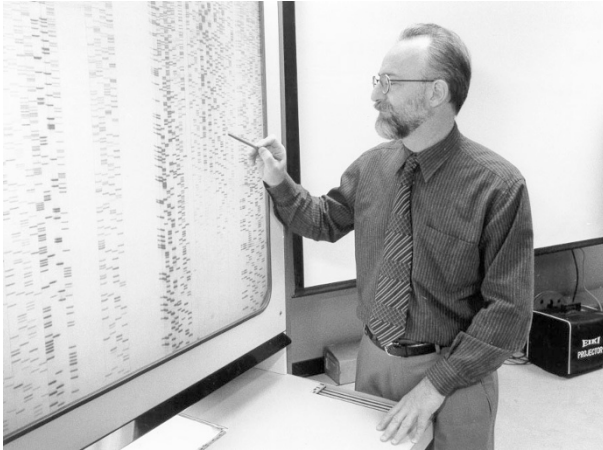




Obituary

Dr. Arnold H Greenberg (1941 – 2001)



It is with great sadness that we announce the recent loss of Dr. Arnold Harvey Greenberg. Arnold (Arnie) died peacefully at sunrise, surrounded by his wife and children. He is survived and deeply missed by his wife and partner in life Faye Hellner; children Juliet (Adam) and David Greenberg, Marni (Grant), Rachel (John) and Kathy (Bryan) Hellner; grand daughters Isanne, Maya and Noa Goldberg; sister Rhettta Glazerman, and the parents-in-law Max and Ruth Kettner. As a child, Arnold spent summers in Beausejour at the family creamery. It was there that he developed his love of wildlife and nature. Determination and perseverance were constants in his life and stayed with him throughout his illness. He focused on his work and his family until the day before he died. He had eclectic taste in literature, music and art, ranging from Aristotle and Asimov to Wagner, Warkov and Zelazny. His interest in history, politics and economics was insatiable. His family loved and respected him and was proud of his achievements, simplicity, humility and generosity.

Dr. Greenberg was a beloved and highly admired member of the scientific community. He served as an active member of the Editorial Board of *Cell Death and Differentiation*; as well as on the Board of Directors of the International Cell Death Society. One of the most difficult things in one's life is the loss of a friend. Arnold to many of us was not only a great colleague but was also a wonderful friend and advisor. The University of Manitoba has posted an obituary at <http://www.umanitoba.ca/cgi-bin/medium/discus/show.cgi?13/24>. It reads in part as follows:

'Dr. Arnold Greenberg died peacefully on February 12, 2001 in Winnipeg, Manitoba. Dr. Greenberg was the Director of Manitoba Institute of Cell Biology from 1988–2000 and was named Distinguished Professor at the University of Manitoba. He received his MD and BSc Med in Genetics from the University of Manitoba in 1965 and proceeded to undertake undergraduate training in Pedia-

trics and Pediatric Endocrinology at the Winnipeg Children's Hospital and Johns Hopkins Hospital in Baltimore. In 1974 he received his PhD (Immunology) from the University of London, England. He was a leading Medical Researcher in Immunology and Cancer Biology both in and outside the medical community. He may be best known for discovering and revealing how natural immune-system cells combat viruses and cancer cells. He had 200 publications and 14 professional awards, and he trained 23 doctoral fellows and 18 graduate students. According to Premier Gary Doer, 'Dr. Greenberg's high personal, professional and administrative principles have encouraged the pursuit of similar standards by the many impressive researchers he has helped to train and recruit. This world-renowned scientist has been instrumental in bringing substantial research funding to Manitoba. As a result, he has contributed not only to science but to a vital segment of the provincial economy.' Recently, Dr. Greenberg was inducted to the order of the Buffalo Hunt, and more recently he was named a Tier 1 Canada Research Chair for Molecular Oncology at the University of Manitoba. Dr. Greenberg will be sadly missed by his colleagues, students, staff, community and abroad.'

'Death comes to all but great achievements build a monument which shall endure until the sun grows cold.'
(George Fabricius)

In addition to his many contributions to the field, most notably in the area of granzyme B-induced cell killing but in many others as well, he will be remembered as an unflaggingly gentle and courteous person who, even when gravely ill himself, would inquire with genuine concern about the well-being of friends and colleagues.

Before his work on cell death immunologists were aware of his work concerning the discovery and characterization of natural killer cells. His laboratory was then involved in studies on the molecular mechanisms used by NK and cytotoxic T lymphocytes to destroy virus infected and tumor cells. Arnold's discovery that a factor contained within the cytoplasmic granules of these effectors induced DNA fragmentation, a hallmark of apoptosis, represents one of the most significant findings in this area of research. The result pointed to the molecular link between T lymphocyte induced killing and programmed cell death. He provided the direct link between granzymes and DNA fragmentation; was the first to implicate a role for cdc2 in killing; has been a major contributor to our understanding of the involvement of caspases in apoptosis; and most recently provided evidence for a novel mechanism of granzyme action on mitochondria. These amount to an enormously significant contribution to this field of research. The sometimes cooperative, and other times competitive, aspects of the

work have resulted in a tremendous increase in the understanding of the killing mechanisms. Arnold deserves a very significant amount of the credit for not only his own contributions but also for the inspiration he has been to others. He continuously and consistently published exciting results in journals of the highest international caliber. His research has had a major impact on cell biology, immunology, genetics, biochemistry and has implications for cancer, autoimmunity, neurological disorders, and cardiology.

Before Arnold died, he established the Greenberg Lectureship Fund at Cancer Care Manitoba, with the hope that those who wished to contribute could help him continue the legacy he started at the Manitoba Institute of

Cell Biology. Each academic year the fund will be used to invite outstanding scientists to inspire and challenge new generations of investigators and students. Contributions should be sent to Cancer Care Manitoba, 675 McDermot Avenue, Winnipeg, Canada R3E 0V9.

The Cell Death Society in honor of Dr. Arnold H Greenberg has established a student fellowship to be given at each International Cell Death Society meeting.

On behalf of all members of the Editorial Board of *Cell Death and Differentiation*, Jean-Claude Ameisen, Chris R Bleackley, Cristoph Borner, Michael Hengartner, H Robert Horvitz, Douglas R Green, Richard A Lockshin, Gerry Melino, Donald W Nicholson, Mauro Piacentini and Zahra Zakeri.