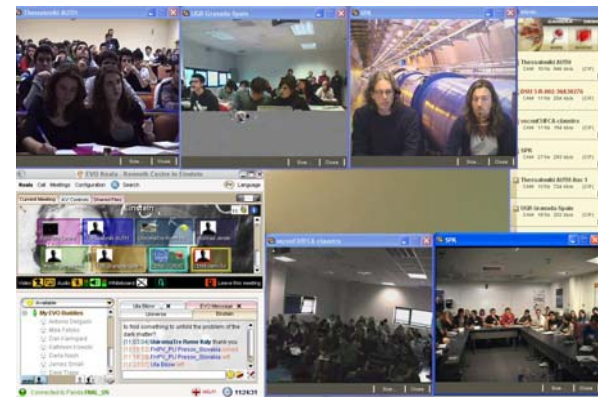
Deliverable 2.2: Review on eScience Applications (CERN)

Task 2.3

Defining Best Practices (Tools and Methods) that promote effective school-research center collaboration through inquiry-based pedagogy

Responsible: TU Dresden / Institute d'astrophysique de Paris

- Aim: more effective collaboration between school and research
- Build on the best of current practice
- Select series of practices that expand the limitations of the classroom and promote access to scientific resources and experiments
- International Masterclasses: collaboration between research institutes, CERN, and students



Deliverable 2.3: Framework for identifying best practice (IAP)

Task 2.4

Implementation Scenarios Definition and Analysis (Templates)

Responsible: Ellinogermaniki Agogi / Institute of Accelerating Systems and Applications

- Now: Outreach activities not coordinated
- → Standardization process
- → Large scale activities in the school communities
- Example: Netzwerk Teilchenwelt
www.teilchenwelt.de
- Define a template for the implementations scenario
- Basis for the realization of extended validation trials



Deliverable 2.4: Implementation scenario definition and analysis
(Ellinogermaniki Agogi)

Task 2.5

Design of Implementation Scenarios and Activities (Discover the COSMOS Demonstrators)

Responsible: TU Dresden / Nucleo Interactivo De Astronomia

- Exemplary teaching practices and activities
- Large scale outreach activities in the European school communities
- Demonstration of the effective integration of science education with e-infrastructures

Deliverables 2.5 and 2.6: Initial/Final (M8/M12) Discover the Cosmos Demonstrators
(TU Dresden)