

MERIT Newsletter



6 - 2012

Dear all,

The MERIT team is almost complete now, and our project is running successfully: The first Skill Training, the first lab exchange, first scientific outcome ... and the first accepted Annual Report!

This report was the first practical test for our consortium and the management of the project. The response of our Project Officer was positive and she stated, that

... The scientific quality of the report and the information provide is very good.

... Though some minor delays in the recruitment of ESRs the project is progressing very well and is on track.

... The newsletter and the website are very informative.

These are quite good news for our second newsletter to start with, and I would like to congratulate all participants of the project for this teamwork!

Nevertheless, the next annual meeting and the next report are coming soon. In October we will meet in Lisbon, and together with our Project Officer we will evaluate the progress of the first half of the project. We will have a close look and see, what was good and should be continued, but also what could be improved. General, for more information about the project and all relevant courses and events please visit our website:

<http://theory.bio.uu.nl/MERIT/html/index.html>

Looking forward seeing you there and enjoy reading!

Best regards, Sylvia

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Suggestions for the next issue are highly welcome!

Project timeline

- 01/11 start of the project
- 03/11 kick off meeting in Utrecht
- 09/11 website online
- 10/11 almost all fellows selected
- 11/11 1.annual meeting in Madrid
- 01/12 1.Annual Report submitted
- 02/12 ST1 successfully finished
- 03/12 Umeå new MERIT partner
- 05/12 1.Annual Report accepted

Mid Term Report is coming soon!

Calendar 2012

SEB Annual Main Meeting
29 June - 2 July 2012
Salzburg, Austria

ICAR - International Conference on Arabidopsis Research
3 - 7 July 2012
Vienna, Austria

Gordon Conference on Plant Senescence
15 - 20 July 2012
Easton, Massachusetts

Gordon Conference on Plant Molecular Biology
15 - 20 July 2012
Holderness, New Hampshire

Plant Biology
20 - 24 July 2012
Austin, Texas

CST2 – How to make an eye-catching scientific poster
4 -5 October 2012
Lisbon, Portugal

M3 – MERIT Midterm Meeting
3 – 7 October 2012
Lisbon, Portugal

10th International Congress on Plant Molecular Biology
21 - 26 October 2012
Jeju, Korea

ST1 – Mystery of numbers and networks

1. Part: Challenging course on statistics

Recollection of the 2. MERIT network training course

by **Andrea Mair**

Statistics and bioinformatics – new and old tools for the biologist

A big experiment is done and lots of data collected. What now? As new technologies get invented and automation of certain experimental procedures progresses it gets easier and easier to produce huge datasets containing information that could potentially answer many different questions. At the same time it gets almost impossible to understand the large-scale implementations of this bulk of information with classical approaches. Therefore, statistical analysis and bioinformatics gain increasing importance in the daily work of a scientist.

To teach the young scientists in the MERIT consortium how to correctly apply statistical tests and to give them an overview over some important methods and available bioinformatics tools a 2-

week course in “Statistics and bioinformatics” was held at the end of January at Utrecht University.

The course consisted of a well-balanced mixture of lectures, explaining the theory and background, and exercises, during which the students had time to try out on their own what they had learned, followed by discussions. The individual topics of the course were introduced by different senior scientists (from Utrecht University, Wageningen University and the UMC: René Eijkemans, Cas Kruitwagen, Johannes Hanson, Berend Snel, Gabino Sanchez-Perez, Lidija Berke and Leonie Bentsink).

In the beginning of the first week the fellow’s statistical basics were brushed up and the participants learned to use *R*, a very versatile and frequently used statistical program. The second part of that week was then dedicated to processing of raw data from microarray experiments using *R* to get data that can be used with the



tools presented later on in the course. In the second part, Gene Ontology analysis (GO), Principal Component Analysis (PCA), Clustering, Network analysis and sequence motif search using publicly available bioinformatics tools were introduced and strengths and weaknesses of these methods were discussed. An additional talk, given by a company representative from Service XS in Leiden, Wilbert van Workum, gave insight into microarray technology and other newly evolving technologies and services offered by companies.

Of course, the social aspect of the course didn't miss out as well. The participants were housed in 4 small

bungalows in a recreation park close to Utrecht center, where they could spend their evenings together, playing games, exchanging thoughts on science, the life, the universe and everything and prove their cooking skills by preparing their own national specialties for each other. A sightseeing tour and two nice evenings with bowling and salsa in Utrecht loosened up the tight course program. All in all, it was a well-organized course in a beautiful town from which all participants will certainly profit in their work.

EVALUATION

As for the last network course the fellows were asked to evaluate the course. All 16 participants gave their feedback (see Fig. 1), which was quite positive, despite the differing background and personal preferences / expectations of the participants; the course was highly useful and fulfilled the expectations of the students. The lectures were mostly clear and understandable, however, sometimes a bit too much detailed regarding to the time. This course gave an introduction and the statistical basics for the network skill training ST5: Analysis of transcript profiling data – how to get relevant information out of great amounts of data. Within this training the fellows than will analyze their own data. More information about the course and the evaluation can be found on our website (<http://theory.bio.uu.nl/MERIT/html/meritcoursesst1.html>).

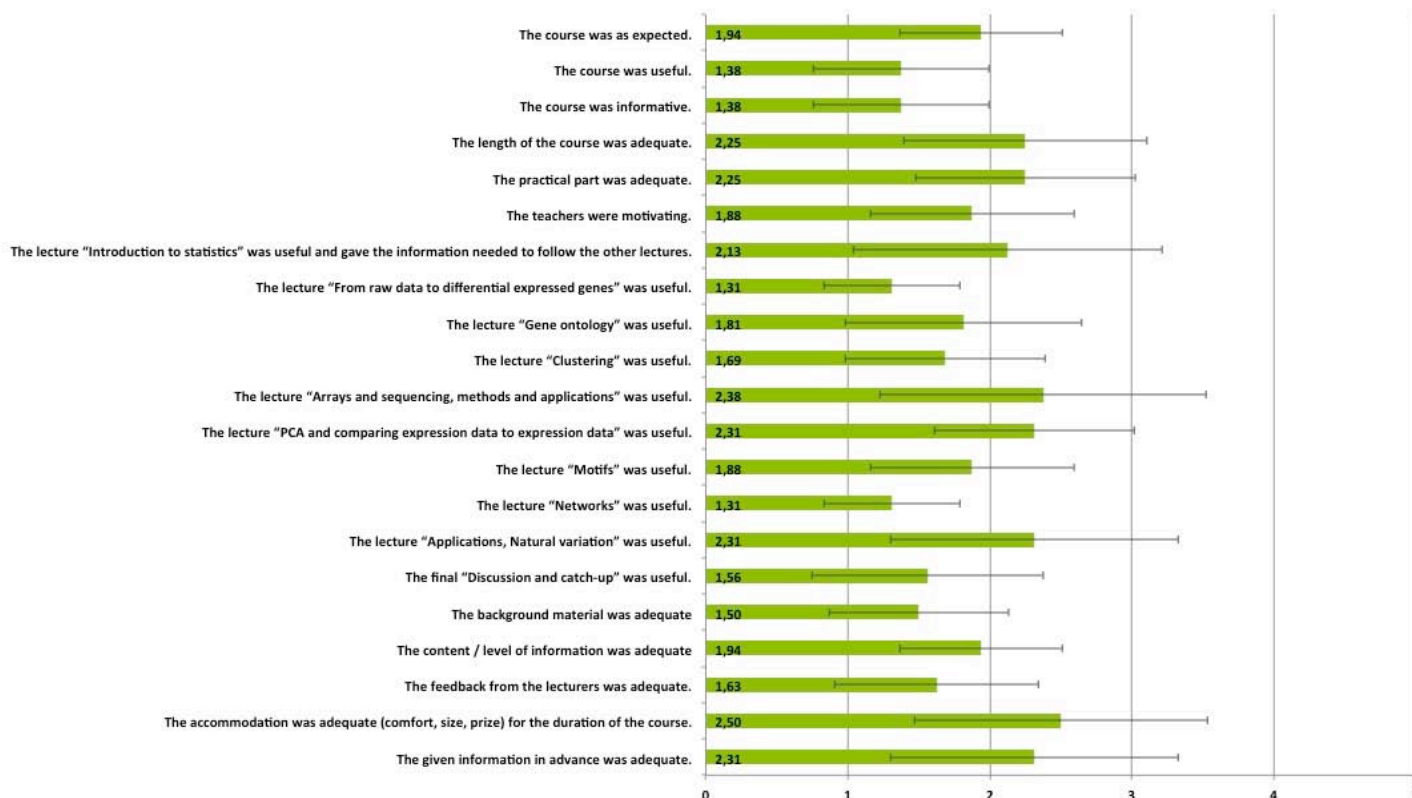


Fig. 1: Evaluation ST1, range from 1=definitely to 5=not at all

Network – Network

ST1 – Mystery of numbers and networks

2. Part: The social aspect of the course

Two weeks of statistic course in Utrecht



Utrecht: historical city-tour



Utrecht: historical city-tour



Amsterdam: Science museum "Nemo"

We really had a good time in Utrecht and we learned a lot during this course. However, the first thing that popped into our minds was that we had the opportunity to socialize with each other for developing a strong foundation for our academic career.

Many of us arrived from different European countries with different nationalities. We spent two weeks in camping cottages close to nature and we learned how to analyze our scientific data, which we generate during our research. It was an excellent course from beginning to end with different kinds of activities. It was a good combination of science and fun☺.

During the day we learned all about R and other statistical programs and in the evenings we played different kinds of games, (we still remember the word BANG!) and we enjoyed cooking and eating different cuisines.

During our free weekend, we explored the multicultural lifestyle in Utrecht and did many things including taking a historical tour, visiting museums and tasting local beers. In addition to this, we had two lovely evenings of Spanish tapas with salsa dancing and a barbecue dinner with bowling.

In conclusion, in the course we learned about how to construct networks from biological data and we constructed our own social networks.

After these two weeks in Utrecht we are looking forward seeing everyone at our next meeting in Lisbon!

Jeba (Jebasingh) Selvanayagam,
Nicole Rodenburg and Monika Tomar



Networking, Networking, Networking!



Dear all,

It is a pleasure for me to announce Umeå as a new associated partner of our MERIT network. After negotiation with Umeå the EU accepted our new most northern project member (63°49'30"N 20°15'50"E) in March.

As some of you may now I am leaving Utrecht finally at the end of the project to Umeå. During the MERIT project I will be part time employed in both and will be representing Umeå as well as Utrecht.

So what has Umeå to offer to MERIT?

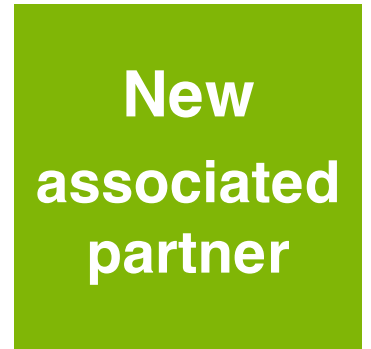
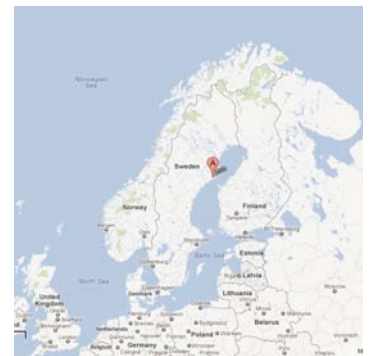
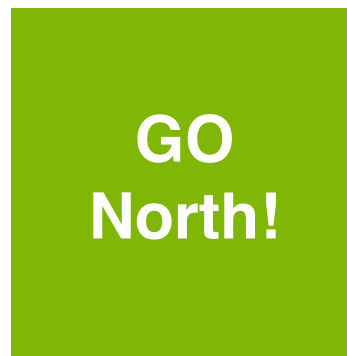
Apart from being a very exotic place to have future microarray workshops, the Umeå group will focus on woody species and LES. We are working with poplar and will study the effect of LES and our favorite bZIPs and kinases in somewhat larger plants than Arabidopsis (Figure 1). One of the focus points is to study the growth inhibition in the vascular cambium in response to energy depletion.

Umeå is a good place for future secondments; not only for those of you planning to do secondments in Utrecht.

The research institute (<http://www.UPSC.se>) is well equipped for plant work and with around 170 employees it offers more possibilities than just excellent laboratories. Both, MERIT participants and Umeå will benefit from making contacts and networking. For those of you that want a follow up on the statistics course or other skill training courses there are plenty of theoretical and practical courses to choose from.

<http://www.kbc.umu.se/researchschool/courses.html>.

Umeå is a wonderful town, situated on the inlet of the Gulf of Bothnia at the mouth of the Ume River, about 600 km north of Stockholm.



First mentioned in the 14th century it has become the capital of Västerbotten County and the 12th biggest city in Sweden. Umeå is very influenced by the two universities (nearly 20% of the 80.000 inhabitants are students) and is a center of education, research and culture. After Stockholm in 1998 the city is the second Swedish elected European Capital of Culture in 2014.

The climate is subarctic (400 km south of the Arctic Circle). In the winter we have a lot of snow and in the summer a lot of sun.

You are all most welcome!
Johannes Hanson



Fig. 1: Poplar seedlings. It is easy to get enough material for your experiments if you use non-Arabidopsis plants.

MERIT Midterm Meeting

We are almost half way and will have our second annual meeting, which at the same time is our MERIT Midterm Meeting, soon. A Midterm Meeting is a first review of what we have promised and what we have reached, to enjoy the progress and to discuss improvements needed for the future. The basis of the meeting will be our Midterm Report, which has to be submitted in advance to the EU.

The meeting is scheduled for three days (8 – 10 October) in Lisbon, Portugal, enough time to discuss the scientific and administrative issues of the project. Elena Baena-Gonzalez is the local organizer of the meeting and also of the associated Complementary Skill Training “How to make an eye catching scientific poster” (4 – 5 October). The posters will be presented during the poster session of the meeting and the best one will be awarded!

Our Project Officer Dr. Benjdia will join us, which is an excellent opportunity to present the work yet done within MERIT. Each fellow and Project Leader will give a short presentation, and in addition to this the poster session to deepen the scientific exchange between the groups. During the meeting the fellows have the opportunity for confidential discussions with the Project Officer.

As mentioned our **Midterm Report** is the basis for discussions during the meeting, thus prepare your part well and

BEFORE 03.08.2012.

The report is in principle an update of the first progress report, thus you can just update the last one. It describes the significant outcome of the work, in terms of research training methodologies, scientific results, networking and opening up of career opportunities.



The report must make explicit reference to the overall progress of the project and to deliverables update including recruitment and international conferences / events. **Please check the deliverables of your Work Package on our website!**

Any relevant material evidencing this selection of most significant results of the project, such as reviewed scientific publications, invited papers, patent descriptions, media coverage, prizes, awards, etc. should be attached.

Beside the report, every recruited researcher has to submit the **Midterm questionnaires**. You will find the link to them by using the big **STOP sign at our website**.

Please fill in them **at least two weeks before the Midterm Meeting**.

The questionnaires are designed to give the Commission some feedback on the overall impact of the network’s activity. It is composed of five sections about personal profile, host assessment, and integration into the research environment & training, work assessment, and career impact. The information given here will be treated confidentially! These questionnaires are also an occasion to make suggestions on how to improve the training opportunities of the network!

For any questions don’t hesitate to contact me!

Sylvia



Dear all,

It is our great pleasure to invite you to the Midterm meeting of our Marie Curie ITN Merit network, which will be held 3 to 7 October 2012 at the Instituto Gulbenkian de Ciência, in Oeiras, Portugal.

The IGC is located on the Tagus bank, some 20km from Lisbon, in the campus of Oeiras, that includes other basic and applied research institutions in biology, biotechnology and chemistry (the Institute for Chemical and Biological Technology (ITQB) of the New University of Lisbon, the Institute for Experimental Biology and Technology (IBET), and the National

Agronomical Station (EAN), of the Ministry for Agriculture). The institute is surrounded by the splendid gardens of the Marquis of Pombal Palace, and is within a 10 min walk of great beaches that attract sunbathers as well as surfers from all over the world.

Oeiras is well connected to Lisbon by a beautiful train line that in 20 min takes you along the coast all the way into the Tagus River and the heart of the city. Lisbon, Europe's most southerly capital, is filled with monuments and museums, and is a

cultural melting pot with African, Indian, and Asian influences.

The labyrinth of narrow streets and small squares of its oldest district, Alfama, is an example of Moorish influence, and it harbors the best bars and restaurants to enjoy Fado music.

The light of Lisbon is unique, as is the scenery you can enjoy from the viewpoints located on its seven hills. Whether it is a tram ride across the older districts, a cod dish with vinho verde in a hidden family restaurant, a night in the vibrant Bairro Alto, or a stroll along the riverbank and a mouthwatering pastry in Belem, you are not allowed to leave this meeting without visiting this wonderful city. And if you plan to stay longer you can then also discover the finest sandy beaches South and North of Lisbon, the castle filled town of Sintra and nearby fishing villages of Sesimbra and Setúbal.

Having had our projects running for a longer time now, we believe this midterm meeting will be a very fruitful one. A meeting to discuss your latest developments, to exchange ideas for our current and future projects, and to start disentangling the complexity of the SnRK1-bZIP axis!

We are looking forward to welcoming you in October!

Elena Baena-Gonzalez

Lisbon

**GO
South!**

M³

**MERIT Midterm
Meeting**

The amazing Utrecht!

My name is Abhroop Garg and I am the MERIT PhD student under the supervision of Dr. Christina Chaban. I have been asked to write an article about my experiences of visiting Dr. Berend Snel's lab in Utrecht, which is, as you all know, one of our partner labs. I do not think I am a very good non-scientific writer but, here it goes...

Although my stay in Dr. Berend's lab was only for a week, nevertheless it was very informative and rewarding. From knowing virtually nothing about constructing phylogenetic trees, I can say I now have the basic knowledge of the tools and techniques required to accomplish the same. I would no longer have the "what-are-you-talking-about" expression on my face when someone talks to me about this topic. Everyone in the lab was very helpful and it was great to work with all of them. I am not a bioinformatician (I only had one bioinformatics module in my undergrad, and that was lo.....ng ago), and so I had some initial difficulties in understanding the topic. Having said that, I would really like to thank Dr. Gabino F. Sanchez Perez for his patience and making me understand the concepts. Thanks to our friends, Alessia, Magdalena and Jeba, for making my stay in Utrecht an enjoyable one. I would also like to thank Dr. Berend to provide me an opportunity to work in his lab. These types of lab exchange programs organized by MERIT are very helpful as they provide very good exposure for theoretical and technical expertise through our widespread research community and greatly help in progression of our individual projects.

I believe such lab exchanges would be very useful for all of us at such an initial stage of our careers. Overall, the stay in Utrecht was lovely and very enlightening.

Go
West

First lab
exchange

Abhroop
Garg

Microscopy – Imaging to understand signaling

organized by Christina Chaban, 09. – 13.07.2012, Tübingen

The understanding of any biological process is not possible without combining molecular, biochemical and physiological analyses with visualization methodologies. Within the MERIT project fellows have the opportunity to use innovative instruments of high complexity, which needs sufficient skills of the users. Within the network skill training "Microscopy – Imaging to understand signaling" the fellows will get the knowledge about modern imaging techniques combined with practical skills, which are needed to make optimal use of the available local equipment.

The course is organized by Christina Chaban and scheduled for one week. Among others, the fellows will learn about fluorescence emission and properties, and their application in high-resolution microscopy. In addition to the information and practice in high-resolution light and electron microscopy, training will be provided in the field of digital image processing. The workshop is organized as a combination of three independent workshops, which are held routinely at the University of Tübingen.

A detailed program and further information can be found in the information letter on our website <http://theory.bio.uu.nl/MERIT/html/meritcoursesst2.html>.

GO

INTO

Detail

ST2

