

Eero Saksela

* 6.1.1937 † 16.2.2023



Professor Emeritus of Pathology at the University of Helsinki Eero Juhani Saksela died in Espoo on 16 February 2023 after a long illness. He was 86 years old, born in Helsinki on 6 January 1937. Saksela's father was Professor Niilo Saksela and his mother Aira Penttilä. Saksela completed his matriculation examination at the Töölö Secondary School in 1955. He continued the family tradition and applied and was admitted to study medicine at the University of Helsinki, where he graduated as Licentiate of Medicine in 1962. His interest in research began already as a student and eventually resulted in a doctoral thesis and the title of Doctor of Medicine and Surgery in the very same year. The topic of his research was the influence of external modifiers on the chromosomes of cervical cancer cells.

His research career continued in the United States, at the famous Wistar Institute in Philadelphia, which was one of the world's leading research institutes in genomics. Groundbreaking discoveries had recently been made at Wistar on the limited division capacity of human cells and senescence, phenomena that lead to ageing and a limited life span. It was in this inspiring environment that Saksela, together

with the leader of the research team Paul Moorhead and colleagues, including director of the Wistar Institute Hilary Koprowski and Swedish colleague Jan Ponten, demonstrated how the chromosomes in cells are altered with age and when exposed to carcinogenic viruses. This work led not only to significant conclusions on the effects of carcinogenic factors and senescence on DNA, but also to close friendships with leading researchers around the world. Towards the end of his career, Saksela returned to the topic of this period in his life, for example in his article published in the *Duodecim Medical Journal*, "Inevitable senile death" (2014). For his accomplishments in research, Saksela was invited to give an Isaac J Wistar Lecture in 1985.

Following his return to Finland, Saksela worked at the Department of Pathology, University of Helsinki, first as an assistant and a clinical lecturer until the year 1969. Having earned his Specialist Degree in Pathology, Saksela served as Head of the Department of Pathology at HUCH Women's Hospital. In 1981 he was appointed as Professor of Pathology at the University of Helsinki, a chair he held for over 20 years, until 2002. For most of this period, he also

worked in the hospital as Head of Clinical Pathology.

His research expanded from cytogenetics to histopathology and tumour immunology. This research was inspired by questions such as, ‘how is pregnancy even possible?’ and ‘why does the immune system not reject the growing foetus whose tissue is half-foreign (non-self) to the mother?’ The research focused on natural killer cells, so-called NK cells, that are able to hide foetal cells from the reach of the immune system. The topic soon expanded to the field of cancer research when it became apparent that cancer cells can hide from the body’s immune surveillance by a similar mechanism.

The method described by Saksela’s team to identify and isolate NK cells fuelled the study of natural immunity around the world. Several doctoral theses were written on the topic, for example on factors that stimulate NK cells and the mechanisms that enable NK cells to identify foreign structures and kill cancer cells. Several international researchers in the field visited Saksela’s laboratory. The team received a substantial NIH grant, which was rare in Finland at the time, that enabled the long-term operations of the laboratory. In 1983, Saksela was awarded the Matti Äyräpää Prize, the most prestigious award in Finnish medicine. It is rewarding to conclude that, decades after the first findings were made, NK cell research has produced significant results for patients, as laboratory-engineered NK cells are now being used for cancer immunotherapy, alongside other treatments.

Saksela’s histopathological research focused especially on gynaecological and head and neck tumours. Saksela had a vast knowledge of morphological diagnostics,

and his clinical experience and views were valued when solving diagnostic problems. He served in both Finnish and international pathology organisations, including as the representative for Finland in the Section of Pathology at the Union of European Medical Specialists (UEMS) and in the Finnish Division of the International Academy of Pathology, who invited him to become an honorary member in 2001.

Saksela actively followed the latest news in cutting-edge research and made sure that any scientific discoveries were also shared with the Finnish medical community. He was an editor for the *Duodecim Medical Journal* 1966–1986 and remained an active member of the Finnish Medical Society Duodecim until the last years of his life. Another important role that he enjoyed was his position as an editor of the journal *Int. J. Cancer* 1969–1983. Not even retirement diminished his passion for science and new discoveries. He carefully read through the issues of *Nature* and *Science*, and visits by the Professor Emeritus livened up the weekly discussions of department seminars.

Saksela especially cherished his interactions with students. Each new class of Bachelors of Medicine were welcomed by the entire faculty and the professor also enjoyed attending recreational events. The premiere of the annual Speksi performance by medical students was an event that he probably never missed. His students greatly appreciated these interactions, as exemplified e.g. by Saksela’s recognition as Lecturer of the Year in 1992, his badge of merit and honorary membership in the Medical Students’ Association at University of Helsinki and his honorary membership in the medical students’ orchestra Valkotakit. He also devoted his energy to student associa-

tions; Saksela served as inspector of Wiipurilainen Osakunta 1984–1994 and was elected to honorary membership by the association in 1995.

In addition to having an impressive career in research, Saksela's contribution to the development of research organisations and research infrastructures was just as impressive. Saksela served as a member or a chair in several organisations and committees, including the Scientific Advisory Board of the Wihuri Research Institute, the Board of the Cancer Society of Finland and the Scientific Board of the Finnish Cancer Institute. First envisioned in the 1990s, his goal to establish a new building on the Meilahti Campus that would combine basic research and clinical research deserves a special mention. This goal made Saksela a strong visionary and an advocate. He sat on the building committee and the management group of Biomedicum throughout its planning and construction and even the name of the building was suggested by him. Saksela was also instrumental in the birth of the Finnish Cancer Center and the Finnish Cancer Institute and served as the long-time chair of the Board and Scientific Advisory Board of the Cancer Institute. The Cancer Institute has awarded the Eero Saksela Prize since 2014 to excellent cancer researchers returning to Finland. Saksela was awarded the Cancer Control Silver Medal in 1997 for his achievements in cancer research and prevention.

Saksela was a member of the Finnish Academy of Science and Letters since 1983 and a member of the Norwegian Academy of Science and Letters since 1993.

In spite of his busy workload, he managed to make time for his hobbies. The most important of these were sailing and tennis. Vessels captained by Saksela won Finnish championships in offshore sailing and his accomplishments in the Gotland Runt Offshore Race were impressive. His competitiveness was also apparent on the tennis court where Saksela was an unyielding opponent for whom defeat was unheard of. His sports activities were balanced by culture, especially the visual arts and music, which Saksela enjoyed in various forms with his spouse, textile artist Riitta (Piila) Gyldén.

Eero Saksela's career was exceptional in its versatility and prolificity. He was a visionary leader and a supervisor who found effective solutions even in most challenging situations and earned the trust of both his colleagues and his subordinates with his fair approach and positive attitude. He was a great mentor, an innovator, an organiser, a duodeciman, a clinician and a scholar. He was a role model for a whole generation of pathologists. His manner of leading the community of academics and scholars – with determination and a vision for the future, sincerely rejoicing in the achievements of his students and colleagues – lives on in our memories.

Olli Carpén