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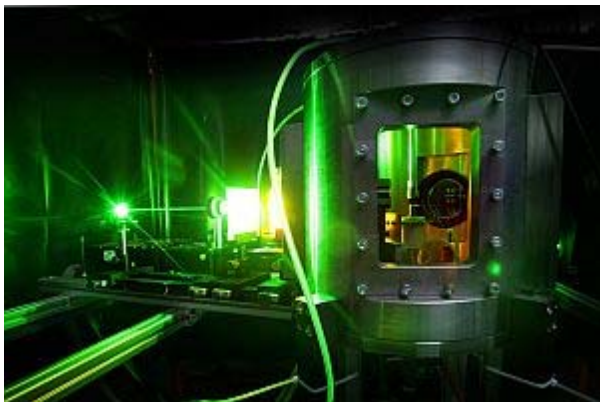
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Press Release 072/2010

50 Years Laser – Celebration with Nobel Laureates

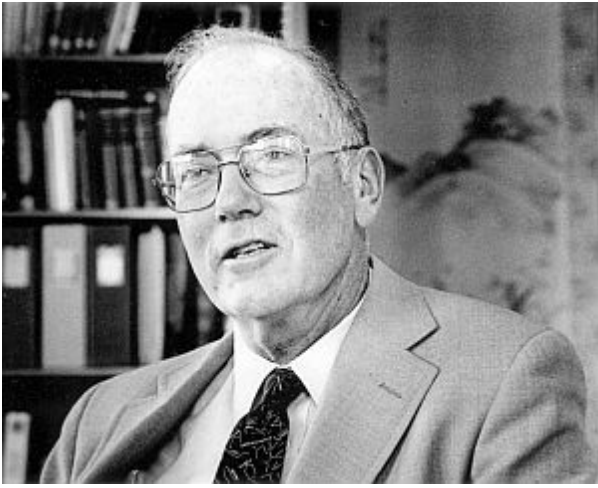
Public Event of KIT with the Inventor of the Laser Charles Townes – 500 Scientists from All Over the World at the Congress on Optics and Photonics



Lasers are widely used in today's research and everyday life (Photo: Andrea Fabry)

In 1958, Charles Townes, together with his brother-in-law Ar-thur Schawlow, wrote the decisive laser equation. Two years later, in May 1960, Theodor Maiman succeeded in building the first laser based on the theoretical work of Townes. In 1964, Townes was awarded the Nobel Prize for Physics. On the occasion of the 50th anniversary of the laser, Karlsruhe Institute of Technology (KIT) will organize a celebration at the Stadthalle Karlsruhe (Brahmssaal, Festplatz 9) on Thursday, June 24, 5 to 7 pm.

This public event is another element of the international Laser Celebration Initiative. Two Nobel prize laureates, Charles H. Townes, who is considered the inventor of the laser ("The Laser - How New Things Happen"), and Theodor W. Hänsch ("Adventures in Laser Spectroscopy") will be coming to Karlsruhe. Townes, now aged 95, is still conducting research and teaching at Berkeley, USA. He is having a few selected talks all over the world. Townes was not only successful in the investigation of the fundamentals for the laser, but also in astrophysics. With his team, he was the first to measure the mass of the "black hole" in our Milky Way and he advised the US president during the landing of the first man on the moon. The Nobel prize laureate Theodor W. Hänsch, another lecturer at the celebration, teaches and conducts research at the Max Planck Institute in Munich.



Nobel prize laureate Charles H. Townes (Photo: private)

The laser that was demonstrated for the first time in 1960 is now used widely in everyday life. It is applied in CD and DVD devices, by advertising and entertainment industry, in medicine, on construction sites for exact measurement, or simply as a modern pointer. Today, laser technology is essential in telecommunications and data transmission as well as for the processing of materials. In research, the laser provides new insights into biology and medicine by means of confocal microscopy and access to extreme forms of matter like ultra-cold Bose-Einstein condensates and fusion plasmas of several million degrees Celsius. Lasers are used for studying processes in the femto- and attosecond range and are indispensable in modern spectroscopy. The Nobel prize laureates will explain various aspects of the laser and report about current research activities.



Nobel prize laureate Theodor W. Hänsch (Photo: private)

These presentations will be followed by a ruby laser demonstration by the Nobel prize laureate Townes and Dr. Marc Eichhorn, lecturer at the KIT Department of Electrical Engineering and Information Technology.

Tickets for the celebration "50 Years Laser" may be obtained at EUR 5 from the Stadtinformation am Marktplatz as well as from KIT: +49 (0) 721/608-2482, e-mail: a.riemensperger@kit.edu.

The program of the event can be found at: <http://www.ipq.kit.edu/events/congresses/2010/OSA/laser.shtml>

Journalists are cordially invited. Please register using the form enclosed.

International Scientific Congress

In parallel, an international congress on optics and photonics is held in Karlsruhe from June 21 to 24. It will be organized by KIT under the direction of Professor Jürg Leuthold (Institute of Photonics and Quantum Electronics) in cooperation with the Optical Society of America (OSA). 620 scientists from all over the world are expected to come. Among them is the inventor of the carbon dioxide laser, Professor Kumar Patel from the USA. He will speak about how lasers can be used to detect explosives. The director of the LED Illumination

Technology Department of OSRAM, Dr. Bernhard Stapp, will report about latest developments in LED illumination technology. Dr. Kim Roberts, Ciena, Canada, will present communication systems of the future. Roberts' activities revolutionized the world of optical communication in the past years. Professor Eli Yablonovitch, UC Berkeley, USA, will talk about the ultimate performance of solar cells. Professor Martin Wegener from KIT will speak about metamaterials and how objects can be made invisible.



Theodor Maiman with the first ruby laser. (Photo: OSA)

On Thursday, June 24, the Karlsruhe Association of Students in the Optical Society of America will organize a competition in the amount of 5000 US\$ for the visualization of optical phenomena. This competition is aimed at making the phenomena of optics understandable. Information is available at

<http://www.optics-visualized.com/>

Further information on the scientific congress may be obtained at:

<http://www.ipq.kit.edu/events/congresses/2010/OSA/congress.shtml>

and

[http://www.osa.org/Meetings/optics_and_photonics_congresses/Advanced Photonics Congress/Special_Events.aspx](http://www.osa.org/Meetings/optics_and_photonics_congresses/Advanced_Photonics_Congress/Special_Events.aspx)

Karlsruhe Institute of Technology (KIT) is a public corporation and state institution of Baden-Württemberg. It fulfills the mission of a university and the mission of a national research center of the Helmholtz Association. KIT pursues its tasks in the knowledge triangle of research, teaching, and innovation.

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The photo of printing quality may be requested by or phone: +49 721 608-7414. The press-release is available as a [PDF-File](#).

KIT – University of the State of Baden-Wuerttemberg and National Research Center of the Helmholtz Association