

Dr. Jekyll and Mr. Hyde

Hans Clevers delivers the Harnack Lecture on the pros and cons of stem cells

In late October, Dutch immunologist and molecular geneticist Hans Clevers delivered this year's Harnack Lecture, pithily titled "Dr. Jekyll and Mr. Hyde." He spoke before 180 guests in the Goethe Auditorium on the subject of stem cells.

After the initial euphoria, the hype surrounding stem cell research has quieted somewhat in recent years. Now, not least since this research began to focus increasingly on stem cells that are found in various organs throughout a person's life, the enormous potential of adult stem cells is gradually returning to the forefront of scientific consciousness.

Clevers has significantly advanced this development. An expert in adult stem cells, he identified a gene that is ac-

tive in these cells, and this enabled him to demonstrate the presence of stem cells in organs such as the intestines, lungs, liver and pancreas. Clevers even succeeded in cultivating these stem cells in laboratories to create miniature versions of human organs. These so-called organoids now make it easier for researchers to examine biological processes; in the future, they could even render organ transplants unnecessary.

However, the role these cells play in forming and regenerating organs is only one side of the coin: cells that retain their ability to divide throughout an organism's life can easily get out of control and become cancer cells. Clevers was able to show that some processes in stem cells and cancer cells are

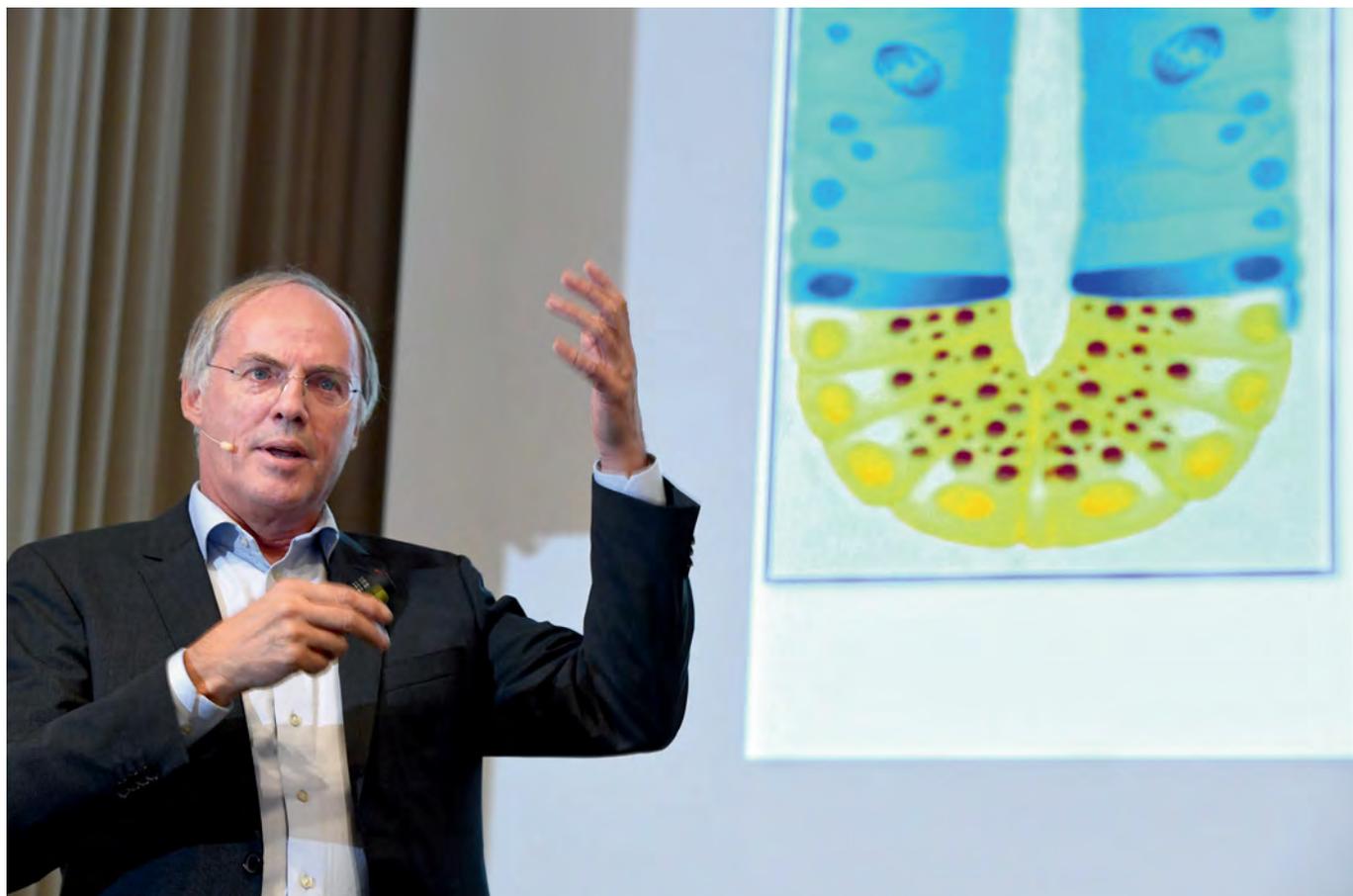
identical. He titled his Harnack Lecture, to which renowned scientists have been invited each year since the reopening of the Max Planck Society's conference center in Berlin-Dahlem, "Dr. Jekyll and Mr. Hyde" to reflect the ambivalent nature of these cells.

Hans Clevers was born in Eindhoven and studied at Utrecht University, to which he returned as a professor following a research residency at Harvard University in the early 1990s. For two years now, he has also served as Director of Research at the Princess Máxima Center for Pediatric Oncology.

A video of the lecture:

 <https://www.youtube.com/watch?v=TJ4TRD2BWXg>

Expert in adult stem cell research: Hans Clevers delivering his lecture in a packed Goethe Hall in the Harnack House.



Communication, Collaboration, Inspiration

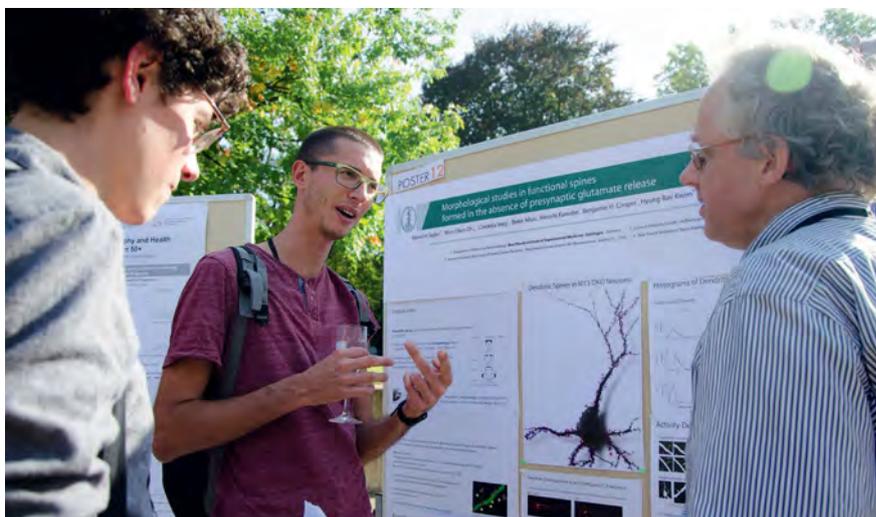
Varied program addresses trends in research and provides career advice

The “Visions in Science” conference and the “Max Planck Career Fair” – both aimed at bringing together inquisitive, forward-thinking minds – were held simultaneously for the third time. Once again, this year’s conference in late September was well attended, with 80 participants each day enjoying the diverse program that ranged from inspiring talks by renowned scientists to a science slam contest and a poster session.

On the first day of the conference, the Harnack House provided the perfect venue for the Career Fair’s 13 exhibitors and 215 visitors to hold individual discussions and network with new contacts. Facilitating the exchange between speakers and junior scientists was a key priority throughout the three-day conference, which is organized each year by members of Max Planck PhDnet.

“The panel discussions in particular were a great success,” said Beniamino Abis, doctoral student at the Max Planck Institute for Meteorology and head of the organizational team. “Both our speakers and the audience contributed to this with a lot of questions and comments. Afterwards, the presenters and participants mingled during dinner and into the evening, providing the opportunity for discussion and conversation in smaller groups.”

Specialist topics were also discussed in the poster session at the “Visions in Science” conference at Harnack House.



Photos: Beniamino Apis (2)

Application Round for Dioscuri Centers

The first call for applications for the establishment of up to three Centers of Scientific Excellence in Poland is underway

In connection with the Max Planck Society’s new program for boosting cutting-edge research in Central and Eastern Europe, the first call for applications for Poland is now open. Until February 12, 2018, scientists may apply as Principal Investigator (PI) for one of up to three Dioscuri Centers of Scientific Excellence to be established at Polish universities or research centers with appropriate infrastructure. More than 50 institutions have already sig-

naled their interest. The PIs and their research groups will each receive 300,000 euros over a five-year period. The Dioscuri program aims to strengthen and expand scientific excellence in Central and Eastern Europe and is now entering its first implementation phase in Poland. The financing is shared equally between the German Federal Ministry of Education and Research and the Polish government.

Moved by Nobel Prize for Gravitational Waves

Max Planck researchers congratulate and celebrate with their American colleagues

Rainer Weiss, Kip Thorne and Barry Barish were awarded this year's Nobel Prize for Physics for their groundbreaking evidence of Einstein's "ripples in space-time." Max Planck researchers celebrated with their US colleagues, especially since they played a role in the discovery that is transforming astronomy.

There was excitement in the air at the Max Planck Institute for Gravitational Physics in Hannover and Potsdam on October 3. Around 120 guests in Hannover, including the Lower Saxony Minister for Science, Gabriele Heinen-Kljajić, and an additional 50 in Potsdam followed the livestream from Stockholm. Though the Nobel Prize was not awarded to Karsten Danzmann, as one local newspaper prematurely announced online, the mood among the Max Planck researchers remained positive.

"We wholeheartedly congratulate our colleagues and are delighted by this award for three pioneers of gravitational wave research. They never lost sight of their objective and have inspired generations of young scientists," said Max Planck Director Alessandra Buonanno and her colleagues Karsten Danzmann and Bruce Allen. They added: "We are proud to be part of an international collaboration that discovered the first gravitational wave some two years ago."



Expert in demand: Alessandra Buonanno gave TV interviews at the Max Planck Institute for Gravitational Physics in Potsdam following the awards ceremony.

Karsten Danzmann's team at the GEO600 facility near Hannover actually developed almost all of the technologies deployed in the major detectors, such as LIGO and Virgo. The Institute in Hannover is also home to the Atlas Computing Cluster, where researchers in Bruce Allen's department work on programs that make it possible to search

for and analyze the gravitational wave signals in the first place, and in Potsdam, Alessandra Buonanno and her staff created the models that would help to better understand and simulate the waves. This alone shows how the success of this collaboration rests on the shoulders of more than 1,000 participating researchers.



"Adventures in Archaeological Science"

A colouring book for archaeologists in training

The Max Planck Institute for the Science of Human History has recently completed a special outreach venture. Primarily directed at children, it is bound to appeal to archaeologists of any age: the *Adventures in Archaeological Science* coloring book. Produced for the 2017 "Long Night of Science", the booklet is the final project of a scientific illustration training workshop taught by Max Planck researchers Christina Warinner and Jessica Hendy in the summer of 2017.

Each page is hand-drawn by a scientist at the Max Planck Institute for the Science of Human History and features real research and archaeological projects. It also provides brief explanations not only on the work of archaeologists in the field and the lab, but also on topics such as human origins, ancient diets and ancestral microbiomes. The book is edited by Christina Warinner and Jessica Hendy, with special contributions by: Zandra Fagernäs, Jessica Hendy, Allison Mann, Åshild Vågane, Ke Wang, and Christina Warinner, and is currently available in English and German.

<http://christinawarinner.com/2017/11/25/adventures-in-archaeological-science-coloring-book-now-available/>