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NETTAB workshops are focused on the most promising and innovative ICT tools and their use in Bioinformatics. Participation is at an international level and speakers are among the most reputed researchers. NETTAB workshops:

- ♦ Focus on emerging ICT technology
- ♦ Outline the promising features of the emerging technology in Bioinformatics and Medical Informatics
- ♦ Present the on going projects in distributed and GRID applications in Bioinformatics and System Biology.
- ♦ Advanced calculus applications in Bioinformatics.
- ♦ Allow for as much discussion as possible

Supporting Institutes and Sponsors



DIEE, University of Cagliari, Italy



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Laboratory of Interdisciplinary Technologies in Bioinformatics (LITBIO)



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- ✂ E. Vargiu and M. Saba, Cagliari University, Italy
- ✂ A. Orro, Biomedical Tech. Inst. / CNR, Italy
- ✂ D. Marra, National Cancer Research Inst., Italy



Distributed Applications, Web Services, Tools and GRID Infrastructures for Bioinformatics

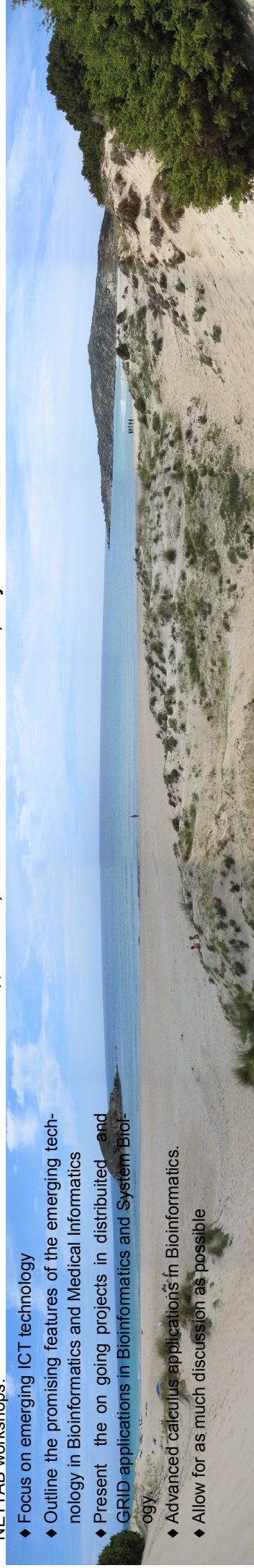
July 10 - 13, 2006

Santa Margherita di Pula,

Cagliari, Sardinia, Italy

Call for Papers

<http://www.nettab.org/2006/>



Scope

It is well known that bioinformatics has to cope with one of the largest amounts of information in all knowledge domains. This information is exponentially increasing in volume and distributed over the network, with heterogeneous data structures, information systems and semantics.

The biomedical research domain is one of the fastest evolving research areas. New knowledge and hypotheses are accumulated daily, leading to new data and elaboration needs, which are often peculiar and different from one application domain to another. Hence, the development of general purpose applications is difficult and limited to basic tools. Two main approaches to the problem of efficiently accessing such huge amount of data have been proposed: gathering all needed data in a unique data warehouse or carrying out all possible elaborations remotely. Each of these approaches has pros and cons. Main limitations of the data warehouse approach are concerned with managing overhead needed to set up and maintain data and analysis tools up-to-date, whereas limitations of the network-based approach are mainly related to the need of dealing with heterogeneous formats and network bottlenecks. Remote access to this huge amount of information requires complex search and retrieval software. The activity of data integration is concerned with the semantics of the information; in particular, how to link data, and how to pipe retrieval and analysis steps.

A workflow is “a computerized facilitation or automation of a business process, in whole or part”. Its main goal is the implementation of data analysis processes in standardized environments. Its main advantages relate to effectiveness, reproducibility, reusability and traceability. Implementation of workflow management software has already started. Enactment of workflows over the network has been greatly simplified by the development of XML related standards and by the adoption of more powerful RPC mechanisms, like the ones provided by Web Services.

Moreover, high performance network infrastructures, like GRIDs, now offer an improved environment where remote applications can be effectively carried out.

To summarize, advantages of remote data analysis versus the warehouse approach are clear. Diffusion of automation in biological data analysis is quickly improving as to available technologies and tools and their adoption in biomedical research laboratories.

This workshop will focus on technologies, tools and applications that can now be applied in bioinformatics.

Topics

A non exhaustive list of topics relevant to the workshop includes:

Technologies and technological platforms:

- ◆ Standards and protocols for Web Services
- ◆ Choreography and Orchestration of Web Services
- ◆ Comparison of available technologies, limitations, pros and cons
- ◆ Knowledge representation and knowledge modeling tools for biological data
- ◆ Ontologies, databases and applications of semantics in bioinformatics
- ◆ Semantic Web technologies

New tools for bioinformatics:

- ◆ Web Services and related tools
- ◆ Workflow management systems and enactment portals
- ◆ Technologies for GRID infrastructures
- ◆ Semantic Web tools

Applications in bioinformatics

- ◆ Case studies, scenarios and use cases
- ◆ Remote applications for life sciences analysis
- ◆ Workflows for actual data analysis in life sciences
- ◆ Data intensive applications on GRID solutions
- ◆ Remote biological data mining

Submission of contributions

Authors are encouraged to submit:

Oral Presentations: submit an extended abstract (4-5 A4 pages, size 12pt). Abstracts will be reviewed by the scientific committee and acceptance or rejection will be communicated to authors.

All submissions which are not selected will automatically be considered for posters presentation.

Posters: submit an abstract (max 2 A4 pages, size 12pt). Abstracts will be reviewed by relevance only and acceptance or rejection will be communicated to authors.

Position papers: submit a short abstract (max 1 A4 pages in length, size 12pt) specifying research interests and issues to be debated during the workshop.

Abstracts can be submitted from March 1st, 2006. All abstract must be submitted both in PDF and either in MS Word or LaTeX, according to LNCS formatting instructions for papers (see <http://www.springer.com/comp/lncs/authors.html>). Send all contributions by email within respective deadlines to: papers2006@nettab.org.

Contributions will be reviewed by the scientific committee for relevance, clarity and novelty of results. Accepted oral presentations, posters and position papers will be published in the conference proceedings.

Authors of a selection of best papers will be asked to submit an extended version of their paper in view of a joint submission to a special issue of a peer-reviewed international journal.

Publication Chairs

✂ E. Vargiu, DIEE, Cagliari University, Italy

✂ A. Orro, Biomedical Tech. Inst. / CNR, Italy

Important dates

Oral presentations due: May 5, 2006.

Notification to authors: May 22, 2005.

Posters and position papers due: May 31, 2006.

Early registration deadline: May 31, 2006