AHEAD - Idea

- FP7 foresees similar networking proposals as in FP6 like OPTICON, RADIONET, HEAPNET

- Initiative from T. Courvoisier/Geneva to prepare proposal on high-energy network: AHEAD Activities for the High-Energy Astrophysics Domain Steering Comm with 8 members

- Proposal due 3. Dec 2009; funding >2011
  Duration: <48 months
  Budget 217 MEur / 35 props, i.e. <8-10 MEur

- Aug. 2008: First round of proposals from institutes - 19
  ➔ Definition of basic structure of AHEAD
  Feb. 2009: 2-day meeting in Rome
  ➔ Definition of work packages

AHEAD structure

- NA1: Management of project (coordinator: ISDC)
- NA2: Identification of science goals and associated requirements for high-energy experiments/astrophysics
- NA3: Coordination of research facilities
- NA4: Exchange of personnel
- NA5: Meetings and conferences
- NA6: Outreach activities
- NA7: Data software coordination
- TNA1: Access to ground facilities for the benefit of high-energy astrophysics
- JRA1: Enabling technologies and detectors for high-energy astrophysics
- JRA2: Optics for high-energy astrophysics
- JRA3: Laboratory astrophysics (atomic, nuclear) for high-energy astrophysics
- JRA4: System design for new missions
- JRA5: Background modelling for high-energy astrophysics

JRA Structure

JRA1, Enabling technologies and detectors for he astrophysics   Coord: Jan Willem den Herder

       WP1: Magnetic micro-calorimeters.   Lead: Jan Willem den Herder

3.0M€   WP2: Low power electronics.   Lead: TBD (Saclay)

       WP3: Improved gamma-ray detector sensitivities   Lead Jochen Greiner

JRA2, Optics for high energy astrophysics   Coordinator: Mike Watson

       WP1: Active optics for X-ray astronomy.   Lead: TBD

1.5M€   WP2: Plastic optics.   Lead: Marco Barbera

       WP3: Laue lenses in conjunction with additional "optical" elements, optimisation of the parameters.   Lead: Peter von Ballmoos

JRA3, Laboratory astrophysics   Coordinator: Ehud Behar

       Coordination of existing efforts in the properties of nuclei relevant for astrophysics

0.5M€   Study of K-shell transitions in high Z elements

JRA4, System design for new missions   Coord: Karl Budtz Jorgensen

       Make use of the available facilities to perform early system studies of selected

0.5M€   mission concepts.

JRA5, Background modeling for high energy astrophysics   Coord: Lorenzo Natalucci

       WP1: Develop a tool with which it is possible to use given global radiation models to estimate the particle environment in any given orbit.

0.5M€   WP2: Adapt Geant4 for use in the modeling of background rates. to be done in close coordination with ongoing Geant4 modifications.