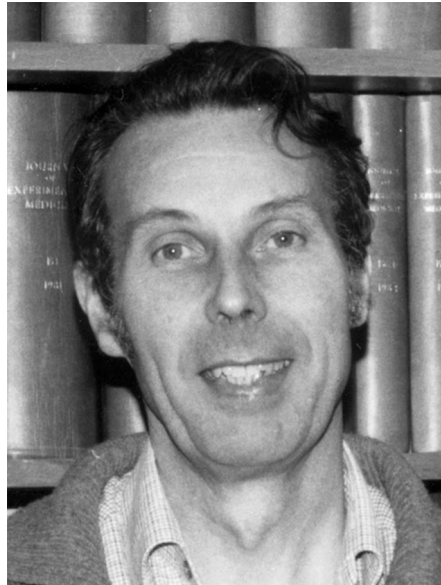


Don Mason (1934–2021)

It is with great sadness that we share the news of the death of Don Mason. Don was a leading immunologist in the UK, making seminal contributions to understanding the mechanisms of allograft rejection, the regulation of immune responses and the theory and concepts of immune recognition by the T cell antigen receptor, as well as the identification of phenotypic and functional subsets of T cells. He trained initially as a physicist (BSc University College London, 1958) and, for ten years, worked on the stability of plasma in controlled thermonuclear fusion, first at ZETA at Harwell and then at Culham. After his firstborn son died of leukemia in childhood, he had a major shift in career and decided to study medicine (Oxford University, 1968). In 1973, he went directly into research at the MRC Cellular Immunology Unit in the Sir William Dunn School of Pathology, Oxford University, under the direction of James Gowans. His ability was recognized immediately, and he became a tenured staff member in record time, despite a lack of immunology research experience. He continued to work there, firstly under James Gowans, then with Alan Williams and, finally, as the director himself. He retired in 1999. His work, ahead of its time, focused on centrally important questions and established new concepts in the field. His physics background was of help when the Cellular Immunology Unit first acquired a Becton–Dickinson FACS-II fluorescence-activated cell sorter in 1974, enabling the types of experiments that subsequently transformed immunology.

A highlight of his immunology career was the way he tackled major questions in a rigorous way. For instance, he identified functional subpopulations of T cells using one of the first monoclonal antibodies — the W3/25 antibody that was later shown to recognize rat CD4. This antibody was the result of a collaboration between César Milstein in Cambridge and Alan Williams in Oxford in 1975. It was one of the first monoclonal antibodies to be used to identify new cell surface proteins, and the combination of monoclonals and cell sorting went on to become a standard immunological research approach. Don helped to show that W3/25 could inhibit mixed lymphocyte reactions in vitro —



Credit: Simon Hunt

the first functional effect demonstrated for a mAb — and subsequently applied the treatment in vivo, showing it was also effective in inhibiting a rat autoimmune model of multiple sclerosis. Those early experiments highlighted the potential of immunotherapy with monoclonal antibodies to treat disease, which is now widely used in the clinic. Further analysis of subpopulations showed that the CD4⁺ T cells could be split into functionally distinct populations using antibodies specific for high molecular weight isoforms of CD45, which is the strategy still routinely used today to delineate subpopulations of human T cells. These studies led to the identification of two distinct populations of CD4⁺ T cells, one that mediated immune responses and another that actively controlled those responses, now known as regulatory T cells. Don's work represented some of the foundational studies in the regulatory T cell field, a large and active area in current immunological research. Don never forgot his physics training, which afforded him a unique quantitative perspective on biological problems that was rare among biologists at the time. The importance of an interdisciplinary approach in the biological and physical sciences

is now well recognized and applied. He used novel mathematical approaches to understand the functional heterogeneity of lymphocyte populations and, later, applying simple quantitative principles, published a theoretical paper arguing that the specificity of the T cell receptor had to be broadly cross-reactive and not highly specific, as was widely presumed at the time. This paper has been cited more than 700 times and, remarkably, after more than 20 years, is still cited more than 30 times a year, a testament to the enduring quality of Don's work, which continues to influence immunologists today.

Don ran a small but effective research group, training students and post-docs over many years. His combination of intellectual rigor, empathy and humility created a positive and nurturing research culture that was highly influential for his mentees and colleagues alike. Many of his trainees left to become successful immunologists across the world, benefiting from the unique environment Don created. He was made an honorary life member of the British Society for Immunology in 2017.

Don had strong principles and concern for societal issues. For instance, he demonstrated against nuclear weapons in the 1980s and against the appalling conditions at Campsfield immigration center. Until recently, he volunteered as a prison visitor and corresponded with individual prisoners. In retirement, he published his personal philosophical monograph, *Science, Mystical Experience and Religious Belief*. He was a vegan and a Quaker with a very strong family life, living in Witney for many years. Don passed away peacefully on the morning of Wednesday 13 January 2021, aged 86. He is survived by his wife, four children and three grandchildren. □

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Published online: 26 February 2021
<https://doi.org/10.1038/s41590-021-00884-7>