Ruđer Bošković Institute

Centre for Informatics and Computing

INDIGO - DataCloud

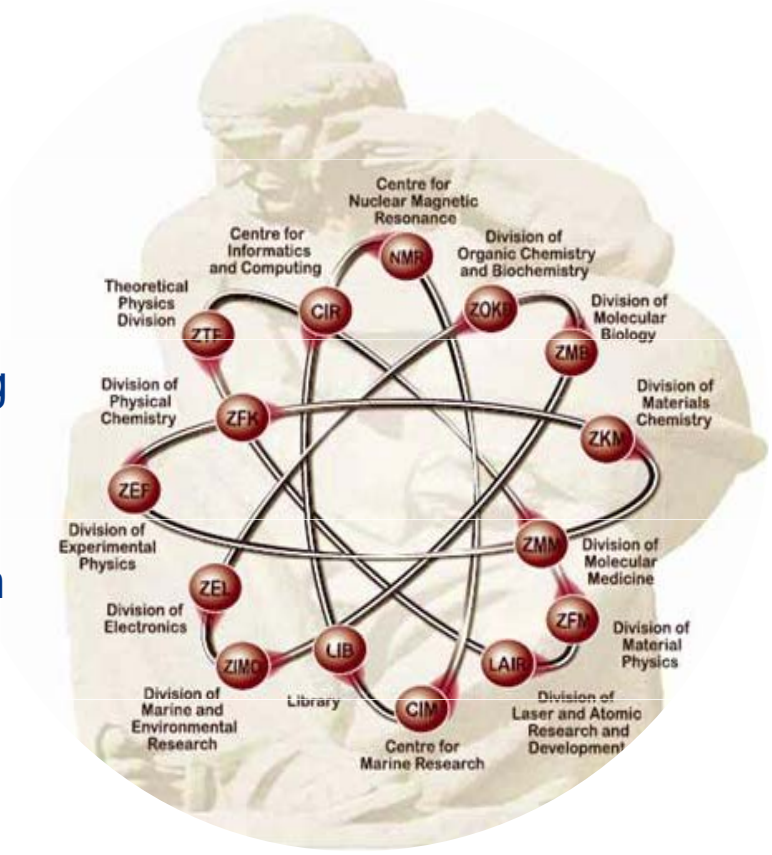
Kick off Meeting

Bologna 22-24. Aprile. 2015.

RBI General Overview

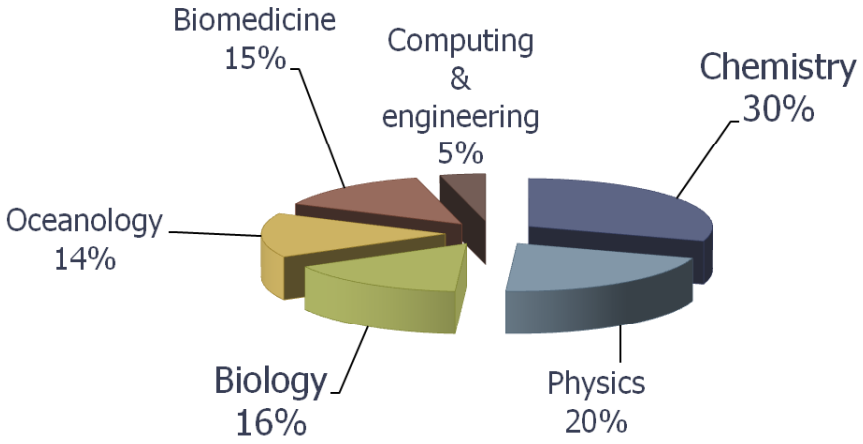
- The largest scientific institute in Croatia
- Founded in 1950 by JASA
- The first research activities of the institute: theoretical, nuclear and molecular physics and electronics followed by cybernetics and computing
- Today consists of 11 divisions and 3 centres
- The fundamental and applied research areas are:

biology, medicine, environmental science, computational science, electronics engineering, physics and chemistry



RBI Employees

- More than 800 employees, ~ 6% (25% production) of the total no. of scientists in Croatia
- Campus area 20 000 m^2, 12 divisions, 82 laboratories



- Overview by branch

Laboratories and Departments

- Laboratory for optoelectronics and visualization
  Scientific research, technological development and education in the field of optoelectronics, visualisation, distributed computing and microelectronic systems
- Laboratory for stochastic signals and processes research
  Scientific research based on theoretical and experimental investigation, covering all phases of the measurement and analysis processes (measurement hardware development, data acquisition, data processing and storage using dedicated expert programs and algorithms).
- Laboratory for information systems
  Development of machine learning algorithms and their applications in data mining and knowledge discovery tasks.
- Computational biology and bioinformatics ggroup
  Development of novel computational approaches based on modern machine learning paradigms to solve different problems in the area of modern genomics, proteomics and drug-discovery.
- Department for ICST development
  eScience research and development in the field of the cluster, grid and cloud computing, developing scientific applications and services
- Department for information systems
  The department performs maintanance for information systems, basic services, development and control of ICT infrastructure, full functionality and security on RBI
- Department for ICT services
  Department provides support for users of ICT infrastructure on RBI in a form of an Helpdesk, method ticketing, and action direct operation

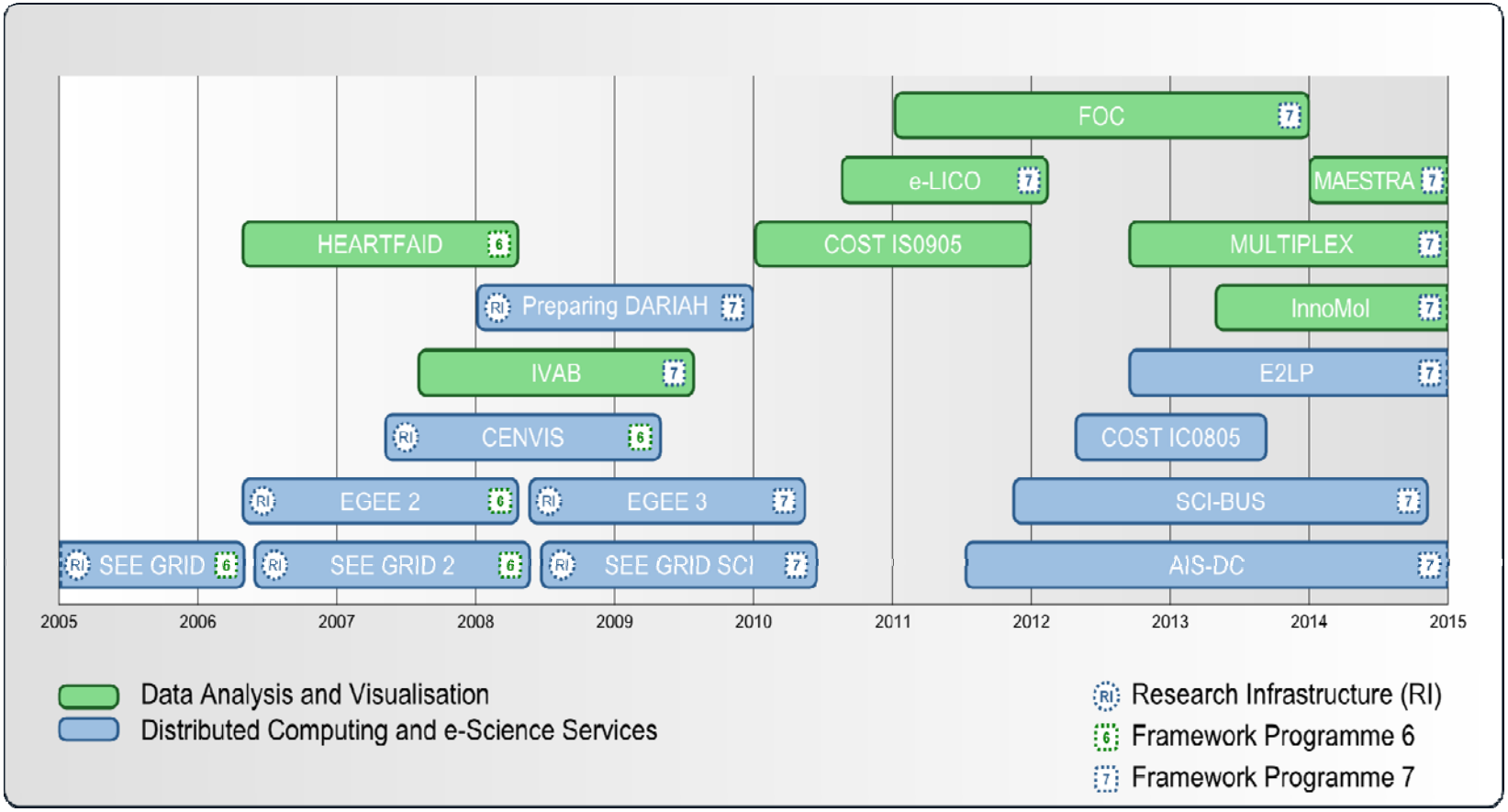
Scientific Computing and Information Processing

INDIGO - DataCloud

- **Scientific computing, modelling and visualization**
  - High Throughput and High Performance Computing,
  - Data Flow Computing and High Productive Computing
  - Cloud and Fog Computing
  - Methods of multidimensional and multispectral scientific visualization
  - Applications in ecology, meteorology, marine sciences, molecular biology, theoretical chemistry, environment and health modelling …..

- **Information processing and knowledge technologies**
  - Advanced measurement methods and reconfigurable embedded systems
  - Applications in bioinformatics and bio-sciences
  - Data representation and transformation for information and signal processing: sparse matrix representations, unsupervised factorization methods, nonlinear processing methods…
  - Algorithms, methodologies and new architectures for machine learning, data mining, knowledge representation, string processing, visual analytics methods

FP 6/7 Projects Timeline



3H2020

EGI Engange

INDIGO DC

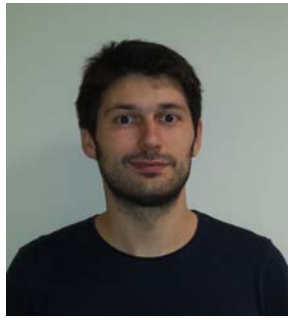
SESAME

RBI Involvement

- WP2 Definition of Support to research Community
  Social Science and Humanities
- T2.1 (RBI contribution) Research Community Requirements
- T2.4 (RBI lead) Dissemination Towards Research Communities
- D2.2, Month 3 (R,DEC,PU): Consolidation of dissemination plan, including project website and promotion
- D2.5, Month 15 (R,DEC;PU): Report on dissemination effort and impact [RBI]

RBI Team

- **Karolj Skala**
  - RBI Team coordinator
- **Branka Medved Rogina**
  - System Integration & Quality Testi
- **Ivan Sović**
  - Algorithms and Applications R&D
- **Jelena Čubrić**
  - Dissemination and User PR
- **Eva Cetinić**
  - DARIH Involvements, Comm.
- **Ines Cigula**
  - Administration and Finance



GENDER BALANCE

F/M=4/2 !!!

GALAXY-CloudMan eScience Service

- Galaxy on the Cloud – CloudMan (cloudman.irb.hr)
  - SW Support, training, instance customization
- Australian Genomics Virtual Laboratory (GVL)
  - National cloud platform, Private to Institution-wide instances
- Joint development with John Hopkins Baltimore,
- Galaxy Traing Networks

WEBINAR
Bioinformatics Methods in Genomics
9:15 am - 14:15 pm Monday 2nd March 2015
Organized by: Ruđer Bošković Institute, Centre for Informatics and Computing, Zagreb, Croatia

- Bioinformatic Cloud Service (RBI)
  - Structural found investment / 2 MEuros – (2016-2020)

Community & Training

- Regular training workshops @ RBI (quartely)
- Self-training materials at genome.edu.au/wiki/Learn

- EU communities
  - http://galaxy-community.org.uk/
  - Swiss-German Galaxy Tour (#SG2014T)

  - Bioinformatic Cloud Service (2015)
  - GTN


Training at RBI

Project Information and Dissemination Event

38th International Convention MIPRO 25th - 29th of May 2015

Web site: http://www.mipro.hr/MIPRO2015.PRIDE
PRIDE official address: **PRIDE@mipro.hr**

Objectives of the Exhibition

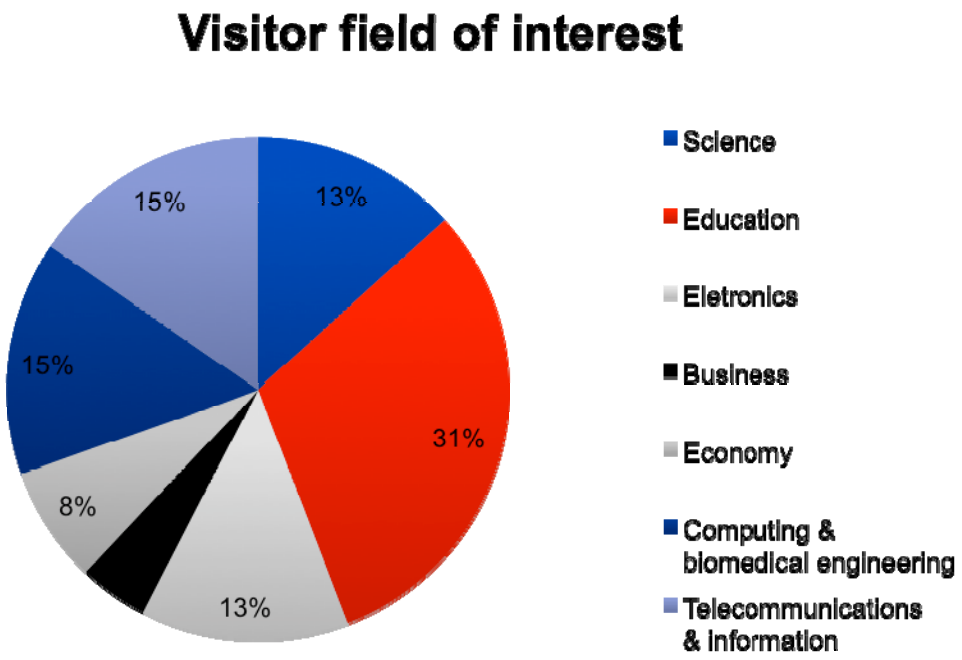
- Disseminate projects from all ICT fields of science.
- Present research results and ideas trough booth and poster presentation.
- Support communication between science and industry.
- Establish permanent environment for present and future dissemination with PRIDE Poster Repository at http://pride.irb.hr

Visitor Countries on PRIDE 2014

As the one of event focused on project dissemination PRIDE is atractive for visitors from all over the world. Visitors arrived from more that 40 countries

Visitors field of interest on PRIDE 2014

The most interested population on PRIDE is from Education and Science area



Real View


Institut
Ruđer
Bošković
Project poster exhibition
May 28 - 29, 2014
RIDE 2014
Research and Education Infrastructure Dissemination Event
See the infrastructure projects of tomorrow!
Exhibitors

Dissemination Models and Methoc

- **Models**: all inclusive,user comm adapted,
  - All inclusive
    - Media (class and new)
    - Events (all kind)
    - Technologies (real and virtual)
  - Adapted to large:
    - consortium (26) – intensive, extensive and functional (T1.4 +)
    - user comm (> 10 k) - efficient and interctive
- **Methods**: ordinary, advance,
  - Ordinary (classical media)
    - Web, social networks, workshops, journals, newsletters.....
  - Advanced (new media, multimedia, hypermedia, interactive, justified, gravitated)
    - User networks, webinar, interactive TV, self training materials, user forum, user help, public video demo, Exibition-booth, special sections on user comm workshops, users cooperation force

First Quartal Plan

- Visual identity (Book of Visual Standards)
  - Logo, ppt template, poster template, web design (15.6.2015)
- Server and Communications (T1.4)
  - Web .... host ?, Admin ?, webmaster ?..... (1.7.2015)
- Conferences and Events
  - PRIDE project presentation (booth and poster) (25-28.5.2015)
  - Others ?
- User and Public relationship
  - user data base, clustering projects (start 1.6.2015.....)
  - social networks (PR 1.8.2015)
- Questionary
  - DARIAH EU UC (lansing 15.5.2015 .....)
  - Dissemination plan (deadline 1.6.2015.)

DARIAH EU User Community Questionary

1. Digitising arts and humanities assets

2. Ability to curate, annotate, analyse, share and sustain digitalised assets (Can they do something with the data they produce? Are there domain repositories where data is sustained and made available for the broader community?)

3. Developing models and applications that analyse data accross multiple sites (Is there need for this? Are there applications that would be useful to run on multiple sites?)

4. Availability of compute and storage resources required for large scale sharing and analysis of digital assets (capacity planning)

- The survey should have 5 questions (4x5=20) under each problem domain enough for decide which of the responding cases would be interesting for follow-up by the INDIGO DC.
- Contacts those who submitted these responses and carry out a deeper interview with them
- **Consulting with Giacinto DONVIT and Jesus Marko**
- Action for all user communities !?

Dissemination plan input - questionary

- Questionary Template Lansing to all 26 Partners
- Time slot: lansing 15. May responses 1. June
- Plan for partner contributions :
  - papers in journals (planing numbers, journals, date .....)
  - Workshops
  - Webinars
  - Trainings
  - Demos
  - News
  - Others
  - .....

Thanks for your attention

At the beginning of the INDIGO DC project realisation

RBI wish much success

to this very perspective consortium !