## Dick Heinegard MD PhD (1942 – 2013)

It's a sad loss to note that Dick Heinegard died on the first of May.

Dick was clearly the giant of research in our field of matrix biology! His departure brings sadness to his family and friends and a great loss to all researchers interested in matrix biology.

Dick began his studies in Lund, where he became qualified in medicine and he then took up research with his Swedish mentor, Sven Gardell, who was a leader in research into connective tissues. Dick studied for a PhD with Sven, which he successfully defended in 1974. Soon after this he went to work with Vince Hascall at NIH where he developed his "aggrecan" work with Vince and set out papers that are now the gold standard in the field of cartilage structure & matrix biology. Dick over his career had a prodigious output and published in excess of 300 research papers and more than 50 reviews and he has an impact "H" factor (Heinegard factor) of 80! Thus, Dick established very early on the standards that were to characterise his research objectives for the next 40 years and the quality shines through.

Dick was the ultimate in rigorous and carefully thought out science. His output and insight have driven this field forward. We all chip in a bit, but Dick's contributions are the backbone, the spine of the discipline where there is hardly one part of it that he has not helped shape. His interest and enterprise developed Lund into a foremost centre in all aspects of matrix biology, glycobiology, connective tissue pathology and new biomarker technologies. In addition, there are a huge number of scientists who have started their scientific careers, trained, visited or had their sabbatical in Lund, that now populate and lead matrix biology research around the world. They provide an everlasting testament to Dick's influence in our field. The memorable phenotype is Dick's energy, Dick's enthusiasm and particularly Dick's warmth, generosity with time, willingness to help and his love of eating, sleeping, walking, talking science. Dick received many awards including the Steindler award of the Orthopaedic Research Society (USA), an Award from EULAR, the Basic Science award from Osteoarthritis Research Society International, the Jahre Prize for medical research and from our BSMB, (of which Dick was a long time member), he was awarded in 2008, the Fell Muir Award for outstanding contribution to Matrix Biology. His impact has been global and is continuing to be global.

Over the past 35 years Dick and his colleagues have managed to purify, biochemically characterise and name a huge number of the extracellular matrix macromolecules that are present in cartilage and many other connective tissues. In recent times he continued to innovate. His long-term interest in biomarkers in joint disease had recently moved into new territory with proteomic approaches, which spurred a new wave of optimism in the scientific and medical community being able to detect and monitor joint diseases. It's clear that Dick, characteristically, had the next 20 years of research mapped out in his mind and it's a tragedy for all of us that his participation in that has been cruelly cut short. Dick has made a massive impact in matrix biology worldwide, he will be long in our memory and his pioneering research discoveries in matrix biology will certainly be forever in the textbooks of biology and science.

Tim Hardingham and Bruce Caterson