## **Obituary**

One of the true giants of immunology, Dr. William E. Paul, the director of the Laboratory of Immunology (LI) of the National Institute of Allergy and Infectious Diseases, National Institutes of Health in Bethesda, MD, U.S.A., passed away in the morning of September 18, 2015.

Already in medical school, Bill wanted to become an immunologist and he pursued this goal with great dedication and motivation. He found his postdoctoral teacher and mentor in the person of the later Nobel laureate Baruj Benacerraf and joined him in the groundbreaking work on cellular interactions in primary and secondary immune responses that resulted in the discovery of the genetic restriction of the immune response.

As a successor of Dr. Benacerraf, Bill became Chief of the LI in 1970, a position that he held for the rest of his life. The list of the senior investigators working there and of those who came there as postdocs was truly exceptional and reads like the Who's who in American and International Immunology. It includes Ira Green, Ethan Shevach, Ron Schwartz, Ron Germain, David Margulies, Mark Davis, Steve Hedrick, Maureen Howard, Laurie Glimcher, Wayne Yokoyama, Lou Matis, Junichi Ohara, Drew Pardoll, Zami Ben-Sasson, Zvi Grossman, and Graham LeGros to name some of them.

I, the Undersigned, had the privilege to work at the LI as a postdoctoral fellow and still remember the unique atmosphere of this place, i.e. to be surrounded by highly intellectual, critical and self-critical minds solely dedicated to unravel the cellular and molecular circuits of the immune response.

Dr. Paul and his laboratory have made spearheading discoveries in lymphocyte and cytokine biology, including (i) the first demonstration of IgD and IgM on B cell surfaces, (ii) the discovery of interleukin-4, its production by mast cells and its role in the regulation and expression of allergic tissue inflammation, (iii) the cloning of the T cell receptor  $\beta$  chain, (iv) the unravelling of the mechanisms of Ig class switching, and (v) the role of different cytokines in the Th1/Th2 polarization of CD4+ T cells. For a few years, he served as director of the NIH Office of AIDS Research, guiding this important field in a promising direction.

All his outstanding contributions are summarized in more than 600 scientific manuscripts and in his legendary textbook "Fundamental Immunology".

It is self-evident that people of that caliber receive many distinctions, prizes and awards and hold important positions in the scientific community. Dr. Paul was member of the editorial boards of Immunity, the Proceedings of the National Academy of Sciences and the Journal of Experimental Medicine. He was member of the US National Academy of Sciences, its Institute of Medicine, and of the Association of American Physicians. He also served as President of the American Association of Immunologists and the American Society for Clinical Investigation. Among many other honors, he received the Lifetime Achievement Award and the Excellence in Mentoring Award from the American Association of Immunologists, the Honorary Lifetime Membership Award from the International Cytokine Society, the Max Delbrück Medal, and the Clemens von Pirquet Medal from the Austrian Society of Allergology and Immunology.

Bill Paul's life as a scientist and as a wonderful human being is the expression of what the American philosopher William James formulated by saying: "The great use of a life is to spend it for something that outlasts it". Let us hope that we, the international community of immunologists and medical researchers, will be able to keep alive the legacy of this remarkable man.

Georg Stingl, M. D.