

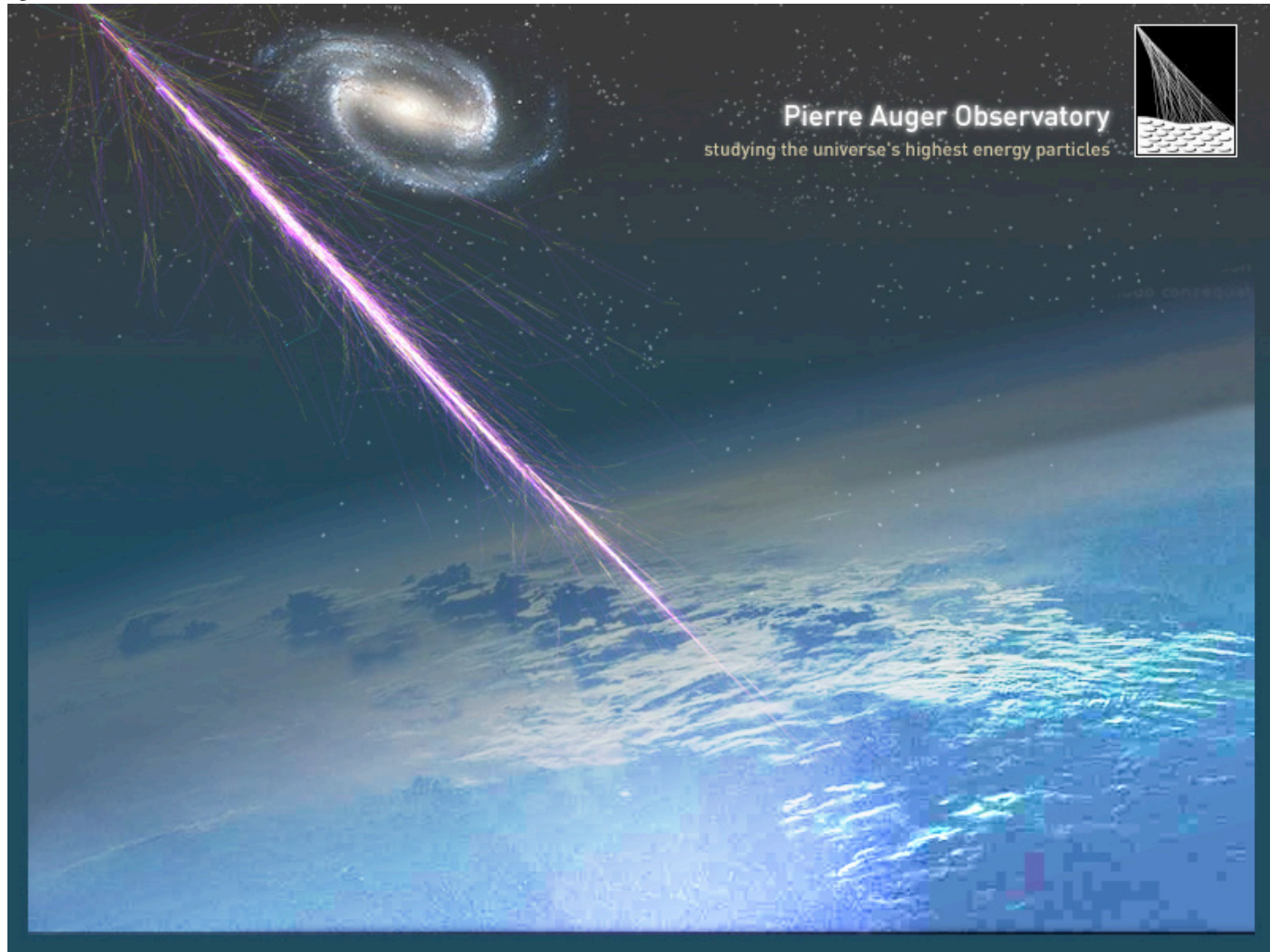
# Siminole kick-off meeting – Task 5

## The Pierre Auger Experiment

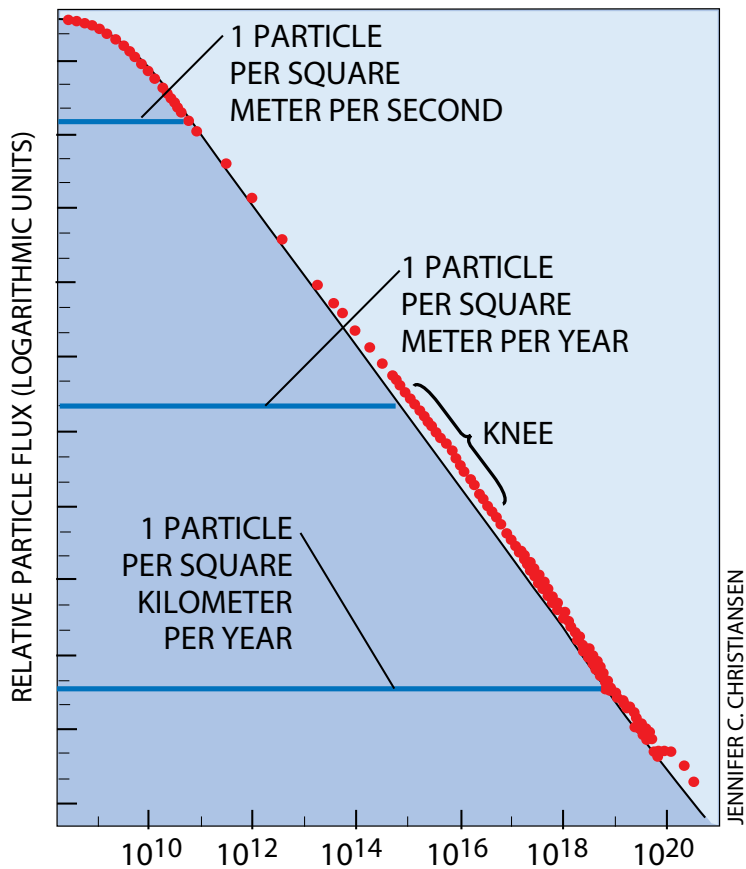
Balázs Kégl

Linear Accelerator Laboratory, CNRS/University of Paris Sud

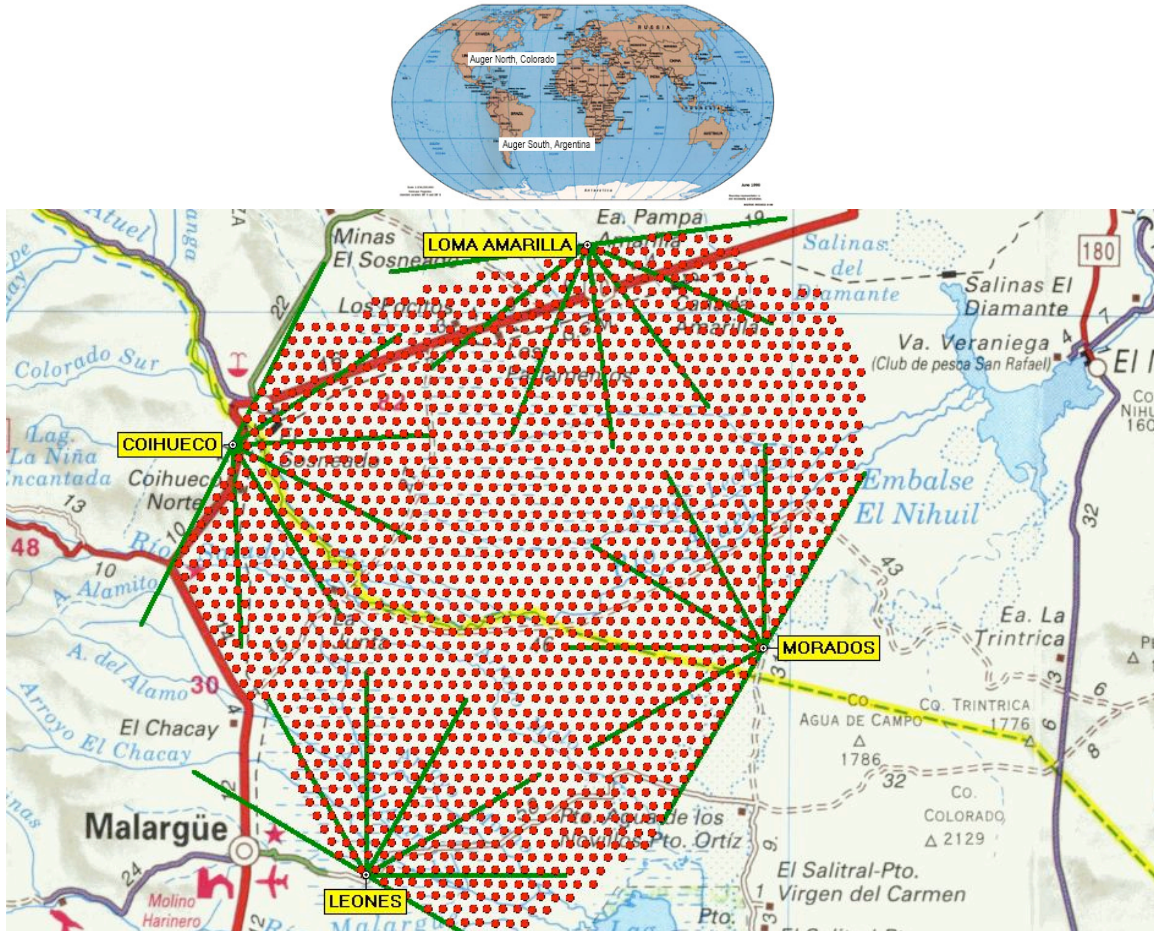
Orsay, September 27, 2010

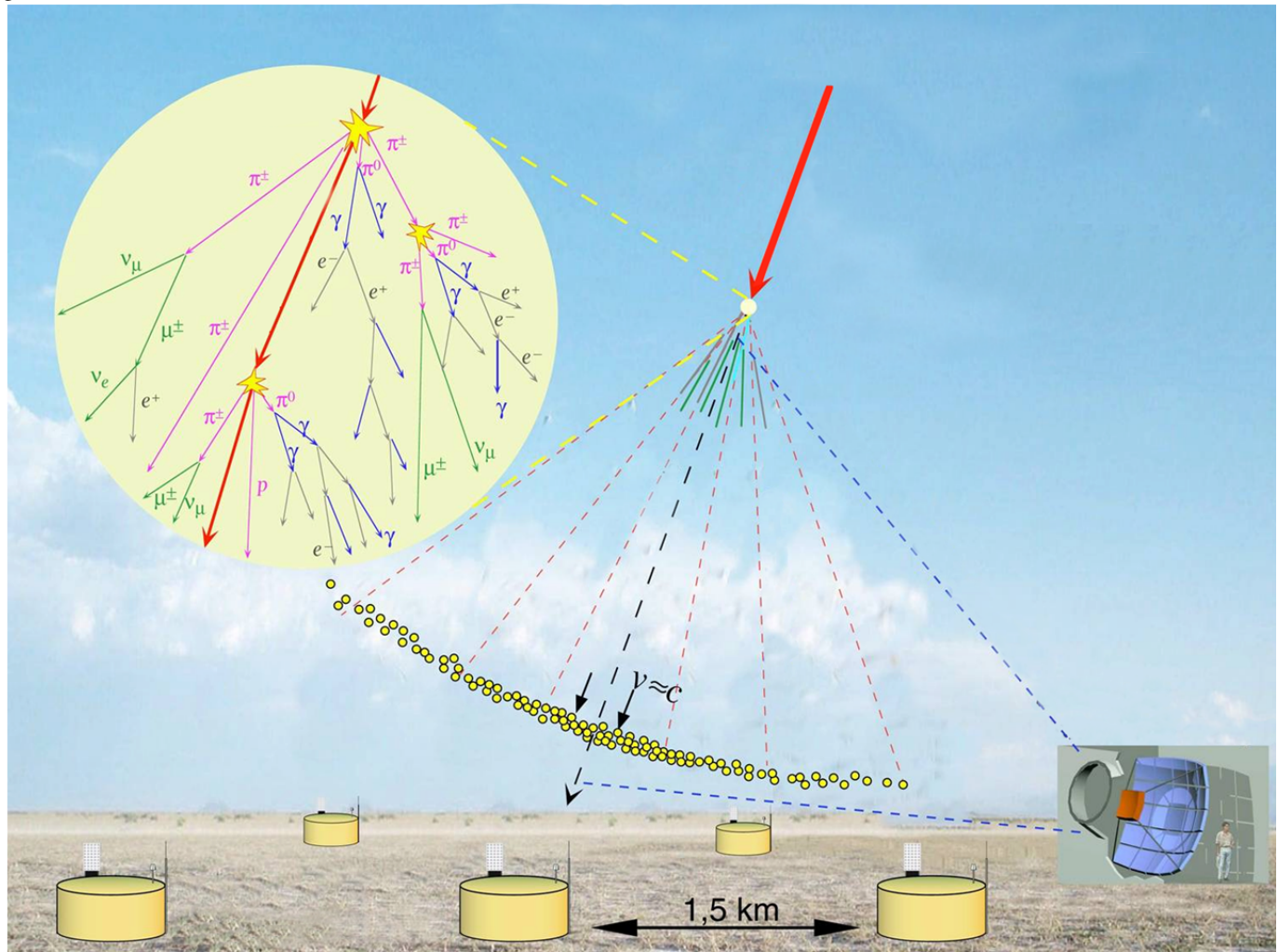


# Energy - flux

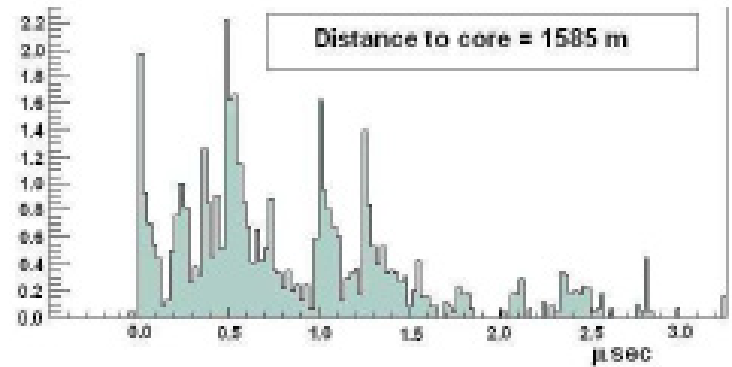
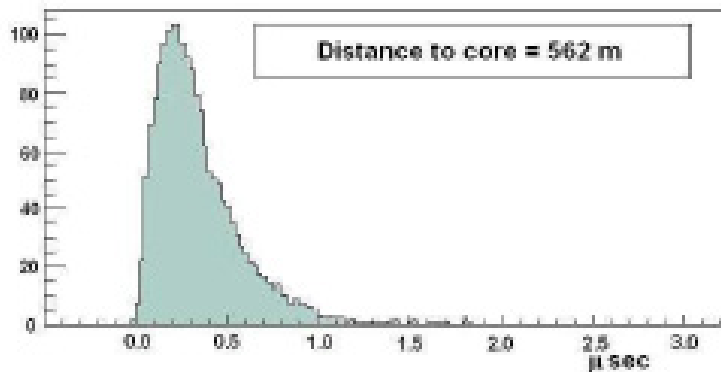


# The observatory





# Scientific goals



- Reconstruction (estimation) of the **type of the primary particle** (e.g., proton, iron nucleus)
  - **Counting muons** in individual tanks
  - Reconstructing the muon **production height**
  - Parametrizing a comprehensive **generative model**

# Scientific goals

- Methodologies
  - **Inference** based on the generative model (Task 2)
  - **Discriminative** muon counting (Task 4)
- Deliverables
  - a **muon count estimator** at mid-term
  - full **Bayesian reconstruction** after 4 years

# The Auger team

- Marcel Urban (DR, team leader, 30%)
- Delphine Monnier-Ragaigne (MdC, UPsud, 10%)
- Sylvie Dagoret-Campagne (CR, 20%)
- Karim Louedec (doctorant, 20%)
- B. Kégl, R. Bardenet, postdoc 4