ONCO-MEDIA objectives:

- Study a grid-distributed, contextual and semantic based intelligent information access framework for medical images / reports
- Explore new medical image diagnosis assistance, teaching and research access using semantic, visual and context-sensitive medical information with the grid computing facilities
- Crystallize a network of research excellence in the field of distributed medical images across Asia, French, and Swiss partners, leveraging on their complementary scientific values and experience

ONTOLOGY

- Semantic Gap
- Structured Medical Knowledge / Ontology

CONTEXT

- Contextual Retrieval
- Contextual Navigation
- Contextual Query Reformulation

MEDICAL

- Privacy issues

DISTRIBUTED PARALLEL COMPUTATION

- Computation capability (images)
- Distributed medical database

INTELLIGENT SYSTEMS

- Data mining (neural networks, association rule mining, intelligent inter-medical fusion)...

ACCESS

- Knowledge-based similarity methods
- Medical image / cases (image + ...) retrieval

The context in grid supported CBMIR applications

ONCO-MEDIA: ONtology and COntext related MEditional image Distributed Intelligent Access

Content-Based Medical Image Retrieval approach in ONCO-MEDIA

Medical issues: CBMIR applications using the Grid computing in Brain diseases, Breast cancer, Lung and knee-fractures diseases:

- Brain
  - Brain Stroke (CREATIS, IPAL/NUS/SGH, ATENEO, NTU/NTUH, ...)
  - Brain degenerative diseases (NTU, NCGG, IPAL/NUH, NTU/NTUH, ...)
  - Dementia, Parkinson, Alzheimer, ...
  - Brain MRI – standard brain activation (NCGG)
    - Memory, language, movement
    - Real Time MRI processing using the EGI/GE grid
    - Imaging and retrieval algorithms to adapt

- Breast Cancer (LIRIS, ATENEO, IPAL/NUS, ...)
  - Mammo graphes database - University of South Florida

- Bone fractures (HUG, IPAL/NUS, NTU/NTUH, ...)

- Kneee fractures (ATENEO, NTU/NTUH, ...)

- Lung – Interstitial Lung Disease – IDI, HUG, IPA, ...