



## Professor Lore Zech

Professor Lore Zech, PhD and Dr. med. h.c., was born in Germany 1923. After her academic education at the universities of Marburg, Bonn and Tübingen she was awarded in 1953 a fellowship for postdoctoral studies at the Institute for Cell Research and Genetics, Karolinska Institute in Stockholm in 1953. Head of the Institute was the famous professor Torbjörn Caspersson. At that time, the Institute for Cell Research and Genetics was known world wide as the Mekka for spectrophotometrical DNA-studies on cells and cell nuclei. Lore Zech learned the complicated optical techniques and combined them with microdissection of single cells and chromosomes.

During the early 1960s, Torbjörn Caspersson and Lore Zech started a collaborative study on changes in isolated plant chromosomes treated with different alkylating and intercalating substances. These studies resulted in the development of the quinacrine- or the **Q-banding method**, by which highly specific banding patterns along the chromosomes could be obtained. The first paper reporting these results appeared in 1968. After a number of experimental changes, the authors succeeded in applying the technique to the much smaller human chromosomes and made it possible to identify each individual chromosome.

The Q-banding technique, as well as the shortly thereafter published G- and R-banding techniques, were officially accepted at the IV<sup>th</sup> International Human Chromosome Conference in Paris in 1971 and were the start for worldwide cytogenetic and molecular studies on the human genome.

Lore Zech continued to study chromosome changes in patients with congenital conditions as well as in haematological disorders, mainly leukemias and lymphomas, and identified a number of disease-specific aberrations.

After her retirement in 1989, Lore Zech was offered the possibility to continue her work at the Department of Clinical Genetics, Uppsala University Hospital, Sweden, where she is still working, mainly using molecular cytogenetic techniques for study of karyotypic changes, in the first hand tumors.

Lore Zech's outstanding research has rendered her prizes all over the world, and in 1999 she became an honorary member of the European Society of Human Genetics.