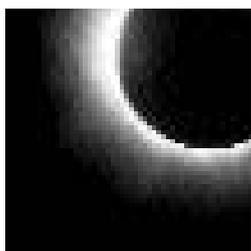


## A new look and feel for EMBL's official WWW pages

The Office of Information and Public Affairs and Björn Kindler of the Computer and Networking Group have redesigned several features of the EMBL website which will make it much easier to keep information up-to-date and will make the site as a whole more useful. The process is not yet finished, but enough has been done to start making the new pages accessible. Users from inside EMBL can browse the new pages over the next few weeks (see the address on page 2). EMBL's web presentation is such an important issue that we need your feedback before replacing the main page and opening the site to external users.

EMBL's central site largely consists of pages created by groups, services, facilities, outstations and individuals, and these will not be affected. Groups and individuals will continue to have a free hand in designing the format and content of their pages. The changes affect a number of "official pages" which the site has always hosted: the main page, research reports, the PhD Programme brochure, overviews of the Laboratory, etc. The overall responsibility for this part of the site belongs to a WWW "task force" formed last year and headed by Christian Boulin. The OIPA will maintain the information that appears.

page 2



### It was a (very short) dark and stormy night...

...for most watchers of the recent solar eclipse, but things could have been much, much worse. Read about what happened during the transits of Venus of 1761 and 1769 in *from the sister sciences*.

page 8

a talk with...

## Harold Varmus

Harold Varmus is Director of the U.S. National Institutes of Health (NIH). His work in cancer research has been recognized with numerous awards and honors, including a Nobel Prize for Medicine or Physiology in 1989. He visited EMBL from September 15 to 17 to deliver the second General Motors Cancer Research Lecture; he discussed the use of viral vectors in developing mouse models of human cancer. Another purpose of his



page 4

visit was to take part in an expert panel for consultations concerning EMBL's next five-year scientific programme.

The NIH is involved in setting standards for scientific policy in the United States and thus NIH activities have a significant influence on the way science is practiced throughout the world. Recently Dr. Varmus and the NIH have announced a new initiative in electronic publishing, called "PubMed Central," whose aim is

## Alumni Meeting Update

### You may not be an alumnus yet...

but you can still take part in the 25th Anniversary Alumni Meeting from October 21 to 23, 1999. Programmes are on display throughout EMBL and all events are open to current EMBL staff. You do need to register to take part in evening meals and the visit to Schwetzingen Castle on Saturday afternoon... This is the only event where space is limited. Please register **by Tuesday, October 12**. For more information and registration, visit the Alumni Website at

[www.embl-heidelberg.de/LocalInfo/Alumni/](http://www.embl-heidelberg.de/LocalInfo/Alumni/)

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to make a great deal of scientific literature free and publicly available via the Internet. EMBO Executive Director Frank Gannon and Director General Fotis Kafatos have been heavily involved in discussions to determine the ultimate shape of this plan.

Despite the full schedule of his visit, Dr. Varmus took time out for an informal chat about his role at the NIH, science funding, and electronic publishing.

# A much-needed overhaul of EMBL's website

(continued from page 1)

The immense size of our site encouraged us to create an interface based on a database rather than on individually-composed web pages. The former system often required recomposing, reformatting, and uploading numerous files whenever a single piece of information changed. Now our web pages will be put together electronically each time a user looks at them, drawing on the latest information in our database. Updating a piece of information there will automatically change every page on which this item appears.

Since most of the official information we maintain relates to groups and their research—PhD brochure pages, Research Reports, etc.—we have organized the new site around groups. Links to the group's own page are provided in several places.

Links to your group's home-page

Links to recent press releases and papers in press

Short summary of research: the text from the PhD Programme brochure

Keywords describing your research. Some of these words are shared by other groups; clicking on the word links you to those groups. You can add or remove keywords to the list for your group at any time by sending an e-mail to [info@embl-heidelberg.de](mailto:info@embl-heidelberg.de).

List of group members. Clicking on individual names will give you contact details and other useful information.

This new standard header has links to the most important "official" pages for easy navigation. You can use the header on other official EMBL pages maintained by your group.

The search engine retrieves scientific keywords and people's names from an index that also features synonyms and alternative spellings. You may enter single words, first or last names, or parts of these.

Link to the most recent full-text Research Report

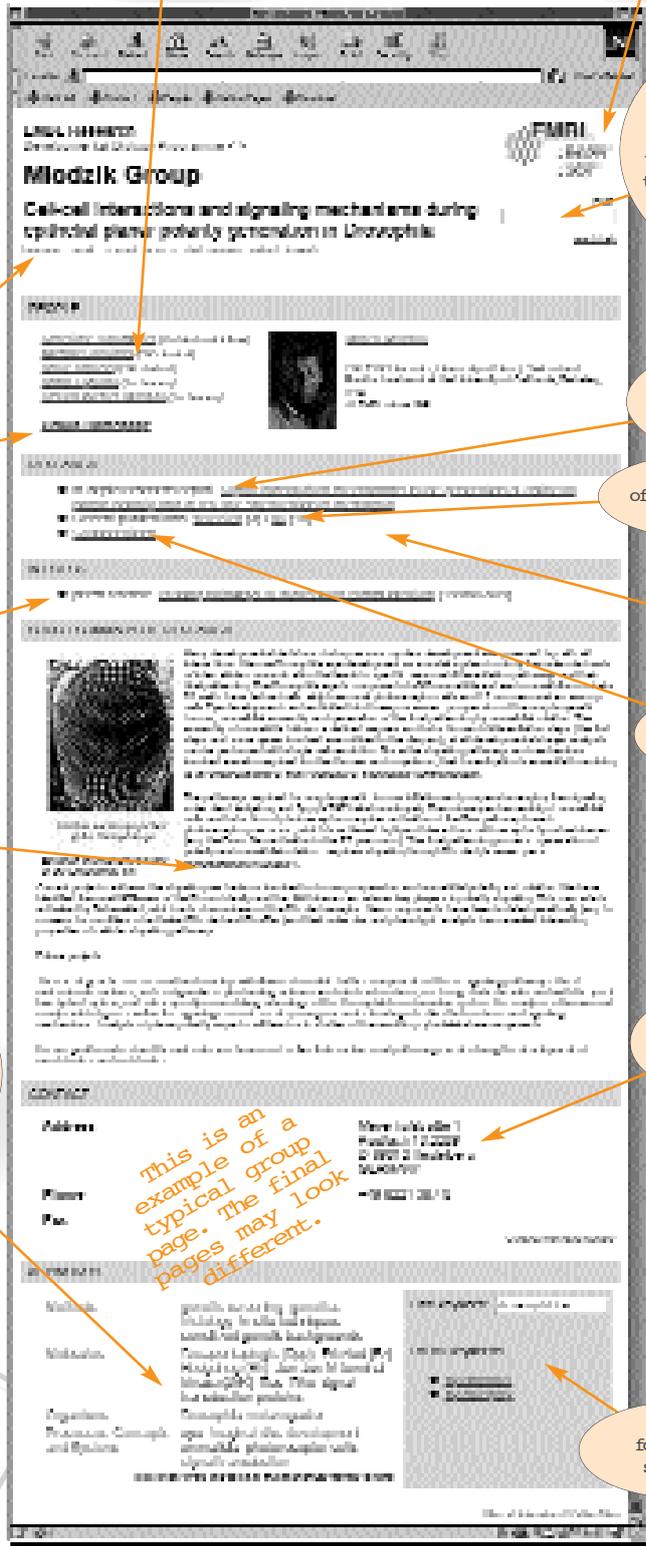
Abstracts of recent publications

Links to services your group provides will be listed here.

List of collaborations

Contact information for the group

Box for further searches



This is an example of a typical group page. The final pages may look different.

Test the web!  
[www.embl-heidelberg.de/LocalInfo/webtest](http://www.embl-heidelberg.de/LocalInfo/webtest)

# FAQs

fearfully anticipated questions

What effect will these changes have on my own page or my group's page?

The only difference will be that we will provide new buttons to replace the "home" and "search" buttons that were made a couple of years ago. There will also be a new header which you can use if you want on official (not personal) pages. The links on the header will provide more direct navigation around the site as a whole.

Why is an additional page for my group necessary?

This is the easiest way to organize information that the Laboratory needs to put on the Web. This information is meant as a supplement to the groups' own pages, which should always be regarded as the primary source of information. All of the information presented here has been provided by the group.

Why isn't there a link to my group's page from the official page?

Because the group didn't provide the OIPA or Björn Kindler with the URL for its homepage. Simply send the address by e-mail to [info@embl-heidelberg.de](mailto:info@embl-heidelberg.de).

How do I update or change information on one of the new pages?

Just send an e-mail with the change or addition to [info@embl-heidelberg.de](mailto:info@embl-heidelberg.de).

Can I directly change the information myself?

The database holds official information needed to prepare Research Reports and the Handbook of Statistics, etc. Maintaining the database ourselves will make life

much easier for everyone when we have to produce these reports every year.

Why can't I change the layout of the database page for my group?

These pages are created using a standardized template and information from the database; they aren't composed individually and formatted the way single pages are made. Suggestions on formatting for the templates are welcome, but any changes will affect every page of a certain type (for example, all group pages).

Are my phone number and e-mail address visible to people outside EMBL?

At the moment, this information is visible only from another computer on the EMBL network. If you want it to be available to outside users, send an email to [info@embl-heidelberg.de](mailto:info@embl-heidelberg.de).

Why aren't there more graphics or JAVA-scripted items on the new pages?

We have tried to keep the main site "lean and mean" so that it will function as quickly and efficiently as possible. Many people who visit our site won't have the latest equipment or the most recent versions of web browsers; they may also have slow connections. JAVA gadgets often cause crashes; large graphics turn obtaining simple information into a long, frustrating process. At the moment, groups that wish to include more graphics or more sophisticated Web techniques should feel free to do so on their own pages. The Research Reports (soon to be produced on CD-ROM) will be more flexible.

Why are people missing from a group page?

The names of group members were obtained from Group Leaders in December, 1998, while preparing the Handbook of Statistics. Since then, information has come directly from new people (the OIPA has been on the official sign-in sheet since Spring) and in some cases from Personnel. Inform us immediately of anyone missing. We should also be told about people who have left the Lab.

## EBI Hinxton

# the BioInformer



For over two years, an EBI publication called the "BioInformer" has been keeping the bioinformatics community up-to-date on what's happening on the campus in Hinxton. The BioInformer web site is the best place to go for information about EBI courses and events, research, the latest updates and releases from the databases, and news about services and the EBI staff. The publication is also printed on a quarterly basis; it has a circulation of about 3,500.

While the EBI website and announcements about individual services may give an overview of what is happening at the Outstation, says Jean-Jack Riethoven, the BioInformer's editor, "people don't know the stories behind these things." One goal of the BioInformer is to fill this gap. As well as articles written by Riethoven, the newsletter welcomes submissions from EBI staff and contributions from collaborators and other voices in the bioinformatics community.

Riethoven previously worked in Holland for ABDLO, an organization devoted to biological research in agriculture. He was hired by the EBI in 1996 to create and edit an "Industry Bio-standards Newsletter" as part of the EBI's Industry Programme—20 companies who provide funding to the institute in exchange for special services, workshops, and a voice in debates about the future of European bioinformatics. "Since the Industry Programme already had a website," Riethoven says, "the decision was made to make this into a more general publication covering the EBI."

The BioInformer web site can be found at <http://bioinformer.ebi.ac.uk>. Readers can subscribe to the paper copy, which is distributed free of charge, from the site.

Russ Hodge

a talk with...

# Harold Varmus

Director of the U.S. National Institutes of Health (NIH)

*How do you combine a career as one of the most important policy-makers and scientific administrators in the United States with active research?*

One of the reasons that I was able to come to the decision to take the job of NIH director is that NIH is an organization of 25 independent institutes and centers, each of which has its own authorities, its own budget and its own director. In some ways it is probably easier than running an organization like EMBL, where Fotis no doubt knows what everybody does and has responsibility for dividing up the resources and keeping everybody happy. The NIH has 20,000 employees, but I worry mainly about the institute directors and my senior staff. It isn't as though I get the money and then have to control and watch every move every director makes; they are pretty independent. This has its difficulties, because when we try to do something that is to the benefit of all the institutes, we have to find some way for them to pitch in to support a common effort. But it does mean that the administrative job is not as big as it would seem from the size of our budget. I tend to think of myself more as a policy person than as an administrator, building budgets, advocating for NIH, getting involved in policy decisions. I spend a lot more time on issues like embryo research, intellectual property issues, gene therapy policy, or our review procedures for our grantees than I do worrying about how many grants we have on one topic—I leave that to the institute directors.

*Many of the issues that you confront have important social components; a change in AIDS research policy, for example, may have broad-ranging implications that will end up affecting a lot of people from many walks of life. Are those people brought in as a part of the process of making decisions about scientific issues?*

Advocacy groups are very heavily involved in all of our activities. Some of these advocates are scientists, but a lot of them are people who have diseases that the institutes deal with. Maybe it's more characteristic of the American system

than it is of European science. The EMBL doesn't have a clear connection to disease advocacy groups because although much of the work you do is ultimately significant for understanding diseases and developing new strategies to treat them, you don't advertise yourself as a place that works specifically on health-related problems. The NIH is completely structured around categorical institutes that are designated to combat heart disease, cancer, AIDS, and so on, and therefore advocacy groups are very well known to us.

How do we make decisions? Take, for example, the AIDS research program. When I first came to the NIH, it was decided that this program needed a complete overhaul. We put together a review group with over one hundred people in it, headed by Arnold Levine. On that panel there were many people who were well-known as leading activists, non-scientists who knew the research,



patients and doctors, in addition to people who were investigators

within and outside the AIDS research field. In response to their evaluation, we markedly altered funding levels—for instance, by making a much larger investment in vaccine research.

We depend very heavily on outside opinions for almost everything we do. We are now even using some advocates on review groups. If there were to be, for example, a clinical trial program, we would almost certainly have somebody

*"When we study immunology, we don't know whether particular results are going to be applicable to one disease or another. It's hard for people to understand that."*

on the panel who was a patient, or a family member—somebody who had given thought to issues of informed consent and the inclusion of women and minorities in trials; somebody who understands how trials might differ from each other with respect to patient care and the con-

sent process and providing access to data. That component of a grant proposal will also be reviewed.

Despite all of these contacts with disease advocacy groups, we still get criticized for not appropriately prioritizing our spending on disease. This is because of the perennial problem: it is very difficult to define some simple measure of disease burden that correlates with scientific investment. We were recently reviewed by the Institute of Medicine because Congress was continually being approached by activists complaining that that NIH is not providing the study of their disease with adequate resources. This is a

terrible problem for us—we know that it is difficult to predict when basic science efforts are going to be productive with respect to advance on disease. It's very easy to go to a drug company and ask what kind of a drug they are trying to make. They can answer simply, "we are making a drug for arthritis," but when we study immunology, we don't know whether particular results are going to be applicable to one disease or another. It's hard for people to understand that. They want to know how much we're spending on AIDS and how much we're spending on inherited disease.

One of the responses to this recent Congressionally-ordained report was to establish a high-level Council of Public Representatives (COPR). It's a very interesting collection of people, all of whom either have some disease, or represent an organization that is interested in disease research, or represent a patient constituency of minority groups or some other special group. Yet when they come into this Council, they are asked to leave their particular affiliation at the door and think in general about how NIH interacts with its many publics and how we will do our work. And so they are essentially

acting as a conduit for bringing the views of various communities to us and looking at how we do things, and taking word about that back out to the community. It has been quite an interesting process and it has given me new ideas of ways to educate the public about the NIH. We have hundreds of people who want to be on the COPR and what we say to them is: we can't have everybody on the Council but you can be a Council Associate, and we will give you all the information and you can now be a spokesperson for NIH. The goal is to have hundreds of thousands of people as Associates of this Council. It would be terrific. When people hear what NIH does, they are really amazed. Every time the Council meets I have four institute directors out of the 25 or so come and describe their interface with the public. The Council members are really quite surprised at what goes on and they take that word out; it is really helping us deal with the doubters.

*The NIH has just been awarded an amazing increase in its budget, even by American standards, whereas science funding in Europe has been lucky to hold the line. But times haven't always looked so rosy for the NIH... In 1995 you gave a "Shattuck Lecture" entitled "Biomedical Research enters the steady state..."*

In 1993 and 1994 we were threatened with budget cuts. Congress challenged all of the science agencies to respond by listing their highest priorities and what they would cut if asked to make a five per cent cut. Some agencies said, "You can't cut us; we're the most important investment in the country, and we simply have to have increases." We had a different response. I think it was probably useful to say, "If you can guarantee us gradual inflationary growth, we'll figure out how to manage our priorities and we'll try to work within a steady state; we can live without increases above inflation, but we can't thrive if we are asked to reduce the investment." It was a realistic response to what was clearly a national economic crisis. So later, when the national budget was under control, I think one of the reasons that NIH has been favored is that people see us as relatively responsible now. We are experiencing a new kind of scrutiny because everyone looks at our budget and sees an increase of two billion dollars above a fourteen-billion-dollar base. It has

been very important for us when we go back to Congress—especially at the end of this first year with a really massive increase—to be able to say that the money didn't simply go in to increase everything in a moderate way across the spectrum; in fact, there have been a lot of new initiatives.

In fact, more generally, the NIH has been working really hard the last several years to get better dissemination of information about what we do... this is an incredibly important issue. One of the differences between the U.S. and Europe is that you don't have a clear focal point for such efforts. The U.S. Congress is set up with Appropriation Committees which are pretty stringently run by the Chairs, so you start with them, and then the Appropriation Subcommittees that have jurisdiction over you. You don't need to approach every member of Congress because there is a very steep gradient of authority over individual agencies. For NIH, these issues are resolved in Congress rather than the Administration. Of course the Administration is helpful.

*Your PubMed Central initiative is extremely exciting to everybody here. How do you think this initiative is going to change the way that science is done?*

I don't think that it will change the way that science is done immediately, for the first year or two, but ultimately if we do the right kind of experiments with electronic publications, people will get used to new ways of conversing with colleagues. Right now we go to meetings and we have discussions at meetings, and that and e-mail are the principle ways that people communicate. There is especially the potential here for narrowly-defined groups to begin to comment on each other's work in a way that is not really done very much—by putting pre-prints or non-peer-reviewed material into a folder that is open, where comments can be attached and responded to. Interesting experiments going on in other

fields suggest this can work very well. An argument that has been raised by some people is that they're too busy to do this kind of thing, but I think they will find that it is useful enough that they will start to communicate in this way, as an open conversation that other people can look at. When I was in Stockholm, I met with some people in the artificial intelligence (AI) field who have established this kind of communications system—all papers that are published in the major AI journals are now posted as pre-prints for three months and only then they are subjected to peer review. During those three months there are many comments and responses. I don't think our field will tolerate quite that much attention to indi-

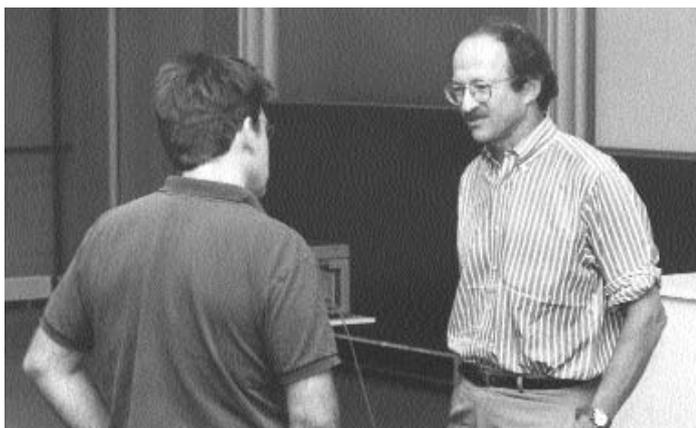
*"The possibility of getting to the entire life sciences literature at the click of a mouse has got to transform the way we work and use information."*

vidual communications—their field is a much smaller one—but it is pretty interesting to see how enriching that kind of experience can be. A really obvious point is that our field, and I am talking very broadly now, is increasingly image-rich and data-rich. It is difficult to say everything you want to say in a paper because we are working with hundreds of genes or thousands of genes and we're working with images that are very complex, and to present data that can actually be useful to everyone in the field, you really have to have a firm way to present that hasn't been available on paper. But the possibility of getting to the entire life sciences literature at the click of a mouse has got to transform the way we work and use information.

*The time is ripe for this not simply because the technology is here, but also because science is ready for it?*

I think not taking advantage of the technology would be a huge waste. People ask how much this will cost, and I start by reminding them that the big costs have already been paid. The Internet has been invented. Everybody has a computer on their desk. The hardware and the software are there. The rest of it is chicken-feed. The NIH spends hundreds of millions on the communication of research results. To get this system running will cost only a few extra million dollars.

*interview by Russ Hodge*



# Future structural biology with a Free Electron Laser

... more than wild dreams?

The research centre DESY (Deutsches Elektronen-Synchrotron), whose campus hosts the Hamburg Outstation, has big plans called *TESLA*. The planned *TESLA* linear collider will complement DESY's particle storage ring facilities named *DORIS*, *PETRA* and *HERA*. These facilities have mostly been used for high-energy particle experiments, but in the early nineties the *DORIS* ring was fully dedicated to synchrotron radiation experiments by DESY's former Director, Bjoern Wiik. EMBL Hamburg's beam lines are attached to this ring and are used by hundreds of visitors annually for experiments in protein crystallography, small angle scattering and X-ray absorption spectroscopy.

Realising that the technology limits for circular storage ring facilities have been reached with the world-wide advent of a number of third generation synchrotron facilities, DESY now wants to step into a new era by building a linear collider with a projected centre-of-mass energy of 500 GeV (*DORIS*, by comparison, is currently running at 4.45 GeV). Integrated into *TESLA* will be a Free-Electron Laser (FEL) facility, expected to generate X-ray radiation at about 1.0 Å with unprecedented characteristics. X-FEL radiation will be pulsed in the range of femtoseconds, it will have an extremely small energy dispersion and it will be coherent. Its peak intensities will be several orders of magnitude higher than that of currently available synchrotron facilities and it will provide, in addition, a

"white" energy spectrum of highly-focused undulator synchrotron radiation. DESY is not the only facility in the field with plans for an X-FEL. The SSRL synchrotron facility at Stanford is working on a similar project, aimed at producing an X-FEL at about 1.5 Å wavelength.

Structural biology is driven by state-of-the-art synchrotron facilities due to their spectral superiority. Therefore, the idea of future facilities generating X-rays in the Ångström wavelength regime has raised curiosity among scientists. This is accompanied by concerns that the planned X-FEL source will be so intense that biological samples may not survive an experiment even at extremely short time scales. To discuss these questions, the Hamburg Outstation, jointly with HASYLAB (a daughter organisation of DESY) organised an EMBO-funded workshop with international experts from high-energy radiation physics and instrumentation and scientists interested in novel methods and applications in structural biology. The workshop covered potential applications in biocrystallography, time-resolved diffraction, spectroscopy, microscopy and holography where a wide variety of ideas was presented. Many discussions converged on anticipations of gains in spatial and temporal resolution by taking advantage of specific properties of the FEL. A burning debate throughout the workshop was on the response of biological material to the expected radiation loads of the FEL. Representatives of DESY and SSRL con-

firmed that the design of the FELs is very flexible to desired beam parameters and they are explicitly requesting input of the scientific community at the earliest stage. Obviously, the FELs will provide unique opportunities for radically new experiments and the structural biology community is invited to participate. Many workshop attendees appeared to be eager to go ahead with novel experiments, which they have already simulated, as soon as X-FEL beamline facilities are provided.

More information is available:

(1) A book with the full set of transparencies and slides of the workshop speakers is available upon written request to: Matthias Wilmanns, EMBL c/o DESY, Notkestrasse 85, 22603 Hamburg, Germany; or by email to: [wilmanns@embl-hamburg.de](mailto:wilmanns@embl-hamburg.de).

(2) A scientific summary report will appear in the *Journal of Synchrotron Radiation*. Preprints can be obtained at the above address.

(3) The Conceptual Design Report for the *TESLA* X-FEL is available upon written request to: HASYLAB, c/o DESY, Notkestrasse 85, 22603 Hamburg, Germany, or:

[http://www-mpy.desy.de/fel/conceptual\\_design\\_report/cdr-welcome.html](http://www-mpy.desy.de/fel/conceptual_design_report/cdr-welcome.html)

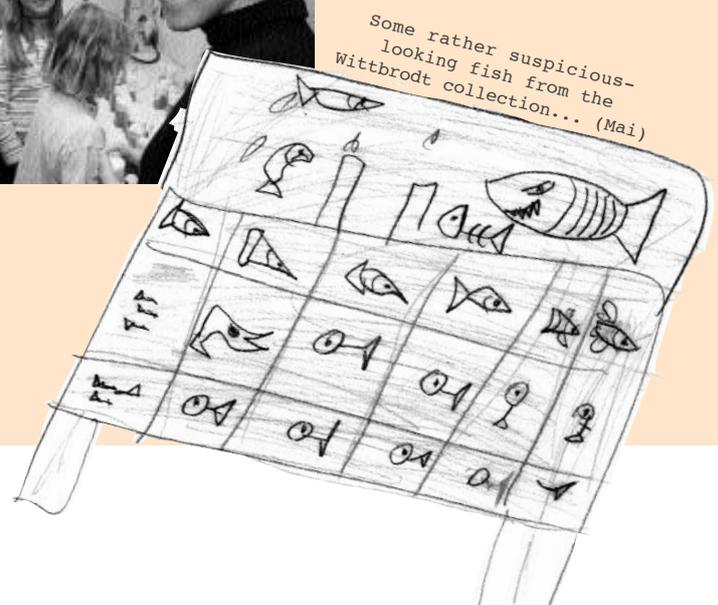
Matthias Wilmanns  
EMBL Hamburg Outstation

## KIDS @ EMBL

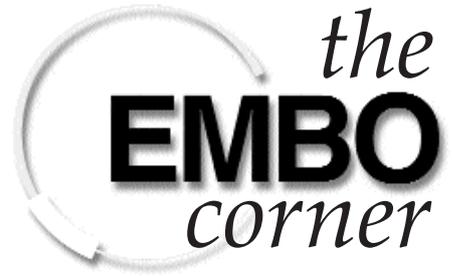
A second-grade class of the Gaiberg elementary school visits EMBL Heidelberg.



photos by Doug Young  
artwork by the kids



# EMBO's Fellowship Programme



One of the most visible activities of EMBO is its Fellowship Programme. EMBO offers two types of fellowships: short-term and long-term. Applications for short-term fellowships may be made at any time of the year, and approximately 50% are successful. In this way, approximately 200 scientists move throughout Europe annually with support from EMBO.

Long-term fellowships are awarded at the post-doctoral level and provide support for two years. There is significant competition for these fellowships; approximately 20% are successful. Usually they support movements of scientists between member states, but unlike many other European-based fellowships, EMBO long-term fellowships can be used either for European scientists to go outside Europe or for non-European scientists to come here. Each year there are two calls for proposals and in recent years approximately 800 applications have been received. One indication of EMBL's efficiency is that all of the

applications and the subsequent monitoring of payment of the fellows is handled by one administrative assistant (Jennifer Schulze-Eyssing, formerly Norman). Most of the applicants are interviewed by EMBO members who have been selected by Executive Director Frank Gannon as being the best match for the scientific area of the application. All of the applications are in turn read and scored by a 10-person committee that meets in Heidelberg. The whole process is completed in approximately 2.5 months and is acknowledged to be one of the best selection systems currently practised in Europe, with particular emphasis on the fact that quality is the only criterion for the decisions which are made. On the day that the decision is made by the Committee, the results of the Fellowships are posted on the EMBO website ([www.embo.org](http://www.embo.org)) which is constantly expanding the services that it provides.

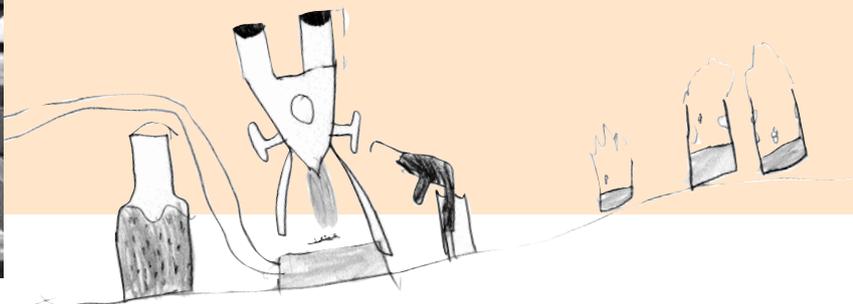
Frank Gannon

*Just as a small part of EMBL space is given over to the European Molecular Biology Organization, one corner of this newsletter will focus on this sister organization. EMBO's history is slightly longer than EMBL's. In fact, from the start the founders of EMBO had the twin objectives of establishing a Laboratory (which became EMBL) and an Organization which would work in a more dispersed manner (i.e. EMBO). Legally, financially and in terms of the states that support them, EMBO and EMBL are separate; the activities of EMBO are currently funded by 24 member states (16 support EMBL), funds which amount to approximately a quarter of those received by EMBL. EMBO's influence throughout Europe and the world is disproportionately greater than the space it occupies within EMBL. Almost 1,000 scientists throughout Europe have been elected as members of EMBO and this network is used by the Executive Director of EMBO, Frank Gannon, and his colleagues to deliver on a wide range of EMBO activities. In forthcoming newsletters we will highlight each of these and thus keep you informed of the exciting developments in this organization which is complementary to EMBL.*

Fish?



Fly?



from the sister sciences...

## When small things pass in front of the sun

*The transit of Venus in the 1760s may have been a "Sternstunde" of science, but it was a disaster for most of those who tried to observe it.*

The recent complete solar eclipse prompted mass migrations of people across Europe. Trains burst at the seams; companies sold millions of pairs of eclipse-proof sunglasses; mothers who allow their children to go out in the (non-eclipsed) sun every day were convinced that their children would be struck blind if they went outside (well, wouldn't the gravity of the moon bend the sunlight? Wouldn't that make the rays stronger?). Experts on television grasped desperately for metaphors, using any and everything to demonstrate how the moon (ping pong ball, golf ball, grape) can briefly obscure a view of the sun (light bulb, flashlight, nightlight) if you (a toothpick) are standing on the earth (an orange)... all to illustrate the point that something casts a shadow if it blocks a source of light. And if anybody who traveled hundreds of kilometers to stand in the shadow's path was disappointed by clouds, torrents of rain, and mega-Staus, they didn't say so, at least to the reporters on television: "It was fantastic," as one happy man said, when the microphone was stuck in his face. "All of a sudden the sky got really dark."

This was all nothing, however, compared to the excitement generated in the eighteenth century when the planet Venus passed across the face of the sun. Not because people were hoping that Venus would cast a (very small) shadow—it doesn't—but because they hoped to get an idea of the true dimensions of the solar system. The invention of reliable, transportable clocks had made it possible to measure the distance to a celestial object by triangulation; simultaneous measurements of its position in the sky had to be taken from two points on the earth quite distant from each other. The closer the planet to the earth, the more reliable such measurements would be. Attempts had been made with Mars, but real hopes were pinned on Venus, our closest neighbor. Unfortunately, when Venus is closest to the Earth, its proximity to the sun makes it invisible. So the best time for measurements would be during a transit of Venus, when the disc of the planet passed across the face of the sun. Such transits occurred in 1761 and 1769 and were visible from diverse points across the world. The trials and tribulations of the expeditions sent out to make observations can be found in a brilliant and amusing account in one of the best books about science ever written, *Coming of Age in the Milky Way*, by Timothy Ferris. Here's the condensed version:

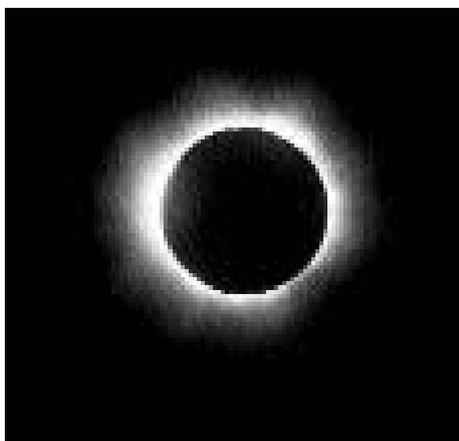


photo by Doug Young, EMBL

- Charles Mason and Jeremiah Dixon were attacked by a French frigate en route to South Africa; there were eleven dead and 37 wounded. They finally reached Cape Town and made observations, but they couldn't agree on how long the transit had taken.
- "William Wales timed the transit from Hudson Bay, Canada, after enduring mosquitoes, horseflies, and a winter sufficiently severe that, as he noted with empirical exactitude, a half-pint of brandy left unattended iced over in only five minutes."
- "Jean-Baptiste Chappe d'Auteroche, dispatched by the French Academy into the depths of Russia, raced across the frozen Volga and through Siberian forests in horse-drawn sleds, arrived at Tobolsk six days prior to the transit, posted guards to repel angry mobs who blamed him for causing spring floods by interfering with the sun, and managed to observe the transit. He died eight years later in Baja California after timing the 1769 transit, of an epidemic that spared but one member of his party, who dutifully returned his data to Paris."

- Another French astronomer was attacked by the British. He lost his ship and was arrested.

- Guillaume le Gentil intended to observe the transit from the east coast of India in 1761, but his ship was blown off course and he missed it. He eventually arrived in India and built a whole observatory there for the sole purpose of observing the transit of 1769. There was perfect weather until the critical day, when clouds obscured the sun and vanished as soon as the transit was over.

Sickness and shipwrecks delayed his return home; he finally arrived back in France after eleven and a half years of absence.

- James Cook mounted an elaborate expedition to Tahiti. On the way his ship was attacked by "a half-mad viceroy who understood the transit to involve the North Star passing through the South Pole." In Tahiti he was worried that his ship would suffer the fate of an earlier vessel: the Tahitian females "saw nothing wrong in trading sexual favors for a nail or two," and the crew "extracted so many nails from the ship that they nearly pulled it apart." Cook built an observatory on Tahiti and was able to take accurate measurements of the transit. Russ Hodge

Reference: Timothy Ferris. *Coming of Age in the Milky Way*, William Morrow and Co. Inc., N.Y., 1988.

**Astronomy-related WWW pages: see back cover.**

### cooey! anyone out there?

In just four months, an innovative on-line project has managed to enlist the help of more than one million volunteers from around the world to search for signs of extraterrestrial intelligence. The project, headed by David Anderson from the University of California at Berkeley, involves harnessing the power of small computers across the globe to process huge amounts of data. Volunteers download a screen-saver program that uses idle time on home and office computers to search for non-random patterns in radio-telescope data that might indicate that someone or something out there is trying to get in touch with us. The Berkeley initiative could provide an approach to other research problems with similar data-crunching requirements, and scientists at Berkeley are now scouting for projects—from drug design to genetics—that could benefit from their mega-computer network. Download the program at [www.setiathome.ssl.berkeley.edu](http://www.setiathome.ssl.berkeley.edu) and join the EMBL search team at [www.setiathome.ssl.berkeley.edu/stats/team/team\\_4780.html](http://www.setiathome.ssl.berkeley.edu/stats/team/team_4780.html).

Freddy Frischknecht & Sarah Sherwood (title by Sarah)

## Administrative announcement

### Registration with local authorities in Germany

Personnel may receive from their Local Authority (for example, Stadt Heidelberg) a letter concerning Registration ('Anmeldung').

Under the EMBL Agreement with the German Government we are required to provide names and addresses of all EMBL personnel to the Central Government on a regular basis; we last did so in October 1998. But we dispute the position regarding formal registration with Local Authorities, which requires more detailed personal and family information to be provided. Our view is that it is part of our privileges and immunities that we do not have to register; the German Authorities have the view that we have to register like any other resident in Germany. This legal dispute remains unresolved and could continue for some considerable time.

The letter from the Local Authority refers to this dispute and seeks voluntary registration by members of EMBL personnel. For the time being they will not attempt legally to enforce registration which, in the normal course of events, carries a fine for non-compliance.

With registration your personal details become available to German Authorities. Registration

- enters you automatically into electoral registers (European and local elections),
- confers eligibility for any residential benefits such as parking permits (which may be difficult to obtain if you are not registered)
- enters you automatically into tax and fee registers (thus making it easier to follow-up, for example, the collection of rubbish removal and television licence fees and delivery of traffic fines—none of which can legally be avoided by EMBL personnel)
- does not affect any other of our privileges and immunities (e.g. general exemption from German income tax, use of Sonder-Ausweis).

Until the legal dispute is settled it is a personal decision for you to make as to whether or not you register.

If you decide to register you are advised to accompany the registration with a standard letter (obtainable from Personnel) stating that registration does not imply waiver of any privileges and immunities granted by the EMBL Agreement.

ADMINISTRATIVE DIRECTOR  
JUNE 1999

# science & society

The monumental expansion of the application of intellectual property rights (IPR) to new areas and aspects of human creativity, and of their protection in patents, constitutes a privileged topic for zooming in on the disintegration of the conventional boundaries between the worlds of basic research and industrial applications of the bio-sciences. Conventionally, the world of science has tended to be idealized as open with a free flow and exchange of information, and the world of industry and commerce has been depicted as fragmented and closed, made of self-serving entities dependent on a highly secretive use of information. Following this overly simplistic perspective, a massive introduction of commercial patenting practices into the world of basic research could seriously subvert the culture on which it was founded. While the concern is real, a far more sophisticated analysis and appreciation is needed to apprehend the various consequences stemming from the remarkable increase in the application of intellectual property rights to the products of the biological sciences in recent times.

With the aim of apprehending recent developments of a variety of forms of applications of the by-products from human genome research for commercial purposes and for analyzing their implications, the EMBL organized a panel discussion for Monday 4 October. Three invited experts participated. Two were social scientists who have done in-depth studies of the particular cases they presented, and the third was a biologist and legal expert, particularly well-situated to shed light on the global context within which these developments are taking place. Abstracts of each guest's work were provided on the Science and Society web site so that the staff could familiarize themselves with the topic beforehand. Each speaker gave a twenty-minute presentation followed by open discussion. The event was followed by a reception in the Operon Foyer.

For a complete list of Science and Society Events and book titles, visit the website, [www.embl-heidelberg.de/ExternalInfo/stefanss/](http://www.embl-heidelberg.de/ExternalInfo/stefanss/)

*Halldór Stefánsson*

## people @EMBL

**Ernst Stelzer**, Group Leader in the Cell Biology and Biophysics Programme, presented this year's "Ernst-Abbe Lecture" as a part of the "Focus on Microscopy" conference held at EMBL in April. The honorary lecture is sponsored by the Royal Microscopy Society and Carl Zeiss, manufacturer of microscopes and optical equipment. Stelzer spoke on "A derivation of the resolution of optical instruments from the Heisenberg Uncertainty Principle." As a preface to the talk, Kai Simons praised Stelzer for interdisciplinary achievements in the application of confocal microscopy to problems in cell biology.

**Elisa Izaurralde** has joined the EMBL as a new Group Leader in the Gene Expression Programme. Elisa obtained her PhD from the University of Geneva in 1990, where she later spent four years leading a group studying mRNA nuclear export mechanisms. At EMBL she will focus on cellular factors that interact with mRNAs during and after translocation through the Nuclear Pore Complex. She has recently been selected as the winner of the Friedrich Miescher-Award 1999 from the Swiss Society for Biochemistry. The award will be presented at the 1999 USGEB meeting in Basel on October 14.

(Heidelberg) Giorgos Diamantopoulos, Sandra Clauder-Muenster, Laurent Camous, Valerie Schaeffer, Gregor Gilfillan, Bruno Arca, Andrew Moore, Jukka Westermark, Frank Riedinger, David Stephens, Jutta Hausner, Dieter Klopfenstein, Niovi Santama, Joanne Thompson, Hijas Javier, Jose Monje-Moreno, Vicente Valero, Candice Contet, Hernando Sosa, Eva-Isabelle Pecheur, Andrea Washington, Steffen Schmidt, Peter Konarev, Christophe Cans, Hernandez Pastor, Eva Sanchez-Cobos, Federico Dotti, Irina Dolzhykova, Rosa Maria Benito Moreno, Dagmar Neubueser, Emerald Starling, Ken Roger Rosendal, Kate Cunningham, Jennifer Clegg, Timm Essigke, Ting Wang, Mari Kawaguchi, Elena Diaz Fernandez, Martina Walker, Murat Kuru, Marina Dolgin, Leila Gazeilles, Philippa Harris, Ana-Rosa Viguera, Elin Moe, Dominique Manu, Buelent Cetin, Kristin Tessmar, Anthi Karaiskou, Jan Kmunicek, Andreas Schlecht, Ralf Moll, Danilo Roccatano, Lucia Cardoso de Almei, Kevin Czaplinski, Annalisa Radeghieri, Filippo del Bene, Claudia Crovace, Andrea Zauli, Filippo Cipriani, Costanza Marri, Agata Giallongo, Winfried Wunderlich, Mikaela Ahman, Elisa Izaurralde, Vladimir Volkov, Katharina Lins, Christian Tischer, Pirkko Kokkosalo, Csilla Neldner-Szemethy, Clemens Grabher, Georgios Skiniotis, David Venzke, Rune Matthiesen, Jan Huisken, Giorgia Salvagiotto, Ann-Christine Carlsson, Arie Geerloff, Joaquim Egea Navarro, Alison Shaw, Anne Pacquelet, Lawren McIntosh, Andrea Herold, Stephane Thore, (Hinxton) Michael Lappe, Abraham Naim, Yvonne Allen, Kieren Johnson, Sandrine Pilbout, Joanna Thomson, (Grenoble) Caroline Bargin, Miquell Coll, Moon Myungkook, Françoise Zekri-Villard, Claire Durmort, Erika Valette, Vassily Bavro, Manos Mavrikis, Tim Grune, (Monterotondo) Emerald Perlas, Agniesz Sadowska

## Announcements

**Safety Office now on the intranet.** Visit [www.embl-heidelberg.de/LocalInfo/SafetyOffice/](http://www.embl-heidelberg.de/LocalInfo/SafetyOffice/) for information on chemicals, radioactivity, and biological safety, as well as news about other safety-related issues. Also posted will be a list of leftover chemicals that are now available for free. If you have any that you no longer need, you can add them directly to this list. Comments and suggestions are always welcome!

**Late or weekend work.** People at EMBL often work at night or on weekends. In cases of an emergency, such as fire, the security service might not know where to find you. As a precautionary measure, the EMBL Safety Committee would now like to ask people at the lab outside normal hours to register at the switchboard. Registration is completely voluntary. Please register if you plan to be in the lab after 19.00h weekdays, or any time on Saturdays, Sundays or public holidays. This information will be used only in emergency and will be deleted within 72 hours.

**Library news.** The Szilard Library now produces an electronic newsletter called "Simply Szilard" containing details about new e-journals (including passwords), CD-ROMs, and other services in the library. Subscribers receive the newsletter by e-mail. More information, including subscription details, can be found on the Szilard Library homepage at <http://library.embl-heidelberg.de/>. "Books, bytes and comments" is a new on-line service offered by the library. You can make comments on new books, series, and CD-ROMs (usable locally and at outstations via the intranet) that the library is considering purchasing at the following web page: [www.embl-heidelberg.de:4321/Discussion?domain=3!](http://www.embl-heidelberg.de:4321/Discussion?domain=3!).

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# blunt ends & fill-ins

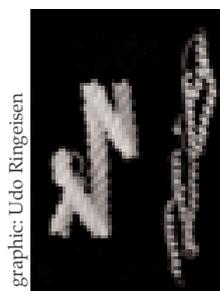
## EBI to develop PASTA-base?

Rumor has it that after consultations with structural biologists from across Europe, the EBI has decided to launch a new database in which protein structures will be represented by various shapes and sizes of noodles. The impetus for the database came from Udo Ringeisen, in the Photolab of the EMBL main facility in Heidelberg. Asked to develop images of protein structures for biologists, Ringeisen realized that all of the necessary forms and structures can be found in commercially-available brands of pasta.

Alpha helices could be represented by spiral-shaped noodles, but the project reached a snag in depicting beta-sheets. The problem was solved a few weeks later when Klaus served lasagne in the EMBL canteen. Because proteins can sometimes assume non-standard shapes

not easily captured by generic pasta, pre-docs at the Monterotondo Programme in Mouse Biology have volunteered to scour the streets of Rome in search of subtle, home-made variants. Noodles can also be submitted by others via a web form, or sent via UPS (dry, please).

"It is crucial that we enter this project in the start-up phase," says an unnamable staff member at the EBI. "We know that the NIH has already slated millions for a similar project. Europe has such a strong pasta tradition that we feel our input is essential."



## Space links

NASA's home page:  
[www.nasa.gov/index.html](http://www.nasa.gov/index.html)

The Hubble space telescope home page:  
[www.stsci.edu](http://www.stsci.edu)

The conspiracy involving pyramids and  
giant faces on Mars:  
[www.qtm.net/~geibdan/cydonia.html](http://www.qtm.net/~geibdan/cydonia.html)

Afraid of being abducted by aliens? Get  
insurance at:  
[www.ufo2001.com](http://www.ufo2001.com)

## ...but are you ready for Y10K?

Asked about their Year 2000 compliance, the company GENEPIO, the commercial representative of the Swiss Institute of Bioinformatics, has announced:

"Dates, whether to indicate changes or to quote references or submissions, in the SWISS-PROT, PROSITE and SWISS-2DPAGE databases are stored as ASCII text strings using four digits. There should therefore be no problem until December 31, 9999. The SIB and EBI, if they still exist at that time, will ensure that a fifth digit is added in time".

## False Positives

Look up the following PMID  
numbers next time you search  
PubMed:

**9872265**

**7752358**

**9879074**

**2373840**

The above are the winners of our  
ongoing Medline competition. If you  
submitted any of these numbers, you  
(and we) know who you are. Come  
by the OIPA office and collect your  
prize. Don't forget to send new  
entries to

[info@embl-heidelberg.de](mailto:info@embl-heidelberg.de)

Would you like to  
contribute to the next  
issue of  
**EMBL & cetera?**  
Just send a message to  
[info@embl-heidelberg.de](mailto:info@embl-heidelberg.de).  
Deadline for submissions  
is Wednesday, December