Information technology and computer science: infrastructure for collaborative environment

PROJECT IDEA

Growing collaboration in science due to the total globalization process

EVIDENCE:

- Number of joint (international and interdisciplinary) projects
- Number of joint publications (from 7% in 1985 up to 30% in 2010)

REASONS:

- pressure from body organizations (NSF, RFBR, G8, …)
- critical mass of successful laboratory

SOLUTION:

- virtual laboratory
- using of IT
- high-performance environment for collaborative work
- EU infrastructure for distributed seminars, workshops, and conferences

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- Support from ISTOK-SOYUZ with information on FP7 program (ICT line).
- Professional consultations and materials.
- Support by ISTOK-SOYUZ with participation in ICT-2010 and Proposer days 2011.

That leads to:

- Contacts with potential partners (Italy, Spain, Serbia, Germany, Hungary)
- Contacts with EC officers and members of EU parliament.
- Participation in round table of international collaboration “Knowledge 4 Innovations”

Round table - International collaboration “Knowledge 4 Innovations” Brussels, October 2010

Japan, Korea, Russia, Brazil, USA, member of EU parl., EC commission, Netherlands, Taiwan

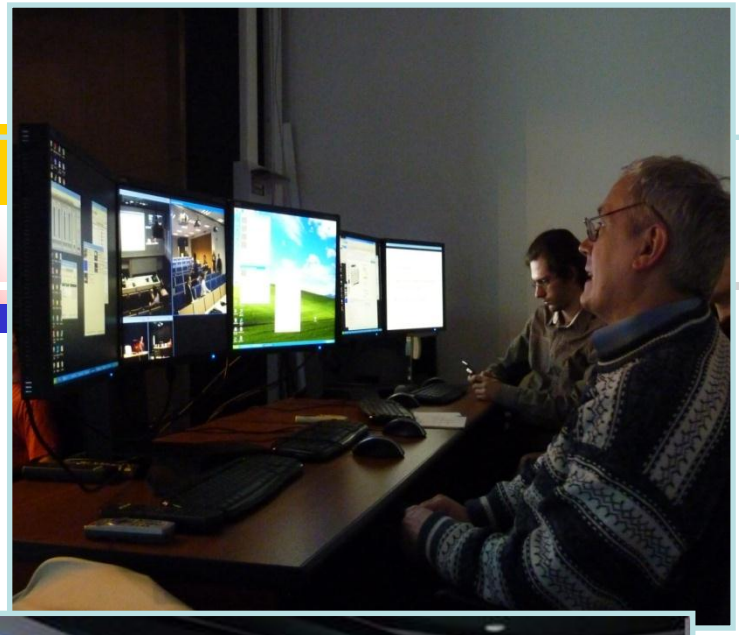
Monthly seminar Juelich-Chernogolovka (Forschungzentrum-Science Center)

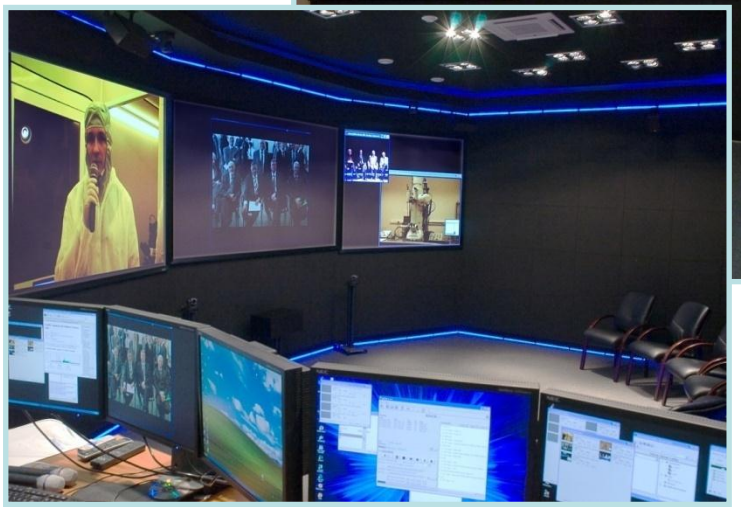
(first step – example – testbed)

List of lectures:

1. Thomas Neuhaus (JSC, Juelich) Critical Loop Gases and the Worm Algorithm
2. Lev Shchur (Landau Institute, Chernogolovka) Phase diagram for diffusion limited aggregation growth in 2d
3. Igor Lomonosov (IPCP, Chernogolovka) Numerical modeling of high-energy-density phenomena
4. Paul Gibbon (JSC, Juelich), Progress in mesh-free plasma simulation with parallel tree codes
5. Godehard Sutmann (JSC, Juelich) Mesoscopic Particle Dynamics coupled to Molecular Dynamics
6. Victor Luzhkov (IPCP RAS, Chernogolovka) Free energy perturbation calculations in molecular simulations.
7. Vladimir Lebedev (Landau Institute, Chernogolovka) Passive scalar transport in peripheral regions of random flows
8. Binh Trieu, (JSC, Juelich) Fault-tolerant error correction in quantum computing devices
9. Norbert Attig, (JSC, Juelich) User and Application Support at the Juelich Supercomputing Centre
10. Robert Speck, (PhD student, JSC) Parallel tree codes for vortex particle methods
11. Lev Barash, (young researcher, Landau Institute, Chernogolovka) Evaporation of sessile drop of capillary size
12. Kristel Michielsen, (JSC, Juelich) Entanglement and Bell's Theorem
13. Yuriy Makhlin, (Landau Institute, Chernogolovka) Superconducting quantum bits
14. Viktor P. Ruban (Landau Institute, Chernogolovka) Conformal variables in the numerical simulations of waves.
15. Manuel Hasert (German Research School for Simulation Sciences) Towards Aeroacoustic Sound Generation
16. Alexei Zatelepin, Landau Institute, Chernogolovka) Critical interfaces in two dimensional Potts models.
17. Dr. Bin Qiao (visiting Humboldt postdoc Juelich), Radiation Pressure Acceleration of Ion beams
18. Vadim Kim (IPCP, Chernogolovka), Hydrodynamic simulations of High Energy Density physics experiments

(how it looks like ….)





Information technology and computational physics: infrastructure for collaborative environment

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- *Department of Applied Network Research, Science Center in Chernogolovka*

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Finished? … I hope for the project renewal.