The GTPB training programme in Portugal

Pedro L. Fernandes

Abstract

The Gulbenkian Training Programme in Bioinformatics has been offering hands-on training courses in Oeiras, PT for more than a decade. This article is a review of its functional organization and evolution. We aim to share our experience with people considering setting-up similar training facilities elsewhere. More than 1600 course attendees, so far, have attended our courses. Their experiences have helped us to know how to satisfy their training requirements and what is feasible with very limited resources.

Keywords: Bioinformatics; training; hands-on; Computational Biology; educational objectives

INTRODUCTION

Gulbenkian Training Programme in Bioinformatics (GTPB) started formally in 1999. Previously, commencing in 1986, Bioinformatics training modules had been contributed to MSc and PhD schedules introducing students to the emerging techniques. The demand for the GTPB came from research laboratories, where the requirement for young trainees to acquire Bioinformatics skills was becoming increasingly clear. In this period, access to biological information resources and appropriate computational methods became imperative [1]. Researchers increasingly recognized the importance of investing effort to acquire Bioinformatics skills to support their endeavours [2].

In response to this demand, the GTPB evolved from the sporadic provision of Bioinformatics modules into a formal program of Bioinformatics courses. Courses are repeated regularly with improvement and adaptation to reflect the rapidly changing nature of the field. New courses are added to the program as appropriate. The training provided is of a practical nature, wherever possible, offering contact with actively publishing scientists. Our courses complement the more academic approach of most University programmes [3–6]. Our aim to training, in this concern, refers to what

university level courses do not usually offer: a contact with active publishing scientists that can establish a proper good conceptual framework with a set of quick lectures, followed by illustrative exercises providing practical skills. Once an annual program was established, course methodologies were standardized. All courses have the prime objective of enabling attendees to autonomously deploy their newly acquired skills.

The GTPB now offers more than 15 courses a year, and has developed active links with a growing list of collaborating trainers appreciative of our methods. Our courses, with minimal adaptation of their GTPB format, have been successfully exported to other suitably equipped venues. We are currently experimenting with ways to offer our courses to remote audiences using live, bidirectional video links. We also actively promote collaboration between the GTPB and other organizations with similar objectives. Sharing ideas and indeed, complete courses can avoid wasteful duplication of effort and travel costs as well as enabling training events to be more widely available to the community. Close connections with other Bioinformatics training programmes offer many obvious benefits including the cross advertisement of training events and the exchange of ideas, methods, trainers, attendees and

Corresponding author. P. L. Fernandes, Instituto Gulbenkian de Ciência, R. da Quinta Grande 6, 2780-901 Oeiras, Portugal. Tel: +351-21-4407912; E-mail: pfern@igc.gulbenkian.pt

Pedro L. Fernandes is the creator and coordinator of the Gulbenkian Training Programme in Bioinformatics, held at the Instituto Gulbenkian de Ciência in Oeiras, Portugal, on a regular basis, since 1999. Over 80 courses and 1600 attendees.

other essential contacts. Developments in biological research are many and diverse. Recent examples abound from genome-wide studies, biodiversity and conservation, high throughput technologies, integrative systems biology, translational connections with the medical sector, etc. The GTPB has striven to provide suitable training for researchers involved in such new disciplines.

The GTPB now also offers 'foundations-type' courses for bioinformaticians with an incomplete formal grounding in all the skills they require. These courses are designed to provide a solid introduction to the mix of Biology, Computer Science and Statistics essential for a bioinformatician. Depending upon individual background, some of the topics addressed are likely not to have been addressed formally since school days.

EDUCATIONAL OBJECTIVES

The prime objective of our training courses is to supply practical skills that can be employed confidently by the trainee without supervision. To achieve this efficiently, trainees are provided an environment that encourages maximum concentration. The intensive nature of the training program is clearly conveyed. The need for serious application in order to reap maximal benefit is impressed upon trainees. At the opening session, attendees are encouraged to interrupt the speakers at any time in order to resolve misconceptions as soon as they occur. They are further requested not to leave any practical exercise unfinished, and help always being available from the trainers.

Participants work in pairs for most courses. We feel it is important to learn to work with, rather than depend upon, other people. Where appropriate, participants learn to install new software, local databases, etc. Working as a team has proven to be of particular value for such tasks. Participant workstations are dual boot PC's offering both Linux and Windows. They are configured to allow participants full access (super user or administrator access). A strategy for swift recovery from any major user mistake is clearly essential. Thus far, we have not had to employ our recovery plan.

For just a few courses, mainly the programming language ones, participants are allocated individual workstations. Generally, participants work in pairs. This has proved effective in many ways. Particularly, it creates opportunities to discuss

problems that frequently lead to better and speedier solutions.

Details on the training room design are given in Appendix 1 for reference.

AUDIENCE FOR TRAINING COURSES

The majority of our course attendees are at the beginning of their career in science. It is thus of particular importance to minimize registration costs. Specifically, we do not wish to exclude self-financed participants. We also feel it important to provide some help in lowering travel and subsistence costs.

Our audiences are recruited by advertising, as described below, and that results in a healthy mixture of nationalities and backgrounds. The mixture of backgrounds often necessitates a gentle introduction to ensure sufficient understanding of the course topic to follow proceedings. Attendees need to feel relaxed and supported, in order to deal with the intensive nature of the courses.

Foreign participants were ∼20% of the total in the last 10 years.

In 2009, the distribution of number of attendees per country of origin was as follows:

Country	Participants	Total
Germany, Finland, France, Germany, Nigeria, United States, Ireland, Canada, Switzerland	1 each	9
Belgium, Brazil, Poland, The Netherlands, UK	2 each	10
Italy, Sweden	3 each	6
Spain	13	13
Portugal	164	164
Total number of participants	–	202

REUSABLE MATERIALS: CHALLENGES

An important question that needs to be addressed is: why are so many people creating materials to train in Bioinformatics from scratch, instead of freely sharing materials that can be tailored to meet particular needs?

A common frustration for all Bioinformatics trainers is that their training materials (presentations, exercises) need constant maintenance in order to remain relevant. This is a natural consequence of continual innovation in the field, allied to the rapid growth of data resources. The problem is further exacerbated by the development and integration of

new and existing services. This situation might be significantly improved by a repository of more stable materials to be made available to trainers. Images and training datasets would be particularly appropriate for inclusion in such a repository. The use of such materials should markedly reduce the time and effort required to build new training materials. It would be essential to ensure that repository items were only used in ways approved by their originator.

A CD record of all course materials has been made for almost every GTPB training course since its inception in 1999. These CDs compose an extensive collection of training materials. Using these materials as they stand would rarely be appropriate as they will generally not have remained current. However, given the agreement of their originators and input from a suitably qualified team, it should be possible to extract elements from the GTPB CD collection to form the nucleus of the proposed repository. Plans for such a project are in preparation.

Additionally, entire lectures might be recorded and made available widely. Clearly, for various reasons, not all lectures would be suitable for such treatment. As a part of the GTPB, we have begun to select and record more advanced or specialized lectures. These will be used for online sessions with remote audiences or in webinars. The availability of cheap sound and image recording equipment has helped to make this possible for a very low cost.

COURSE PREPARATION

Preparing a new training course from scratch can easily take 6 months to a year. It is therefore essential to plan well ahead when contemplating offering an entirely new topic. Revising existing courses normally involves less effort and time.

In order to ensure that our finite resources are spent to best effect, each year (edition) we organize a poll to identify which course topics are likely to be the most popular. This should enable us to concentrate upon those topics with the greatest demand. Votes are collected anonymously. Voters are solicited by requests and sent to various appropriate mailing lists and websites. To date, we have used only course titles to specify the proposed course topics. Unfortunately, on a number of occasions the titles alone have insufficiently described the proposed course. Inevitably, this has led to confusion. In future polls we will add a short description to each title. Despite these small problems, poll results have served their intended purpose of helping us to avoid wasting effort on courses unlikely to be sufficiently well attended.

New course topics are adopted in response to the emergence of new technologies or requests from the user community, often delivered in feedback from current courses.

We start preparing for a new course starts by finding active authors in the field that are giving lectures in workshops or participating in other courses. Where possible, we obtain references from colleagues or course/workshop attendees and then select an instructor to coordinate the course. The course coordinator is normally invited to propose a colleague or two to share the preparation and delivery of the course. We ask for a short description of each trainer.

We then consider the course content, often building from a 'wish list' composed of contributions from potential attendees and colleagues. The initial list typically requires trimming down to a subset that can be covered realistically in a few days, with a set of instructors that is most often limited to a course coordinator and an additional instructor. When this is done, a course summary is composed and, together with the trainer self-descriptions, added to all the other course outlines available from our website. Once a provisional timetable and initial course date is agreed with the course coordinator, the course can be announced online and is open for applications. We try to announce course dates at least 4 months in advance. Our objective is that the announcement conveys to potential attendees exactly what topics will be covered and who will be presenting each topic. The timetable must be sufficient to make clear how the course is structured, session by session.

Most of our courses are sufficiently successful to warrant repeating annually. Some have a large enough audience to require more frequent repetition. For such established courses, we request trainers to adapt their materials and content in response to feedback from previous attendees. Feedback questionnaires are our most valued source of suggestions for improvements. We also regularly discuss with our trainers ways of introducing new elements into their courses and/or improving the structure of the course (for example, adjusting the balance of lectures to practical sessions or the duration of a theme). These measures aim to tune course organization

and contents. On very rare occasions we have needed to entirely abandon a course element.

ADVERTISING

Our advertising must fully inform potential attendees of all the training opportunities we offer. It is important to allowing sufficient time for considered selection to be made. The prime objective is for each course to be as full as can be achieved with attendees for whom the topics are pertinent. To this end, we use a variety of approaches:

(1) Each year, a list of the courses we expect to run is prominently displayed on the GTPB website. The course list is arranged to reflect the expected order in which the courses will be run. Each course is flagged 'in preparation', 'about to open', 'open' or 'closed' according to its stage of readiness. Once dates, content and timetable are confirmed with the coordinators of a course, the date is added to the list entry and the course title becomes a link to a course specific web page. From the course web page, it is possible to apply to attend the course.

(2) Over the years the GTPB has been running, a mailing list of some 1300 people who have expressed an interest in our activities has been compiled. Most of those on the list have now attended at least one of our courses. Course presenters are included in this list. Course announcements are circulated regularly to the list as well as to other associated Institutes in the vicinity.

(3) Our courses are announced on a number of websites of Bioinformatics orientated organizations. These sites include the websites of EMBnet and other sites in Spain, Italy and the UK.

(4) A public calendar is available in Google Calendars under the name GTPB, and can be browsed using the URL:

http://www.google.com/calendar/embed?src = 8qu1dc7lebosjgc37227plih9c%40group.calendar .google.com.

It can also be imported into calendar applications by using the ICAL available from:

http://www.google.com/calendar/ical/8qu1dc7 lebosjgc37227plih9c

Although what we have in place has proved effective, we feel we need to do more to make the appropriate people aware of our program. Too often we have discovered that attendees came to know of relevant training opportunities by chance and at the last moment.

We feel that better advertising requires collaboration between as many institutions providing similar training as possible. The customer seeks the best option under the best conditions (geographically, economically, etc.). Such a quest is most easily pursued if options from all sources can be assessed as centrally as is practicable. To begin to make this possible, we have encouraged organizations offering Bioinformatics training to construct compatible course calendars (currently using Google). These can then be combined and embedded on public websites. The calendars may also be accessed singly or together by individuals seeking to evaluate training opportunities. We feel that there could be interest in offering some sets of individual courses as coordinated programs. Courses composing a program need not all be organized by the same institution, but they must be open to all (i.e. not part of a formally restricted academic program such as an MSc or PhD). This would require considerable planning and administration. Course components would need to be standardized and combined with care. To undertake this project effectively, there is a clear need to encompass training programs as well as individual stand-alone courses, provided that the access to them is not restricted (open to all). This need requires that a separate mechanism is put in place to collect individual course information in a standardized way, and this requires some manpower at the supervisory level; a proper level of staffing would be essential. With other interested parties, we have informally started to consider how this possibility might be implemented, our initial efforts are aimed at establishing an online resource encouraging the exchange of ideas and information. We are collaborating in *ad hoc* groups that want to address this issue in a way that will probably result in an online resource to help such procurement.

BIOINFORMATICS COURSE THEME DIVERSITY

GTPB courses are divided in the following main categories:

Introductory: courses introducing a wide range of basic bioinformatic techniques and resources at

no great depth. These courses require a reasonable understanding of Molecular Biology and very basic computing skills. They are aimed at people seeking an entry point.

Thematic: courses covering specific Bioinformatics topics (e.g. Phylogeny, Structural Genomics, Proteomics, Population Genetics) in reasonable depth. These courses normally assume some familiarity with basic Bioinformatics (such as how to produce and interpret alignments). They are aimed at people directly involved with the themes covered by the course.

Programming: introducing specific programming or scripting languages, e.g. Perl, Python, etc. Aimed at the increasing number of researchers requiring basic informatics skills to address problems for which new software must be developed. Foundations: addressing fundamental concepts of Computer Science, Statistics, etc., aimed at scientists who work in Bioinformatics but need to improve/refresh their basic skills.

Unsurprisingly, most of our courses fall into the 'Thematic' category.

The GTPB offers a very varied range of courses. The list of courses available from our website is complete and regularly maintained. Past, present and future courses are recorded. To illustrate the range of courses we offer, there follows a list (omitting repetitions) of course titles for the last 3 years.

Course title	Course type
Analysis and manipulation of phylogenomic data using ETE	Thematic
Automatic Functional Annotation and Data Mining (using Blast2Go)	Thematic
Bioinformatics using Python for Biologists	Programming
Biostatistical Foundations in Bioinformatics	Foundations
Browsing genes and genomes with Ensembl	Thematic
Computational Phyloinformatics	Programming
ENSEMBL Developers Workshop: CORE and VARIATION	Programming
ENSEMBL Developers Workshop: CORE and COMPARA	Programming
ENSEMBL: Browsing on genes and genomes, Mining with BIOMART	Thematic
Genetic Architecture of Complex Traits	Thematic
Hunting for genes and promoters	Thematic
Immunoinformatics	Thematic
Introductory Bioinformatics	Introductory
Macromolecular NMR assignment with CcpNmr Analysis	Thematic
Microarray Data Analysis using GEPAS and Babelomics	Thematic

Microarray Data Analysis using R and Bioconductor	Thematic
Molecular Evolution, Phylogenetics and Adaptation	Thematic
Molecular Markers and Population Genetics	Thematic
Pathway Biology. How to analyse transcriptomics, ChIP-chip/seq and proteomics data	Thematic
Perl and Bio Perl for biomedical researchers	Programming
Powerful Search and Mining in Biological Databases	Foundations
Protein Structure and Function Prediction	Thematic
Proteomics Data Analysis	Thematic
RNA Bioinformatics	Thematic
Structural Genomics and Drug Discovery	Thematic
Workflows and Programmatically Accessible Tools	Programming

DOCUMENTING COURSES

Attendees to all GTPB courses are issued with a certificate of attendance and a CD containing all course materials including presentations, reference information and sometimes data to make it possible to repeat/extend exercises after the course. Providing a full set of course materials is a fundamental GTPB policy. Attendees are informed at the start of all courses that they will be provided with the course CD. During the course, the aim is to remove the need to take copious notes during lectures. We prefer that attendees are free to listen carefully. After the course, the stored material enables attendees to remind themselves of the talks and often to repeat the course exercises. The value of the CD varies according to the nature of the course, but generally we consider it to be extremely useful and certainly popular with attendees. CDs are produced by a simple robotized recorder/printer (Imation D20, also marketed as Primera Bravo) that allows the production of 20 CDs in a matter of a couple of hours. This means that CD production can be left until the last day of a course allowing the contents to be assembled during the course and the inclusion of 'last minute' items.

FEEDBACK FROM THE ATTENDEES

Our standard questionnaire is in Appendix 2. Its prime function is to solicit ideas for improvements, other suggestions, 'wish list' requests for topics not covered, etc. Questionnaires are submitted anonymously by all attendees at the end of every course.

Attempts to generate useful statistics from the questionnaires have proved to be of limited value. However, used more informally, they do assist us to

make more general assessments of how individual course might be developed and how the course program as a whole might evolve to meet changing needs. Questionnaire analysis has rarely determined whether a particular course is repeated or not. However, they have had considerable impact on the way courses are developed.

We are in the process of making an informal database of the more relevant comments from the questionnaires. This content will be made available online very soon.

PLANNED IMPROVEMENTS, DEVELOPMENTS AND EXTENSIONS

The GTPB is currently run by just one person. It cannot expand significantly without additional staff. However, that which has been achieved can be implemented more widely. Largely through informal contacts, our methods, and indeed entire courses, have already been replicated in other venues. We intend to encourage this trend into the future.

We will continue to expand and adapt our range of thematic courses to meet the ever changing needs of the community. Currently, we are responding to requests for courses in data management and the processing of high throughput sequencing data. In addition, we will continue to offer at least one introductory level course, one 'Foundations' course and one programming course.

We have now conducted our first experiment in projecting our training to a remote audience. Part of our Phylogenetics course was projected from Portugal to an audience in the UK. This was achieved using bidirectional video/audio links and freely available software (Adobe Connect Now for the actual lecture support and Skype for the room managers) [7]. We limited the experiment to a lecture followed by a discussion with participants on both sides. The lecture was transmitted in audio/video showing the lecturer and both audiences, together with a slide session and a rudimentary white board. Following the slide session was made easier for the remote audience by having the presentations files available on all remote participant workstations. For a first attempt with minimal hardware, this experiment was extremely successful. The remote audience for this experiment was provided by the SBSBT programme of Cambridge University.

This experiment highlighted a number of issues that will help us improve with future experimentation. As we anticipated, thorough preparation and testing proved essential to minimize interruptions due to technical problems. It was clearly essential to have competent technical support constantly on hand both ends of the exchange, however meticulously the event might be planned. For this kind of session, the most minor interruptions can have very substantial consequences.

So far, we have not attempted to run a training exercise with two geographically separated audiences. This would clearly be far more difficult to manage. For an exercise to be successful, individual attention must be available for participants on both sides of the exchange. This could not effectively be provided remotely. Adequate levels of competent teaching assistance would be required at both venues.

It should be a simple matter to record suitable training sessions. These recordings could be made available widely in a number of ways, for example, on DVDs. We intend to do this imminently.

Using the strategies outlined above, we expect to significantly broaden the impact of the training opportunities that we offer. The precise extent to which we can expand in this way, without additional personnel, is difficult to predict. We are, however, very optimistic.

Bioinformatics continues to gain credibility as a full-time profession. Courses offering academic qualifications specifically in Bioinformatics become ever more prolific. We cannot but be assured that the need for practical training in Bioinformatics will continue to expand.

Those requiring the sort of training we provide include active Bioinformatics professionals who may have left formal education years, or even decades, previously. Amongst this group will be those whose background in the core elements of Bioinformatics (Statistics, Computer Science and Biology) may have been dormant so long as to need refreshing. For such people we offer our 'Foundations' courses. These offer intensive training in the base subjects of Bioinformatics. Suitable topics include: developing algorithms and software; building optimized and robust databases; gridding or clouding applications; integrating and mining resources; APIs and web services.

Currently, our 'Biostatistical Foundations in Bioinformatics' course is fully prepared and about to open. In this course, the statistical basis of selected methods will be considered rigorously. It is intended that participants will acquire a sufficiently firm understanding to use and adapt the methods covered with confidence, rather than in the 'hope and prayer' fashion that can be all too prevalent.

We have already run a 'Foundations' style course covering information retrieval and mining. This course encouraged a complete understanding of how a database might be constructed and maintained. It was taught by computer scientists in an innovative fashion, tailored to the audience but with no compromise on technical detail. It was extremely well received. We are convinced that we should continue to offer courses after this fashion and feel that they will gain in popularity in the coming few years.

In order to expand the scope of these 'Foundations' courses, we need to consider carefully questions such as:

'What aspects of Biology, Statistics, etc. does a Computer Scientist require to be able to be an effective bioinformatician?'

As users of Bioinformatics tools become ever more sophisticated and demanding, the need for better quality interfaces and more reliable software grows. Accordingly, the designs of human interfaces, software testing and robust design of applications are all topics for which we seek to offer training aimed at practising bioinformaticians. We will be evaluating the need for such training in the near future.

As yet, we have only experimented with e-learning to complement more conventional training events [8]. Our experience, though limited, has been encouraging. In the future, we will investigate ways to employ this exciting new mode of teaching more fully [9]. We have a grant application in preparation which will enable us to create a standardized set of e-learning components. Initially, the objective will be to produce materials primarily for attendees of our 'live' courses to use to reinforce, revise, update and modestly extend what they have learned. Eventually, we would hope to produce stand-alone e-learning modules for very specialized subjects [10].

GTPB maintains close connections with other Bioinformatics training course programmes, such as:

- The SBSBT of the University of Cambridge, UK [11].

- Bioinformatics and Genomics, Centro de Investigaciones Principe Felipe, Valencia, ES [12].
- Training at EMBL-EBI, European Bioinformatics Institute, Hinxton, Cambridge, UK [13].

Key Points

- Benefits of standardization of training conditions for hands-on Bioinformatics courses should be highlighted.
- Careful consideration should be put in factors that contribute to fast and efficient acquisition of skills and autonomy, such as active sharing of resources, enhancing the opportunities for group discussions.
- It is possible to build and maintain a medium-scale training infrastructure at low cost.
- A critical selection of training subjects and instructors (trainers) is necessary.
- Currently available technologies allow for management of remote audiences and efficient training material management at moderate costs.

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APPENDIX 1

THE TRAINING ROOM, DESIGN AND IMPLEMENTATION

The initial design of our training room reflects our educational objectives. The demands of new courses and feedback from course attendees have both influenced the way the room has been improved over time.

Attention has been paid to the minimization of distracting elements. Specifically, every effort has been made to ensure software and hardware uniformity across all workstations. Exercises that will work on one workstation must be assured to work identically on all.

All course materials are made available to attendees at the end of each course. This eliminates the need to take extensive notes which diverts attention from the progress of the course. Fully focused, attendees can best cope with the more complex elements of our courses.

The GTPB requests trainers not to make lengthy lectures, but to intersperse shorter talks with practical sessions. We feel, with the majority of the subjects we cover, 'learning by doing' is an effective approach that is popular with students.

GTPB courses are run in a room that seats 20 attendees in pairs. Each pair shares a desktop workstation. An additional computer is dedicated to the trainers. All workstations are hardware identical and software clones of a windows/Linux dual boot installation. The trainer computer is connected to a projector. The projector can easily be switched to an alternative VGA source, most commonly a presenter's laptop. Holding the attention of a class throughout a 7 h/day of presentations and exercises is not easy. Especially during exercises, it is essential that trainers can discuss problems with attendees on an individual or small group basis without disrupting the progress of the course. To facilitate this, our room is organized so that an extra chair can comfortably by placed alongside any workstation.

We run a dedicated server with several functional virtual machines installed. The most commonly used function of this server is shared disk space mounted on a SAMBA partition. This space is made available to every desktop in the room, with full permissions to read write and erase. It shows three folders to make files available speedily around the room. The 'To Student' folder is used by the trainer to distribute files as required. The 'From Student' folder is used by attendees to make their results available to the other participants. The 'Installers' folder holds copies of software and data to support installations, divided by operating system.

Next to the training room there is an area for coffee breaks. Experience shows that shortening coffee breaks to <20 min is not ideal. Breaks are not only essential as rest periods to keep people lively and enthused, but also are valuable for the many exchanges of professional experiences and other less serious discussions that take place. Often such conversations have lead to collaborations (and importantly friendships) that might otherwise never have occurred. All in all, break time is time well spent.

Preparation of the training room for courses must be performed meticulously. Cleaning up workstations after previous events, ensuring all installations are current and testing exercises are of particular importance. It is essential to avoid mistakes or oversights requiring correction once a course is in progress. Preparing the workstations is hard work and takes a considerable time when the room is empty. Making the smallest correction when the room is in operation will take even more time and break useful progress of the course, potentially leading to a complete standstill. The most trivial interruption of any nature can cause unacceptable frustration. Even when the room has been prepared

satisfactorily, it is essential that competent technical support be on hand at all times during a course. The unexpected may always be confidently expected. If even minor problems are not overcome promptly and efficiently, it is likely the ensuing chaos will be all

that is remembered of the course. It is not a good idea to rely solely upon the trainers for problem solving, however familiar they might be with our set up. Our policy is to have 'local' support at hand whenever possible. We also strive to allow trainers a suitable access to our systems before, during and after a course to ensure a successful event.

APPENDIX 2: FEEDBACK QUESTIONNAIRE
(Blank spaces are larger in the actual questionnaire that we use, it actually occupies two pages)

Course title, date
This questionnaire aims at providing an assessment of the quality of our courses and make improvements. As an attendee, your individual opinion is what matters. Please fill-in, one cross per line:

As an attendee, your individual opinion is what matters. Please fill-in, **one cross** per line:

	Poor	Averag	G	Very good	Excellent
Course organization					
Course announcement					
Registration process					
Course subject coverage (topics)					
Total course duration					
Coverage of the proposed topics					
Adequacy of the teaching methods					
Clarity of the lectures					
Duration of the lectures					
Balance between practicals and lectures					
Quality of handouts and references					
Training room					
Timetable, breaks, etc.					

Were there enough chances for you to discuss with the teaching staff and other participants?	**Yes/No**	
Please rate the **overall quality** of this course [0% to 100%]	_____ **%**	
Please rate how this course **met your expectations** [0% to 100%]	_____ **%**	
Would you recommend this course to other people?	**Yes/No**	
If you classified anything below 'Good' please let us know why		
Suggestions for improvements		
Suggestions for future course themes		

How did you hear about this course? _____

In a simple phrase, please make a statement that best describes the experience of attending this GTPB course: