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NEWSLETTER

ACGT on Cancer

Advancing Clinico Genomic Trials

EDITORIAL

Dear ACGT newsletter readers.

Happy New Year!
Best wishes for a very nice and fruitful year 2010

Newsletter Edition 6

Edition 6. Winter 2009

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The New Year is always a time for reflecting – a convenient benchmark for measuring what has been learned so far. In this edition, we are presenting an update on the status of the activities and the tools that have been developed by the ACGT consortium. In this respect, we are glad to announce the ACGT competition that will take place during 2010. The competition, described in this winter 09 newsletter, will be opened to all interested organizations and individuals to allow the use of the tools developed by the ACGT consortium. We are looking forward to collaborating with you on this major event.

We wish you will have a pleasant reading through the articles and wish to encourage you to contact us for further collaboration and interaction with the ACGT project.

Samuel Keuchkerian

European Commission
Information Society and Media

Clinical Trials News

Latest developments in the world of clinical trials in cancer

Antigen scenario of the SIOP clinical trial

Wilms tumour is the most common malignant renal tumour in children. In the SIOP 2001/ GPOH trial clinical data, molecular data and pre- and post-chemotherapy DICOM imaging studies are collected, coming from patients out of more than 50 hospitals in Germany. Since 2009 anonymized data of the SIOP/GPOH trial are used in the ACGT scenarios. From a limited set of these patients, microarray data and data of autoantibodies against tumour specific antigens of Wilms tumour are provided. The main question is to answer whether molecular biology helps to define new risk groups in Wilms tumour and can be used to stratify treatment of these patients in the future. As ACGT promotes the integration of heterogeneous data and provides necessary analytic tools, it facilitates further molecular analysis and allows clinicians to efficiently analyze data that are presently communicated by mail, fax or maintained in flat text files at various remote clinical sites.

One of the scenarios that are analyzed in ACGT is the Antigen scenario, to analyze if autoantibodies against tumour specific antigens do correlate with histology and outcome. Up to now in 133 patients we did receive serum for the Antigen scenario. Altogether 355 sera are collected from 265 patients out of 36 local hospitals. Out of this cohort 72 sera were from healthy children and 60 from patients suffering from other cancers than nephroblastoma. These sera are used as a control groups. Most of the sera are collected at the time of diagnosis. A preliminary analysis of the Antigen Scenario regarding the characterization of found autoantigens against nephroblastoma was reported at the Nephroblastoma meeting in Chamonix, France in March 2008 and at the SIOP conference in Berlin in October 2008. In contrast to adult patients one can find more autoantigens in sera of children. This is shown in figure 1. The same autoantigen can be found in a higher frequency in children and children with cancer than

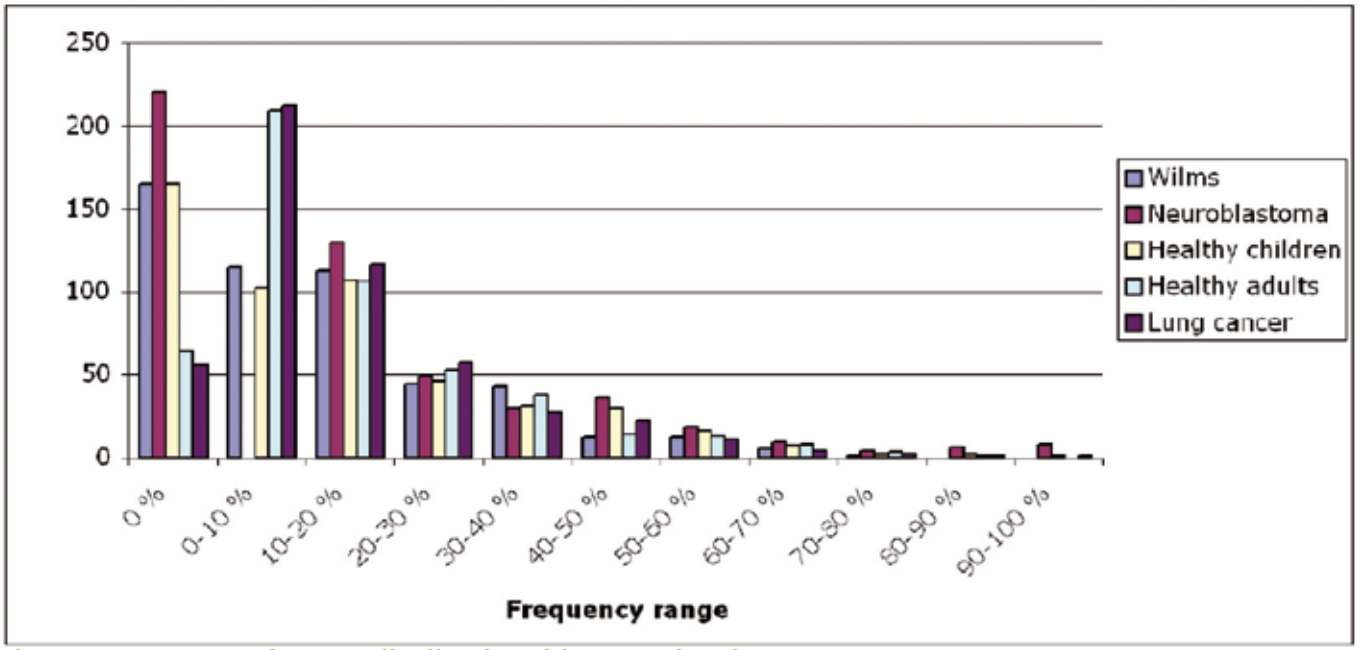


Figure 1: Frequency of autoantibodies found in sera of patients.

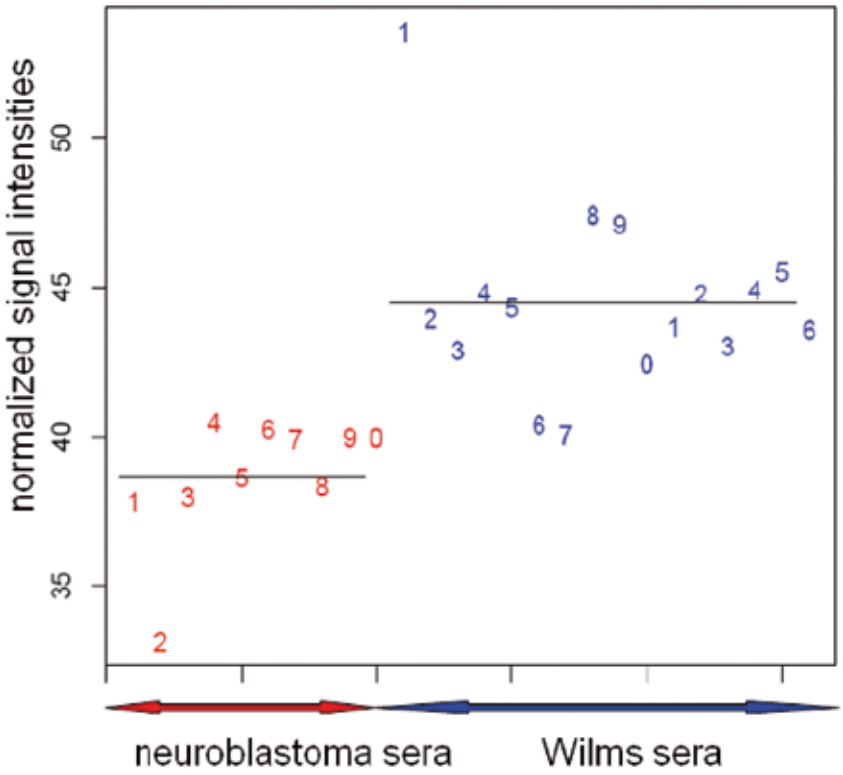


Figure 2: Discrimination between nephroblastoma and neuroblastoma shown for 1 antigen in different sera of patients.

in adult cancer patients. 61 clones could be found that discriminates between nephroblastoma and neuroblastoma. 39 of these clones can be selected as best discrimators. Figure 2 shows for a single antigen the discrimination between sera of patients with nephroblastoma and neuroblastoma.

Between healthy children and patients with nephro- or neuroblastoma there is an overlapping of autoantibodies. But one can find single autoantibodies that are only expressed in single diseases as shown in figure 3.

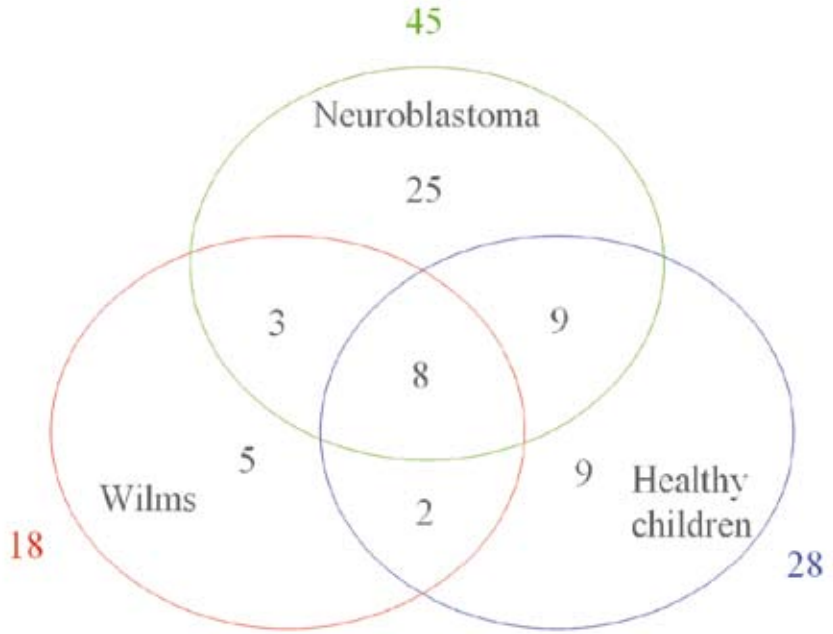


Figure 3: Overlapping of antigens between healthy children and patients with nephro- and neuroblastoma.

Taking these results together, we hope that we will find a pattern of autoantibodies that is predictive for a correct diagnosis of Wilms tumour and correlates to the outcome of patients. Together with microarray data a scenario is currently under development in ACGT to analyze these heterogeneous and distributed data together with the corresponding clinical data and data from the KEGG database to find new insights in the biology of Wilms tumour. Results of this scenario will be presented at the next Wilms Tumour Biology Meeting taking place in March 2010 in Banff/Canada.

Norbert Graf
USAAR

Products and Services

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

Literature Based Discovery

Literature-based discovery (or "LBD' for short) is a relatively new approach to knowledge discovery. It makes the assumption that by connecting seemingly disparate chunks of knowledge from within a relatively large corpus of scientific articles or other textual resources, it is possible to create new knowledge that does not exist in the original corpus. LBD is similar to data-mining, the difference being that while the latter deals with large bodies of numeric data, the former uses running text as it primary source.

LBD has many applications, including the identification of bio-markers, predicting Adverse Events (AE) and finding new uses for existing drugs or compounds. Within ACGT, partner Biovista has developed versions of its proprietary LBD platform that are compatible with the basic ACGT infrastructure and can either be integrated in any workflow created by the ACGT Workflow Editor or incorporated in any other user application.

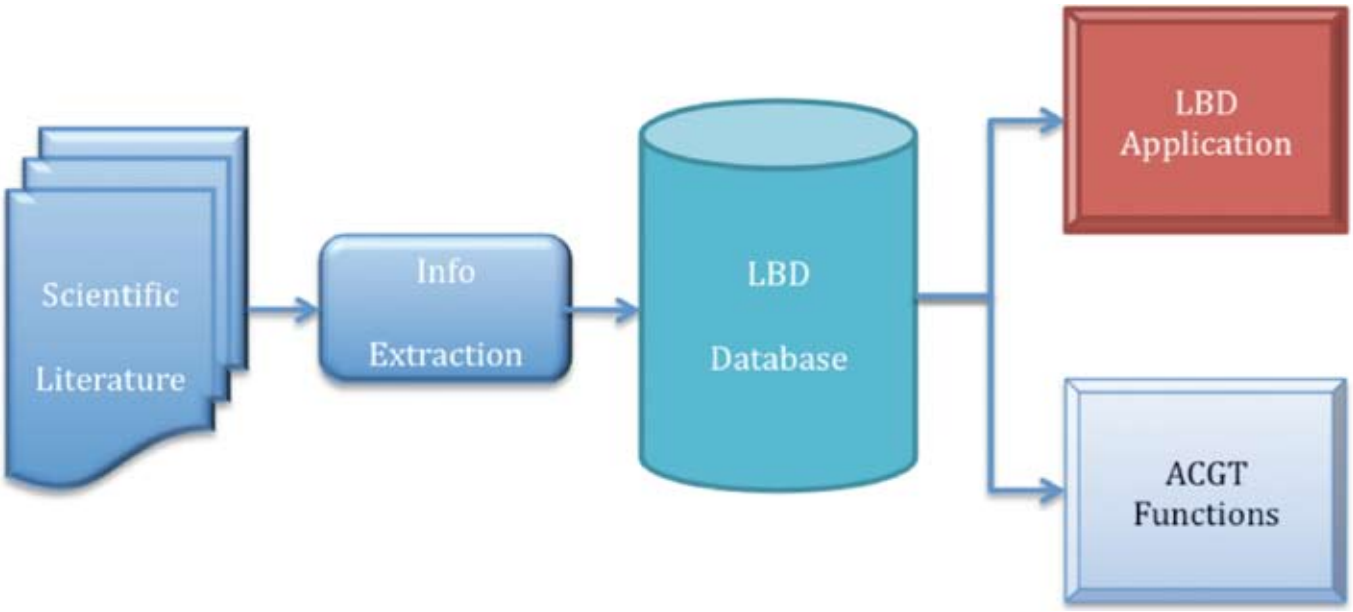


Figure 1: Basic architecture of Literature-based discovery platform

The figure 1 above shows the basic architecture of the system. Information extraction algorithms read scientific articles that are downloaded from Medline on a regular basis ensuring the system is always up to date. Extracted information consists of about 25 classes of biologically relevant concepts, such as genes and pathways. Once extracted, these concepts are cross-correlated amongst themselves and these relationships stored in a custom-design database that ensures very high response rates. This database is then queried either by the LBD application or the LBD functions that are accessible via the ACGT infrastructure.

LBD accuracy

As with any predictive system, one of the main concerns is its predictive accuracy; in other words how confident we can be in the output of such a system.

To address this question a study was carried out and will be reported in reference 1. The study looked at Biovista's LBD platform for predicting AEs before clinical trials, using abstracts from PubMed as the primary raw data source. Using a description of the mode of action (MoA) of a drug as the starting point, we compared it to the MoA underlying all AEs, for similarities.

The dataset was 66 unique drugs, of which 61 were oncology, 7 were neurology, and three were both, where the AEs were reported at the American Society of Clinical Oncology (ASCO) annual meeting in 2007 and the American Academy of Neurology (AAN) annual meeting in 2008, respectively. The primary focus was oncology, where our sample covered 87% of the MoAs of all FDA-approved cancer drugs. Using data from 1997 to 2007 divided into five time points, and a total of 881 measurements, a mean of 79±22% of AE prediction was achieved. A similar AE prediction rate of 79±28% was achieved in the small neurology sample, in an additional 97 measurements (978 in total). We also found that when using data that pre-date any publication on a drug by five years, literature-based analytics predicted 72% of its AEs. The figure 2 shows how the predictive accuracy of the platform varies as a function of time (ie available data).

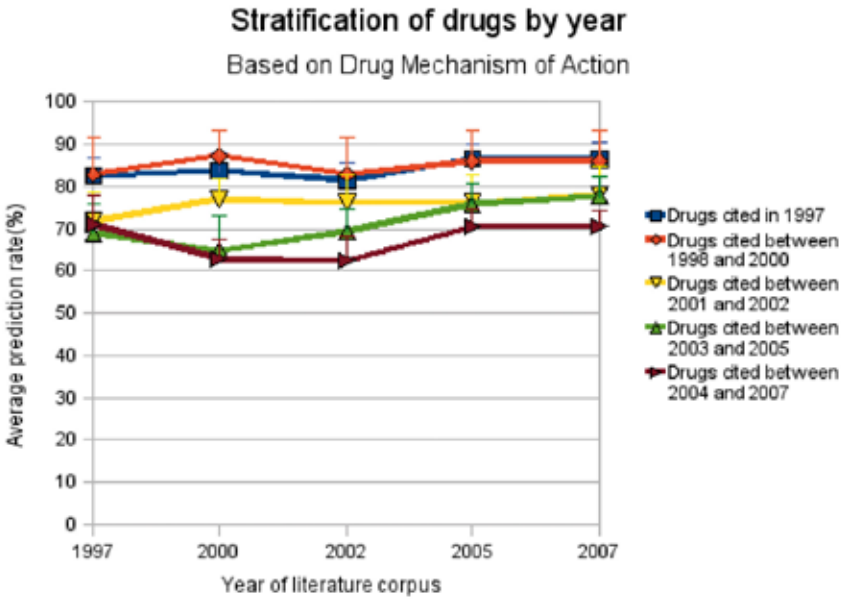


Figure 2: Predictive accuracy versus time

Uses of LBD

To date Biovista has used its LBD platform to successfully reposition 10 drugs and has applied for patents in all these cases. For example its BVA201 drug has shown positive efficacy results in a pre-clinical trial for Multiple Sclerosis (see

http://www.biovista.com/news.php?article_id=136) while its BVA-601 drug has shown positive efficacy results in a pre-clinical trial for Epilepsy (see http://www.biovista.com/news.php?article_id=132&year=2009).

LBD in ACGT

For ACGT, Biovista has made available a number of basic functions that support literature mining. These functions offer some of the basic analytics that are required to support a literature-based discovery process. The functions are directly accessible via a published API and can be combined into more complex functions to perform even more advanced LBD tasks. Additional information can be found at the ACGT site.

References

1. "Pro-active drug safety: combining existing data in new ways to predict serious adverse events of drugs." Spyros N. Deftereos, et al, [in review]*

Andreas Persidis,
Biovista

Grid News

Latest developments in the world of computer grid research

Toth – Distributed Logging for ACGT environment

KOne of the most important paradigms for designing ACGT architecture is the idea of loosely coupled services cooperating with each other to provide desired functionality for the end user. That architectural model is the consequence of Service Oriented Architecture (SOA) approach chosen for ACGT.

There are many advantages of using SOA solution: flexibility, lower maintenance costs, well defined integration schema, but there are also some drawbacks. One of them is the problem with monitoring and debugging of users actions in the distributed environment. The reason for that is quite obvious: single action on the level of user interface can cause multiple services invocations in the background. The best example of it, is the Workflow Environment where the user can design his/her experiment as a set of operations involving usage of databases or grid nodes.

The crucial issue for the ACGT services developers is the ability to track the flow of actions initiated by the user throughout the whole system. To fulfill that requirement, Toth the distributed logging system designed by PSNC, was deployed in the ACGT environment.

The main idea behind to Toth is to provide simple tools for the services to store the logs in the remote logs repository, and to provide simple yet powerful mechanisms for analyzing and filtering stored entries.

The main assumptions taken into account during Toth design and implementation are:

- Open architecture: it is possible to add new modules enhancing basic functionality
- Flexibility: simplified procedure of client application configuration with connection of possible further tuning of logging system by advanced administrators
- Scalability
- Intuitive interface based on web portal and web services

Implementation of a distributed logging system in ACGT consists of three main components:

- Centralized log events repository for distributed logging – module for collecting and managing collected log events, preprocessing events, instant analyze of events from all components of monitored distributed system and for exploring collected events and filtering them;
- User access module – set of user forms in web portal form (as a separate web portal and additional panel in the DMS portal) that uses log repository web services method for building queries on collected logs and for service management
- Client module that may be used by application (or service) for sending events to log repository using standard logging mechanisms (e.g. log4j for Java).

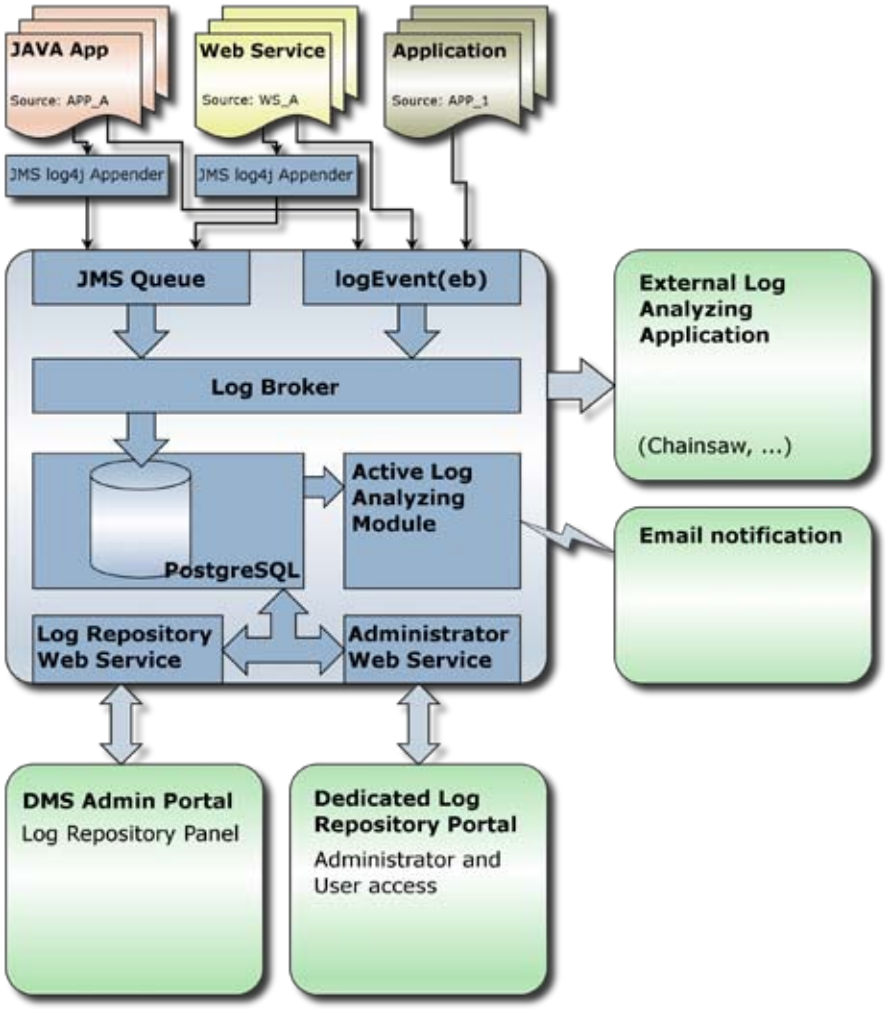


Figure 1: Toth the distributed logging system designed by PSNC.

Log events repository delivers functionality using JMS queue for collecting log events sent by clients and SOAP web services for implementing both: storing and querying events and management functionality. The internal architecture of Toth Log Repository consists of following elements:

- Database log events repository allowing to perform queries and add events
- Connector (based on implementation of JMS queue) listening for incoming log events to store in the repository. Applications may send logs to this connector using prepared log4j appender or may send events using its own implementation of JMS queue.
- Web Service interface which delivers functionality for querying log repository and storing new events using WS methods. This is alternate possibility of adding new events to the Log repository (the other way is to use log4j appender for Java applications).
- User interface application - portal - which is using log repository web service interfaces to present the stored log entries.

To take advantage of logging systems services administrators can use portal interface application. It allows managing the Distributed Logging events repository and exploring events stored there.
In a general case there can be a lot of entries stored in repository. One of the most important features of portal client is ability to define conditions that should be fulfilled by the event to be displayed.
User can filter repository by constructing condition specifying source, log event level, logger name and timestamp. Additionally it is possible to turn on and off interesting columns of presented result by checking out appropriate checkboxes. The example screenshot of the application is presented on the figure 2.

The Toth Distributed Logging system is a powerful tool that can be used by service developers for debugging and monitoring of complicated scenarios running in ACGT environment. It requires a little more effort during services development but the benefits of using it are much more essential.

Juliusz Pukacki ,
PSNC

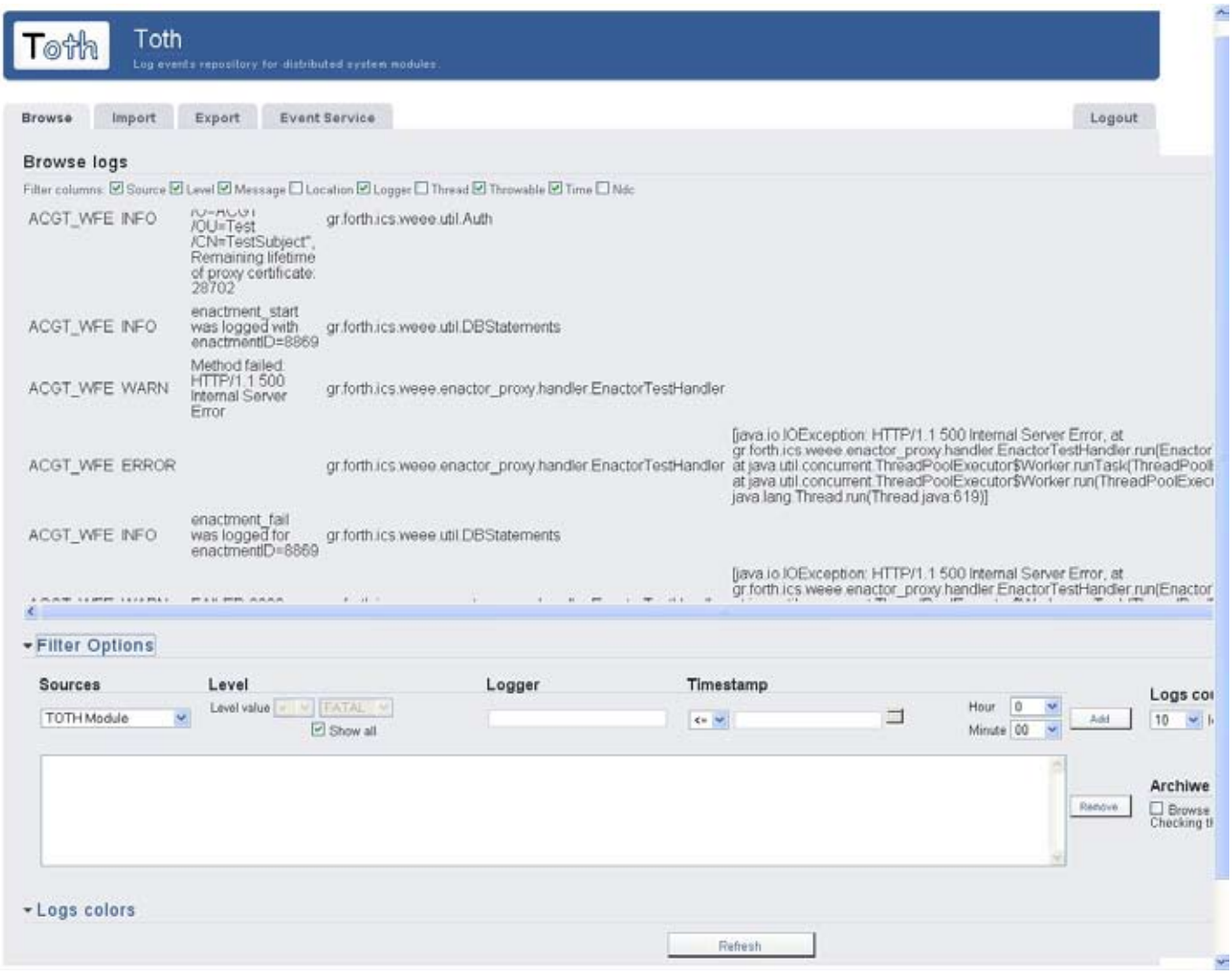


Figure 2: Screen shot of the Toth application.

Feature Article

The data-sharing platform of the NeoBIG research program

The NeoBIG program is a research program led by Breast International Group (BIG), and aims to organize and set up next generation clinical trials in the area of breast cancer R&D. A durable, multidimensional translational research structure supporting neo-adjuvant trials is expected to be built in order to share strategies, expertise, technologies, methodologies and protocols. In addition this will provide a strong foundation for future adjuvant trials in breast cancer (and research in other cancers).

Tools and expertise developed in ACGT could be used to support NeoBIG, especially concerning the data storage, management and sharing, and with respect to privacy and security. In order to determine a possible support of the ACGT infrastructure, users requirements have been collected, scenario refined and finally the suitability of the ACGT tools and infrastructure to support the NeoBIG programme have been considered.

The NeoBIG program will include several (five currently planned) neo-adjuvant trials that will be carried out together with various Pharma companies (see figure 1). A first trial is scheduled for 2010. Each trial involves several steps from the biopsy to the surgery, leading to various types of data that should be gathered electronically. To provide a platform that enables data sharing and collaboration between cancer research centres, NeoBIG requires a robust, secure IT solution that is compliant with a wide set of regulations and laws in the context of security, safety and privacy protection. The platform needs to be able to store, manage, and share the various types of data that will be generated by NeoBIG trials.

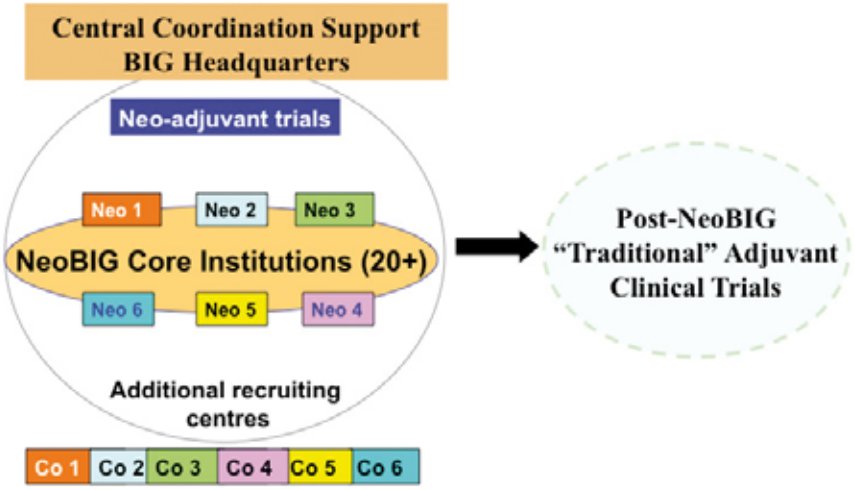


Figure 1: Structure of the NeoBIG program.

Security is an important aspect of the NeoBIG data-sharing infrastructure. NeoBIG deals with personal data obtained from patients, whose privacy needs to be protected (both from an ethical and a legal perspective). Secondly, future prospective clinical trials with targeted therapies will require a system capable of dynamically setting up collaborations of organizations around specific data sets. Data shared within such a group needs to be well protected. Therefore, the NeoBIG data-sharing platform needs to assure secure data sharing, such as authentication of users (secure logon), authorization (access control), encryption (to guarantee confidentiality), trust establishment, and Virtual Organization Management. Additionally, the interactions with the NeoBIG data-sharing platform need to be fully audited to enable traceability. Strong requirements on the data-sharing platform are production-level reliability and availability and full maintenance. The data-sharing platform will be used and needs to be available long beyond the end of the clinical trials, as the data is highly valuable for further research.

Additionally, data interoperability and adherence to widely accepted international standards are important requirements which will enable the collaboration between BIG and other cancer organizations world-wide. In that context, well-known standards (HL7, DICOM, MIAME, MAGE, etc.) and terminologies (SNOMED, LOINC, etc.) are relevant, but also new standards emerging with the development and

adoption by the US research community of relevant NeoBIG tools. As collaboration with the US cancer research community is desired and the US market is important for the pharma organizations participating in the NeoBIG trials, additional requirements need to be extracted from regulatory frameworks (such as FDA 21 CFR part 11) to which compliance needs to be assured.

A lot of ACGT expertise could be used for the NeoBIG data-sharing platform: privacy, security and data. But due to the very strict requirements for a production-level system, with available documentation and user support, commercial deployment and long-term maintenance, the current ACGT prototype tools and services cannot be directly used for the NeoBIG project, the same was preliminarily concluded about available caBIG tools and services. BIG will further make use of this investigation to refine their requirements concerning to the data sharing platform for their new research programme, to make the necessary choices and to set up a future initiative focusing on the design and development of the platform.

Community View

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

Valencian Cyberinfrastructure for Oncological Medical Imaging

The generalisation of digital imaging has lead to the availability of a vast amount of knowledge in the form of medical images and reports, which is of enormous relevance to research and training. In these studies, data are retrieved and structured for healthcare delivery, around the identity of the patient. However, research and training requires organizing studies by content, setting up relations among images of similar or related pathologies, or morphological similarities. This cannot be achieved on current image databases, and moreover, the differences among centres will make studies incomparable.

In this scenario, the project CVIMO (http://www.grycap.upv.es/cvimo) "Valencian Cyberinfrastructure for Oncological Medical Imaging (CVIMO GVEMP06/004)", funded by the Regional Ministry of Industry, University and Science of the Valencian Government, a middleware was developed and tested for sharing images and radiology studies from five hospitals of the Land of Valencia (Quiron Clínic, University Hospital Dr. Peset, de la Ribera Hospital, Valencian Foundation for Oncology and the Research Foundation of la Fe Hospital) with the collaboration of British Telecom. The project was leaded by the "Universidad Politécnica de Valencia" and the scientific coordinator was Vicente Hernández.

This project used the middleware TRENCADIS (Towards a gRid ENvironment for proCessing and shAring DIcom objects), that organises and shares relevant studies selected from different centres, by means of the content of the radiology reports. TRENCADIS aims at supporting research and training, not competing with PACS and RIS systems. TRENCADIS is based

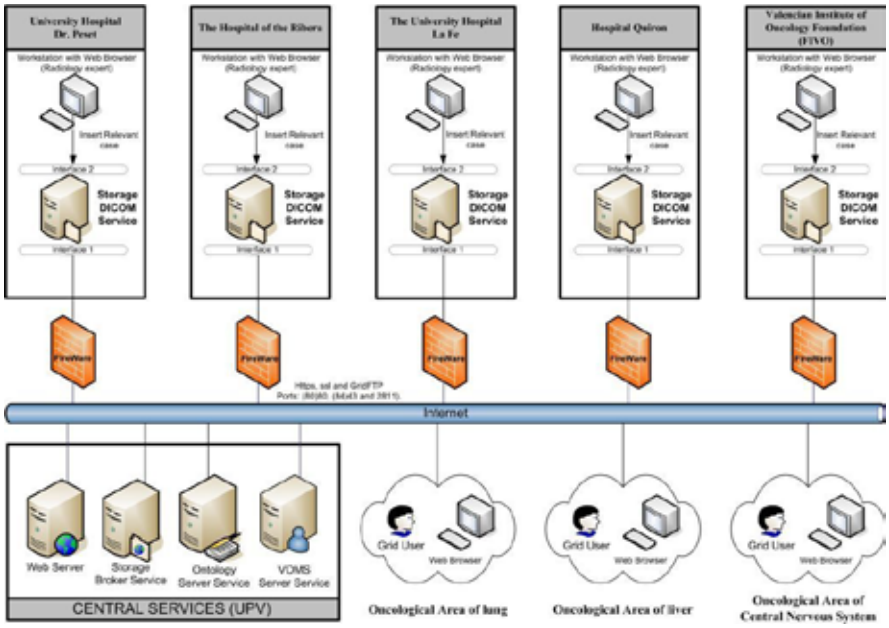
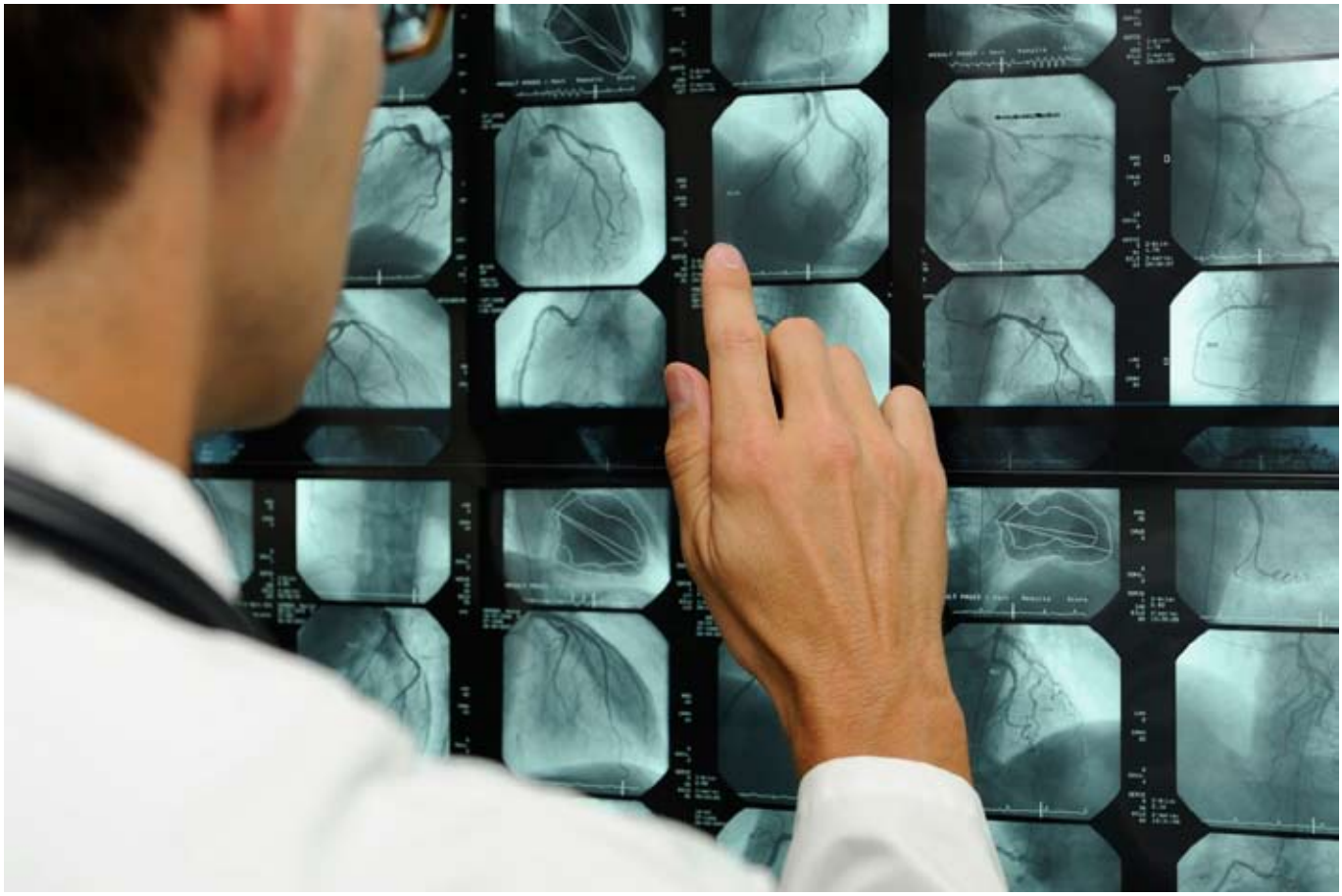


Figure 1: The TRENCADIS environment.



on an Open Grid Service-oriented Architecture (OGSA), and uses the standards supported by the scientific and industrial community (such as DICOM, DICOM-SR, XML, https, WS, WSRF, GridFTP, X.509, etc...).

One of the pillars supporting the indexation of CVIMO has been the use of Structured Reports. Hospitals share basic templates, which can be extended for each centre, that code in a machine-understandable and unequivocal way, the information of the evaluation of the radiology expert. This can include post-processing results, such as TNM evaluation or other parameters. Currently, CVIMO was oriented to three oncology pathologies: microcytic and macrocytic lung cancer, liver carcinoma, and tumours of nervous central system. Seven templates for Structured Reports have been defined.

The TRENCADIS environment (figure 1) provides an authorisation schema that automatically scales. Users belong to one or more VOs (Virtual Organization) or VO groups, and each VO group has different permissions for accessing different schema templates. Each schema enables accessing all the images that match the restrictions defined on the schema. For example, a user belonging to the "liver carcinoma" VO group would be able to access to the schema "RMN images of liver carcinoma" that contains the restrictions for filtering from all the available images, only those related to the pathology and the modality. If a new image is uploaded and fits the schema, it automatically becomes available. Other images belonging to other pathologies and body parts would be neither available nor visible.

TRENCADIS uses as back-end different services, including GT4, file systems, relational databases or gLite storage elements and catalogues, and uses AMGA as metadata storage.

Contact: Vicente Hernández, Universidad Politécnica de Valencia (vhernand@dsic.upv.es).

Ignacio Blanquer,
Universidad Politécnica de Valencia

Events

Information on upcoming events of interest

ACGT competition

The ACGT Competition has been set up by the ACGT Project Consortium to encourage the creation of Grid enabled services that can be used for the support of multi-centric clinical trials and research. The ACGT Competition is open to all parties (academic groups, individual researchers, companies etc) that are interested in developing ACGT-compatible services and will take place between February and April 2010.

- **15th February, 2010, 5pm CET:** Deadline for registering your entry. To register, please send an email to acgt-mb at inria.fr using the Subject line: ACGT Competition Registration.
- **30th April, 2010, 5pm CET:** Deadline for submitting your entry
- **1st May - 15th May, 2010:** Judging Process by a panel of judges from ACGT Consortium based on 3 criteria: 1) Utility for end users 2) Integration within ACGT infrastructure 3) Novelty
- **20th May 2010:** Announcement of winning entrie, prizes will include monetary awards and/or selected gift while all entrants will receive a Certificate of Participation, signed by the ACGT Competition Committee.
- **Award Ceremony:** Date to be announced

A WIKI is available for the competition entrants: http://www.biovista.com/ACGTCompetition/Main_Page.

Advances in NeuroBlastoma Research

June 21-24, 2010, Stockholm, Sweden
http://www.anr2010.com/

ANR 2010 in Stockholm is the biggest and most important childhood cancer research meeting hitherto organised in Sweden. The ANR 2010 meeting covers basic biological, translational and clinical research, with additional workshops and an update course as well as meetings for working parties, parent organisations and charities. ANR Meetings are held every two years. These meetings provide for an exchange of information among investigators studying neuroblastoma biology, diagnosis, prognosis, and therapy. During ANR 2010 in Stockholm, scientists and physicians from all over the world will share their findings and experience for the progress of understanding and treatment of neuroblastoma.

Deadline for abstracts is February 15th, 2010

The Call for Papers, posters and workshops for the HealthGrid 2010 Conference is opened!

The eighth HealthGrid conference will take place June 28-30 2010 at University Paris XI in Orsay (France). Every year, this conference is the opportunity to discuss the state of the art for the integration of grid practices into the fields of biology, medicine and health. This year, it will take place just at the time the European Grid Initiative will start federating the national grid initiatives and propose its resources to the Research Infrastructures. 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. Out of the selected papers, the best will be invited for oral presentations and the others for poster presentations. All the selected papers will be published in the book series „Studies in Health Technology and Informatics" published by IOS Press and referenced in Medline, Scopus, EMCare and Cinahl Databases.

HEALTHGRID 2010 CONFERENCE PARIS

For further informations: http://paris2010.healthgrid.org/fileadmin/templates/download/HealthGRID-2010-Call-for-Papers.pdf
Conference website: http://paris2010.healthgrid.org/

Legal and ethical

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

Analysis of the Grid infrastructure and its implications on intellectual property issues

In the realm of a clinical trial scenario a Grid computing infrastructure has been identified as a key to support and facilitate the cooperation of scientists and resources through scalable computation and the management of data systems.

The ACGT platform consists of multiple interconnected IT resources networks allowing users to execute a variety of scientific applications requiring a trus-

tworthy, steady and prevalent access to computational capabilities. This complex collection of servers and communication protocols poses legal intellectual property questions: should copyrights or patents protect the grid? What about software licenses in a Grid environment?

For a better legal analysis, it is important to know what the grid is. A Grid infrastructure is generally described with three different layers. The lowest layer is usually called "platform", consisting of the hardware resources such as computers, networks and interface devices which are geographically distributed, presenting their data in a variety of formats. The second layer, also called the "middleware", is defined as the software layer that lies between the operating system and the applications on each site of the system. The last layer provides the user with application services including workflow engines, data visualization tools, semantic web and web portals.

Intellectual property rights can be applicable to different aspects of the Grid infrastructure:

- First of all, the law of copyrights must protect the originality of the authors. Therefore, as soon as there is an expression of creativity in an original way, it implies an automatic protection. This is the case in the ACGT Grid infrastructure that must then be protected accordingly by a two-fold protection. On the one hand, the fact that different project partners are creating a new infrastructure tailored to ACGT's needs, by selecting and arranging the Grid layers. On the other hand, copyright protection for the computer programs arises since their development. According to Art. 1 (3) of Directive 2009/24/EC, a computer program shall be protected if it is original in the sense that it is the author's own intellectual creation. The object of copyright protection is the source code and the machine code in order to protect against mere copying, but not to protect against the exploitation of the (technical) idea as such.

- Second, as far as the patentability of Grid-based computer programs is concerned, Art. 52 (1) and 52 (2) lit c of the EPC may be applied when the deployment on Grid of the program produces an additional technical effect subject to industrial application. The solution of computer program-related problems does not give rise to patent protection, as Art. 52 (2) lit c of the EPC is applicable in those cases. Nevertheless, it is imaginable that when a computer program is developed and constitutes a new way of using a Grid infrastructure or makes Grids more efficient, it becomes a solution to a technical problem. It therefore becomes generally patentable.

Careful assessment is therefore to be made on whether a problem is technical or computer-program related as Grids are based on implementation of computer programs. Therefore, if within the project, a new and innovative way of distributing resources on Grid infrastructure is developed by using a computer program, this may be patentable according to Art. 52 (1) EPC.

- Last but not least, in terms of exploitation rights, the management of licenses should be centralized. Thus a central mechanisms validation authority, such as the Center for Data Protection (CDP) in ACGT, may act as a central institution empowered to manage the license agreements. This extends to the licenses that have to be considered (i.e. those of computer programs used) and to the licenses that were given out (i.e. those corresponding to project achievements).

Marcelo Corrales,
Leibniz Universität Hannover

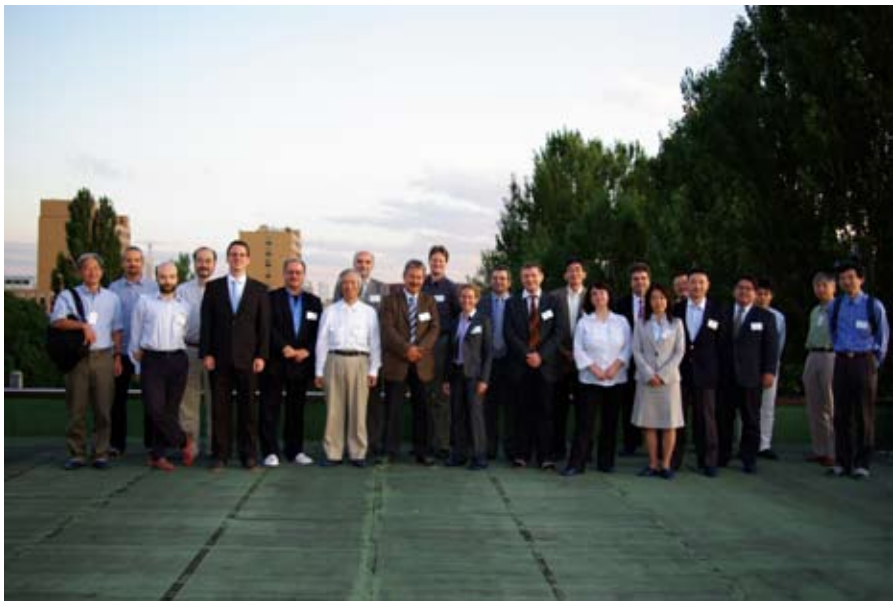
Life in ACGT

'Workshop on European-Japanese Research Collaboration in Medical ICT' held at Hokkaido University, Japan

In September 2009 ACGT partner Hokkaido University hosted a two-day workshop that brought ACGT's technical, medical and legal representatives together with planners from the Japan Science and Technology Agency (JST), and the leaders of academic and industrial research teams. As well as disseminating the EU's clinical-trial infrastructure strategy, as embodied in ACGT, the workshop provided a forum for discussing increased cooperation between Japan and the EU on future medical ICT (Information and Communication Technologies) projects.

It is still rare for a European Commission-funded project to include a Japanese research partner. Although participation from outside Europe has been allowed since the Fourth Framework Programme (FP4), under FP6 there was a Japanese partner in only ten projects under the Information Society Technologies theme, of which just seven (including ACGT) are Integrated Projects. One barrier to participation is that partners in Japan cannot receive any EC funding; Hokkaido University has funded its work in ACGT using separately obtained competitive research grants from the Japanese government.

Hokkaido University, based in Sapporo, is one of Japan's seven former "imperial universities", which also include Kyoto University and the University of Tokyo. When the proposal for ACGT was put together in 2005, Professor Yuzuru Tanaka's Meme Media Laboratory had been collaborating with the technical leaders, FORTH, for over ten years, including numerous researcher exchanges. In 2004, Tanaka had helped set up a new graduate school whose mix of computer science and bioinformatics expertise gave it a clear fit with ACGT's mission.



The Hokkaido University team's main contribution to ACGT has been in applying our research on knowledge-media architecture and interface design to two of the project's software tools: (1) the graphical Trial Outline Builder (TOB) for ObTiMA, ACGT's ontology-based clinical-trial management tool, is built using the new 'Webble World' meme-media environment; (2) the OncoRecipeSheet, an interface supporting multi-site generation and comparison of results from the 'OncoSimulator' cancer-simulation system, is based on so-called subjunctive-interface techniques.

Having a partner in Japan also offered ACGT an opportunity for focussed dissemination beyond Europe, and holding a dissemination event here in the project's last year allowed for a full presentation including concrete details of the expected final results. Nine ACGT members visited for the September workshop,

including Manolis Tsiknakis and Norbert Graf (the project's technical and medical leaders, respectively), and five other work-package leaders. The Japan-side participants included three senior strategy planners from JST, along with representatives from the University of Tokyo, the National Institute of Informatics, IBM Research, and pharmaceutical and clinical research organisations.

The meeting was held fully in English, without interpreters. On the first day the ACGT team, including the Hokkaido University members, presented and explained the project. Issues raised by the audience during these presentations were explored further in free-discussion sessions on the second day. Discussion ranged widely over technological and legal issues facing multi-site clinical trials in Japan, the EU, and elsewhere. One notable point is that in Japan, where clinical trials deal mainly with the testing of drugs, assigning a patient randomly to one of several candidate treatments is not allowed. Such differences have led to JST becoming very interested in ACGT and its approach, and keen to build on the EU/Japan connection. The discussions also revealed a number of basic legislative and practical barriers to inter-regional cooperation, that will require concerted effort from all sides to overcome; we hope that the connections made at this meeting will create a new impetus for doing so.
After the workshop the ACGT visitors remained in Sapporo for project-internal technical and managerial discussions, along with further opportunities to sample the local culture and cuisine. We would be happy if they remember these latter aspects, too, when looking for non-European partners for follow-on projects to ACGT.

Aran Lunzer and Yuzuru Tanaka
Hokkaido University

ACGT PEOPLE

Aran Lunzer

Hokkaido University

Aran Lunzer is a Human-Computer Interaction researcher in the Meme Media Laboratory of Hokkaido University, ACGT's Japanese partner (as featured elsewhere in this issue). Originally from the UK, his first degree was in Engineering from Cambridge University, and his PhD in Computing Science from the University of Glasgow - separated by about 5 years as a programmer and technology investigator at IBM.

In the 1990s the EU ran the Science and Technology Fellowship in Japan, which is how Aran first obtained funding to go there in 1997. Apart from a brief spell back in Europe working at the University of Copenhagen he has been in the same laboratory ever since, his latest job-title reincarnation making him an Associate Professor under a government-funded GCOE (Global Centre of Excellence) project. His main research theme is the design of interfaces to support users in exploring and comparing alternative results in parameter-controlled applications, such as search tools and simulations. Within ACGT he has applied this research in developing the OncoRecipeSheet, a front-end interface to the coordinated Grid-based resources that make up the ACGT OncoSimulator. As a result, the OncoSimulator team can request, execute, archive and compare thousands of simulation runs. They are now using this capability, in conjunction with results from past clinical cases, to try to ascertain whether a simulation of this kind could one day be considered reliable enough to make predictions in clinical settings. Being able to contribute to such potentially game-changing research is one of the great pleasures of being involved in ACGT.

Jessica Michel

ERCIM

Jessica assumed the responsibilities of ACGT Coordinator in September 2009. She serves as the intermediary between the European Commission and the organisations that comprise the ACGT consortium. In this role, she supervises the efficient financial and administrative management of the ACGT project across participants. Jessica works in close cooperation with Manolis Tsiknakis, ACGT Scientific Coordinator, and Florence Pesce, ACGT Project Assistant, to ensure the overall management of the project.

As Coordinator, Jessica represents ERCIM (the European Research Consortium for Informatics and Mathematics; www.ercim.org). Joining ERCIM in 2004, her project management experience includes the administrative and financial coordination of several consortia funded through the Information and Communication Technologies and Infrastructures initiatives of the European Commission. Jessica completed her undergraduate studies at Bowdoin College, in the U.S. state of Maine, where she was raised. After working as a sales representative in various domains (insurance, publishing, internet), Jessica obtained a Master in Business Administration (MBA) from Solvay Business School of the Université Libre de Bruxelles (ULB), Belgium in 2001. She now lives in Sophia Antipolis, France where ERCIM headquarters are located.

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- Ability to contribute to the ACGT infrastructure and receive support for it.

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