

A Fresh Breeze

Career-boosting networks: At the star-studded Lindau Nobel Laureate Meeting, junior researchers meet prominent scientists from their field

Not a breath of air stirs Lake Constance. The sailboats bob gently up and down in the water. With 37°C in the shade, it's perfect weather for a swim. In the Inselhalle Congress Center, however, junior scientists brood over the ribosome structure being explained by Ada Yonath, Nobel laureate in Chemistry in 2009. There's a young woman from Indonesia wearing a sarong. A man from India is struggling to stay awake; his eyes slowly close and his body slumps forward before he wakes with a start and sits upright again. "I'm suffering from jet lag," he says, embarrassed. Other participants are taking notes and documenting the Nobel laureate's PowerPoint slides with their cell phone cameras.

This year, more than 560 hand-picked and highly talented junior scientists from 80 countries are meeting with 23 Nobel Prize winners in Lindau. The program is crammed: six lectures in the morning, interrupted only by a short coffee break. The lunch break is followed by student discussions with the Nobel laureates in small groups by the lakeside. The evenings offer international get-togethers and various academic dinners ("by invitation only").

Everyone attending the meeting considers it an honor. "It's easy to meet people and talk about research projects," says Ariana Dimitrov. The 29-year-old French researcher is already in her second year of a postdoctoral position at the Max Planck Institute of Molecular Cell Biology and Genetics in Dresden. She enjoys when the Nobel laureates talk about how they deal with setbacks: "Most of them speak about their doubts."

That personal matters are also discussed here sets Lindau apart from other scientific congresses. For instance, Ada Yonath explains to young female researchers how it is possible to have a career in science and be a mother at the same time. In the meantime, the Israeli scientist is even a proud grandmother. Harald zur Hausen, Nobel laureate in Medicine in 2008, tells those attending that he doesn't eat raw meat, "as it increases the risk of developing cancer." The young scientists then debate whether the related epidemiological studies offer compelling evidence, or whether they themselves will continue to eat their steaks very rare.

When Oliver Smithies takes the stage in the Inselhalle, it doesn't matter how old he is. The 2007 chemistry Nobel laureate knows how to capture his young audience. "What's important is that you like what you do. If you don't, speak to your supervisors. If your supervisor won't help you, find a new one," he calls out to them. Smithies' first experiments were conducted with starch powder in his mother's kitchen,

which would eventually lead him to develop gel electrophoresis. Today, his analytical method helps in separating different types of molecules. The scientist spent a lifetime tweaking methods such as this one, keeping a "toolmaker's diary" of the details.

CHARISMATIC RESEARCHERS AND A PALE BILL GATES

A fresh breeze comes up as the young scientists relax, sitting by the lakeside in the evening. A swan majestically floats past in the water. A great crested grebe is playing hide-and-seek between the paddleboats and rowboats. Over a glass of wine, the students talk about difficulties at their universities or in their labs. They discuss the pressure to publish results, temporary positions, and varying future prospects.

Italian and Spanish scientists often take up work abroad. "We go where the conditions are better. Many never return," says one Italian scientist who works in the US. One junior scientist from Zambia, Sandra Chishimba, only recently returned to her own country. The young woman researched malaria in the laboratory of Peter Agre, Nobel laureate in 2003. Now she wants to use her knowledge "for the benefit of the people of my country." She adds: "Networks that are established here are invaluable to our research."

The charisma of these young people makes even Bill Gates look pale by comparison. The founder of Microsoft was invited to the opening ceremony, and he was followed by a barrage of reporters and bodyguards. For his support and funding of health projects in the developing world, Bill Gates was appointed to the Honorary Senate by the Lindau Nobel Laureate Meetings at Lake Constance Foundation. Combating Aids, malaria and tuberculosis is a priority for the Bill & Melinda Gates Foundation, which promotes research projects and health education, and as-



Image of Lake Constance seen from Lindau's harbor. Every year, Nobel Prize winners and gifted young scientists from the upcoming generation come together in these scenic surroundings.

sists financially in areas where large pharmaceutical groups show little interest in developing new vaccines and drugs. “I believe we have the opportunity to make a new future in which global health is the cornerstone of global prosperity,” said the former Microsoft CEO.

A LONG-STANDING TRADITION

The meeting of young scientists and Nobel laureates in Lindau to discuss a specific theme – this year, global health – has a long tradition. It was in the late 1940s that Lindau-based physicians Franz-Karl Hein and Gustav Parade presented their idea to Count Lennart Bernadotte. Through his strong ties to the Swedish royal family, the “Lord of Mainau” was to attract Nobel Laureates to a congress on the shores of Lake Constance. Their aim was to help post-war Germany reconnect with the international research world.

In 1951, they finally succeeded in realizing the first Lindau Nobel Laureate Meeting with laureates from the natural sciences. This marked the beginning of a tradition that has been upheld for more than 60 years, and that continues to be developed to this day. The meeting, under the patronage of Bernadotte’s granddaughter Bettina, has since become established as a top-level gathering and a modern recruiting event. In 2004, a “spinoff” was created for the Nobel prizewinners in the economic sciences; they had their fourth meeting this summer, in late August.

The air reverberates with the sounds of Chinese, English, Spanish – a babel of languages! During the short breaks, the young scientists are twittering, checking their Facebook or touching base with friends and family back home via Skype. On the website lindau-nobel.org, anyone can watch the lectures, which are also commented on and discussed live on blogs. A production team including Sven-Eric Schelhorn from the



To pursue one’s own path away from the mainstream – this is what Erwin Neher encourages young scientists to do.

Max Planck Institute for Informatics (see box) interviews the laureates and junior scientists, and sums up their impressions in short, professionally cut video clips.

The Nobel laureates appreciate the lively atmosphere of the meeting, too. “Young people are often less conventional in their ideas,” says Erwin Neher, Nobel laureate in Medicine in 1991. “They show a genuine interest in scientific problems and try to get to the bottom of them.” He is very keen to support the younger scientists in their research. “I encourage them to go their own ways and not just have scientific advancement in mind,” Neher says, adding that we can’t all work on the major issues. “Often, it’s the new methods or small advances that turn out to be the really great ones in retrospect.”

Barbara Abrell

HOW CAN A CAREER IN SCIENCE BE COMBINED WITH RAISING A FAMILY?

Many young scientists brought their families with them to Lindau. This becomes especially clear during the social events in the evening. Little girls sit on their fathers’ laps; boys chase ducks along the banks of the lake. Sven-Eric Schelhorn, who works at the Max Planck Institute for Informatics in Saarbrücken, wanted to find out how these young couples with children strike a balance between their research and family life. For those interested in their answers, the interviews are available on the Max Planck Society YouTube channel, where the topic can also be discussed with others.

www.youtube.com/maxplansociety

It's All a Matter of Technique

Doctoral student at Max Planck institute holds world record in memory sports

Friends of little notes that are always strewn about, who fight forgetfulness with the help of those small yellow stickers, might be a bit baffled by Boris Konrad. The doctoral student at the Max Planck Institute of Psychiatry holds the world record in remembering names. He is a German champion several times over and has won the World Team Championship in Memory Sports in Series repeatedly since 2005. Once the 26-year-old commits something to memory, he simply doesn't forget it. His credo: "With the right technique and enough practice, anyone can do it."

On closer inspection, he doesn't look all that unusual: neatly trimmed blond hair, rimless glasses, an alert gaze – not at all a couch potato who spends his time poring over columns of figures. In fact, Boris Konrad travels quite a lot, not least because of his hobby. When he is not working away at his thesis at the Munich-based MPI or preparing for a competition, he gives lectures at con-

ferences about memory training, referees soccer games in the regional league, or demonstrates his memory at media events. In the German TV show "Wetten, dass...", he astonished spectators by remembering the orders of 50 guests, each having had the choice of three beverages and three dishes.

At the 19th World Team Championship in China in December 2010, the Bochum-born world champion defended his title together with his group. The event in Guangzhou was the greatest memory sports tournament of all time; 130 participants from 22 countries had travelled far to compete in ten memory sports disciplines. Germany was represented by a team of nine members from the association MemoryXL, of which Konrad is the president. The previous year, he had set not one, but two new records during the German Memory Championships by memorizing 280 words and 195 names and faces in 15 minutes.

Boris Konrad first encountered memory sports eight years ago. Shortly before passing his final exams at school, the then 18-year-old happened to see a memory artist on TV who explained how to memorize a lot in a very short time. Remembering how his career began, Konrad says: "It caught my attention, because I thought it could come in handy when cramming for exams."

Researching the subject, he soon learned about mnemonics (memory technique). "I was amazed at how well it worked, and I remember wondering why no one teaches this at school," he says. The method uses mnemonic tricks and associations to help the gray cells remember more effectively. He himself works hard to explain this ancient art to a broad audience. In his lectures, which he regularly presents at universities, student associations and companies, he is able to convince even the greatest skeptics. "Actually, anyone can remember 20 terms in the right order after only 45 minutes of listening and doing a few exercises." His association now offers seminars for teachers.

Mnemonics is based on figurative associations. "Since the brain finds it easier to remember images than abstract terms, you can improve your memory greatly by converting names into images," Konrad says. In preparation for competitions, he compiles a mental picture book with the most common names. "For example, Thomas – to remember that name, I imagine a tomato." In international competitions, things get more complicated. "In that case, I look up the most common Chinese names in Wikipedia, to be able to work faster in the tournament." This works for numbers, too. "If you imagine number 1 as a candle and number 2 as a swan, you can imagine 21 as a swan with a candle on its back." To memorize longer sequences, however, he prefers the loci technique, used by rhetoricians and philosophers of ancient Greece and Rome. "In my head, I follow a specific route. It can be, say, a tour of my apartment. Along this route,

Football referee, doctoral student and multiple German champion in memory training: Boris Konrad.



Covert Research Forbidden

Björn Stevens dictates web design days for his employees/
Oscar for the best pages

I have fixed storage places. In my mind, I deposit the things that I want to remember in these places." This is no mean feat given that, at a world championship, up to a thousand pictures need to be stored for one route.

Boris Konrad is also keen to find out what happens in the brain during these exercises on a scientific level. After obtaining his degree in physics and informatics, he came to the MPI of Psychiatry in Munich to investigate the underlying processes for his doctoral thesis. For over a year, he has been working in the Neuroimaging research group. He instructs test persons to perform memory exercises in the MRI and compares what happens when they tackle the exercises with and without mnemonics. "The difference is very clear," he says. "If words or numbers are associated with images, this activates additional areas of the brain that are also connected to our visual imagination and spatial navigation, but that are not normally used for memorizing something by heart," Konrad explains. "If they are activated during learning, the capacity to remember increases."

Boris Konrad's memory has sometimes even served him well on the soccer field while refereeing games. For instance, when players would have him believe that the foul they were just caught committing was their first during a game. "Then I simply remind them of the three fouls that they seem to have forgotten about." In such situations, however, he also uses a notepad. He also has nothing against using yellow Post-its – because if he doesn't explicitly memorize things using a method, the world champion in memory is every bit as forgetful as the rest of us.

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Boris Konrad on the Internet:
www.boriskonrad.de and www.memoryxl.de



Project results can be seen on the website of the Max Planck Institute for Meteorology. A particular highlight is the "cloud thicket" that can be found here:
<http://www.mpimet.mpg.de/en/staff/verena-gruetzun/clouds.html>

There was no posing on the red carpet, nor any paparazzi, but the winners still received their trophies. After two days of hard work, the staff in the department "The Atmosphere in the Earth System" at the Max Planck Institute for Meteorology in Hamburg presented their new web pages. A jury awarded prizes for the best contributions.

It is a project that could set a trend for the future. Scientists would normally much rather conduct research than update their own web pages – so how to get them to quickly revamp their online image? Björn Stevens knows how important the institute's public image is to help communicate their results in climate research. That's why the Director brought his department together for two "web days." Attendance was mandatory.

All groups and employees updated the content of their web pages and created new personal staff pages. Information Officer Annette Kirk and PR Assistant Christina Rieckers from the institute's PR and Media unit, together with graphics designers and the IT manager, organized and coordinated the two days. Not only was the text on existing pages adapted, but graphics were also redesigned and appealing illustrations added.

The web days thus began with an introduction to the concept underlying the institute's website, and a plenary course in CMS. After that, all staff members were given two half-days to work on their pages. The Director himself visited all of the offices to make sure that no one was covertly doing any re-

search. During this practical phase, a graphics and IT helpdesk were available to answer any questions. This ensured that there were hardly any delays and that the web administrators were able to identify recurring difficulties. Group rooms were used to coordinate the efforts of the different working groups.

"This concerted action was a very interesting experience – almost an experiment in group dynamics," says Annette Kirk. "Most of us not only learned a lot about our website and made great progress in updating our web pages, but we also developed great team spirit. And last but not least, it was a lot of fun!"

The staging of the final meeting as an Oscar awards ceremony contributed to the joviality. After the group leaders had presented the results in a plenary session and the members of the jury had nominated the best group and individual pages, it was time for the awards. The winning contribution was the page about the observatory in Barbados, with its comprehensive information, numerous illustrations and changing photos in the header. Louise Nuijens accepted the prize on behalf of the group. Verena Grützun was given an award for her both informative and entertaining personal staff page. Now the organizers hope that the other two institute departments will be inspired by their experiment.

Annette Kirk/ba

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The results of the web days can be seen on the institute's website at www.mpimet.mpg.de.

Striving for More Structure

Secretary General Kronthaler reforms administrative structure/Two central divisions with nine subunits



Ludwig Kronthaler, Secretary General of the Max Planck Society.

“I want the Administrative Headquarters to know what they know.” That’s how Secretary General Ludwig Kronthaler sums up his reform of the Administrative Headquarters, effective from July 1. There are now nine departments, overseen by two central department heads. The Auditing department is assigned directly to the Secretary General.

“Together we are stronger” is the principal message of the restructuring, according to Kronthaler, who aims to improve networking and interaction between the departments. “There are still too many sequential procedures, and the internal focus is too great,” he concluded after taking up his position as administrative chief in October 2010. He wants to establish more project- and teamwork going forward. “We need each other in order to better envisage our goals and face challenges head on.”

Kronthaler wants the structural changes to be viewed from three angles. First, they are expected to improve the service to the institutes and scientists – in other words, the execution of daily operations. Second, they should strengthen the emphasis on problem solving; and third, boost creative power

and at the same time support the governance of the MPS. Explicitly integrating the Legal Affairs and Planning departments was another aim of the restructuring.

According to Kronthaler, the Administrative Headquarters provides the most immediate services to the institutes in the areas of institute support, human resources and research building. That is why they now belong to the same central department 1. The second central department deals with internal and external influences on the

MPS. This is clear, for example, in the Finance, Legal Affairs and Structural Development departments. “In these areas, the basic conditions that guide our actions are also subject to exogenous provisions,” explains the Secretary General. To strengthen the emphasis on problem solving at the Administrative Headquarters, Kronthaler is looking to promote teams and multi-dimensional project structures. “We shouldn’t see ourselves as a linear organization, with processes operating up and down a ladder; we have to integrate all levels at all times,” he says. “This is already working relatively well with appointment procedures.”

The administrative chief also wants to establish a comprehensive system of checks and balances in order to ensure that, wherever decisions with major financial implications are made, all information has been provided in bundled form, and objective internal supervision has taken place that points out the financial consequences. He thus considers it particularly important to have the governance structure of the Max Planck Society examined by a Presidential Committee. Krontha-

ler believes that he will need to systematically focus on auditing in order to exploit the potential for strategic development. In the interest of facilitating overarching developments, it makes sense to establish a legal department that straddles the entire organization, which is why he will have to accept that the different legal areas will become more separated from the respective operative business.

Another innovation is the staff unit for implementation planning. “This unit will compile, analyze and prepare information from any area based on planning criteria. We must be able to provide information about a broad range of aspects to support decision making,” Kronthaler says. “I want the right information to be available systematically, not haphazardly. I want the Administrative Headquarters to know what they know. Only then will we be able to foresee all the implications of decisions about projects in the multi-million euro range.”

It is the task of the heads of the two central divisions, Rüdiger Willems and Maximilian Pruger, to make sure that everything goes smoothly with a minimum of detours and inefficiencies. “I don’t see it as an additional hierarchical level, but as more of an integrating level,” says Kronthaler, addressing any potential misgivings. “Conflicts involving several departments will be solved here. This allows me to take a step back and spend more time on strategic considerations. Actually, I am more of a strategic enabler than a supervisor of the department heads.” Kronthaler says that he serves as an interface for the funding bodies. Whereas the President is responsible for determining research policy and handling scientific aspects, it is his job to implement the decisions. To do this, he needs to keep his finger on the pulse of the institutes. “I want to actually visit the institutes to understand the problems they are dealing with, and then direct these problems to the right instance or governing body.”