Pro memoria Hans Rudolf (Hansruedi) von Gunten (12.12.1928 – 7.12.2021)

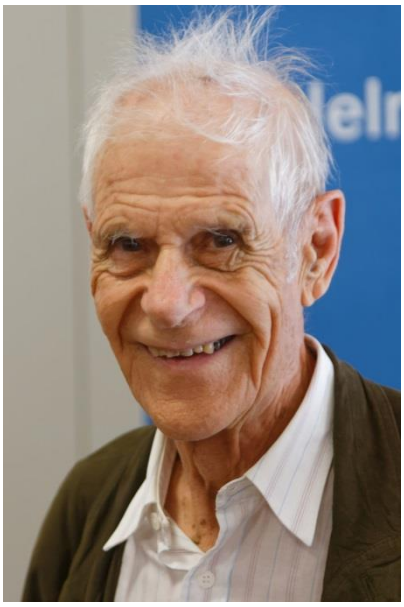

Foto: Willy Brüchle, 20.4.2018 (Mainz University)

Hansruedi von Gunten was the first full professor for Radiochemistry in Switzerland (University of Bern, 1971 – 1993). He studied chemistry at the University of Bern and finished his studies with a licence including an experimental study on complex iron compounds in 1954, followed by a doctoral thesis under Profs. W. Buser and F. Houtermanns which he finished 1956 - just before his successful ascent of Mt. Everest on May 24, 1956. The topic of his thesis was the application of ^{210}Pb to study geochemical processes in volcanology.

He then started his scientific career in 1957 at the former EIR (Eidg. Institut für Reaktorforschung in Würenlingen) and negotiated a one-year stay at the Argonne National Laboratory. He topped up his salary with small honorariums for talks on the Everest expedition and he came to a certain fame in the community. This was quite uncomfortable for him as he felt like an “exhibition piece”. He returned to Argonne National Laboratory in 1965/66 and he described this sabbatical as particularly educational, building the base for part of his later research. EIR was renamed in 1988 to Paul Scherrer Institut and Hansruedi worked first as group leader in the *Abteilung Chemie*, later laboratory for radiochemistry and environmental chemistry. He stayed at this institute until his retirement in fall 1993. With the employment at EIR, a nuclear research and technology oriented institute, his scientific focus broadened and now also included nuclear fission studies using chemical techniques (nuclear chemistry).

He started his academic career at the University of Bern in 1967 as lecturer and in 1969 he submitted a habilitation in which he discussed the double humped mass distribution in nuclear fission at low energy. In 1970 he became an associate and in 1971 a full professor in

Radiochemistry at this university. His employment as a full professor at the University of Bern was partly triggered by a very attractive offer at the Institute of Nuclear Chemistry at the University of Mainz, which he turned down partly on compassionate grounds.

His research interest was remarkably broad. It included nuclear fission studies using very novel techniques such as the spinner (developed by B. Hahn for experiments at CERN) to measure half-lives of spontaneously fissioning nuclides or to search for long-lived superheavy elements in nature. Another focus was the determination of nuclear charge distributions in thermal neutron induced fission of several nuclides such as ^{235}U, ^{233}U, ^{239}Pu and ^{249}Cf, respectively. During a sabbatical leave to LBNL Berkeley in 1980/81, where he worked with the Nobel laureate Glenn T. Seaborg, he became involved in studies of nucleon transfer reactions in heavy ion induced reactions. Besides his scientific engagement in nuclear physics oriented research he applied his knowledge to environmental sciences. There, his main focus was the investigation of sorption processes of radionuclides on different minerals to contribute to the research activities at EIR/PSI in nuclear waste oriented topics. He also stayed interested in applications of ^{210}Pb, e.g. using this natural radionuclide to determine accumulation rates of lake sediments or to determine the ages of glacier ice cores. Worth mentioning is his brilliant idea to use ^{222}Rn to determine the water inflow from the river Glatt into the nearby groundwater aquifer. This method is still used to measure the water exchange rates between rivers and adjacent aquifers.

Mainly at University of Bern, because of the engagement of its physics department in lunar missions, he participated in chemical studies of lunar samples, also to investigate evaporation/adsorption processes under atmospheric conditions of the moon.

Besides his truly widespread scientific activities it is of utmost importance to mention his very kind and emphatic personality and his modesty. Generations of students in the field of radiochemistry ad nuclear chemistry were impressed by his competence and guidance in all facets of professional problems. Moreover, he always was also interested in the private and personal situation of his students.

H.W. Gäggeler