

No. 13

March 10, 2016 (Koh)

For Harald zur Hausen on his 80th birthday

Harald zur Hausen, Nobel Prize Winner, “intellectual father” of the vaccination against cervical cancer, and former Chairman and Scientific Director of the German Cancer Research Center (DKFZ) will be celebrating his 80th birthday on Friday, March 11, 2016.

“On behalf of all employees of the German Cancer Research Center, we extend our best wishes to Harald zur Hausen on his birthday and wish him many more years in good health,” say DKFZ’s present Directors Michael Boutros and Josef Puchta. “We are proud to have him in our midst as a person who has written a chapter of medical history and has gained overwhelming recognition around the world for this achievement.”

Zur Hausen was Chairman and Scientific Director of the German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) in Heidelberg from 1983 to 2003. He still heads a research department at the DKFZ. His co-workers are searching for new viruses that are linked, among other diseases, with bowel cancer.

“Perseverance is a word that keeps recurring in reports about Harald zur Hausen,” says Josef Puchta, who worked very closely with zur Hausen over many years. “We all admire him for the perseverance that he still shows, even after the Nobel Prize, in searching for unknown cancer-causing viruses. Many of us cannot wait to see his new findings and we would not be surprised if he proved to be right once again!”

Already as a young medical student, Harald zur Hausen had the goal of following a career in science. After he completed his doctorate in 1966, a fortuitous circumstance brought him to the lab of Gertrude and Werner Henle at the Children’s Hospital of Philadelphia in the USA. Working for these two pioneers of tumor virology, zur Hausen first got involved in a topic that was to remain with him for the rest of his life as a research scientist: the link between viral infection and cancer.

Following three years of successful research work at the University of Würzburg, zur Hausen was offered the post of Professor of Virology at the University of Erlangen-Nuremberg in 1972. This was where he first started thinking about the topic that would later help him make his most important scientific breakthrough so far. From old medical case reports, he concluded that there might be a causal link between infection with human papillomaviruses (HPV), the pathogens that cause warts, and cervical cancer. This was to become the motif guiding his scientific work for the next few decades.

Using the labor-intensive methods of those days, zur Hausen and his team discovered that the papillomavirus family has a multitude of members. Eventually, they succeeded in detecting DNA of these viruses in cancer tissue. Thus, they had found a strong indication that human papillomavirus plays a causal role in the development of cancer.

In 1977, zur Hausen accepted the post of Professor of Virology at the University of Freiburg, where he and his co-workers finally achieved the crucial breakthroughs. From tissue samples taken from cervical tumors, they isolated the DNA of the two most important cancer-causing HPV types. In addition, they were able to elucidate the molecular mechanisms of how HPV-

infected cells turn cancerous. From then on, even the many skeptics were convinced that infection with one of the high-risk HPV types is the cause of cervical cancer.

By then, zur Hausen had already been appointed Chairman and Scientific Director of the German Cancer Research Center, a post that he held for the following two decades. Right at the start of his time in Heidelberg, he profoundly restructured the DKFZ and introduced modern methods of science management. Under his leadership, the research center emerged as one of the world's leading cancer research institutes. Particularly his perseverance in establishing collaborations with Heidelberg University Hospital has borne fruit: The University Hospital and the DKFZ eventually teamed up to establish the National Center for Tumor Diseases (NCT) Heidelberg as a joint project that is now tremendously successful.

Once the main high-risk HPV types that cause cancer had been identified, a possibility emerged that had never before been conceivable: to develop a vaccine against the cancer-causing viruses in order to prevent the development of cervical cancer. Nothing is stronger than an idea whose time has come. Zur Hausen's former students instrumentally participated in overcoming the technical problems on the road to developing this vaccine. Finally, in 2006, vaccines against the main high-risk HPV types became available. Scientists expect that HPV vaccination will protect thousands of women each year from cervical cancer, which often takes a deadly course in many parts of the world.

There is no doubt that Harald zur Hausen is the "intellectual father" of the first ever vaccine that was developed specifically against cancer. To be able to witness how one's own research hypothesis eventually is used to prevent a life-threatening disease is the most wonderful acknowledgement of his life's work as a scientist.

Zur Hausen has been distinguished with a multitude of honors and awards for his scientific accomplishments. He has also earned a tremendous number of honorary doctorates. All these distinctions were finally outshined by the Nobel Prize for Medicine, which he was bestowed by the Royal Swedish Academy of Sciences in 2008.

A picture for this press release is available at:

http://www.dkfz.de/de/presse/pressemitteilungen/2016/bilder/Harald_ZurHausen.jpg

(Tobias Schwerdt/DKFZ)

The German Cancer Research Center (Deutsches Krebsforschungszentrum, DKFZ) with its more than 3,000 employees is the largest biomedical research institute in Germany. At DKFZ, more than 1,000 scientists investigate how cancer develops, identify cancer risk factors and endeavor to find new strategies to prevent people from getting cancer. They develop novel approaches to make tumor diagnosis more precise and treatment of cancer patients more successful. The staff of the Cancer Information Service (KID) offers information about the widespread disease of cancer for patients, their families, and the general public. Jointly with Heidelberg University Hospital, DKFZ has established the National Center for Tumor Diseases (NCT) Heidelberg, where promising approaches from cancer research are translated into the clinic. In the German Consortium for Translational Cancer Research (DKTK), one of six German Centers for Health Research, DKFZ maintains translational centers at seven university partnering sites. Combining excellent university hospitals with high-profile research at a Helmholtz Center is an important contribution to improving the chances of cancer patients. DKFZ is a member of the Helmholtz Association of National Research Centers, with ninety percent of its funding coming from the German Federal Ministry of Education and Research and the remaining ten percent from the State of Baden-Württemberg.

Contact:

Dr. Stefanie Seltmann
Head of Press and Public Relations
German Cancer Research Center
Im Neuenheimer Feld 280
D-69120 Heidelberg
T: +49 6221 42 2854
F: +49 6221 42 2968
presse@dkfz.de

Dr. Sibylle Kohlstädt
Press and Public Relations
German Cancer Research Center
Im Neuenheimer Feld 280
D-69120 Heidelberg
T: +49 6221 42 2843
F: +49 6221 42 2968
Email: presse@dkfz.de