



ACGT is in line with ethical guidelines and data protection rules PROJECT N° FP6-2005-IST-026996

# What is ACGT?

ACGT is an EU co-funded project that develops open-source, semantic and grid-based technologies in support of post genomic clinical trials in cancer research. It addresses clinicians, bio-researchers as well as software developers



providing an open platform where novel and powerful services can be offered and put to use by practitioners in the field. ACGT focuses on the integration of multilevel biomedical data including clinical data with the ultimate objective to extract new knowledge for developing more individualized treatments for cancer patients.

The tools developed in ACGT address several target groups: clinicians, biostatisticians, software developers, consultants, patients and the general public. The needs of these end-user groups as well as the use of the platform itself are separated as shown in the figure above.

# The two pilot trials

- SIOP trial (Saarland University)
- Wilms tumor (pediatric nephroblastoma)
- Identification of markers in serum that can be used as predictor of patient response to chemotherapy
- Small amount of data, complex patient follow up
- Test case for the ACGT trial builder (ObTiMA)
- Test case for the Oncosimulator (In-silico prediction of tumor response) to treatment)

### TOP trial (Institut Jules Bordet)

- Breast carcinoma (ER-)
- Assess patient clinical response to different strategies in neo-adjuvant treatment with epirubicin
- Large data sets (expression) microarray-based)
- Test case for the ACGT anonymization and data mining pipeline



Primarily designed to: 1 - prospectively evaluate the predictive value of HER2 and TOP2A 2 - identify molecular markers of response/ resistance to anthracyclines



Response

**Adjuvant Treatment** (chemo +/- trastuzumab)

**Ethical and Legal aspects : Center for Data Protection (CDP)** 

From a legal point of view, the ACGT project must **Center for Data Protection** enforce EC security and privacy policies on clinical trials. The primary aim of the ACGT Data Protection Framework is to create a Data Protection Architecture allowing to process anonymized data, assisting in broadening the scope of the European www.privacypeople.org Data Protection Regulations onto clinical trials.



# **ObTiMA: Ontology Based Trial Management for ACGT**

Data Management in post-genomic clinical trials is the process of collecting and validating clinical and genomic data with the goal to answer research questions and to preserve them for future scientific investigations. Comprehensive metadata describing the semantics of the data is needed to allow cross-trial analysis. Current clinical trial management systems lack sufficient metadata and are not semantically interoperable. ObTiMA is an application that allows trial chairmen to design their trial according to their needs and to integrate a clinical trial ontology into the design process.

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ACGT IS AN INTEGRATED PROJECT FUNDED BY THE EUROPEAN COMISSION design: healthgrid.org

No response



**Oncosimulator:** 

The ONCOSIMULATOR is at the same time a concept of multilevel integrative cancer (treatment and affected) normal tissue biology, an algorithmic construct and a software system which aims at supporting the clinician in the process of optimizing cancer treatment by performing individualized in silico experiments.

The ACGT data mining environment is accessible from a secured web portal which is running in standard web browsers .

Bioinformaticians and biostatisticians can construct complex and reusable analysis workflows with a number of powerful and user-friendly tools available in the portal.

News

vHomepage My Data

ACGT Data VO Management Workflow Edit

- Stefan Rüping, Dennis Wegener, Stelios Sfak using Proxy Services". Accepted for publication
- The Modelling and Simulation of Life is one or hopes for humanity. Thanks to the upcoming patient specific, more effective and safer hea benefits of having an "e-drug" tested in an "e
- The new GridR version 0.9.1 is published as the CRAN website. [more]
- The ACGT Consortium meeting was held in V four months later the meeting in Crete and e comprised of attendee discussions, interactive envisaged for the ACGT project. [more]

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## The ACGT workflow environment:

| Advancing Clinico Genomic Trials on Cancer   | Logout                             |
|--|------------------------------------|
| Data VO Management Workflow Editor GridR Session Metadata Registration MySettings How to   |                                    |
| epage My Data  |                                    |
| News   | Send Request 🛛 🖬 🖾                 |
|  | Send an e-mail to an administrator |
|  | Service Enactings 🛛 🗖              |
| Shivani Seth, Stefan Rüping, Stefan Wrobel, "Metadata Extraction using Text Mining". Accepted for  | View your running services         |
| Stefan Rüping, Dennis Wegener, Stelios Sfakianakis, Thierry Sengstag: "Workflows for Intelligent Monitoring using Proxy Services". Accepted for publication at the Healthgrid 2009 Conference, Berlin, 2009. The Modelling and Simulation of Life is one of the most exciting and promising research areas with great hopes for humanity. Thanks to the upcoming "Virtual Physiological Human", new environments for predictive, patient specific, more effective and safer healthcare are being developed. Can you imagine, for instance, the benefits of having an "e-drug" tested in an "e-cell" of an "e-patient"?! [more] The new GridR version 0.9.1 is published as open source and is available since the beginning of February on the CRAN website. [more] The ACGT Consortium meeting was held in Vienna, Austria from 27-29 January 2009. ACGT Partners met four months later the meeting in Crete and exchanged onto the latest developments. The agenda was comprised of attendee discussions, interactive Roundtables, the first technical training and future solution envisaged for the ACGT project. [more] |                                    |
| 2009   |                                    |