



Universidad Nacional Autónoma de México

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Grid Activities in Mexico



- Former Grid activities
- EELA impact
- JRU-MX integration
- Future work

Former experience on Grid

- *GRAMA project* (<http://www.grama.org.mx/>)
 - Experimental national grid project
- *Participation in the PRAGMA project* (<http://www.pragma-grid.net/>)
- *Operation of a Computer Emergency Response Team to deal with security issues*
- *Comunidad CUDI de Grids Supercómputo* (<http://www.cudi.edu.mx/grids>)

Former experience on Grid

- *E-infrastructure shared between Europe and Latin America EELA*
(<http://www.eu-eela.org/first-phase.php>)
- *Remote Instrumentation in Next-generation Grids RINGrid* (www.ringrid.eu)
- *E-science grid facility for Europe and Latin America EELA-2*
(<http://www.eu-eela.eu>)
- *Exchange Programme to advance e-Infrastructure Know-How*
(<http://www.epikh.eu/>)

Grid initiatives carried on in Mexico during EELA project 1/2

- *Creation of a CA for Mexico*

<https://ca.unamgrid.unam.mx/grid/>

- *Application deployment*
- *Application development*

Resources 1/2/

- Repositorio principal en la UNAM (distribución ig-INFN):
 - <http://kanan.ccg.unam.mx/mrepo>
- Repositorio (distribución egee-CERN):
 - <http://argan.nucleares.unam.mx/mrepo>

Resource Centres

- Resource Centres in operation

- INC
- DGSCA
- FESC

- New Resource Centers

- IBt
- CCG

Site GRID-UNAM

- Monitoring
 - monbox.grid.unam.mx
- WMS-LB
 - wms-lb.grid.unam.mx
- SiteBDII
 - bdii.grid.unam.mx
- local-LFC
 - lfc.grid.unam.mx

Training resources

- lcg-CE
 - t-lcg-ce.grid.unam.mx
- cream-CE
 - t-cream-ce.grid.unam.mx
- dpm-SE
 - t-se.grid.unam.mx
- local-LFC
- lcg-CE
 - t-ce01.grid.unam.mx
- lcg-CE
 - t-ce02.grid.unam.mx
- WMS-LB
 - t-wms.grid.unam.mx
- AMGA
 - t-

Application Support

- Itacuruza Grid School

- Meta-Dock

- Applications

- ALICE

- GrENBOSS

- LEMDistFE

- Pierre Auger

Meta Dock

- Meta-Dock application purpose is to give a grid-based screening method for pharmaceutical studies. When a protein that cause a disease is known, the next step is to identify a molecule (a [ligand](#)) that be able to prevent the action of this protein through a binding mechanism.



APPLICATION EXAMPLES

ALICE

- The ALICE Off-line Project has started developing the current framework in 1998. The decision was taken at the time to build the simulation tool for the Technical Design Reports of the ALICE detector using the OO programming technique and C++ as an implementation language.

GrENBOSS

- “EMBOSS over a GRID Project” is a jointly project of three institutions belonging to the Universidad Nacional Autónoma de México (UNAM): The “Dirección General de Servicios de Cómputo Académico” (DGSCA), the “Centro de Ciencias Genómicas” (CCG), and the “Instituto de Biotecnología” (IBt). EMBOSS (“European Molecular Biology Open Software Suite”) from EMBnet (European Molecular Biology Network) is a free Open Source software analysis package developed for bioinformatics. It integrates a range of about 150 currently available packages and tools for genome

LEMDistFE

- In food engineering learning, research and production, it is important to get access to a variety of high cost equipment along with other specialized techniques like modelling and digital image processing. In a production environment it is not possible to run experiments, the process equipment is not appropriate for testing, and installing a laboratory for testing can be too expensive. Access to remote laboratory infrastructure with industrial scaled conditions results an interesting option.

- Seismic Sensor Grid
- Contribute to the integration of
 - Different signals coming from institutions that operate networks for seismic observation in our country.
 - Allow automatic real-time sending of signals generated in different regions.
 - Acquisition, Filtering, classification and storing of seismic events.
 - Data registration, storage and processing.
 - Evaluation of seismic epicentric loci and damage regions.

Training

- *Training of users and administrators*
 - *Workshops on e-Science and Grid technology*
 - *Grid Tutorials*
 - *Grid Development Group*
 - **EELA-2-EPIKH Grid School**

Grid initiatives carried on in Mexico during EELA project 2/2

- *Training of users and administrators*
 - *Workshops on e-Science and Grid technology*
 - *Grid Tutorials*
 - *Grid Development Group*
- *Formation of Grid related collaborations*
 - *Resource Centres running in the EELA infrastructure*
 - *New contacts in Europe and LA*

Mexican Joint Research Unit

1/2

- Centro de Investigación Científica y de Educación Superior de Ensenada,
- Corporación Universitaria para el Desarrollo de Internet, A.C.,
- Instituto Tecnológico y de Estudios Superiores de Monterrey,
- Instituto Politécnico Nacional,

Mexican Joint Research Unit

2/2

- Instituto Potosino de Investigación Científica y Tecnológica,
- Universidad Autónoma del Estado de Morelos,
- Universidad de Sonora,
- Universidad Michoacana de San Nicolás de Hidalgo y
- Universidad Nacional Autónoma de México

JRU-MX aims

- Promote and develop an quality production infrastructure of National Grid interoperable with existing infrastructure in Latin America, Europe and North America
- Expand existing users and developers of e-science groups and form new ones

JRU-MX aims

- Encourage use and development of e-science applications
- Strengthen the efforts of the national scientific community in international cooperation activities of research



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