

# NEWSPAPER LETTER

# ACGT

Advancing Clinico Genomic Trials on Cancer

## EDITORIAL

Networks of excellence and communities on cancer's research are entering in new promising fields of activities and researches. The ACGT research project on cancer and its very innovative

approach for federating the data collection now shows that its ambitions are inline with the state of the art onto cancer researches throughout Europe and other countries.

This newsletter is therefore the opportunity for all of us in the project to update the oncology community on the new developments, announce newly started partnerships with other organizations such as EORTC and share with pride the latest advances in the ACGT project.

All partners to the project and I, are glad to welcome you and wish you a pleasant reading as we hope that running through the information will inspire you in your future endeavors.

*Samuel Keuchkerian,  
HealthGrid*

### Newsletter Edition

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# 4

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# Clinical Trials News

Latest developments in the world of clinical trials in cancer



## Clinical Trials Facilitation Group

EU Heads of Medicines Agency (HMA) agreed in 2004 to establish a clinical trials (CT) facilitation group (CTFG) to coordinate implementation of the “EU clinical trials directive” 2001/20 EC across the member states. This is a major step for the achievement of harmonization of CT in Europe. The CTFG is attended by representatives from the NCA’s, European Commission and the European Medicines Agency

In order to achieve and to implement this mandate CTFG has drafted a work plan for 2008-2009 which has

the following ambitions and aims:

- Sharing of scientific assessment of multinational clinical trials
- Harmonizing processes and practices relating to clinical trials mainly in the fields of clinical trial applications (CTA), clinical trial amendments and safety procedures.
- Developing data sharing and participating in the improvement of information systems
- Developing communication with stakeholders and co-operating with other EU working groups

The main objectives of the assessment of the CT are to ensure subjects’ safety and IMP’s quality and safety. A harmonization procedure for the assessment of MN-CT applications is proposed before the initial phase of the national process and, on the voluntary basis.

In the context of the implementation of directive 2001/20/EC, and with the aim to harmonize the conduct of clinical trials within EU Member States (MS), the EU-commission has issued detailed guidance and information regarding major aspect of clinical trials.

The Voluntary Harmonization Procedure (VHP) is offered in a pilot phase for clinical trials meeting the following criteria:

- MN-CTs involving an IMP without marketing authorization in the EU

and any of the following :

- First in Human MN-CTs and particularly with investigational medicinal products with known or anticipated risk factors as described in [EMEA/CHMP/SWP/2836707/2007](#).
- MN-CTs with «Critical» investigational medicinal products (limited community expertise e.g. IMP with novel modes of action, novel manufacturing process, novel administration and storage requirements,

links to a class of medicinal product with recognized safety concerns, unresolved pre-clinical abnormal findings, for instance monoclonal interfering with immune regulation, advanced therapies) or «Critical» MN-CTs (e.g. for limited trial populations e.g. orphan diseases, less common types of cancer, pediatrics diseases with small numbers, adult diseases with small numbers or unmet medical needs), based on NCA's judgment, endorsed by the CTFG.

→ MN-CTs with very large population and where the sponsor indicates a need for harmonization (e.g. large phase III CTs and several 5-10 MS concerned).

The VHP will be comprised of three phases that consist of a “pre-procedural” or “request for a VHP”, a review of a draft CTA by the NCAs of the participating member states, and a national step by the National competent authorities concerned.

During the first phase, the applicant should describe the key features of the CT together with the CT protocol synopsis. Within 5 days after



the TC, the VHP-Coordinator informs the applicant of the CTFG decision regarding the acceptance of the CTA in the VHP.

After the VHP, a national Clinical Trial Application has to be filled by the sponsor according to the national laws for the approval of clinical trials. In the case of the positive VHP statement by the Member State(s) a national approval should not take longer than 10 days, after the submission of a valid application. Regarding the VHP assessment step II, the revised version of the draft CTA is considered approvable by all P-NCAs on 50 days and more if is considered as not approvable.

Regarding the “national step” / CTA, the submissions of the CTA at the national levels should be no later than 20 days after receipt of the CHP acceptability statement by the applicant.

More information on the VHP can be found in the Guidance document for a Voluntary Harmonization Procedure (VHP) for the assessment of multinational Clinical Trial Applications, Version Sponsor 1.1 ([http://www.hma.eu/uploads/media/VHP\\_public\\_CBB\\_22\\_Dec\\_08\\_\\_\\_hk\\_jan12.pdf](http://www.hma.eu/uploads/media/VHP_public_CBB_22_Dec_08___hk_jan12.pdf)).

# Products and Services

News on the latest products or services in our area of interest

## 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.

ObTiMA will support the design phase of a clinical trial. It will allow clinical trial chairmen to capture data definition and further design specifications for a clinical trial in a standardized way based on a formal ontology. From these definitions the database for the trial can then be set up automatically. The Trial Builder will be a component based extendable application. Important components are the CRF-Builder, the Trial Outline Builder, the data management system, a roles and rights management system and security features for anonymization or pseudonymization of personal data.

A variety of data has to be captured on CRFs during the conduction of the trial (e.g. patient's history, medical findings, diagnostic data or genomics data) and can be queried afterwards. The challenge is to define comprehensive metadata for the CRFs as well as for the clinical trial database in a way that equivalent data in different trials are described in the same manner and furthermore that this task can be conducted by a trial chairman. We address this by describing the content of the CRFs completely in terms of an ontology.

### 1. Creating the CRFs

A clinician aiming to design a trial does not want to be bothered with databases and an ontology application. Therefore the trial chairman will build CRFs by designing them from the domain ontology. The trial chairman can define the questions on the CRFs, their order and constraints regarding answer possibilities. To describe answers semantically, a description from the ontology has to be chosen. Although an ontology is 'human understandable' by providing natural language definitions of entities and



relationships it is by definition not based on practical or clinical perceptions of reality. The ACGT-MO is moreover based on description logics and therefore hard to understand by clinical users. Therefore a tool is implemented that provides a clinical view (CV) on the ontology. The CV is integrated in the CRF Builder component in a way that it will guide the trial chairman to select appropriate paths to describe the questions on his CRFs from the ontology.

### 2. Output of the Trial Builder

The output of the Trial Builder is a platform independent description of the metadata and the CRFs for the clinical trial. This description will be stored in an XML format that is based on the Operational Data Model (ODM) from the Clinical Data Interchange Standards Consortium (CDISC). ODM is a vendor neutral, platform independent format for

interchange and archive of clinical trials data. The metadata of a clinical trial including a full description of the CRFs of the trial can be stored in the ODM format.

### 3. CRF Repository

Since in many trials similar or equal data is collected, a crucial part of the system is a CRF repository. This repository will allow to store the developed CRFs or parts of them to reuse them in later trials. This is important to share CRFs between similar clinical trials and to develop a set of standardized CRFs. Semantic search based on the ontology will be possible in the CRF repository.

#### Trial Outline Builder

The Trial Outline builder of ObTiMA provides the whole functionality of the tool via a graphical interface. This allows trial chairmen to build, run and analyze trials intuitively. Such a component is completely new to trial management systems.

#### Roles and Rights Management and Data Security

ObTiMA contains a roles and rights management system and features to guarantee data security and possibilities for anonymization or pseudonymization of personal data. An audit trail and other features are in compliance with GCP criteria.

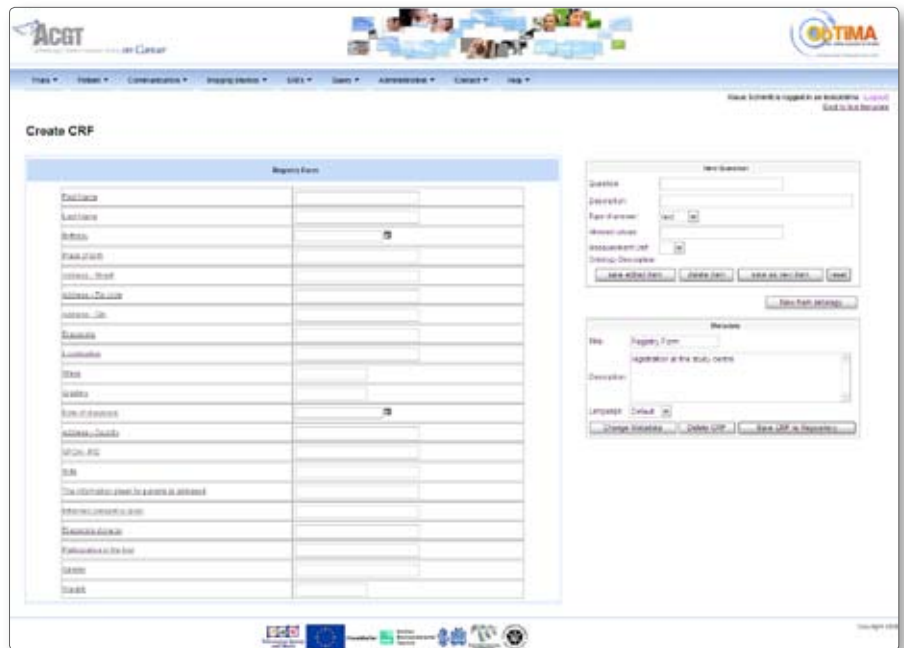


Fig. 1 Screenshot of ObTiMA

## CONCLUSION

The described approach of enabling trial leaders to set up clinical data management systems with comprehensive metadata by integrating an ontology in the design process has several advantages. It will enable trial chairmen to create reusable CRFs that allow the collection of standardized data based on an underlying ontology. After anonymization such data can be directly shared and integrated in other systems using the same reference ontology for easy querying and analyzing. The described tools are under development. A first prototype will be available by the end of 2009.

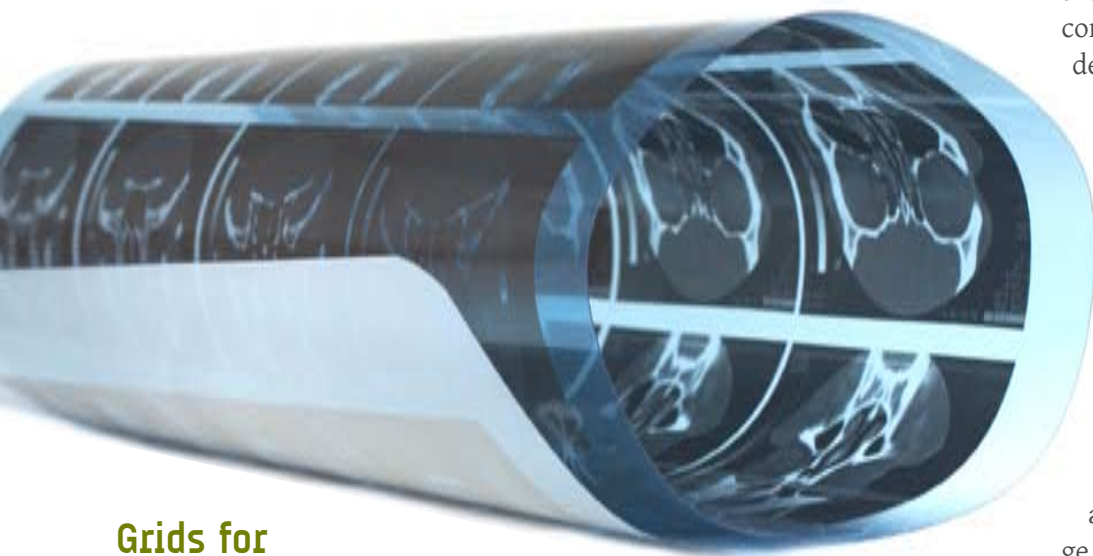
*This article is based on the following publication:*

Weiler G, Brochhausen M, Graf N, Hoppe A, Schera F, Kiefer S: *Ontology Based Data Management Systems for post-genomic clinical Trials within an European Grid Infrastructure for Cancer Research. Proceedings of the 29th Annual International Conference of the IEEE EMBS, Cité Internationale, Lyon, France, August 23-26, 2007, SuA11.4; Conf Proc IEEE Eng Med Biol Soc. 2007;1:6434-6437*

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# Grid News

Latest developments in the world of computer grid research



## Grids for optimizing cancer radiotherapy treatment

This year, about 4 million European and North American people have developed a Cancer.

Although enormous efforts are being made in area of research, more than half of these new patients are treated with radiotherapy, along with surgery and chemotherapy as appropriate.

Using radiation to treat cancer patients may be complicated with collateral damage to health tissue nearby. To hit the precise target without spilling over requires careful planning and the use of 3D imaging — a computationally intensive process.

Researchers developed a solution based on a technique initially used for the needs of the high-energy

physics community: the computational grid.

Intensity-modulated radiation therapy (IMRT) is an advanced mode of high-precision radiotherapy that utilizes computer-controlled x-ray accelerators to deliver precise radiation doses to a malignant tumor or specific areas within the tumor. IMRT allows for the radiation dose to conform more precisely to the three-dimensional (3-D) shape of the tumor by modulating—or controlling—the intensity of the radiation beam. This solution generates a large number of calculations and need time to produce a large number of radiotherapy plans without the Grid. During the test case, researchers generate 150 individual plans with the computational engine of Pinnacle build on a computational grid whereas the same calculations without grid technology take around 60 hours following the researchers.

To obtain further information on IMRT read article on the ISGTW website:

[www.isgtw.org/?pid=1001627](http://www.isgtw.org/?pid=1001627)

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## Feature Article

### The integrated ACGT environment

The ACGT platform aims to facilitate the seamless and secure access and analysis of multi-level clinico-genomic data using high-performing knowledge discovery operations and services. In order to achieve this goal, a well defined data analysis and processing environment needs to be in place, which would make possible the integration and interoperability of the different ACGT components. The goal of the integration process is to make disparate and heterogeneous applications work together so as to produce a unified set of functionality, possibly by complementing each other. Whereas integration is concerned with the building of a unified system that incorporates the functionality of its constituent parts, interoperability is more a virtue of a single software entity so that it can be easily deployed in an unanticipated environment. Therefore defining interoperability guidelines is a prerequisite for building the ACGT integrated environment.

In ACGT two notions of interoperability have been specified: the syntactic and semantic interoperability. Syntactic interoperability of software may be defined as the ability for multiple software components to interact regardless of their implementation programming language or hardware platform. Syntactic interoperability in ACGT requires standardization of data formats and data structures for the representation of, access to and exchange between biomedical informatics resources. On the other hand, semantic interoperability is related to the “meaning” of the exchanged information and it is the ability of two or more interacting computer systems to have the meaning of that information accurately and automatically interpreted and “understood”. To achieve syntactic interoperability programming and messaging interfaces must conform to standards that specify consistent syntax and format across all systems in the ACGT environment. Furthermore, in order to support the semantic interoperability, all data must be annotated with metadata by means of terminology and ontology identifiers and codes that support aggregation, comparison, summarization, mining, etc. of information that resides in separate resources.

The complexity and the diversity of user requirements have a strong impact on the design of the ACGT architecture. The adopted architecture for ACGT is shown in Figure 1. A layered approach has been followed for providing different levels of abstraction and a classification of functionality into groups of homologous software entities. In this approach we consider the security services and components to be pervasive throughout ACGT so as to provide both for the user management, access rights management and enforcement, and trust bindings that are facilitated by the grid and domain specific security requirements like pseudonymization. Apart from the security requirements, the grid infrastructure and other services are located in the first (lowest) two layers: the Common Grid Layer and the Advanced Grid Middleware Layer. The upper layer is where the user access services, such as the portal and the visualization tools, reside. Finally, the Bioinformatics and Knowledge Discovery Services are the “workhorse” of ACGT and the corresponding layer is where the majority of ACGT specific services lie.

For the realization of this architecture a multidisciplinary and multi paradigm approach has been followed. The ACGT platform is designed according to the following technologies and standards: Service Oriented Architecture (Web Services), the Grid, and the Semantic Web. In particular, Grid and Web Services technologies are the basis for defining the syntactic interoperability:

- The machine to machine communication is performed via XML programmatic interfaces over web transport protocols (SOAP), which are specified using the Web Service Definition Language (WSDL). These common data representation and service specification formats, when properly deployed, make the syntactic integration of the ACGT components a lot easier.
- The Grid defines the general security framework, the virtual organization abstraction, the user management mechanisms, authorization definition and enforcement etc. It also provides the computational and data storage infrastructure that is required for the management and processing of large clinical and genomic data sets.



On the other hand, the Semantic Web provides the infrastructure for the semantic interoperability: it adds the knowledge representation mechanisms by the means of RDF Schemas and OWL ontologies, the unique identification of concepts and resources through the URIs, the implementation-neutral query facilities with the SPARQL “universal” query language and the associated query interfaces, etc. These enabling technologies are used for the specification of the service related metadata, such as the semantic description of input and output parameters, the service functionality and intent annotations, the quality of services, etc. These semantic annotations can be used in a multitude of ways: service discovery, selection, and “matchmaking” scenarios, quality control and monitoring, etc.

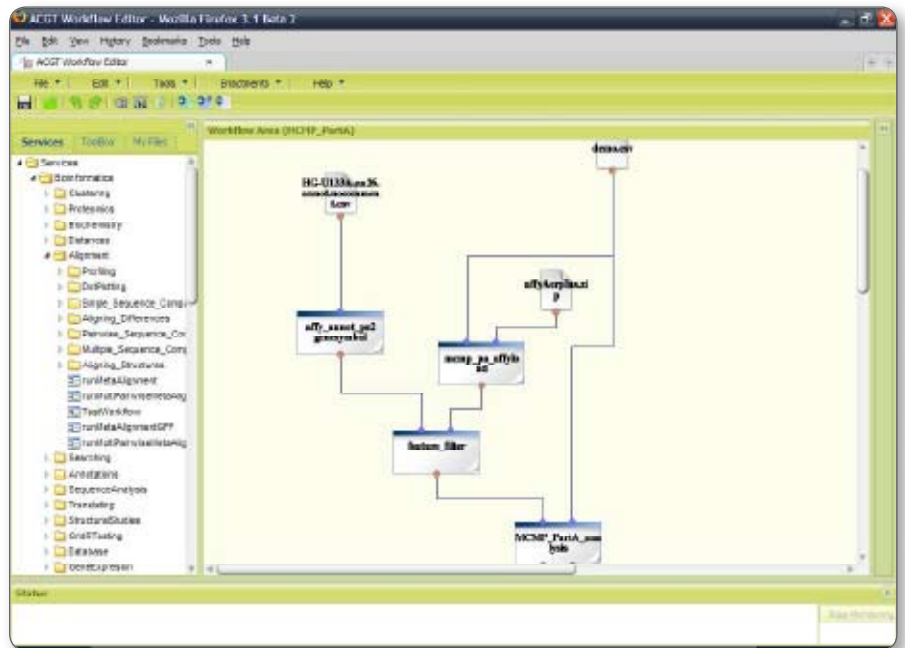


Figure 2: The ACGT workflow editor

The interoperability of the ACGT components is tested by the developers but it’s also continually exercised by the users themselves. The ACGT Workflow Editor (Figure 2) is the end user application for the designing and execution of high level scientific workflows. In this web based application the users are facilitated to graphically combine the data retrieval and discovery services and the knowledge extraction and data analysis tools. The definition of the syntactic representation of the data and most importantly the annotation of the services with semantic metadata descriptions gives a lot of flexibility in the workflow editor for supporting user friendliness and intelligence. If properly annotated, incompatible services cannot be directly connected because the data types of their inputs and outputs do not conform to each other, either in the syntactic or the semantic level, while service recommendation and intelligent workflow composition can be also supported.

In conclusion the integrated ACGT environment is built through the adoption of common industry and open standards and well known software engineering practices. The semantic annotation of data and services is of utmost importance and in ACGT the necessary infrastructure (service and data type ontologies, service and metadata registries, etc.) has been designed and implemented. Finally, the definition of integration policies and interoperability guidelines is also important for connecting to and interacting with third party services and resources and making them available inside the ACGT platform.

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# Community View

Invited contributions from non-ACGT members of the wider research community

## Action against cancer

Androulla Vassiliou has been nominated as a EU commissioner for health. During her European Mission she outlines European Action against cancer. Cancer is one of the biggest diseases in Europe which kill around 1/3 of the European population.

Community efforts on the basis of tackling major health determinants aim to encourage the development of information exchange to help develop more effective interventions, and support member states in their efforts.

Six years ago, the health minister of the European Union adopted a council recommendation on cancer screening. The [first report on the implementation](#) of the recommendations has been published 3 month ago to highlight the progress made. The report encourages European countries to renew their efforts to fulfill the targets laid

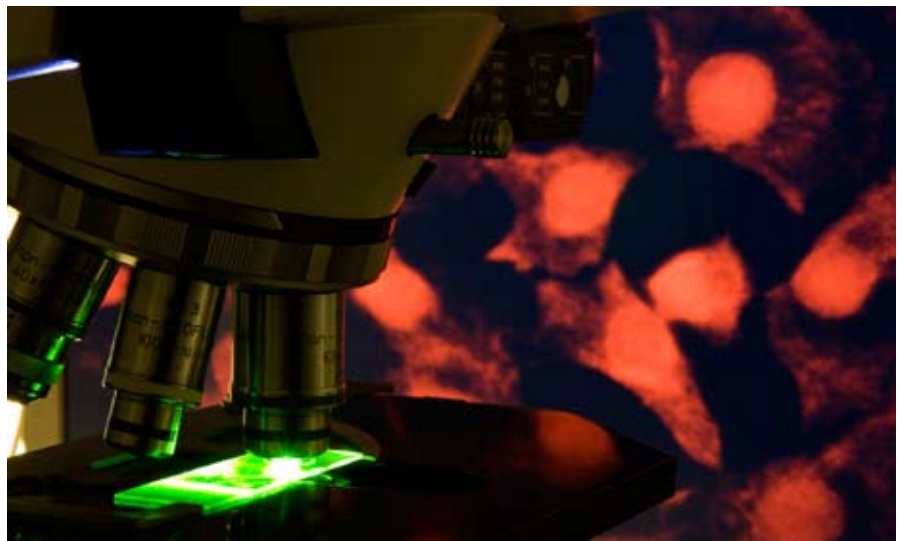
down in the recommendation because fewer than half of the minimum recommended numbers of screening are taking place in the European Union for citizens of the appropriate age each year.

During the 6th Framework Programme focused on prevention, diagnostics and treatment to transfer scientific advances into day to day healthcare. The 7th Framework Programme will build on the successes of the previous programme and will pursue the translation of basic

discoveries into clinical applications, so that cancer research which is a key aspect of the programme.

The community regarding cancer research will bring together a wide range of different stakeholders to provide a framework for supporting European states.

*Article based on Public service review: Science and Technology issue 02, a PSCA International Ltd Publication 2009, P234-235.*



## Rare Cancer are widely spread in Europe

Many forms of cancers are classified as rare diseases. These cancer affect fewer than 5 in every 10 000 people and each year more than 400 000 Europeans develop a type of rare cancer.

On this observation, on 6th November 2008, the European Society for Medical Oncology (ESMO) hosted the conference «Rare Tumours in Europe: Challenges and solutions». This event was introduced by José Baselgo from ESMO, by Androulla Vassilliou, the EU Commissioner for Health and by Roselyne Bachelot, minister of health, from France. The aim

of the conference was to identify current challenges faced by patient with rare cancer. Thus, the conference, calling for awareness and prioritization of rare cancer, allowed with it three workshops during the first day to discuss how to address the key challenges linked to the development of new drugs in rare cancers in Europe.

One month after the conference, ESMO suggested recommendations at the European Parliament and addressed important issues such as:

- Barriers to patient access to care and information on rare cancer;
- Education of healthcare professionals and the need for centers of expertise and European reference networks,
- Regulatory and methodological barriers to rare cancer care.

The full text of the recommendations and further information on this consensus meeting are available on the ESMO website at: [www.esmo.org/events/past-events/rare-cancers-2008.html](http://www.esmo.org/events/past-events/rare-cancers-2008.html)

*Article based on Public service review: Science and Technology issue 02, a PSCA International Ltd Publication 2009, P242-243.*

# Events

## Information on upcoming events of interest

### 15th UICC Reach to Recovery International Breast Cancer Support Conference (May 13-15, 2009), Brisbane, Australia



In May 2009, delegates from around the world will converge to Brisbane, Australia, for the 15th UICC Reach to Recovery International Breast Cancer Support Conference.

The conference will connect women from around the world to focus on supportive care for those diagnosed with breast cancer. Particular emphasis will be given to the key areas of survivorship, capacity building, and peer support. It will be the first truly global forum for women affected by breast cancer.

Please click on the following link to obtain more information regarding this conference: [15th UICC Research to Recovery International Breast Cancer Support Conference](#).

### IMPAKT - Breast Cancer Conference (May 7-9, 2009), Brussels, Belgium



On behalf of the Breast International Group (BIG) and the European Society for Medical Oncology (ESMO) are pleased to announce the IMPAKT Breast Cancer Conference, where

more than 600 specialists in breast cancer are expected.

IMPAKT is a new and unique Breast Cancer Conference. It focuses on IMProving cAre and Knowledge through Translational Research and targets an audience of scientific investigators in basic and clinical research who have a specific interest in molecular and translational research, new agents, molecular and functional diagnostic tools, biomarkers and cutting edge applications of research in the clinical setting.

The Conference is preceded by an attractive educational course for Young Oncologists who will need to be familiar with key molecular pathways that drive breast cancer biology.

Please click on the following link to obtain more information regarding this conference: [IMPAKT](#)



### HealthGrid 2009 (28th June - 1st July 2009) Berlin, Germany

HealthGrid 2009 will be held from 28th June to 1 July 2009 in Berlin. The HealthGrid conference is the premier conference on the transformation of

biomedical research, education and medical care through the application of Grid technologies. HealthGrid is dedicated to:

- Enhancing biomedical research and healthcare delivery
- Creating an open collaborative virtual community
- Communicating the collective knowledge of the HealthGrid community

The conference program will include a number of high-profile keynote presentations, complemented by a set of refereed papers, which will be selected through the present call for papers.

Please click on the following link to obtain more information regarding this conference: [HealthGrid 2009](#)

# Legal and ethical

The latest thinking on legal, ethical and data security issues surrounding clinical trials

## Center for Data Protection (CDP)

From a legal point of view, the ACGT project must 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 Data Protection Regulations onto clinical trials.

The Data protection architecture for data flows within ACGT is set up with the prior aim to work with anonymized data wherever this is possible. Anonymization is the best way to protect patients' privacy.

Apart from this it has to be taken into account that the proposed ACGT platform has to be compatible with the ICT infrastructure and policies of all participating healthcare organizations. Therefore a Data

Protection architecture within ACGT will be characterized by a multiplicity of security and network infrastructures. Thus it will be of high importance to have minimal impact on the local IT infrastructure of every healthcare organization for two major reasons: firstly, it is most likely that access from the outside to the hospitals' IT infrastructure is heavily restricted if not forbidden, secondly, and from a legal point of view even more important, ACGT should only be responsible for data protection compliance within the GRID infrastructure. The proposed Data Protection Architecture therefore has to run independently from the local IT-infrastructures being a self-contained data protection framework in compliance with the applicable data protection legislation.

The following figure 1 illustrates the planned solution for the de facto anonymization of genetic data within ACGT.

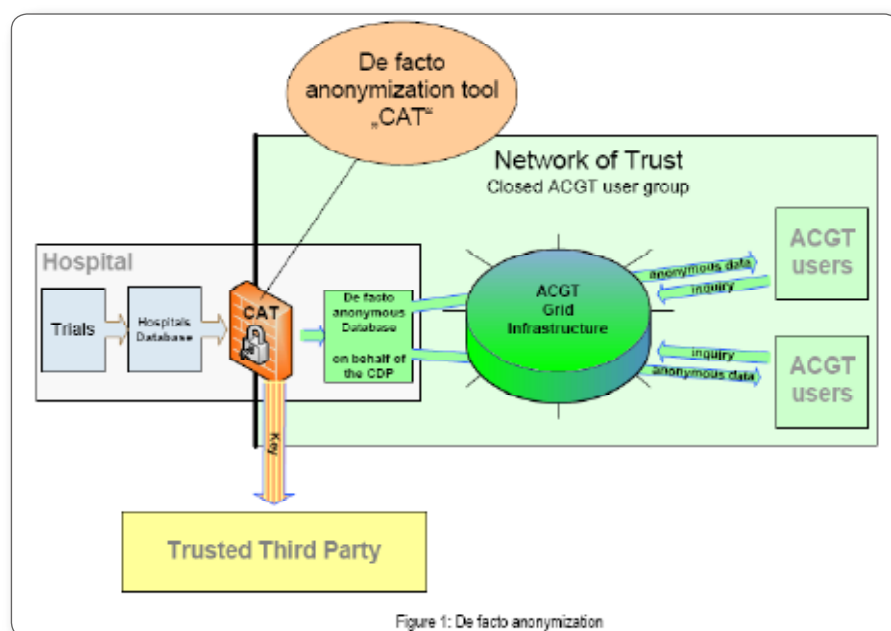
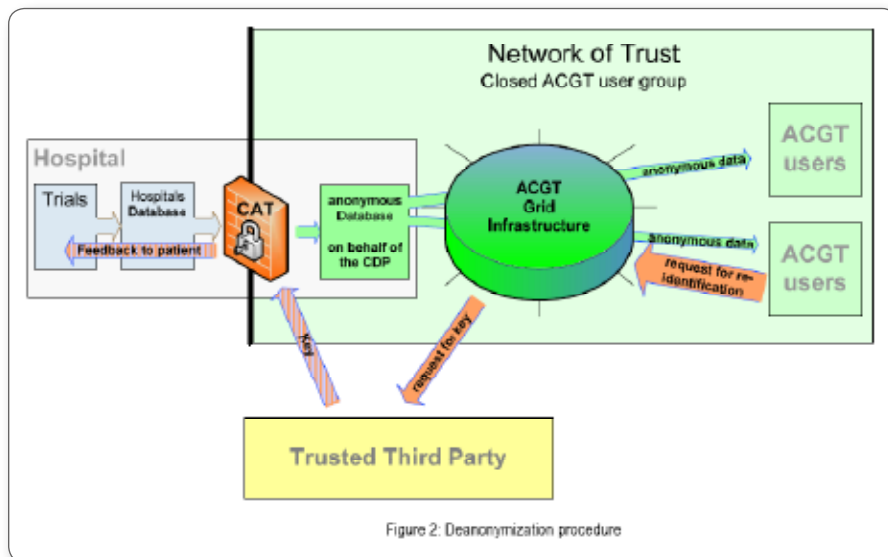


Figure 1: De facto anonymization



Genetic data of the patient that is taken by the treating physician in the hospital is analyzed and stored within the hospital. The hospital and its different departments are obligated to work with pseudonymized patient's data, where the physical examinations do not need the identification of the patient.

If a patient agrees to participate in an ACGT trial the physician transmits his or her data to an ACGT database located within the specific hospital, which is physically as well as organizationally disconnected from the hospitals database. During the transmission to the ACGT-database the genetic data will be de facto anonymized by a pseudonymization tool that guarantees an equivalent high standard for all genetic data transmitted from the participating hospitals to ACGT with the effect that all genetic data processed within ACGT is pseudonymized on a level that is state-of-the-art. ACGT will provide such a pseudonymization tool, but hospitals are not bound to use such tool, ACGT only can commit the hospitals by binding contracts to guarantee a state-of-the-art pseudonymization. The link of this pseudonymization is held by a security authority named "Trusted Third Party" (TTP). After this pseudonymization the data is stored in the ACGT database, possibly located in the hospitals or at the Trusted Third Party. In this moment the data are de facto anonymous.



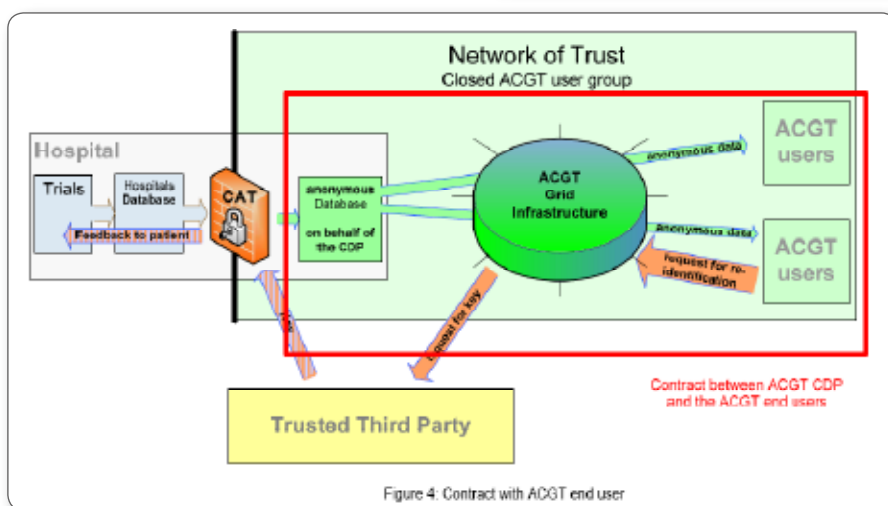
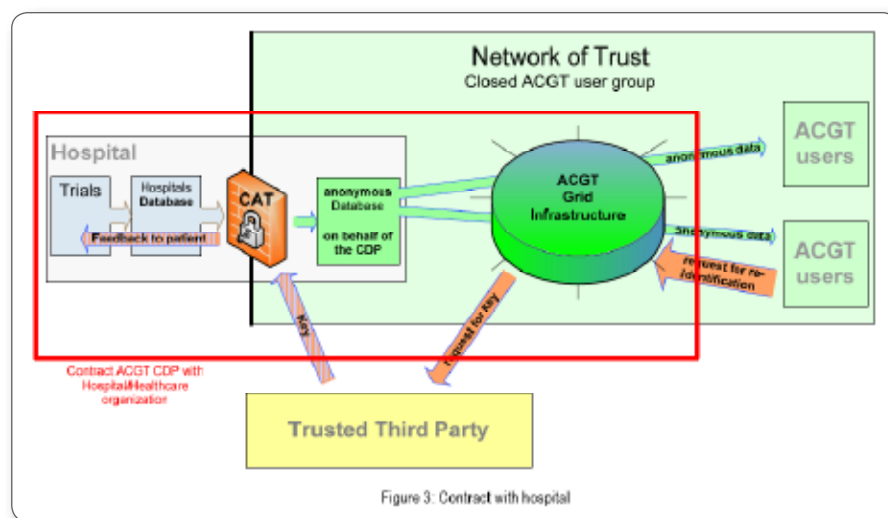
The de facto anonymous data and the links from the pseudonymization will be stored in different data bases. ACGT-end users will only work with de facto anonymous genetic data.

However, if a patient needs to be identified, in case of an end user (researcher) detecting a new treatment, the cooperation of the Trusted Third Party, as indicated in figure 2 above, is necessary - as only this security authority has the link for the re-identification. From a practical point of view, the ACGT project founded, in August 2007 a non-profit organization: the Cancer for Data Protection (CDP). The CDP is the central data controller within ACGT grid infrastructure.

A patient, who is willing to participate in an ACGT-trial, has to sign after having received all information wanted from his or her treating healthcare organization an informed consent regarding the processing of his or her data within ACGT.

Beside this there will be contracts between the data exporters (e.g. healthcare organizations) and the CDP on the one hand and the ACGT end users and the CDP on the other hand to guarantee compliance of all participants with the set up Data Protection Framework.

Each data exporter organization will have a contractual agreement with ACGT concerning the data transfer (see under 4). The production of this contract is part of this deliverable. It will rule in particular the obligation to de facto anonymize all data transferred to the ACGT database. It also states that regarding the processing and storage of the patient's data within their own organization the data exporters will be



responsible for the compliance with both, data protection regulations and the procedures and policies provided by ACGT. Additionally, ACGT will commit the data exporters to guarantee for the fact that its employees (physicians, IT-staff etc) adhere to the procedures and policies provided by the framework. They have to make sure that the access to the anonymous data is protected by the security me-

mechanisms defined in the ACGT framework. Taking into account the multitude of IT-infrastructures and different national legislation the execution of these contracts will be both, of crucial and substantial importance.

Moreover agreements with the ACGT end users are needed, which bind them to the data protection and data security policies of ACGT and make sure, that they agree with the general terms of the Framework.

These contracts will be concluded with the CDP and will in the first place set up regulations concerning the use of the data.

# Life in ACGT

## ACGT Consortium Meeting Vienna, Austria

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. Each partner provided an up to date presentation about their progresses which led to very positive exchanges with the consortium. The new representative from EORTC honored us with her presence and we enjoyed very constructive discussions related to the ongoing collaboration with the ACGT project. Thank you very much to all attendees and the organizing committee.

## Project extension

The ACGT project is proposing to extend its contractual term to further elaborate the technical developments regarding the solution envisaged for the ACGT project. This extension was discussed and accepted by all members of the consortium during the latest Consortium Meeting in Vienna. This project extension would allow developing further the various technical choices and legal matters that have been produced in ACGT from the viewpoint of experts in the exploitation of large scale clinical trials. The proposed 6 months no-costs extension will be important for the future as well as for the evolution of the project.

## Welcome to EORTC



AISBL International Non-Profit Association under Belgian law IVZW

ACGT members are pleased to inform you that the new description of work of ACGT, which includes collaboration with the EORTC (European Organization for Research and Treatment of Cancer), has now been formally accepted by the European Commission. We had the pleasure of welcoming the EORTC's representative at the Consortium meeting in Vienna from 27 to 29 January 2009. The arrival of the EORTC in the ACGT consortium is a positive development as the EORTC's experience will be an invaluable asset with respect to achieving project goals.

Web: <http://www.eortc.be/>



# ACGT PEOPLE



**Francesca BUFFA**

**The Weatherall Institute of Molecular Medicine in the Clinical School of the University of Oxford  
Scientist at the University of Oxford**

Francesca Buffa received her Masters degree in Theoretical Physics from the University of Turin, Italy, in 1997. In 2001 she gained her PhD at The Institute of Cancer Research, University of London, United Kingdom (UK), where she worked on research projects in the areas of biomathematics, medical physics, radioisotope physics and molecular imaging. In 2005 she joined the Molecular Oncology Laboratories at the Weatherall Institute of Molecular Medicine, University of Oxford, where research in molecular biology is translated directly to the study of human disease. Here she is working in national and international research projects in the areas of bioinformatics, biostatistics, computational genomics, molecular oncology and biomarkers. She has also taught at international schools and provided bioinformatics/biostatistics expertise for genomics and clinical research. Currently she is involved in collaborative projects aimed towards discovering, validating and integrating prognostic and predictive markers in cancer, as well as providing insight into the tumour microenvironment in relation to progression and metastasis.



**Thierry Sengstag**

**Swiss Institute of Bioinformatics  
Bioinformatics Core Facility  
Switzerland**

Thierry Sengstag obtained a MSc in solid-state physics from the Ecole Polytechnique Fédérale de Lausanne (EPFL, CH) in 1994. He then conducted a research in nuclear engineering at Paul Scherrer Institute (near Zürich, CH) for which he obtained his Ph.D. in 2001. During this period Thierry investigated the behavior of nuclear reactors in severe accident conditions, and he obtained, in parallel, an accreditation as chief of operations for a research and teaching reactor operated at EPFL. Thierry is thus the only nuclear reactor pilot in ACGT.

After being hired as a post-doctoral fellow at TU Delft (NL) to work on the thermohydraulic stability of nuclear reactors, Thierry was appointed group leader of the thermohydraulics group, supervising a staff running two experimental facilities and a small group of researchers.

In January 2003, Thierry reoriented his career towards life sciences, and started working in the domain of bioinformatics and biostatistics, jointly at Swiss Institute for Experimental Cancer Research (ISREC) and at Swiss Institute for Bioinformatics (SIB). As a member of SIB's Bioinformatics Core Facility, his activities were to support researchers and technological facilities in the French-speaking area of Switzerland in the analysis of the data they obtained with the (then) new technology of microarrays.

Working closely with the experimental facilities producing the raw data, he helped understanding the strengths and weaknesses of this technology, from low-level technical aspects, such as noise levels in scanners, to the statistical design of biological experiments.

Given his affiliation, the research he was involved in had a strong emphasis on the discovery of the molecular mechanisms causing cancer. Thierry was thus a natural candidate to join the ACGT project.

In ACGT, Thierry is bringing the view of data miners and bioinformaticians in the design of the tools developed in support to clinical research. In particular, he is translating the clinical scenarios provided by medical end-users into concrete use cases that the technical partners of the project can implement. He is a member of the ACGT management board and of the technical management committee, and he is coordinating the activities of evaluation and validation.

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