University of Basel

Department of Physics

Obituary: Prof. Dr. Gerhard Baur (Emeritus Associate Professor of Theoretical Physics at the University of Basel).

(*20 January 1944 † 16 June 2023)

Gerhard Baur passed away on June 16, 2023 in Stuttgart after a long illness. He was an internationally renowned theorist in the field of reaction mechanisms in atomic, nuclear and particle physics.
Gerhard Baur was born in Stuttgart on January 20, 1944. He received his PhD from the University of Basel in 1970 with a thesis on "Particle-vibration coupling and the giant dipole resonance" under the supervision of Kurt Alder. From 1971 to 1974 he worked as a postdoctoral fellow at the Max Planck Institute for Nuclear Physics in Heidelberg, and in 1974 he went to the Weizmann Institute of Science in Rehovot, Israel, as a visiting scientist. From 1975 to 2009, he had a very productive career as a senior scientist at Forschungszentrum Jülich in Germany. In parallel, he habilitated at the University of Basel in 1982 on the subject of “Fragmentation processes in nuclear reactions” and was appointed associate professor in 1993. In this position he was active through regular lectures on theoretical nuclear and particle physics, supervision of PhD students in the Trautmann research group and in scientific collaborations with D. Trautmann, K. Hencken and A. Aste, also beyond his retirement from the Research Center Jülich (2009). Jointly with Basel research groups he promoted international collaborations for new experiments at CERN, and accelerators at GSI Darmstadt, RHIC (Brookhaven) and PARC (Tokai) and helped to shape the joint International Graduate Schools Basel-Tübingen and Basel-Graz-Tübingen. His research interests ranged from photon-hadron and photon-photon interactions in ultraperipheral relativistic heavy ion collisions (a field he pioneered), including vector meson, W, Z and Higgs boson production, to atomic physics with relativistic heavy ions, indirect methods for nuclear astrophysics such as Coulomb dissociation and the so-called "Trojan Horse Method" (developed by him), to the creation of anti-hydrogen and the excitation of exotic atoms (e.g. pionium) in the Coulomb field of atomic nuclei.

Gerhard Baur had a very friendly and polite personality, he was open-minded and always ready to listen to others. The students who attended Gerhard Baur's lectures remember him as an amiable, modest person who, with his approachable manner, provided space for discussions in which no one had to fear embarrassing himself by asking "stupid" questions. His scientific goal was to contribute to the solution of complex problems in physics with simple, but at the same time unique, ideas. Together with his PhD students, he had the vision that photon-photon and photon-nucleus collisions occurring in ultraperipheral relativistic heavy ion collisions would one day be an important field of research in nuclear physics, as it is now.

In the last years of his life, suffering from ALS, he still found the time to work as a reviewer for renowned scientific journals and to pursue his love of physics.

Gerhard Baur is greatly missed by the scientific community and we will cherish his memory.