

## Tips and tricks of the trade

# From DNA to HTML

The World Wide Web, as we know it today, is indispensable for current scientific research. Every scientist's daily work includes searching the web for the latest literature as well as conducting scientific discourse via email. To make things easier for people visiting the internet, some rules for good web-design practice are important.

### Lab Hint

Your website is your virtual visiting card on the internet. When offering a website, you should deliver a platform for information exchange and creating contacts. Additionally, as research is coming more and more into public focus, it is important to be transparent as a research group and present information quickly and easily to researchers and interested laymen. The internet becomes the information source for students and post-graduates to look for a new employer. When presenting yourself and your group on the World Wide Web be sure to provide descriptions of current research topics, information about group members as well as correct contact addresses. There is no second chance for a first impression!

I studied molecular biotechnology and informatics at university. At the beginning of my PhD studies in biochemistry, I was confronted daily with webpages of universities, research groups or institutes. Many of these sites were unattractive, confusing and not up to date. To change this, I started programming websites following the motto "Web-design by Scientists for Scientists" and in 2006 founded a company for scientific web-design (<http://www.dwwbsites.com>). Here I want to give you some do's and don'ts for good web-design practice that our company is still following.

### Keep it simple

Simplicity is one of the most important tips for designing a webpage. Don't confuse your visitor. Most people click once on your page and decide in the first second if they will go on or leave your page without looking for further information. Your webpage must be clearly structured with head, menu and body.

The head displays your logo and your name, the menu gives all the links to your next pages and the body gives the information about your group in text and preferably in a picture. That's all. You don't need moving pictures (like flash animation), sound or any other bells and whistles on your site.



**How to design an attractive and informative website: Daniel Wicke**

### Keep it clear

Define strict areas in your site. Clearly divide each part (head, menu, body) from the others and don't mix them. Keep your webpage small in horizontal space because nobody wants to scroll right and left to read your text. Remember! Your webpage may look differently on smaller monitors or at smaller resolutions. So go to other computers and use other browsers to look at your own site.

### Keep it attractive

Human beings capture most impressions with their eyes, so make your webpage visually attractive. Use colours, but not too much and really do think of bright contrast! Light blue text on a blue background is not easy to read, so use colours that contrast well. Take a known font style (Times, Arial) for your text – and use pictures to fill your site with a personal attitude.

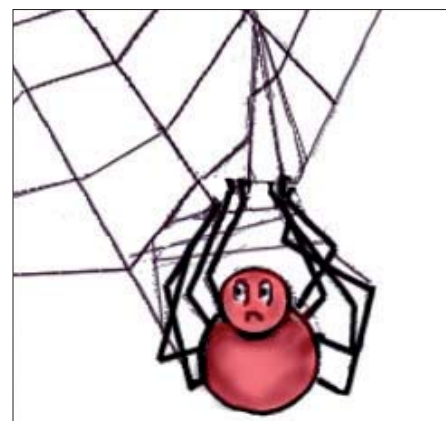
### Menu

The menu is the most important part of your webpage. The visitor should easily be able to navigate your site and find the most important topics with relatively little effort. Have a simple menu with only the most important topics. Don't expand your menu to more than eight points. If it is absolutely necessary to have more topics, define dynamic sub-menus, which, for ex-

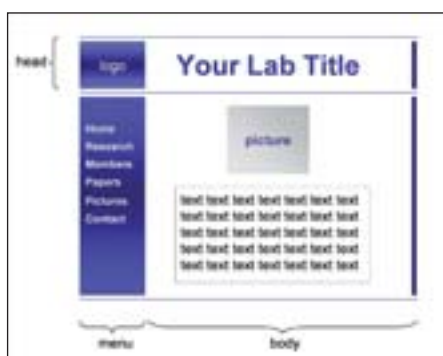
ample, open when you move over the link with your mouse. This can be programmed in CSS (Cascade Style Sheets, example at <http://www.dg-gt.de>). Define the most important links of your site like "Home" (to come back to your start site), "Research" (where you have short explanations of your work in abstract style), "Members" (which are all people currently working in your group), "Publications" (where you present your own selected work) and "Contact" (the most important link, where you state email, phone, postal address, etc). Optionally you could introduce a "Pictures" site where you can show pictures related to "social lab life" in addition to bench work.

### Actuality of information

First and foremost, the main goal of your site is to provide information about you and your work. It should not contain other things or novel style text length. Give basic and easy information; remember not only researchers in your field should understand your site but also students and laymen. Furthermore, your site should make your visitors interested in you and your work. In the best case, your visitors will contact you for more information. A definite must for every website is to keep it up-to-date! You need somebody to service your site regularly! There is nothing worse for a website than to advertise expired job offers or show actual publications ending with the



"All tangled up about websites?"



Basic structure of a clearly organised website

work you did as a PhD student. Check your site at least every year (this sounds lazy, but many sites are made once and then never checked again).

### Logo and title

Try to create a simple logo design for your webpage and your group. A logo is very important for others to recognise your group at first glance without reading anything. You can place your logo, for example, on posters or on slides at meetings. A well-made, distinctive logo helps other people to easily recognise your work. Your title should be concise and short. It should tell the reader in two or three words what you are doing.

### Pictures

As I mentioned before, human beings capture most of their first impressions with their eyes. That's why a website only displaying text does not appear very impressive. Put pictures on your site, create a picture gallery area and let the people see you, your work and your lab. A picture often speaks more than a thousand words. However don't overload your text pages with pictures. Less is more.

### Domain and server

The same rules, which are meant for the title, are also needed for the domain. Choose a short and meaningful domain, which is easy to remember. Today, server space with a personal domain is not very expensive. So I really recommend putting your site on

your own server place. If you still want to use the server space from your institution or university, then definitely make your own domain and redirect it to your site. Nobody wants to write down <http://www.myuniversity.edu/institutes/research/labs/myownsite/index.html>.

### Search engine optimisation

People will only visit your site if they know your domain or if they find you in one of the search engines. Nobody will find your site if you do not subscribe to the search engines or if the spiders (programmes to search the web) from the search engines are not able to read your site. So take the time to optimise your site for search engines.

### Contact link

As you read before, the contact link is one of the most important links. If people want to get in touch with you they need information as to where and how to find you. Display your email, phone and postal address. If possible, also give some directions for arriving by car or public transport. Most universities, institutes and hospitals are huge and your group may not be easy to find. So describe your location or explain where visitors can ask for directions. When you display your email on the internet, you must always be aware that you could receive spam emails. There are several ways to reduce the risk of spam emails, for example by Java Script programmes, which make it more difficult for spiders to scan your email address.

The examples addressed in this text are mainly for research groups. However, it is also very important for students and post-graduates to have their own pages where they may, for instance, post a short CV. Websites represent virtual visiting cards and can be the first contact for new employ-

Do you have any useful tips?

Contact us at:

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ers and employees. In my opinion, these are the 10 most important rules for good web-design practice in science. However, there are of course many more things to remember. If you have further questions on web-design, please contact me at <http://www.dwwebsites.com>. Additionally, you can have a further look at webpages designed by me. One typical research group design can be found at <http://www.stripecke-lab.de>. Another more complex webpage with a dynamic menu and other features mentioned in the text is the German Society of Gene Therapy at <http://www.dg-gt.de>.

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(*dw-websites*. Daniel Wicke acknowledges Mimona Id and Michael Morgan for their help with this article)