



Report on training of end-users and service providers on ACGT Technologies & Methodologies

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ABSTRACT:

The present report covers training materials development and training activities with end-users and service providers on ACGT Technologies & Methodologies.

This report is a merge of three previously separated deliverables (as stated in DoW IP3), two of which were delayed from IP3 to IP4: *D14.4 First Workshop Training for end-users on ACGT Technologies & Methodologies*, *D14.6 First Training Workshop for service providers on ACGT Technologies & Methodologies* *D14.7 Second Training Workshop for end-users on ACGT Technologies & Methodologies*.

Part 1 of this document presents training materials and training sessions for end-users

Part 2 of this document presents training materials and training sessions for service providers

KEYWORD LIST: Training, Training materials, Online Training, End-users, Service providers

¹ Deliverable is RE, but public training materials contained or referenced in this deliverable are available in a open-community Wiki – ACGT Handbook - <http://handbook.eu-acgt.org/> and in the ACGT Portal <http://acgt.siveco.ro>

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Contents

EXECUTIVE SUMMARY.....	6
PART 1.....	7
1 ASSUMPTIONS AND CHALLENGES	8
1.1 TRAINING AUDIENCE AVAILABILITY.....	8
1.2 TRAINING MATERIALS AVAILABILITY.....	9
1.3 TRAINERS AVAILABILITY	9
2 TRAINING MATERIALS FOR END-USERS.....	10
2.1 ACGT HANDBOOK	10
2.1.1 <i>ACGT Handbook for Knowledge Discovery and Data Mining</i>	12
2.1.2 <i>ACGT Handbook for Trial Management</i>	13
2.1.3 <i>ACGT Programmer's Manual</i>	14
2.1.4 <i>ACGT Examples</i>	14
2.2 VIDEO AND MULTIMEDIA TUTORIALS	14
2.3 TRAINING SESSIONS FOR END USERS.....	17
2.3.1 <i>Vienna, January 2009</i>	18
2.3.2 <i>Oxford, June 2009</i>	18
2.3.3 <i>Homburg, November 2009</i>	19
PART 2.....	21
3 TRAINING MATERIALS FOR SERVICE PROVIDERS.....	22
4 TRAINING SESSIONS FOR SERVICE PROVIDERS.....	24
4.1 LAUSANNE, NOVEMBER 2008 - ACGT TECHNICAL MEETING.....	24
APPENDIX A: ACGT END TO END TRAINING SCENARIO	25
APPENDIX B: INFORMAL USABILITY FEEDBACK FROM TRAINING SESSION IN VIENNA 2009	37
APPENDIX C: SAMPLE TRAINING MODULE - ACGT LOGIN.....	38

Table of Figures

Figure 1 – ACGT Handbook - Main Page	11
Figure 2 – ACGT Handbook for Trial Management.....	14
Figure 3 – ACGT Tutorials	17
Figure 4 – ACGT Programmer's Manual.....	22
Figure 5 – ACGT Programmer's Manual - Topics	23

Executive Summary

The present document covers the training of end-users and service providers on ACGT Technologies & Methodologies following *D14.3 Demonstration and Report of training modules*.

Training materials have been developed, to be used in both online (multimedia and video) and offline (hand-outs) training activities.

Informal and formal face-to-face training sessions for end-users (external volunteers not involved in the ACGT Project) have been organized in several ACGT Consortium Meetings, in conjunction with evaluation sessions. Training & evaluation end-users have been selected as volunteers from organizations inside the consortium, but with no personal involvement in the project and no previous knowledge of the ACGT Project or any of the systems developed inside the ACGT Project.

After initial prototypes of *ObTiMA* (Ontology based Trial Management for ACGT) and the *ACGT Portal* (main point of entry in the ACGT Knowledge Discovery / Data Mining environment) were developed, volunteer prospective end-users (clinicians for ObTiMA and bioinformaticians for the ACGT Data Mining environment) were given the possibility to test the prototypes in training & evaluation sessions.

For the initial prototypes, informal training sessions by consortium members covered a short introduction of the features and functionality of the two systems, after which volunteers were asked to follow handouts presenting a step-by-step use scenario prepared by WP13. For the following prototypes, formal training sessions (2 hours) with handouts, multimedia tutorials and a small number of presentations by trainers managed to cover a wider range of subjects. After the training session, end-users were again asked to cover more complex use scenarios designed by WP3 in an evaluation sessions.

For feedback and conclusions after the evaluation sessions see deliverable *D13.2b Final Evaluation Report*.

The present document is structured in 2 parts.

Part 1 of this document presents training materials and training sessions for end-users

Part 2 of this document presents training materials and training sessions for service providers

Appendix A presents an end-to-end training scenario

Appendix B presents informal training notes selected in one of the training sessions. The rest of the usability notes can be found in D13.2bis

Appendix C presents one of shortest training modules for end-users (logging in using ACGT Passport and ACGT Visas)

PART 1

ACGT training materials and training sessions for end-users

1 Assumptions and challenges

This section presents a short recollection of the assumptions and challenges of the training activities for end-users in the ACGT Project.

1.1 Training audience availability

In the ACGT project, end-users were classified as belonging to two main groups:

- **Clinicians**
- **Bioinformaticians (researchers)**

According to *D2.3 User requirements for the evaluation of developed software and tools regarding usability criteria*, section 2.7.2 and chapters 5 and 6, specific software and tools are used by each group of end-users. Therefore training materials and training sessions should be targeted specifically at user interests:

- Clinicians
 - Mainly interested in ObTiMA (Ontology based Trial Management) - ACGT Trial builder and CRF repository.
 - Moderate interest in CAT (Custodix Anonymization Tool) for anonymization and pseudo-anonymization of clinical trial data beyond the hospital wall
 - Marginal interest in the ACGT Portal – how clinical trial data can be used in scientific research
- Bioinformaticians
 - Mainly interested in the ACGT Data Mining environment – Workflow editor, R-based statistical analysis tools and other
 - Moderate interest in CAT (Custodix Anonymization Tool) for anonymization and pseudo-anonymization of clinical trial data beyond the hospital wall
 - Marginal interest in ObTiMA

The main challenge in establishing a target training audience lies in the selection process of candidates for the training activities. As ACGT is a research and technological development project in which prototypes are developed, no large-scale training audiences can be reached for face-to-face training sessions – as is the case for pilot implementations.

Trainees for face-to-face training sessions were selected as volunteers from ACGT Consortium partners, with no personal involvement in the project and no previous knowledge of the ACGT Project or any of the systems developed inside the ACGT Project.

This selection method has proved to be:

- *cost-effective* – face-to-face sessions were organized in conjunction with ACGT Consortium Meeting at the trainees' local organization offices,
- *goal-effective* – all target end-user groups could be sampled, due to the fact that the ACGT partners were able to provide both clinicians and bioinformaticians (with different backgrounds) in face-to-face training sessions.

Another challenge in the selection process is gathering information regarding their individual professional background and adapting the training process and training materials. E.g. the R

programming language, featured in the ACGT GridR tools is not the only one used by researchers. Small interviews were carried out through emails before the training sessions, e.g.

1. *What are the tasks you are doing in the context of clinical trials? In a couple of words, how do you define your role?*
2. *Which software(s) are you currently using for data analysis?*
3. *What is your level of familiarity with R (the statistics language)?*

1.2 Training materials availability

Offline training materials can be prepared with input from *technological partners* - involved in software development - and *end-user partners* - which offer end-user perspectives on the training materials. The development of offline training materials is an iterative process, closely following the iterative software development process.

There are high risks of delays in the initial development and subsequent updates of offline training materials, since on one hand, the quantity and the quality of these materials is highly correlated with the availability and stability of the prototypes and on the other hand the same experts involved in the development process are requested to initiate user documentation.

Online training materials, such as video and multimedia interactive or non-interactive tutorials, can be developed by technical partners with a minimal background on the ACGT project, provided that fine-grained scenarios and scripts are available as offline training materials and that the software prototypes (ObTiMA, ACGT Portal) have reached a mature state. The latter prerequisite has delayed the availability of online training materials to year 3 of the project.

1.3 Trainers availability

Online training materials (especially video/multimedia tutorials) can be published online with virtually no human-trainer support. However, this approach offers no guarantees that the target groups are indeed reached and offers no interactive support for prospective end-users.

In order to run small-scale training sessions, trainers need to be in permanent contact with the prospective end users. However, due to the complexity of the software and tools developed in the ACGT project, trainers for face-to-face sessions need an in-depth ACGT background knowledge in order to guide trainees and answer questions.

The first face-to-face sessions with volunteer end-users in ACGT were conducted by a main trainer, with a considerable number of technical experts as participants providing additional hints or answers during the training sessions. These sessions were mostly informal introductions to evaluation sessions.

A simple train-the-trainers process was designed and implemented after a critical mass of knowledge was circulated among partners, in order to select trainers for training sessions. Following face-to-face sessions were organized with a minimal number of trainers (one for each end-user group).

2 Training materials for end-users

Initial training materials were developed using PowerPoint presentations and draft use-case scenarios used in demonstrators which captured the state of ObTiMA and ACGT Portal prototypes. These short-term materials covered first-time introductions to the underlying systems and were sufficient for short informal training sessions (30 – 45 minutes). Offline training materials were complemented with live demonstrations of the Data Mining and Trial Management prototypes. Training sessions continued with trainees' hand-on experience with the prototype guided by typical use scenarios provided as hand-outs.

In order to skip delays in real-time responses from the prototypes, video/ multimedia non-interactive tutorials were scripted and shot before the training sessions, following the same use-scenarios. Proposed training scenarios were followed on stable prototypes and the on-screen experience² was captured using Adobe Captivate. Captured on-screen data was edited (as slides), instructions and hints were added, and then exported as Flash videos (.SWF). This approach allowed for “denser” formal training sessions with increased duration (1-2 hours).

Due to the steep development curve and multiple changes to the user interface, tutorials and other training materials needed frequent updates. Correlation between the development of the prototypes and the information in the training materials had to be maintained (in both text information and captured shots of the user interface).

Also, due to the heterogeneous nature of the services and expertise in the ACGT project, trainers require a larger and more flexible repository of knowledge than traditional *User Manuals* and *Online Help* usually provide.

Both of the above arguments led WP14 and WP13 partners to the conclusion that a wiki-based approach was more suited to provide a main repository of consortium-reviewed knowledge. The *ACGT Handbook* initiative provided easy-to-update training materials and updated scenarios for tutorials.

Online training modules were published in the ACGT Handbook³ and on the ACGT Portal⁴ (for both public and registered users). Training use scenarios that covered stable areas of the prototypes were developed. A combined end-to-end scenario entitled “From Trial Management to Data Mining”, used in training sessions, is available in Appendix A of this document.

2.1 ACGT Handbook



The ACGT Handbook – <http://handbook.eu-acgt.org/> - was started as a collaborative wiki, hosted by HealthGrid and edited by 5 members of the Technical Management Committee (SIB, FHG, PSNC, FORTH and chief-editor SIVECO).

² Including mouse movement and keyboard typing.

³ <http://handbook.eu-acgt.org/>

⁴ <http://acgt.siveco.ro/>

Its main goals were to provide on-line help information, online and offline training materials supporting training sessions. Its secondary goals, not related to training, were to provide feedback over embedded help and user-interface issues which can be used for enhancements in later prototypes.

The ACGT Handbook is a *MediaWiki* v1.15.1 installation with several extensions, including *PDFBook* extensions. This extension allows any Handbook page or set of pages to be converted and downloaded as a PDF file. These PDF files were used as handouts during face-to-face training sessions.

The ACGT Handbook wiki is an open-community, edits are allowed after an automated registration process (no anonymous edits). The ACGT Handbook currently has **54** main content pages and **155** images. **1265** page edits were made since the Handbook has been set up. During the ACGT Competition, editorial rights were restricted to wiki Administrators only (SIVECO, HealthGrid, SIB) to prevent accidental or malevolent changes in online documentation (e.g. bot-spam), especially in the Programmer's Manual.

The ACGT Handbook was divided into 4 main areas. Two areas were developed as handbooks (HB) targeted at each of the main end-user groups (clinicians and bioinformaticians), one area (PM) was targeted at service providers and the last area (EX) covered real-life examples and training scenarios.

The screenshot shows the main page of the ACGT Handbook. At the top, there's a navigation bar with 'page', 'discussion', 'view source', and 'history' tabs. Below that, the URL is displayed: 'http://www.eu-acgt.org - ACOT handbook collaborative edition for training purposes: teachers and end-users can help refine the documentation but no anonymous editing is allowed, please log in first'. The main heading is 'Main Page'.

The central content area starts with 'Welcome to the ACGT Handbook wiki'. Below this is the 'About this Wiki' section, which explains the project's goals and provides links to the official ACGT website. It also lists the aims of the wiki and offers useful links for end-users and developers.

At the bottom of the main content area, there are three columns of links to different handbooks:

- ACGT Handbook for Trial Management**: Includes the ObTiMA logo and a description of the application for clinical trial management.
- ACGT Handbook for Knowledge Discovery and Data Mining**: Features a flowchart of the data mining process, from data access to result visualization.
- ACGT Programmer's Manual**: Contains information for developers on how to integrate new functionalities into the ACGT platform.

The sidebar on the left provides quick access to various sections of the handbook, including 'Main Page', 'Get started', 'About', 'FAQ', 'ACGT Overview', 'Data Mining Overview', 'Trial Management', 'Introduction', 'Programmer's Manual', 'ACGT Competition', 'ACGT Examples', 'ACGT Tutorials', and 'user contributions'.

Figure 1 – ACGT Handbook - Main Page

The four distinct areas can be accessed from the Handbook's main page or at any time from the navigation menu in the left column of the Handbook. All 4 areas contain cross-links for key-words and content pages.

2.1.1 ACGT Handbook for Knowledge Discovery and Data Mining⁵

This handbook contained pages dedicated to the ACGT environment accessible from the ACGT Portal, targeted at bioinformaticians. The handbook was separated in 10 key-areas following each group of Knowledge Discovery / Data Mining tools.

All the content was split between:

- *User Interface pages* - that are continuously updated to accommodate changes in the User Interface
- *Task-oriented pages* - that tend to have a longer lifespan before requiring major updates and are the backbone of training materials.

Query Tool

Main articles [HB:Query Tool](#) and [HB:Retrieving data](#)

- Create SPARQL queries to retrieve data from data repositories/ObTiMA
- Upload query to metadata repository

Data Access

Main articles [HB:Data Access](#) and [HB:Importing data](#)

- Connect your own database to ACGT
- Execute queries on databases

GridR Session

Main articles [HB:GridR Session](#) and [HB:Analyzing data with R](#)

- Prototype your R data mining script interactively

Metadata Registration

Main articles [HB:Metadata Repository](#), [Registering services](#) and [Registering data types](#).

- Register your data mining script
- Search for existing data mining scripts
- Search for or add data types

My Files in the Data Management Service (DMS)

Main articles [HB:Data Management](#) and [HB:Storing data](#)

- View your files stored in ACGT

⁵ http://handbook.eu-acgt.org/HB:ACGT_Data_Mining_Tools

- Upload your own files
- Retrieve workflow results

Workflow Editor

Main articles [HB:Workflow Editor](#) and [HB:Setting up workflows](#)

- Combine datasources and mining tools in workflows to get new results
- Execute workflows
- Edit your workflow and share them with the community

MyACGT

Main article [HB:ACGT Portal](#)

- An overview of the areas in the Portal
- Latest relevant news
- Contact ACGT Administrators
- View your running services

VO Management

Main article [HB:VO Management](#)

- Control the access to your resources through Virtual Organizations (VO)

My Settings

Main article [HB:Setting up the account](#)

- Change your profile, roles and group membership
- Customize your ACGT environment

How to

- Access ACGT tutorials from within the ACGT Portal (Note: The tutorials are also available from the main ACGT Portal page, before logging in)
- See information about the ACGT Portal (including links to this wiki)
- Read other ACGT-related documents

2.1.2 ACGT Handbook for Trial Management

This handbook (also designated HB:) contained pages dedicated to ObTiMA, targeted at bioinformaticians – e.g. *Registration*, *Login*, *Handbook for ObTiMA Administrator*, *Handbook for Trial Chairman*, *Handbook for Clinicians*

page discussion view source history

http://www.eu-acgt.org - ACGT handbook collaborative edition for training purposes: teachers and end-users can help refine the documentation but no anonymous editing is allowed, please log in first

HB:ACGT Handbook for Trial Management

ACGT Handbook for Trial Management

ACGT has a special application for Trial Management, called **Ontology Based Trial Management for ACGT** (in short **ObTiMA**). An overview of the application can be found here. Please take a look at the **ObTiMA's** roles first in order to find out which of the following handbooks is closer to your needs. See registration and login sections to access the system.

- Handbook for ObTiMA Administrator
- Handbook for Trial Chairman
- Handbook for Clinicians

Note: Separate login information is provided (since the login is NOT the same as the login in the ACGT Portal).

Category: ObTiMA

This page was last modified on 17 February 2010, at 10:44. This page has been accessed 235 times. [1 watching user] Privacy policy About ACGT Handbook Disclaimers

Powered by MediaWiki

Figure 2 – ACGT Handbook for Trial Management

2.1.3 ACGT Programmer's Manual

This handbook, namespace *PM*., contains information for programmers (developers) who want to integrate new functionalities into the ACGT platform, in general any 3rd-party contributors.

For more information regarding training materials for service-providers see chapter 3.

2.1.4 ACGT Examples

This handbook, namespace *EX*., covers examples of how to solve real-life problems in clinico-genomic research using the ACGT platform and training scenarios for the ACGT Environment and ACGT Tutorials.

The *ACGT End to End Scenario: From Trial Management to Data Mining* and 8 tutorials are available in this area. The scenario is presented in Appendix A.

2.2 Video and multimedia tutorials

Multimedia training modules (tutorials) were developed as captured movies of actual use of the prototypes following training scripts. The on-screen experience, including mouse movements and keyboard typing, was captured using *Adobe Captivate*, edited (as slides on a timeline), instructions and hints were added, and then the content was exported as Flash

videos (.SWF). Each multimedia tutorial provided task or scenario-oriented information in a more compelling way than any other form of presenting information.

Two types of tutorials have been considered for ACGT:

- **Public tutorials** - explaining what ACGT stands for, why should one use the ACGT environment, and what one must do to access the services provided by ACGT – e.g. registration, login. The most important tutorial is the *ACGT Educational Video* which is covered separately in D14.7.
- **Private tutorials** - explaining how to use different ACGT tools and services and therefore targeting each group of users potentially interested in the corresponding tools and services.

Sample tutorials were documented in *D14.3 Demonstration and Report of training modules*.⁶

- Sample task-oriented tutorials:
 - ACGT-WRT-SIV-v1 – *How to register a workflow?*
 - ACGT-OV-BIOVISTA-v1 - *Ontology Viewer*
- Sample tutorials covering external services:
 - ACGT-MAG-UMA-v1 *Composing Complex Workflows with Magallanes*
 - ACGT-jOrca-UMA-v1 *Creating an Aminoacid Sequence with jOrca*
 - ACGT-jOrca-UMA-v2 *Launching Services with jOrca*
 - ACGT-jOrca-UMA-v3 *Launching GRID Services with jOrca*
- Scenario-oriented tutorials
 - ACGT-SCEN-SIV-v1 - *Data mining tools tutorial*

The only scenario-oriented tutorial ACGT-SCEN-SIV-v1 was used in Vienna, January 2009. As most parts of the tutorial became obsolete in the next prototypes of the ACGT portal, and the scenario became more complex in nature, it was replaced by a series of consecutive task-oriented tutorials rather than a single bulk tutorial.

The scenario used for training purposes in later sessions was the end-to-end scenario “*From Trial Management to Data Mining*” developed by SIB, tested by HealthGrid and SIVECO and thoroughly documented in the ACGT Handbook by SIVECO (http://handbook.eu-acgt.org/EX:ACGT_End_to_End_Scenario) as step-by-step procedures which cover most uses of the ACGT platform.

The scenario was covered in 6 task-oriented training modules that were developed as SWF Flash movies using Adobe Captivate. The use of independent task-oriented training modules eased the update process of multimedia training materials. One of the shortest tutorials is presented in appendix C.

⁶ Only first versions of these sample tutorials were documented in D14.3

No	Short Title	Internal designation	Link, title and description	Duration	ACGT Handbook page(s)
1.	First time user: Register and get your ACGT Passport	ACGT-REGISTRATI-ON-SIV	ACGT Registration - The ACGT Knowledge Discovery/Data Mining Tools and additional resources are grouped and accessible in an integrated environment through the ACGT Portal. A single registration process is necessary to grant access to the ACGT environment. This tutorial shows the steps needed to get your ACGT Passport.	42 slides	HB:ACGT Registration
2.	Login with your Passport / Visa	ACGT-LOGIN-SIV	ACGT Login - The ACGT Knowledge Discovery/Data Mining Tools and additional resources are grouped and accessible in an integrated environment through the ACGT Portal. This tutorial shows how to login using your ACGT Passport and how to create short-time Visas to login easier the next time or to login from other computers.	24 slides	HB:Logging in and out
3.	Querying clinical data	ACGT-QUERY-SIV	Querying clinical data - In the ACGT environment, data from different trials can be accessed "as if" it was stored in a single integrated repository. The ACGT Query Tool can be used to retrieve data from clinical registered trials by defining queries and testing them. You can register these queries in ACGT and use them to get clinical data in workflows.	47 slides	HB:Query Tool HB:Retrieving data
4.	Register and access external databases	ACGT-EXTERNAL-SIV	Register and access external databases - In addition to the databases that are connected statically and with a fixed ontology mapping, users of the ACGT environment can also connect SQL databases dynamically to the data mining tools. The Data Access area allows users to add new databases and to execute queries on previously added dynamic databases. These databases can then be used in more complex workflows as data pools.	17 slides	HB:Data Access HB:Importing data

5. <i>Register and use GridR services</i>	ACGT-GRIDR-SIV	Register and use GridR services - You can add analytical components that use R programming language (R scripts) to ACGT in order to analyze data. This tutorial shows how to add GridR scripts as ACGT available services that can be used in workflows. The example in the tutorial can be used in workflows for the analysis of the association between a patient's treatment with a specific drug and tumor relapse.	69 slides	Registering services
6. <i>Create and use workflows</i>	ACGT-WORKFLOW-SIV	Create and use workflows - Workflows can be designed to use and reuse different data pools and knowledge discovery and analytical services for more complex research goals. In this example, a GridR service uses both clinical trial data (3 mediator queries created in the Query Tool) and data from an external database which is queried using SPARQL to plot the association between patient's treatment and tumor relapse.	160 slides	HB:Workflow Editor HB:Setting up workflows

Figure 3 – ACGT Tutorials

2.3 Training sessions for end users

Several informal and formal face-to-face training sessions for end-users (external volunteers not involved in the ACGT Project) have been organized in several ACGT Consortium Meetings, in conjunction with evaluation sessions. Training & evaluation end-users have been selected as volunteers from organizations inside the consortium, but with no personal involvement in the project and no previous knowledge of the ACGT Project or any of the systems developed inside the ACGT Project.

After initial prototypes of *ObTiMA* (Ontology based Trial Management for ACGT) and the *ACGT Portal* (main point of entry in the ACGT Knowledge Discovery / Data Mining environment) were developed, volunteer prospective end-users (clinicians for ObTiMA and bioinformaticians for the ACGT Data Mining environment) were given the possibility to test the prototypes in training & evaluation sessions.

For the initial prototypes, informal training sessions by consortium members covered a short introduction of the features and functionality of the two systems, after which volunteers were asked to follow handouts presenting a step-by-step use scenario prepared by WP13. For the following prototypes, formal training sessions (2 hours) with handouts, multimedia tutorials and a small number of presentations by trainers managed to cover a wider range of subjects. After the training session, end-users were again asked to cover more complex use scenarios designed by WP3 in an evaluation sessions.

2.3.1 Vienna, January 2009

<u>Time and place of the session</u>	January 28 th , 2009, 14:30 - 16:30 and 17:00 – 18:00 Vienna, Austria
<u>Duration of the session</u>	3 ½ hours
<u>Participants (trainees)</u>	4 volunteer end-users as researchers (bioinformaticians) from EORTC, IJB
<u>Trainers</u>	3 trainers: SIB, SIVCO, HealthGrid Several technical partners as “facilitators” and observers
<u>Equipment used</u>	Trainees’ workstations – registration and necessary installations on-the-fly during the training session
<u>Training content</u>	Data Mining Environment Tutorial 1.0 – PPT Presentations prepared by SIB.
<u>Training notes</u>	See Appendix B.

2.3.2 Oxford, June 2009

<u>Time and place of the session</u>	June 25 th , 2009, 14:00 – 17:00 Oxford, UK
<u>Duration of the session</u>	4 hours
<u>Participants (trainees)</u>	4 volunteer end users: <ul style="list-style-type: none"> • 2 data managers (as clinicians) from UOXF • 2 statisticians (as bioinformaticians) from UOXF
<u>Trainers</u>	1 trainer: SIB Several technical partners as “facilitators” and observers
<u>Equipment used</u>	Trainees’ workstations
<u>Training content</u>	<ul style="list-style-type: none"> • ObTiMA – PPT Presentation prepared by FHG • Data Mining Environment Tutorial – PPT Presentation prepared by SIB.

<u>Training notes</u>	See D13.2b for evaluation notes
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2.3.3 Homburg, November 2009

<u>Time and place of the session</u>	November 5 th , 2009, 9:00 - 11:00 and 11:30 – 13:00 Homburg, Germany
<u>Duration of the session</u>	3 ½ hours (½ Introduction & Registration, 1½ h ObTiMA, 1½ h ACGT Data Mining)
<u>Participants (trainees)</u>	4 volunteer end users: <ul style="list-style-type: none"> • 3 bioinformaticians (2 from USaar and 1 from IEO) • 1 clinician (from USaar)
<u>Trainers</u>	3 trainers: SIVECO, SIB, FHG (IBMT)
<u>Equipment used</u>	2 laptops (with prerequisites installed beforehand and checked by trainers) A video projector Experience capturing software (used for evaluation notes).
<u>Training content</u>	<ul style="list-style-type: none"> • ACGT Overview - PPT Presentation prepared and presented by SIB. • ACGT Data Mining Overview - PPT Presentation prepared and presented by SIVECO. • ObTiMA Overview - PPT Presentation prepared and presented by FHG. • ACGT End-to-end training scenario – (handouts from the ACGT Handbook page with step-by-step live demonstration by SIVECO)
<u>Training notes</u>	<ul style="list-style-type: none"> • Trainees in the audience did not access computers while training so the first impression they had was of a long presentation. • Handouts were delivered, but the extra-advantage of the using the on-line wiki (finding answers using wiki interlinks) was not exploited during the training session itself – it was delayed to the evaluation sessions where they had access to computers • The step-by-step scenario raised questions from users, which needed to be answered on-the-fly. Trainers answered the questions, pointing to the wiki for further references. Information in the wiki is helpful, but previous “train-the-trainers” sessions are needed to train an ACGT trainer to respond to questions.

- Overall opinion of the trainees – clinicians and researchers should follow different training sessions skipping some presentations.

See D13.2b for more evaluation notes

PART 2

ACGT training materials and training sessions for service providers

3 Training materials for service providers

To advance the platform and the research tools and software for ACGT, it is one of the objectives to attract software developers to implement or design open source software for the ACGT platform. The recruitment of software developers and third parties can help to disseminate ACGT results and increase the attractiveness and functionalities of the ACGT platform. In the Deliverable *D16.1* three distinct stakeholder groups were defined:

- Academic researchers who wish to research technologies and offer their own solutions
- Commercial Software developers who wish to offer their own products services or incorporate ACGT resources in their offerings
- Commercial medical or research instrument suppliers who wish to augment the capabilities of their offerings by making them compatible with selected ACGT modules/resources

The main exploitation and dissemination event for service providers was the aborted *ACGT Competition* (see D16.4). Complementary to these exploitation and dissemination activities, training materials for service-providers had to be developed and an internal face-to-face training session regarding the integration of services in the ACGT environment was scheduled.

Training materials for service-providers were organized in a *Programmer's Manual*, as a distinct area inside the ACGT Handbook wiki. This handbook, namespace PM: contains information for software developers who want to integrate new functionalities into the ACGT platform.

The screenshot shows a wiki page titled "PM:ACGT Programmer's Manual". The page content includes:

- ACGT Programmer's Manual**: A section describing the manual's purpose for programmers wanting to integrate new functionalities into the ACGT platform.
- ACGT Competition**: A section with a "WELCOME" message and "IMPORTANT DATES":
 - 30th April, 2010, 5pm CET: Deadline for registering your entry
 - 16th July, 2010, 5pm CET: Deadline for submitting your entry
 - 19th July - 23rd July, 2010: Judging Process
 - 22nd July 2010: Announcement of winning entries
 - Award Ceremony: Last week of July
- TYPES OF ENTRIES**: Contestants are invited to submit their entries in one or both of the following 2 categories:
 - Generic Services**: Entries in this category are self-standing services that are compatible with the ACGT infrastructure.
 - Applications**: Entries in this category are applications that address a biologically or medically relevant question or task that end users (bio-researchers or medical doctors) are expected to have.
- REGISTER FOR THE COMPETITION**: A section stating that all interested parties must register with the Competition Committee.

Figure 4 – ACGT Programmer's Manual

Training materials for service-providers revolved around two major categories (which were also considered in the ACGT Competition):

1. **3rd party services**, compatible with the ACGT infrastructure. Can be either stand-alone services with relevance to ACGT end-users (clinicians or researchers) or complex services leveraging existing ACGT services
2. **Applications** (including R scripts and workflows) that use ACGT services and tools (including the Workflow editor) to address tasks or scenarios relevant to ACGT end-users (either clinicians or researchers).

For the first category, the main training materials in the Programmer's Manual were developed by PSNC, FORTH and SIVECO to address the following challenges:

- To develop a new service from scratch or using a Web Service Wizard developed by PSNC
- To integrate the service with the ACGT security infrastructure ("proxy service")

Both challenges are presented as step-by-step guides. No actual video/multimedia tutorials were developed, as these guides are generic - services can be implemented using any existing IDE (Integrated Development environment)⁷

For the second category, the main training materials are those in the ACGT Handbook for end-users, including the ACGT tutorials on Metadata registration and the Workflow editor.

6 important topics were expanded in the *Programmer's Manual* by Technical Management Committee members and provided background information for service providers during the aborted ACGT Competition.

No.	Title	Main contributor	Category
1.	Integrating R scripts	FHG-IAIS	Application
2.	Developing a new service	PSNC	Services
3.	Web Service Wizard	PSNC	Services
4.	Developing a new Proxy Service	FORTH	Services
5.	ACGT Test Bed Security Guide	SIVECO	Services
6.	ACGT Bug Reporting - General Guidelines	SIVECO	Services / Applications

Figure 5 – ACGT Programmer's Manual - Topics

⁷ Specific constraints to use the ACGT infrastructure are described in the guides

4 Training sessions for service providers

Only one face-to-face training session for service providers was held, with the participation of technical experts inside the ACGT Consortium.

4.1 Lausanne, November 2008 - ACGT Technical Meeting

<u>Time and place of the session</u>	19 November 2008, 14:00-18:00 Lausanne, Switzerland
<u>Duration of the session</u>	4 hours
<u>Participants (trainees)</u>	6 technical experts from ACGT consortium as service providers (from the Technical Management Committee)
<u>Trainers</u>	2 trainers from SIVECO
<u>Equipment used</u>	Laptop and video projector
<u>Training content</u>	<i>Service Integration into ACGT Portal</i> – PPT Presentations prepared by SIVECO and PSNC
<u>Training notes</u>	<ul style="list-style-type: none"> • The emphasis of the training session was focused on the integration of the software components forming the data-analysis tools used by bioinformaticians and biostatisticians involved in clinical trials. • Types of integration available in the ACGT Portal were presented: <ul style="list-style-type: none"> ○ Installation of an existing portlet ○ Wrapping an existing applet inside a portlet ○ Development of a custom portlet from existing code ○ Development of a custom portlet from scratch ○ The IFrame "solution" • Two live examples were presented – the integration of two portlets developed by PSNC (GAS Admin Portlet and GRMS Portlet) <p>More information is available in deliverable D14.5bis <i>Methodology for ACGT service integration in the ACGT Portal on the Business Process Layer</i></p>

Appendix A: ACGT End to End Training Scenario

Preliminary note: The present scenario covers most uses of the ACGT platform. However, it does NOT form a fully integrated scenario (as scenarios presented in D13.5), as it has some pre-established "short cuts" to minimize the need to have interactions with administrators. This is specially the case with ObTiMA for which two trials have already been setup: one demonstrating the preparation of the CRFs for a trial (DOEDEMO), one demonstrating the use of ObTiMA in the patient data collection phase (MCMP). Such a setup is required as it is only possible to collect patient data when the design of the trials (the CRFs) is frozen on the administrative side.

Overview of the scenario

Step 1- 2: ObTiMA - Trial Management - Create a trial & Run a trial

Steps 3-7: ACGT Data Mining - The MCMP simulated trial is based on a dataset which has been published in the scientific literature. The data of this trial will be used as source to illustrate the use of the ACGT data mining environment.

Step 3 - Creation of a mediator query to access the MCMP data using the *Query Tool*⁸.

Step 4 - Registration of an external (user-defined) database showing the ability of the system to be fed with arbitrary data using *Data Access* portlets.

Step 5 - Creation and registration of a *GridR* analytical service supporting the analysis of the association between a patient treatment and tumour relapse using the *Metadata Registration* portlets

Step 6 - Designing and running a workflow that combines data sources (both from step 4 and pre-recorded queries) and analytical services (from step 5) using the *Workflow Editor*.

Step 7 – Visualising results in the ACGT Data Management System (DMS) (*My Files* tab in the ACGT Portal).

Prerequisites

- An ObTiMA user account, with trial manager rights on the DOEDEMO and the MCMP clinical trial.
- An ACGT user account, with default group membership (*Query Tool*, *DMS*, *Data Access*, *GridR*, *weeditor*, *metadataregistration2*, *howto*)

Step 1: ObTiMA - Creation of a trial (CRF preparation)

- Go to the ObTiMA page: <https://acgt-obtima.ibmt.fhg.de/> and log in
- A new trial can only be created by the ObTiMA administrator; this can be requested by sending an e-mail to the address listed under "*Contact / Administration*".

⁸ prerecorded queries will be used in the actual workflow in step 6.

- Clinical trials which are in preparation phase are listed under "*Trials / Create/Develop trials*"
- Select the DOEDEMO trial.
- General / administrative information of the trial can be defined in the "General" node of the tree (in particular the "Characteristics of the trial").
- CRFs can be created and edited through the "Treatment / List of CRFs" tree item.
- **CRF creation**
- Click on "*Add new CRF*" (this immediately creates the new CRF)
- The general information about the CRF is set in the "*Metadata*" box in the lower right side.
- Set a title for the CRF.
- Edit questions on the CRF:
 - **Add non-ontology based question:** (Question with red background)
 - Type in the question text.
 - Select the type of answer.
 - If list-based answer: Provide the list of possible values, separated by semi-colons (;) .
 - Then "Save edited item" or "Save as new item" as needed.
 - **Add ontology based question:** (Question with green background)
 - Click on "New from ontology"
 - Select the ontology term to associate to the question. (E.g. Treatment / Pharmacotherapy / Chemotherapy / ABVDChemo)
 - Click on "Exist item" checkbox on the right and edit the question as required, e.g. "Patient received ABVD chemotherapy?"
 - Click on "Add item to preview"
 - Click on "Create items"
- **Organize the CRF**
 - The order of questions on a CRF can be changed by clicking on the question on the list and moving it.
- **Save the CRF:** click on the corresponding button.
- Give roles to users in a trial (as *trial chairman*)

- *"Administration / Register User in trial"*.
- Select the trial to which to register a user.
- Select the user.
- Select the second tab for roles and rights.
- Activate the checkbox for the appropriate role. ("Local physician" is required to see patients.)
- *"Save Roles"*

Step 2: ObTiMA - Running trial / Edition of patient information

- Go to the ObTiMA page: <https://acgt-obtima.ibmt.fhg.de/> and log in
- View CRFs associated to a running trial
 - Click on the menu "Trials / List my trials"
 - Select the MCMP trial
 - Visualize the forms for the trial
- List patients
 - Menu "Patients / List my patients" (Actually all patients visible by a clinician are visible in this view, independently of the trial.)
 - Select one patient (e.g. Cressida Bunya-Bunya), and then the data associated to the patient are displayed.
 - General information about the patient are on the first tab
 - Select the CRF tab; all CRFs associated to the patient are shown
 - Select one CRF (e.g. "Tumor categorization"); the data associated to the CRF are shown.
 - Change the ER status for the patient and save the form.
 - Navigation to other CRFs is done through the "Back to ..." buttons on the right.
 - Adding a patient can be done through the main menu "Patient / Enter new patient".



Please do not save new patients with MCMP, as some scripts may fail later on in the exercise.

Step 3: Data mining - Creation of a mediator query

Background: The next step will create a mediator query which can be used to retrieve data from a clinical trial. A later execution of this query will return a file which contains a snapshot of the clinical trial database at the time of execution (for the selected variables **only**).

- Login in the ACGT Portal <https://acgt.siveco.ro/>
 - Go to the *QueryTool* tab.
 - Click on the *Show Help* button to see the 5 areas of the tool
 - **Step 3.1:** Select the trial from which you want to get the data from:
 - Locate the *Create Query* box (on the right area 1)
 - Select the data source (the clinical trial) e.g. *MCMP Simple C*
 - **Step 3.2:** Select what information (input) you want the query to retrieve from the trial data.
 - Locate the *Entries* list (on the right area 2)
 - Select (one at a time) each entry you see as a possible question to be "asked" from the "Entries" list (e.g. Tamoxifen status) and add them using the **< Add Entry** button.
- Note:** Alternatively, you can add all the entries at once using the **< Add All Entries** button. You will have available all the entries in step 3 and sort out what you want and what you don't want there!
- **Step 3.3:** Choose what data you want to be returned by the query from the list of available variables. These variables can be selected from the ones associated with the entries you have selected.



The entries in step 2 and the variables in step 3 are **not the same!**

Entries are **relationships** closer to ideas expressed in a natural language, while variables denote actual **data** seen as columns in a database.

E.g. Some entries such as *Gender of Patient - Male* have more than one corresponding variable: *Gender and Male*

- Locate the *Query description* box (on the left, area 3). This list of data fields/variables are **available** to be selected as columns of the result table of the query.

Note: The variables corresponding to the entries you have added in step 2 are *available* but not actually *selected* to be returned by the query. Keep in mind that selected variables will be **actual columns** of the result table while the remaining available variables which are not selected at this step will remain unused.



- Select the variables that you want the query to return as data fields will form part of the result of our query
 - ⚠ The order in which you add them will be the exact order of the columns of the data returned by the query
 - Select each of them and move them to the **Selected variables** area, selecting each of the desired data fields and clicking the >> button.
 - You can always change your mind and move selected variables back to the available variables list by clicking the << button.
- **Step 3.4:** Click on *Show* to see the corresponding SPARQL query
 - **Step 3.5:** (*Optional*) Click on *Submit* to test the query (i.e. see what will be returned), this opens the *Results* tab.
 - **Step 3.6:** Once the data returned looks OK, click on *Upload query to metadata repository* to save the query and make it available as a service.

Step 4: Data mining - Registration of an external database

Background: You can connect your private database to the rest of the ACGT environment in the *Data Access* area of the ACGT Portal.

- Login in the ACGT Portal <https://acgt.siveco.ro/>
- Go to the *Data Access* tab.
- Click on *Add new data resource*
- Specify:
 - the **location** of the database - the JDBC connection string
 - Example: `jdbc:mysql://iapetus.ics.forth.gr/acgt_japan`
 - the **username** required to access the database
 - the **password** required to access the database
 - the **dialect** of the database (*MySQL, PostgreSQL, Oracle*)
- Click on *Next*
- Provide a name which will be used in the resource's actual name:

Example: If you name it XXXX, the resource will actually be accessible later with the name: "Dynamic-XXXX-ogsadai-nnnnnnnnnn" where nnnnnnnnnn is a random unique identifier assigned by the system.
- A default RDF mapping is shown so that you can modify it if you want, before finishing the import process.

- Click on *Register resource* to finalize the import process

Step 5: Data mining - Registration of a GridR analytical service

- Go to the **Metadata registration** tab in the ACGT Portal.
- Select the functional category under which the service should be registered in the left tree.



Note: Services which are not generic (i.e. linked to a specific dataset/clinical trial) should fall under the *Bioinformatics/Scenario* category, e.g. *HomburgNovember2009*

- Click on the **AddRScript** button.
- Define all required inputs and outputs for the script.
- Each input is the result of an R command *read.csv()* which result is stored as an element of the special R list "gridr.input".
- Outputs are passed as strings in the *gridr.output* list, strings which can be used as file names for storage. *E.g. a script which has 4 inputs and 1 output would typically have an R interface such as:*

```
map = gridr.input[[1]]
```

```
patients = gridr.input[[2]]
```

```
tumors = gridr.input[[3]]
```

```
survival = gridr.input[[4]]
```

```
pdf(file = gridr.output[[1]], paper="a4", width=28./2.54, height=18./2.54)
```

- Look at *Scenarios / HokkaidoSeptember2009 / Hokkaido_MCMP_light* for an actual implementation of an R script or use the following script

```
map = gridr.input[[1]]
for (i in 1:length(colnames(map))) { # Hack to remove hardcoded blank in
ACGT DAS
  map[,i] = sub("^ ", "", map[,i])
}
d1 = gridr.input[[2]]
d2 = gridr.input[[3]]
d3 = gridr.input[[4]]
pdf(file = gridr.output[[1]], paper="a4", width=28./2.54,
height=18./2.54)

pat.id1 = as.character(d1[, "clinicaltrialpatientnumberstring_2"])
birth.date = as.Date(d1[, "patientbirthdate_3"])
recr.date = as.Date(d1[, "recruitmentdate_4"])
treatment = as.character(d1[, "tamoxifen_5"])
pat.age = floor(as.numeric((as.Date(d1[, 4]) -
as.Date(d1[, 3]))/365.25)+0.5)
```

```

names(recr.date) = pat.id1
names(birth.date) = pat.id1
names(pat.age) = pat.id1
names(treatment) = pat.id1
pat.id.all = pat.id1

pat.id2 = as.character(d2[, "clinicaltrialpatientnumberstring_1"])
er.status = as.numeric(as.character(d2[, "malignneoplasmerstatus_3"]))
names(er.status) = pat.id2

pat.id3 = as.character(d3[, "clinicaltrialpatientnumberstring_1"])
e.rfs = as.character(d3[, "diagnosticprocesstumorrelapse_2"])
e.rfs[e.rfs=="No"] = 0
e.rfs[e.rfs=="Yes"] = 1
e.rfs = as.numeric(e.rfs)
rel.date = as.Date(d3[, "tumorrelapsediagnosticprocessdate_3"])
t.rfs = as.numeric(rel.date - recr.date[pat.id3])
names(t.rfs) = pat.id3
names(e.rfs) = pat.id3

library(survival)

sel = names(e.rfs)
sel = sel[-which(is.na(er.status[sel]))]
sf = survfit(Surv(t.rfs[sel], e.rfs[sel])~er.status[sel])
plot(sf, col=c(1,2), main="Patient survival (ER stratification)")

sel = names(e.rfs)
sf = survfit(Surv(t.rfs[sel], e.rfs[sel])~treatment[sel])
plot(sf, col=c(1,2), main="Patient survival (Treatment stratification)")

# ----- New material -----

#
# Verify that the status of Patient OXFU_12 has changed
#

pat.0=names(which(er.status==0))
pat.1=names(which(er.status==1))
if (length(which(pat.0=="OXFU_12"))) {
  pat.0=pat.0[-which(pat.0=="OXFU_12")]
}
if (length(which(pat.1=="OXFU_12"))) {
  pat.1=pat.1[-which(pat.1=="OXFU_12")]
}

demo.mat=matrix(c(
  er.status[pat.1[1]], er.status[pat.0[1]], er.status[pat.1[4]],
  er.status[pat.1[2]], er.status["OXFU_12"], er.status[pat.1[5]],
  er.status[pat.1[3]], er.status[pat.0[3]], er.status[pat.1[6]]),nrow=3)

```

```

image(demo.mat,col=c(0,2),xaxt="n",yaxt="n")
z = ((0:2)/2)
text(c(z[1],z[1],z[1],z[2],z[2],z[2],z[3],z[3],z[3]),
     z,
     c(pat.1[1], pat.0[1], pat.1[4],
       pat.1[2], "OXFU_12", pat.1[5],
       pat.1[3], pat.0[3], pat.1[6]))

dev.off()

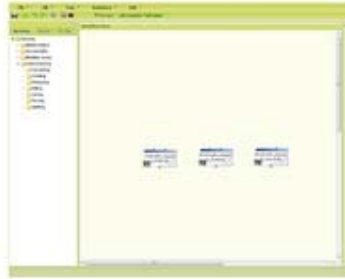
```

- Fill in the name of the service (**mandatory**)
- Fill the other associated metadata (**recommended**) such as **text/csv** or **application/pdf**.

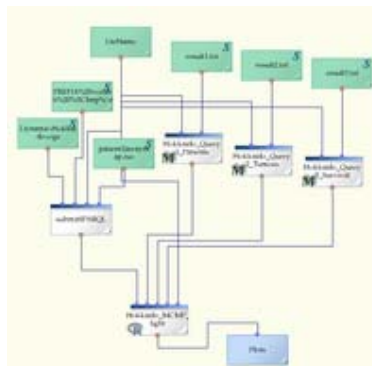
Step 6: Data mining - Creation and Registration of a workflow


Background: We are creating a scientific workflow which is making a statistical analysis on the clinical trial data. It is based on several previously defined queries which are already registered in the ACGT and previously registered R script (such as the one in the previous step).

- Select the **Workflow editor** tab.
- Select from the menu **File / New**
- **Step 6.1** - Insert queries that will get us the **input clinical data** in the workflow
 - We will insert 3 previously registered mediator queries in the workflow, one by one.
 - Click on the **"M"** icon in the toolbar under the menu bar to see all the mediator queries available (registered).
 - Select the query *Hokkaido_Query1_Patients* and click **Add** to insert it in the workflow.
 - A small rectangle with an **"M"** in the bottom left corner will appear in the center frame - workflow area.
 - Repeat the operation for the queries **"Hokkaido_Query2_Tumors"** and **"Hokkaido_Query3_Survival"**.
 - After step 1 - the workflow area should look like this:




- **Step 6.2** - Connect our external database to the workflow. For this we need to add a SPARQL service that will take create a mapping from patients to micro-array data. Such a connection/mapping is done through a SPARQL query. The ACGT environment already has such a generic service that can be used to add arbitrary SPARQL queries to a workflow - called **Submit SPARQL**.
 - Locate the Services Panel - east frame of the editor
 - Navigate in the tree and select **Services / Bioinformatics / Proxies / DynamicDAS / SubmitSPARQL**
 - Click on the "**SubmitSPARQL**" item
 - Drag-and-drop it on the workflow editor
- **Step 6.3** - Insert a GridR analytical component that will be used to analyze data (using R programming language) and plot the results.
 - Click on the "**R**" icon in the toolbar under the menu bar to see all the available R-based services (registered).
 - Select **Hokkaido_MCMP_light** script (alternatively you can use your GridR script registered in the previous step)
 - Click "**Add**" to insert it in the workflow.
 - A small rectangle with an "**R**" in the bottom left corner will appear in the center frame - workflow area.
- **Step 6.4** - Connect the different components of the workflow so that it looks as in the figure below




 **Note:** Blue dots are **inputs** and red dots are **outputs** from each box. Queries help you to get data and R scripts to analyze this data - so the R script uses as input the outputs of the queries!

- First look at the R script and then work your way backwards to collect the data from the queries:

 The output of the four queries (3 Mediator queries and the SPARQL query) must be connected as input to the GridR component. The inputs must be connected in the order expected by the script. Input slot 1 (leftmost), corresponds to the 1st element of *gridr.input*, etc.

- Hovering with the mouse over its 5 inputs (blue circles on the top) will show you each input parameter as it was defined in the R code.
- The three middle ones are associated to the queries 1, 2 and 3 that get the data regarding patients, tumors and survival.
- Connect the red dot of the query to the corresponding blue dot of the R box
- Connect the red dot (output) of the SPARQL query to the first blue dot of the R box
- Drag the last (5th from left to right) blue dot of the R box (it's called "DirName") to an empty space. A green box will be created. This will be the output directory that the R script will use to store its results.
- Double-click on the green box and give it a name such as "MyResultsAreHere" so that you can easily remember where the results will be.
- Connect this result box to the left blue dot of each of the M Queries (3 connections needed) so that they will all use the same directory to store the results to.

 **Note:** Clicking on a connection selects it (the rest of the environment appears to fade in the background coloured in grey). You can simply press the delete key on the keyboard to get rid of unwanted connections or boxes anytime!

- Drag the remaining blue dot on each query to an empty space to create 3 separate files for each of the queries result.
- Double-click them and rename them to *result1.txt* and so on..
- Let's finish with the **SubmitSPARQL** box
- Connect the first blue dot in this box to an empty space to create the dynamic resource box.
- Double-click it and give it the name you wrote down after registering your dynamic database (ex:*Dynamic-Hokkaido-ogsadai-124777a375b*)
- Connect the second blue dot of the SubmitSPARQL box to an empty space to create a SPARQL Query.

- Double-click this box and copy-paste the following SPARQL Query:

```
PREFIX vocab: <http://gridnode.ehv.campus.philips.com/d2rq/automatic#>
SELECT ?patient_id ?marrayA ?marrayB
WHERE {
  ?tumors
  vocab:tumors_patient_id ?patient_id ;
  vocab:tumors_marrayA ?marrayA ;
  vocab:tumors_marrayB ?marrayB ;
}
```

- Connect the fourth and last blue dot of the SubmitSPARQL box to an empty space to create the CSV file where it will store its results. Rename it to *patient2arraymapping.csv*
- Finally drag the red dot of the R script to an empty space to create the green box with the resulting plots.



Note: It is recommended to use static strings for file names, and an execution-time-specified string (i.e. do not edit, leave it as the green box was created) for the directory name.

- **Step 6.5 - Save** the workflow under a new name (e.g. using your name as prefix) using **File / Save as**
- **Step 6.6 - Deploy** the workflow (this step converts our drawing to an actual BPEL document that can be run by the workflow environment) using **Tools / Make Executable**. Please wait for the "BPEL process deployed" message.
- **Step 6.7 - Run** the workflow: **Tools / Run**.
 - You can see the status in the south panel called *Status Panel*
 - You will see all the queries start to blink at once (This is a grid environment, so the queries can be run on different machines at the same time).
 - Each of them will stop blinking after finishing their execution.
 - After all of them finish, the R script will begin to analyze the data.
 - After the R script has completed its analysis you will see *status FINISHED* in the Status panel

Step 7: Data mining - Visualization of results in the ACGT DMS

After the execution of the workflow the results files will be stored in the ACGT Data Management System (DMS). To find the results:

- Login in the ACGT Portal
- Go to the *My Files* tab.
- Check that you're in the *File-Directory Mode* which shows 3 panels.

- Click on the directory in the *Left Panel* to open it.
- Find the output file and click on it
- A visualization tool will show the content of the file in the *Right Panel*

Appendix B: Informal usability feedback from training session in Vienna 2009

Notes on prerequisites/configuration problems

- one machine has a limited account preventing installation of the pre-requisites (e.g. JRE), or updating to the latest version
- a few machines had keyboard and locales unknown to the trainees
- there were unidentified Certification Authority import problems which were solved only by manually copying the Root CA directly from a USB key
- getting to the revocation list was problematic

Notes on registration and login

- MyProxy credential delegation encountered bugs - the MyProxy applet was reverting to the development version of the portal: there was a mix between stable and development version in the configuration files
- explanations about accepting the self-signed applet were not available: *do users always need to explicitly trust the applets or not?*
- the VO acceptance process was explained too quickly
- mail-related delays were encountered in the registration process (probably because of mail server blacklisting)
- the relation between the certificate and the portal account was not fully explained to the users

Notes on ACGT tools available in the ACGT Portal

- "execute" is unclear button labeling in the DMS
- there were reload problems in the left panel of the DMS
- there was a ACGTlibPath error in the shell of the GridR session
- a bug where two applets are using the same cached library appeared again
- in the DMS the ID of uploaded file has to be retrieved manually via an obscure trick
- the new workflow wasn't appearing after upload in the list, only via the search engine
- there were big delays on the button response in the GridR session portlet
- GridR error outputs were written too small

Direct feedback from trainees

- good to have results directly appearing
- how easy is it to add a new service?
- how easy is it to integrate with another workflow?
- benchmarking tools are needed to help predict execution time

Suggestions for next training sessions:

- clearer pre-requisites in terms of hardware, software and user rights needed
- training machines (workstations or laptops) must be available in English
- screen projector to follow the training facilitator more easily
- more space around the users to help trainers or facilitators comment and explain training materials
- training materials should have sections for OSX and GNU/Linux alongside Windows wherever necessary.

Appendix C: Sample training module - ACGT Login

Slide1



Advancing Clinical Genomic Trials on Cancer



Step 2: Login with your Passport / Visa

 <http://www.eu-acgt.org>


Information Society
and Media

 The ACGT project (FP6-2005-IST-026596) is funded by the European Commission Information Society and Media DG under the 6th Framework Programme.

Slide2

The screenshot shows the ACGT Portal homepage. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". To the right is a language dropdown menu set to "English". Below the logo is a navigation bar with "Homepage", "About ACGT", and "Registration help". The main heading is "Welcome to the ACGT Portal". A large text block below the heading is partially obscured by a callout box that says "You can login only if you have an ACGT Passport (Step 1)". Below this are four numbered steps: 1. Get an ACGT Passport, 2. Get a Visa and Login, 3. Enjoy the ACGT Environment, and 4. Read the ACGT Handbook. To the right is a "Handbook" section with an "ACGT Login" box containing "Register for a passport" and "Login" buttons. Below the steps is an "ACGT Resources" section with a callout box stating "Please see the separate Registration tutorial for information on how to get a Passport." and a list of resources including "GridR Service Registration", "Creation of a workflow", "Data Mining Tutorial (Obsolete)", "Workflow Registration Tutorial (Obsolete)", "Ontology Viewer Tutorial", and "Literature Mining Services". Another callout box points to the "?" icon in the handbook step, stating "You can find more information about your ACGT Passport and Visa in the ACGT Handbook. Use the '?' sign to get to the ACGT Handbook from the ACGT Portal." The bottom right corner features a "News" section with a headline: "Workshop on European-Japanese Research Collaboration in Medical ICT 14 & 15 September 2009, Sapporo, Japan - ACGT partner Hokkaido University hosts a workshop that..."

Slide3

The screenshot shows the ACGT Portal homepage. At the top left is the ACGT logo with the tagline 'Advancing Clinico Genomic Trials on Cancer'. A green box at the top center contains the text 'Logging in using your ACGT Passport'. To the right of the logo is a language dropdown menu set to 'English'. Below the logo is a navigation bar with 'Homepage', 'About ACGT', and 'Registration help' buttons. The main heading is 'Welcome to the ACGT Portal', followed by a paragraph of introductory text. Below this is a four-step process: 1. Get an ACGT Passport, 2. Get a Visa and Login, 3. Enjoy the ACGT environment, and 4. Read the Handbook. A callout box points to the 'Get Visa and Login' button with the text 'Click on the Get Visa and Login button to log in the ACGT environment.' To the right is the 'ACGT Login' section with buttons for 'Register for a passport', 'Get Visa and Login', and 'Already have a Visa? Login...'. Below these are input fields for 'User Name' and 'Password' with a 'Login' button. At the bottom right is a 'News' section with a headline about a workshop in Sapporo, Japan. The bottom left section is titled 'ACGT Resources' and lists various tutorials and services.

Slide4

The screenshot displays the ACGT Portal homepage. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A green box at the top center contains the text "Logging in using your ACGT Passport". To the right of this box is a language dropdown menu set to "English". Below the logo is a navigation bar with "Homepage", "About ACGT", and "Registration help" buttons. The main heading is "Welcome to the ACCT Portal". A paragraph of introductory text follows. Below this are four numbered steps: 1. Get an ACGT Passport, 2. Get a Visa and Login, 3. Enjoy the ACGT Environment, and 4. Read the ACGT Handbook. On the right side, there is a "Handbook" section and an "ACGT Login" section with buttons for "Register for a passport", "Get Visa and Login", and "Already have a Visa? Login...". Below the login section is a "News" section with a link to "Workshop on European-Japanese Research". At the bottom left, there is an "ACGT Resources" section with a list of links and a detailed view for "Creation of a Mediator Query".

ACGT
Advancing Clinico Genomic Trials on Cancer

Logging in using your ACGT Passport

English

Homepage About ACGT Registration help

Welcome to the ACCT Portal

Advances in post genomic research have created significant opportunities for offering personalized treatment and better health care services to the population at large. At the same time [clinical trials](#) have become a bottleneck in terms of complexity, effectiveness and, in their present form, fitness for purpose. In the realm of information technologies on the other hand advances in semantic technologies and [grid computing](#) have reached a stage where multi-dimensional applications requiring the combination of heterogeneous data and software resources can be realistically tackled.

1 Get an **ACGT Passport** *More info*

2 Get a **Visa and Login** *More info*

3 Enjoy the **ACGT Environment** *More info*

? Read the **ACGT Handbook**

ACGT Login

Register for a passport

Get Visa and Login

ACGT MyProxy Tool v1.1

Login

Already have a Visa? Login...

News

Workshop on European-Japanese Research

ACGT Resources

- Creation of a Mediator Query
- External Database Registration
- GridR Service Registration
- Creation of a workflow
- Data Mining Tutorial (Obsolete)
- Workflow Registration Tutorial (Obsolete)
- Ontology Viewer Tutorial
- Literature Mining Services

Name Creation of a Mediator Query

Access Registration required

Description In the ACGT environment, data from different trials can be accessed "as if" it was stored in a single integrated repository. The ACGT Query Tool can be used retrieve data from clinical registered trials by defining queries and testing them.

Link [Creation of a Mediator Query](#)
[More information](#)

Slide5

The screenshot shows the ACGT Portal homepage. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A green box at the top center contains the text "Logging in using your ACGT Passport". To the right is a language dropdown menu set to "English". Below the logo is a navigation bar with "Homepage", "About ACGT", and "Registration help".

The main content area features a "Welcome to the ACQT Portal" section with a paragraph of introductory text. Below this are four numbered steps: 1. Get an ACGT Passport, 2. Get a Visa and Login, 3. Enjoy the ACGT Environment, and 4. Read the ACGT Handbook. Each step has a "More info" link.

On the right side, there is an "ACGT Login" section with buttons for "Register for a passport", "Get Visa and Login", and "Login". A "News" section below it mentions a "Workshop on European-Japanese Research".

Annotations include:

- A yellow box with a "Hint" about browser configuration and Java installation.
- A callout box pointing to the "ACGT MyProxy Tool" applet with the text: "The Login (ACGT MyProxy) applet will be started. This may take some time during which you might be prompted to trust the digital signature of the applet." and a "Click Login" button.
- A "ACGT Resources" sidebar on the left lists various tools and tutorials.

Slide6

The screenshot displays the ACGT website interface. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A green callout box at the top center reads "Logging in using your ACGT Passport". The main content area is titled "I have my ACGT Passport ready" and contains a form with fields for "My Passport" (a dropdown menu), "Password to unlock my Passport", "Username (for Visa)", "ACGT portal password", and "Password Confirmation". There are checkboxes for "Use remembered password" and "Remember my Visa on this computer". A "Create new 7-day Visa" link is also present. A green callout box on the left explains that this is the "I have my ACGT passport ready" section and that it shows a list of detected passports. A speech bubble on the right instructs the user to "Select your passport from the list in the 'I have my ACGT Passport ready' section." The website also features a "Handbook" section, "ACGT Login" buttons for "Register for a passport", "Get Visa and Login", and "Login", and a "News" section at the bottom.

Slide7

The screenshot shows the ACGT website interface. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A language dropdown menu is set to "English". Navigation tabs include "Homepage", "About ACGT", and "Registration help".

A modal dialog box titled "I have my ACGT Passport ready" is open, containing the following fields:

- My Passport:** A dropdown menu showing "CN=Alexandru Sofronia, OU=SIMECO, O=ACGT,..."
- Password to unlock my Passport:** A text input field.
- Use this ACGT Visa:** A section with a "Username (for Visa)" field, a "Use remembered password" checkbox, and a "Remember my Visa on this computer" checkbox.
- Create new 7-day Visa:** A section with "ACGT portal password" and "Password Confirmation" fields.

 The dialog has "Ok" and "Cancel" buttons at the bottom.

Callout boxes provide additional information:

- A green box on the left states: "This is the 'I have my ACGT passport ready' section. You will see the list of the ACGT Passports that are detected on your computer (and any USB stick connected to the computer)." Below this are buttons for "ACGT Passport" and "Visa and Login", each with a "More info" link.
- A light blue box at the top right says: "Select your passport from the list in the 'I have my ACGT Passport ready' section."
- A yellow box on the right provides a "Hint: If you do not find your passport there, but you have it on an USB stick: 1. connect that USB stick 2. close the browser 3. start from the beginning".

Below the dialog, there is a "Link" section with a "Creation of a Mediator Query" link and a "More information" link. On the right side of the page, there are buttons for "Get Visa and Login", "Login", and "Already have a Visa? Login...". At the bottom right, there is a "News" section with a link to "Workshop on European-Japanese Research".

Slide8

The screenshot displays the ACGT website interface with several callouts and a dialog box:

- Top Callout:** "Logging in using your ACGT Passport" (green box).
- Language:** English (dropdown menu).
- Navigation:** Homepage, About ACGT, Registration help.
- Welcome Section:** "Welcome" header.
- Left Column:** "ACGT Passport" and "Visa and Login" buttons with "More info" links.
- Bottom Left:** A list of links including "Creation of a Mediator Query", "External Database Registration", "GridR Service Registration", "Creation of a workflow", "Data Mining Tutorial (Obsolete)", "Workflow Registration Tutorial (Obsolete)", "Ontology Viewer Tutorial", and "Literature Mining Services".
- Right Column:** "Handbook" header, "ACGT Login" section with "Register for a passport" and "Get Visa and Login" buttons, "ACGT MyProxy Tool v1.1" logo, and "Login" button. Below this is "Already have a Visa? Login..." and a "News" section with a link to "Workshop on European-Japanese Research".
- Central Form:** "I have my ACGT Passport ready" section with "My Passport" (CN=Alexandru Sofroniu) and "Password to unlock my Passport" fields.
- Top Right Callout:** "To unlock your ACGT Passport you need to enter your password. This is something you know since your Passport has been issued." (grey box).
- Bottom Callout:** "Hint: This is the password you chose during Step 1: Registration. This password is something: 1. only you know 2. cannot be changed 3. cannot be retrieved by anyone (not even by the Registration Authority which issued your Passport)" (yellow box).
- Dialog Box:** "Ok" and "Cancel" buttons.

Slide9

The screenshot shows the ACGT website interface with a central login dialog box. The dialog box has a title bar that says "Logging in using your ACGT Passport". It contains a text field with the placeholder "I have my ACGT Passport ready" and a "Password to unlock the private user key." label. Below the text field is a "Hint" box with the following text: "Hint: This is the password you chose during Step 1: Registration. This password is something: 1. only you know 2. cannot be changed 3. cannot be retrieved by anyone (not even by the Registration Authority which issued your Passport)". At the bottom of the dialog are "Ok" and "Cancel" buttons.

Other callouts on the page include:

- A green box at the top center: "Logging in using your ACGT Passport"
- A grey box above the dialog: "To unlock your ACGT Passport you need to enter your password. This is something you know since your Passport has been issued."
- A yellow box on the left: "Hint: A more detailed explanation can be found in the 'ACGT Registration' tutorial or in the ACGT Handbook."
- A green box below the dialog: "Move to the 'Use this ACGT Visa' section."

The website background features the ACGT logo, navigation tabs (Homepage, About ACGT, Registration help), a "Welcome" message, and a sidebar with links to various services like "Creation of a Mediator Query" and "External Database Registration". The main content area includes "ACGT Passport" and "Visa and Login" sections, and a right-hand sidebar with "ACGT Login" buttons and a "Handbook" link.

Slide10

The screenshot displays the ACGT website interface. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A green callout box at the top center reads "Logging in using your ACGT Passport". The main navigation bar includes "Homepage", "About ACGT", and "Registration help". A language dropdown menu is set to "English".

The central focus is a "Welcome" dialog box with the text: "Enter your username (alias) you wish to use in the ACGT Portal. If you have logged in at least once from the same computer, then your username will be automatically filled in." Below this, a green callout box says "Move to the 'Use this ACGT Visa' section." The "Use this ACGT Visa" dialog box is open, showing a "Username (for Visa)" field with "alexandruso", a "Use remembered password" checkbox, and a checked "Remember my Visa on this computer" checkbox. It also includes fields for "ACGT portal password" and "Password Confirmation".

On the right side, a "Handbook" section contains a callout: "Choose a temporary password for your Visa and confirm it in the box below. This is a password you can change every time you login." Below this is a yellow note: "Note: Remember that the Visa and this temporary password are only valid for 7 days. After 7 days, you need to get a new Visa using the same steps above." A "Login" button is visible below the note.

At the bottom right, there is a "News" section with a link for "Workshop on European-Japanese Research".

On the left side, a sidebar lists various services: "Creation of a Mediator Query", "External Database Registration", "GridR Service Registration", "Creation of a workflow", "Data Mining Tutorial (Obsolete)", "Workflow Registration Tutorial (Obsolete)", "Ontology Viewer Tutorial", and "Literature Mining Services".

Slide11

The screenshot displays the ACGT website interface with a central login dialog box. The dialog box has two main sections: 'I have my ACGT Passport ready' and 'Use this ACGT Visa'. The first section includes a dropdown for 'My Passport' (set to 'CN=Alexandru Sofronia, OU=SIVECO, O=ACGT,...') and a password field. The second section includes a 'Username (for Visa)' field (set to 'alexandruso'), checkboxes for 'Use remembered password' (unchecked) and 'Remember my Visa on this computer' (checked), and two password fields for 'Create new 7-day Visa' (labeled 'ACGT portal password' and 'Password Confirmation').

Annotations on the slide include:

- A green box at the top center: "Logging in using your ACGT Passport".
- A yellow box on the left: "Note: Your Passport (and the password that unlocks it) never expire.".
- A green box on the left: "This is the 'Use this ACGT Visa' section.".
- A grey box on the right: "Choose a temporary password for your Visa and confirm it in the box below. This is a password you can change every time you login.".
- A yellow box on the right: "Note: Remember that the Visa and this temporary password are only valid for 7 days. After 7 days, you need to get a new Visa using the same steps above.".

The background website shows the ACGT logo, navigation tabs (Homepage, About ACGT, Registration help), a 'Welcome' message, and a sidebar with links such as 'Creation of a Mediator Query', 'External Database Registration', and 'GridR Service Registration'. A 'Handbook' banner is visible on the right side.

Slide12

The screenshot shows the ACGT website interface. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A green banner at the top center reads "Logging in using your ACGT Passport". On the right, there is a language dropdown menu set to "English". Below the banner are navigation tabs for "Homepage", "About ACGT", and "Registration help". The main content area features a "Welcome" message and a "Handbook" section. A "ACGT Login" section contains buttons for "register for a passport" and "Get Visa and Login". A "MyProxy Tool" section includes a "Login" button and a link for "Already have a Visa? Login...".

Overlaid on the page are two dialog boxes. The first, titled "I have my ACGT Passport ready", contains a "My Passport" dropdown menu with the value "CN=Alexandru Sofronia, OU=SIVECO, O=ACGT,..." and a "Password to unlock my Passport" field with masked characters. The second dialog box, titled "Password too easy", displays an error message: "The password is too easy. It must be least 7 characters and contain both numbers and letters". Below this message are "Ok" and "Cancel" buttons.

A red-bordered text box on the left side of the screenshot contains the following text: "This temporary password needs to have both numbers and letters and have at least 7 characters. You will receive error messages if the password is 'too easy'".

Slide13

The screenshot shows the ACGT website interface. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A green callout box at the top center says "Logging in using your ACGT Passport". On the right, there is a language dropdown menu set to "English". Below the header is a navigation bar with "Homepage", "About ACGT", and "Registration help".

The main content area features a "Welcome" message and a list of links on the left: "Creation of a Mediator Query", "External Database Registration", "GridR Service Registration", "Creation of a workflow", "Data Mining Tutorial (Obsolete)", "Workflow Registration Tutorial (Obsolete)", "Ontology Viewer Tutorial", and "Literature Mining Services".

In the center, a dialog box titled "Use this ACGT Visa" is open. It contains the following fields and options:

- "I have my ACGT Passport ready" section with a dropdown menu for "My Passport" (value: CN=Alexandru Sofronia, OU=SIMECO, O=ACGT,...) and a "Password to unlock my Passport" field.
- "Use this ACGT Visa" section with a "Username (for Visa)" field (value: alexandruso), a "Use remembered password" checkbox (unchecked), and a "Remember my Visa on this computer" checkbox (checked).
- "Create new 7-day Visa" section with "ACGT portal password" and "Password Confirmation" fields.

 The dialog has "OK" and "Cancel" buttons at the bottom.

On the right side of the page, there is an "ACGT Login" section with a large "H" button, followed by "Register for a passport" and "Get Visa and Login" buttons. Below that is a "MyProxy Tool v1.1" section with a "Login" button. At the bottom right, there is an "Already have a Visa? Login..." button and a "News" section with a link to "Workshop on European-Japanese Research".

Two callout boxes provide additional information:

- A green box on the left says: "This is the 'Use this ACGT Visa' section."
- A grey box below it says: "You can always change your Visa password."

Slide14

The screenshot displays the ACGT website interface. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A green banner at the top center reads "Logging in using your ACGT Passport". On the right, there is a language selector set to "English". Below the banner are navigation tabs for "Homepage", "About ACGT", and "Registration help".

The main content area features a "Welcome" message and two primary actions: "1 Get an ACGT Passport" and "2 Get Visa and Login". A central dialog box titled "I have my ACGT Passport ready" is open, containing the following fields and options:

- My Passport:** A dropdown menu showing "CN=Alexandru Sofronia, OU=SIVECO, O=ACGT,..."
- Password to unlock my Passport:** A text input field with masked characters.
- Use this ACGT Visa:** A section with a "Username (for Visa)" field containing "alexandruso", a "Use remembered password" checkbox (unchecked), and a "Remember my Visa on this computer" checkbox (checked).
- Create new 7-day Visa:** A section with "ACGT portal password" and "Password Confirmation" fields, both masked.

At the bottom of the dialog box are "Ok" and "Cancel" buttons. Two callout boxes are overlaid on the dialog:

- Top callout: "You can always change your Visa password."
- Bottom callout: "You have to type it again to avoid writing errors."

The background website shows a sidebar with links such as "GridR Service Registration", "Creation of a workflow", "Data Mining Tutorial (Obsolete)", "Workflow Registration Tutorial (Obsolete)", "Ontology Viewer Tutorial", and "Literature Mining Services". On the right side, there is a "Handbo" logo, an "ACGT Login" section with buttons for "Register for a passport", "Get Visa and Login", and "Login", and a "News" section with a link to "Workshop on European-Japanese Research".

Slide15

The screenshot shows the ACGT website interface. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A green banner at the top center reads "Logging in using your ACGT Passport". The language is set to English. A navigation bar includes "Homepage", "About ACGT", and "Registration help". A "Welcome to" message is displayed. A central login form titled "Use this ACGT Visa" contains fields for "Username (for Visa)" (alexandruso), "ACGT portal password", and "Password Confirmation". It also has checkboxes for "Use remembered password" and "Remember my Visa on this computer". A "Create new 7-day Visa" link is present. A "My Passport" section shows "CN=Alexandru Sofronia, OU=SIMECO, O=ACGT,..." and a "Password to unlock my Passport" field. A "1" icon is next to the "ACGT Passport" link. A yellow callout box with a "1" icon says "Hint: Use '?' buttons for more information in the ACGT Handbook." A blue callout box says "Clicking this button will open in a new window the 'ACGT Passport' article from the ACGT Handbook". The right sidebar has "ACGT Login" with "Register for a passport" and "Get Visa and Login" buttons. Below is the "ACGT MyProxy Tool v1.1" section with a "Login" button and "Already have a Visa? Login...". A "News" section is at the bottom. A left sidebar lists various services like "Creation of a Mediator Query" and "External Database Registration".

Slide16

The screenshot shows a web page titled "HB:ACGT Passport" with a navigation sidebar on the left. A central dialog box titled "I have my ACGT Passport ready" is open, containing fields for "My Passport" (CN=Alexandru Sofronia, OU=SIMECO, O=ACGT,...), "Password to unlock my Passport", "Username (for Visa)" (alexandruso), and "ACGT portal password" with a "Remember my Visa on this computer" checkbox. A callout box on the left says "Hint: Use '?' buttons for more information in the ACGT Handbook." A callout box on the right says "Clicking this button will open in a new window the 'Getting started' article from the ACGT Handbook". A "PASSPORT" graphic is visible on the right side of the page.

Slide17

The screenshot shows the ACGT website interface. At the top right, there is a 'Log in / create account' link. A yellow callout box at the top center reads 'Logging in using your ACGT Passport'. The main content area is titled 'HB: Getting started' and includes a 'Main article ACGT Registration' link. A registration dialog box is open in the center, titled 'I have my ACGT Passport ready'. It contains the following fields and options: 'My Passport' (dropdown menu showing 'CN=Alexandru Sofronia, OU=SIMECO, O=ACGT,...'), 'Password to unlock my Passport' (password field), 'Use this ACGT Visa' section with 'Username (for Visa)' (text field with 'alexandruso'), 'Use remembered password' (checkbox), 'Remember my Visa on this computer' (checked checkbox), 'Create new 7-day Visa' link, 'ACGT portal password' (password field), and 'Password Confirmation' (password field). At the bottom of the dialog are 'Ok' and 'Cancel' buttons. A callout box points to the 'Ok' button with the text 'Click Ok to create your Visa and login in the ACGT portal.' The background shows a sidebar with navigation links (Main Page, About, FAQ, Trial Management, ACGT Overview, Introduction, Programmer's Manual, ACGT Examples) and a search box. At the bottom right, there is a graphic of an 'ACGT Passport' and a 'VISA ACGT' logo.

Slide18

Logging in using your ACGT Passport

ACGT
Advancing Clinico Genomic Trials on Cancer

English

Homepage About ACGT Registration help

Welcome to the ACGT Portal

Advances in post genomic research have created significant opportunities for offering personalized treatment and better health care services to the population at large. At the same time **clinical trials** have become a bottleneck in terms of complexity, effectiveness and, in their present form, fitness for purpose. In the realm of information technologies on the other hand advances in semantic technologies and **grid computing** have reached a stage where multi-dimensional applications requiring the combination of heterogeneous data and software resources can be realistically tackled.

1 Get
ACGT Passport
More /

Note: If communication error messages appear (e.g. "Connection timeout"), please check with your local network administrator that the your firewall rules allow you to access all the ACGT servers.

You can find this complete list in the **ACGT Handbook** page **HB:Configure network connections**

More information

ACGT Login

Register for a passport

Get Visa and Login

ACGT
MyProxy Tool
v1.1

Login

Already have a Visa? Login...

News

Workshop on European-Japanese Research

Slide19

The screenshot shows the ACGT Portal interface. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials". A navigation bar contains buttons for "MyACGT", "Data", "Metadata Registration", "GridR Session", "Data Access", "Query Tool", "Workflow Editor", "MySettings", and "How to". The main content area is split into "Overview" and "News".

Overview Section:

- A yellow box contains a "Hint: Your succesful login has generated a 7-day Visa. You can use this Visa (and the temporary password) to login *much easier*, either from this computer or from other computers, *without your ACGT Passport*."
- A central diagram shows a workflow: "Prototype your R data mining script interactively" (with a GridR Session icon) leads to "Register your data mining script Search for existing data mining scripts" (with a Metadata Registration icon). This leads to "Combine data sources and mining tools in workflows to get new results Execute workflows" (with a Workflow Editor icon). From here, arrows point to "View your files stored in ACGT Upload your own files Retrieve workflow results" (with a Data icon) and "Customize your ACGT environment" (with a MySettings icon). A central grey box says "Let's see how you can login easier using your new Visa! But first, we have to logout ...".

News Section:

- Workshop on European-Japanese Research Collaboration in Medical ICT 14 & 15 September 2009, Sapporo, Japan** - ACGT partner Hokkaido University hosts a workshop that brings ACGT's managerial, technical and medical leaders together with representatives of Japan's science ministry, its funding agencies, 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 provides a forum for discussing increased cooperation between Japan and the EU on future medical ICT projects. [\[more\]](#)
- Literature Mining Services** - ACGT partner Biovista announced in September 2009 that BVA-201, its drug targeting Multiple Sclerosis (MS), has shown significant positive results in the MOG-induced Experimental Allergic Encephalomyelitis (EAE) murine model of MS. BVA-201 is an existing drug that Biovista repositioned in MS and was shown to have both efficacy in reducing symptoms and no toxic effects in this well established model of MS. Biovista performed this work using its literature mining technology part of which is available through the ACGT platform. [\[more\]](#)

At the bottom right, there is a list of authors: Shivani Seth, Stefan Rüping, Stefan Wrobel, "Metadata Extraction using Text Mining". Accepted for publication at the Healthgrid 2009 Conference, Berlin, 2009.

Slide20

Logging in using your Visa

ACGT
Advancing Clinico Genomic Trials on Cancer

English

Homepage About ACGT Registration help

Welcome to the ACGT Portal

Advances in post genomic research have created significant opportunities for offering personalized treatment and better health care services to the population at large. At the same time clinical trials have become a bottleneck in terms of complexity, effectiveness and, in their present form, fitness for purpose. In the realm of information technologies on the other hand advances in semantic technologies and grid computing have reached a stage where multi-dimensional applications requiring the combination of heterogeneous data and software resources can be realistically tackled.

ACGT Handbook

ACGT Login

Register for a passport

Get Visa and Login

Already have a Visa? Login...

User Name

Password

Login

News

Workshop on European-Japanese Research Collaboration in Medical ICT 14 & 15 September 2009, Sapporo, Japan - ACGT partner Hokkaido University hosts a workshop that

1 Get an **ACGT Passport** *More info*

2 Get a **Visa and Login**

3 Enjoy the **ACGT Environment**

? Read the **ACGT Handbook**

Fill in your temporary Visa to login to the ACGT environment.

ACGT Resources

Hint: You must enter the username and password you have chosen as **your Visa** (earlier in the "Use this ACGT Visa" section).

Name: Creation of a Mediator Query

Single integrated repository. The ACGT Query Tool can be used retrieve data from clinical registered trials by defining queries and testing them.

Link: [Creation of a Mediator Query](#)
[More information](#)

- Creation of a Mediator Query
- External Database Registration
- GridR Service Registration
- Creation of a workflow
- Data Mining Tutorial (Obsolete)
- Workflow Registration Tutorial (Obsolete)
- Ontology Viewer Tutorial
- Literature Mining Services

Slide21

The screenshot shows the ACGT Portal homepage. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A green callout box at the top center says "Logging in using your Visa". In the top right, there is a language selector set to "English". Below the logo is a navigation bar with "Homepage", "About ACGT", and "Registration help".

The main content area features a "Welcome to the ACGT Portal" section with a paragraph about genomic research. Below this are four numbered steps: 1. Get an ACGT Passport, 2. Get a Visa and Login, 3. Enjoy the ACGT Environment, and 4. Read the ACGT Handbook. A "Handbook" banner is also visible on the right.

The "ACGT Login" section on the right contains buttons for "Register for a passport", "Get Visa and Login", and "Already have a Visa? Login...". Below these is a login form with fields for "User Name" (containing "alexandruso") and "Password", and a "Login" button.

A light blue callout box points to the "ACGT Environment" step, stating: "Fill in your temporary Visa to login to the ACGT environment." A yellow "Hint" box points to the "ACGT Environment" link in the "ACGT Resources" section, stating: "Hint: You must enter the username and password you have chosen as your Visa (earlier in the 'Use this ACGT Visa' section)."

The "ACGT Resources" section on the left lists various services like "Creation of a Mediator Query", "External Database Registration", "GridR Service Registration", "Creation of a workflow", "Data Mining Tutorial (Obsolete)", "Workflow Registration Tutorial (Obsolete)", "Ontology Viewer Tutorial", and "Literature Mining Services".

At the bottom right, a "News" section features a headline: "Workshop on European-Japanese Research Collaboration in Medical ICT 14 & 15 September 2009, Sapporo, Japan - ACGT partner Hokkaido University hosts a workshop that..."

Slide22

The screenshot shows the ACGT Portal homepage with several callouts and annotations:

- Top Header:** ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A language dropdown menu is set to "English".
- Navigation:** "Homepage", "About ACGT", and "Registration help" buttons.
- Welcome Section:** "Welcome to the ACGT Portal" with a paragraph of introductory text. A "Handbook" button is visible on the right.
- Step 1:** "1 Get an ACGT Passport" with a "More info" link.
- Step 2:** "2 Get a Visa and Login". A callout box explains: "If the Visa has expired, you will see an error message and you will have to use your Passport to get a new Visa." Below this are buttons for "Get Visa and Login" and "Already have a Visa? Login...".
- Step 3:** "3 Enjoy the ACGT Environment".
- ACGT Resources:** A list of links including "Creation of a Mediator Query", "External Database Registration", "GridR Service Registration", "Creation of a workflow", "Data Mining Tutorial (Obsolete)", "Workflow Registration Tutorial (Obsolete)", "Ontology Viewer Tutorial", and "Literature Mining Services".
- Registration Form:** A form titled "Name... Creation of a Mediator Query" with a "Hint: You must enter the username and password you have chosen as your Visa (earlier in the 'Use this ACGT Visa' section)." A "Login" button is present. A callout says "Click Login." Below the form, a link for "Creation of a Mediator Query" with "More information" is shown.
- Bottom Callout:** "Hint: If the Visa is still valid, you will enter the ACGT portal."

Slide23

The screenshot shows the ACGT web portal interface. At the top left is the ACGT logo with the tagline "Advancing Clinico Genomic Trials on Cancer". A navigation bar contains buttons for MyACGT, Data, Metadata Registration, GridR Session, Data Access, Query Tool, Workflow Editor, MySettings, and How to. The main content area is divided into "Overview" and "News".

Overview Section:

- The ACGT data mining toolbar:** A horizontal bar with buttons for MyACGT, Data, Metadata Registration, Query Tool, Workflow Editor, GridR Session, VO Management, Data Access, MySettings, and How to.
- Latest news relevant for you:** A section with a "MyACGT" button and the text "Write to the ACGT administrators".
- Prototype your R data mining script interactively:** A section with a "GridR Session" button and an R logo.
- Register your data mining script / Search for existing data mining scripts:** A section with a "Metadata Registration" button.
- View your files stored in ACGT / Upload your own files / Retrieve workflow results:** A section with a "Data" button.
- Create queries to retrieve data from ObTIMA:** A section with a "Query Tool" button.
- Connect your own database to ACGT:** A section with a "Data Access" button and a "MyData" database icon.
- Combine data sources and mining tools in workflows to get new results / Execute workflows:** A section with a "Workflow Editor" button and a workflow diagram icon.
- Customize your ACGT environment:** A section with a "MySettings" button.

Central Diagram: A central grey box contains the text "And you're in the ACGT Portal!". Arrows point from this box to the "Query Tool" and "Data Access" buttons. A dashed box labeled "Clinical" encloses the "Query Tool" and "Data Access" buttons. A double-headed arrow connects the "Data Access" button to the "MyData" database icon.

News Section:

- Workshop on European-Japanese Research Collaboration in Medical ICT 14 & 15 September 2009, Sapporo, Japan:** ACGT partner Hokkaido University hosts a workshop that brings ACGT's managerial, technical and medical leaders together with representatives of Japan's science ministry, its funding agencies, 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 provides a forum for discussing increased cooperation between Japan and the EU on future medical ICT projects. [\[more\]](#)
- Literature Mining Services:** ACGT partner Biovista announced in September 2009 that BVA-201, its drug targeting Multiple Sclerosis (MS), has shown significant positive results in the MOG-induced Experimental Allergic Encephalomyelitis (EAE) murine model of MS. BVA-201 is an existing drug that Biovista repositioned in MS and was shown to have both efficacy in reducing symptoms and no toxic effects in this well established model of MS. Biovista performed this work using its literature mining technology part of which is available through the ACGT platform. [\[more\]](#)

Text Boxes:

- Top Right:** "To learn what you can do in the ACGT environment ... access more tutorials here" (with a yellow background).
- Bottom Right:** "Logout" and "Welcome, Alexandru Sofronia" (with a blue background).