



The Grid Beyond Physics

Bob Jones, CERN

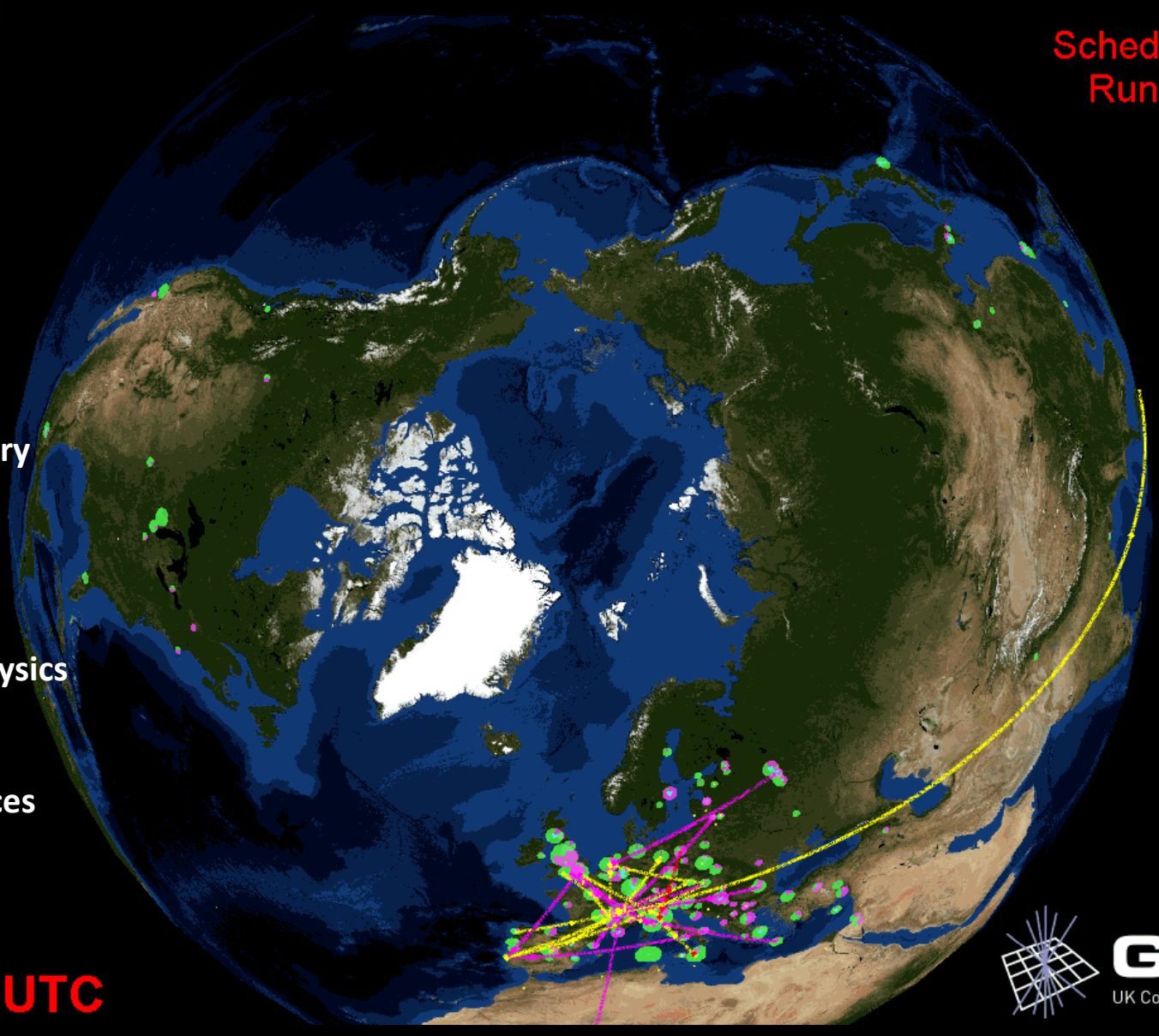
EGEE project director



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Running = 25374

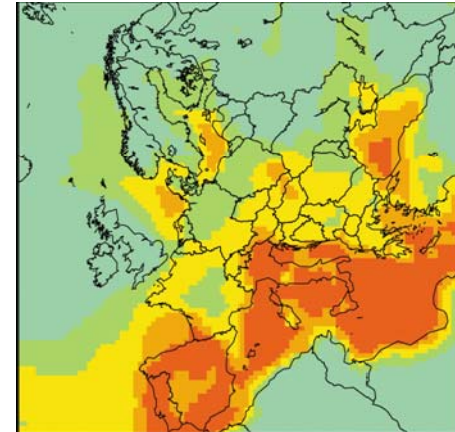
- Archeology
- Astronomy
- Astrophysics
- Civil Protection
- Comp. Chemistry
- Earth Sciences
- Finance
- Fusion
- Geophysics
- High Energy Physics
- Life Sciences
- Multimedia
- Material Sciences
- ...

21:13:50 UTC



Earth Sciences

- Seismology
- Atmospheric modeling
- Meteorology
- Flood forecasting
- Pollution
- ...



EGEODE the “Expanding GEosciences On-DEmand” Open Virtual Organization provides a suite of Grid computing services designed to meet the needs of Oil & Gas research



FOOTPRINT (EU project): identify the dominant pathways and sources of pesticide contamination in the agricultural landscape.

Astronomy & Astrophysics

LOFAR large distributed radio telescope

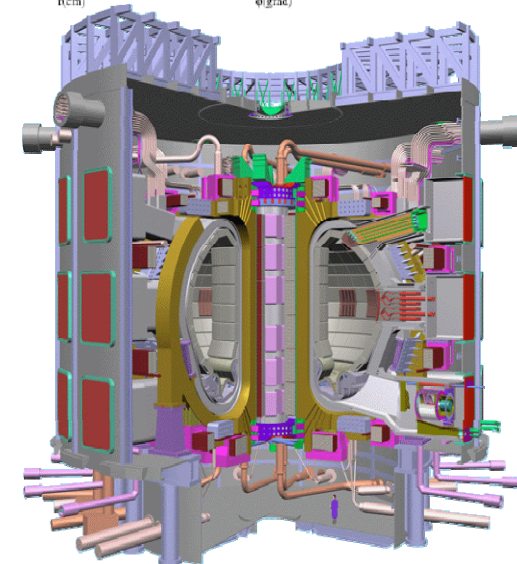
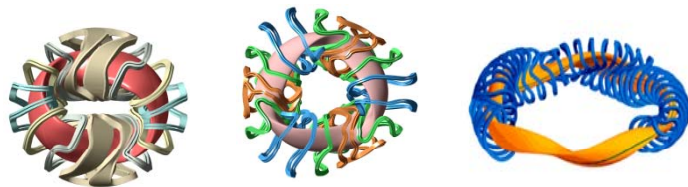
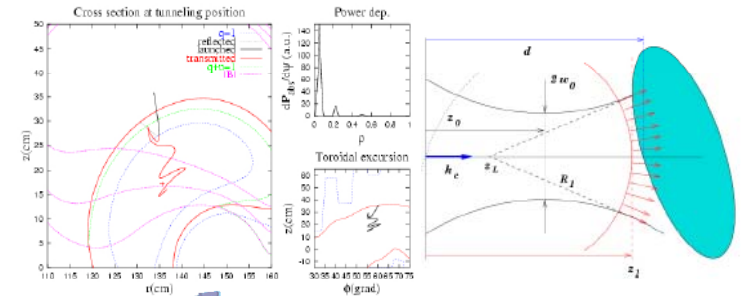
AUGER & ARGO Cosmic Ray Observatories



Fusion

Commercial exploitation of fusion energy still needs to solve several outstanding problems requiring exceptional computing facilities including supercomputers and cluster-based grids

- Ion Kinetic Transport
- Massive Ray Tracing
- Stellarator Optimization

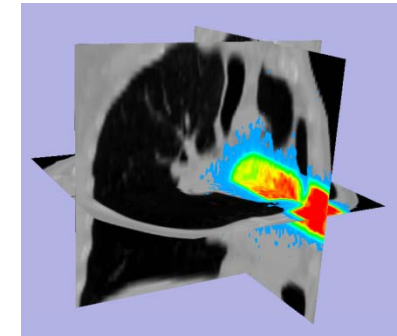




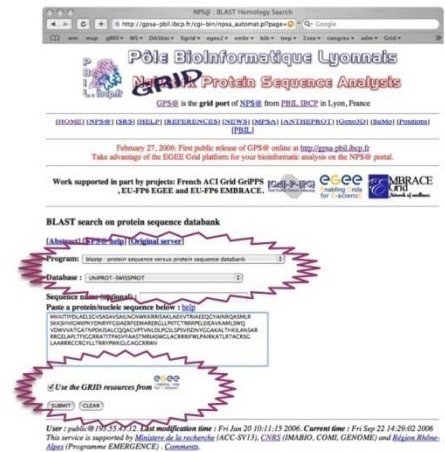
Life Sciences

Medical Imaging - THIS (Therapeutic Irradiation Simulator)

- Monte-Carlo simulation of irradiations of living tissues with photons, protons or light ions beams for cancer therapy



Bioinformatics - Grid Protein Sequence Analysis



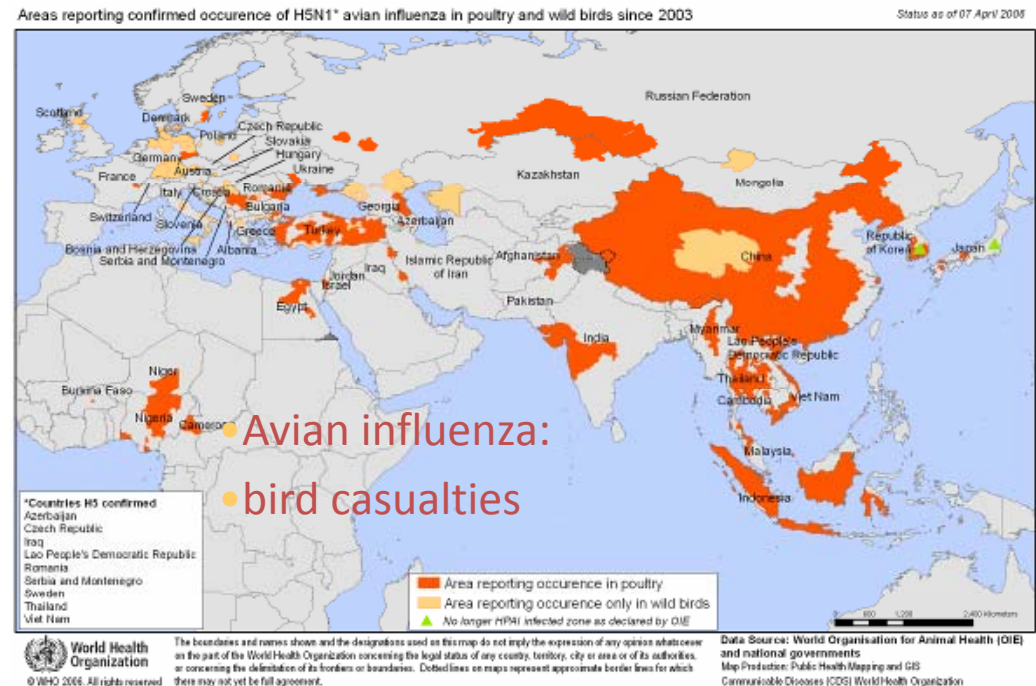


In silico drug discovery

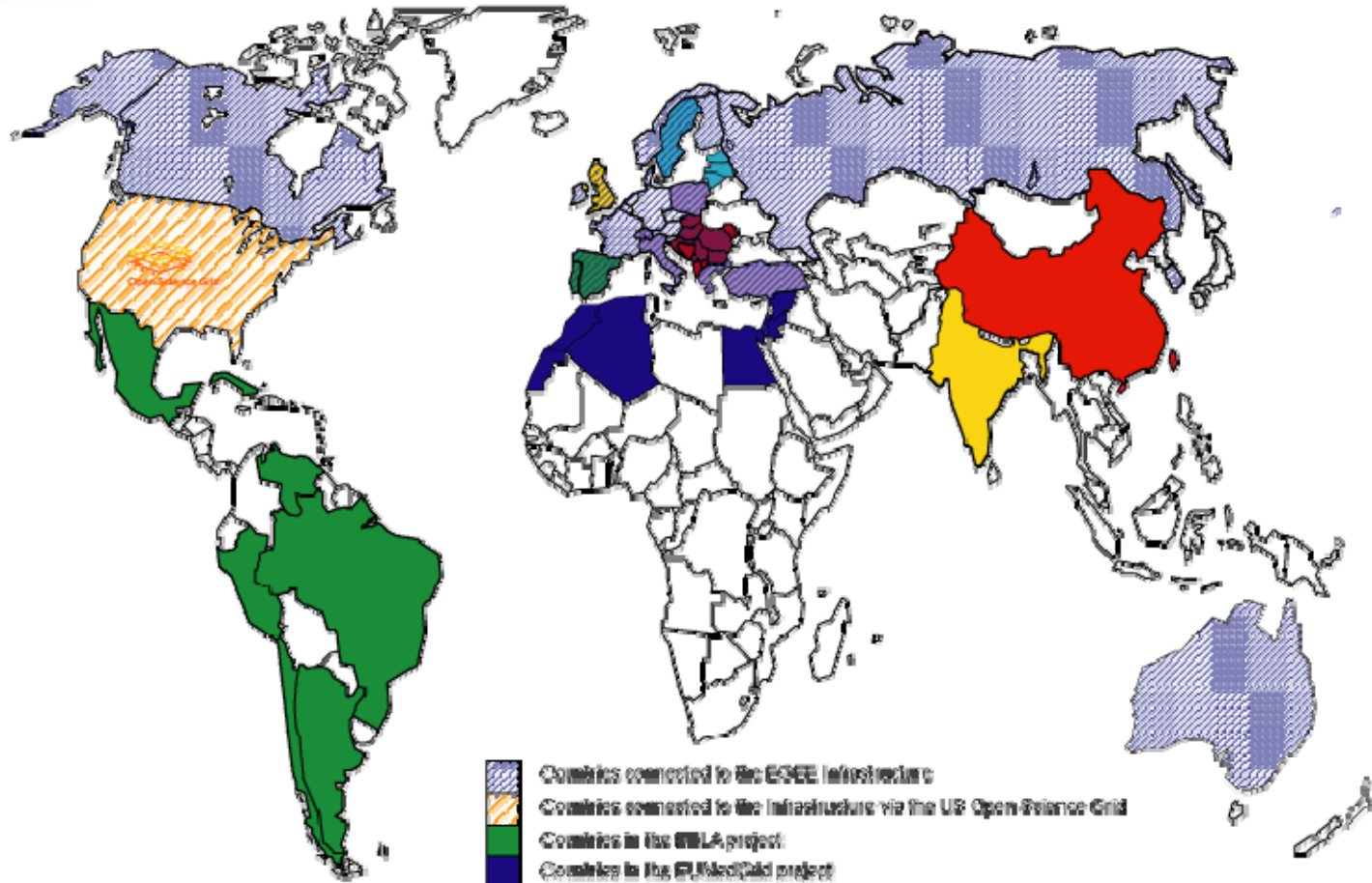
- Diseases such as HIV/AIDS, SRAS, Bird Flu, Malaria etc. are a threat to public health due to world wide exchanges and circulation of persons
- Grids open new perspectives to *in silico* drug discovery
 - Reduced cost and adding an accelerating factor in the search for new drugs

International collaboration is required for:

- Early detection
- Epidemiological watch
- Prevention
- Search for new drugs
- Search for vaccines



Collaborating e-Infrastructures



-  Countries connected to the EGEE infrastructure
-  Countries connected to the infrastructure via the US Open Science Grid
-  Countries in the ENLA project
-  Countries in the EUNedGrid project
-  Countries in the ReticGrid project
-  Countries in the GIN-GRID project
-  Countries in the EUNedGrid project
-  Countries in the EUNedGrid project
-  Countries in several regional projects



European Grid Initiative

Goal:

- Long-term sustainability of grid infrastructures in Europe

Approach:

- Establishment of a new federated model bringing together National Grid Initiatives to build the EGI Organisation

EGI Organisation:

- Coordination and operation of a common multi-national, multi-disciplinary Grid infrastructure
 - To enable and support international Grid-based collaboration
 - To provide support and added value to NGIs
 - To liaise with corresponding infrastructures outside Europe