

CIMT LIFETIME ACHIEVEMENT AWARD 2023

Hans-Georg Rammensee



The CIMT Lifetime Achievement Award honors a European researcher who has significantly contributed to the advancement of cancer immunotherapy. The award was inaugurated in 2017 and is bestowed every other year.

The German immunologist Hans-Georg Rammensee is the recipient of the 2023 CIMT Lifetime Achievement Award for his extraordinary achievements in cancer immunology, in particular the understanding of peptide-antigen presentation on MHC molecules and his seminal work on personalized cancer vaccination. Hans-Georg Rammensee is the director of the Department of Immunology at the University of Tübingen.

Prof. Rammensee's lifetime achievements are a milestone in the history of immunology, particularly his research on the identification and description of the rules that guide the interaction of peptides with MHC molecules. His work has contributed significantly to the understanding of the specificity of T-cell recognition and the establishment of T cell tolerance, as well as the design and function of vaccines. This allowed the first exact predictions of naturally presented peptides from self and foreign antigens and laid the foundation for the development of bioinformatic analysis tools for the identification of antigens recognized by T cells in infection, cancer, and autoimmunity, leading to the development of new technologies for T cell analysis, and the building of databases for MHC presented peptides in health and disease.

Prof. Rammensee pioneered the application of mass spectrometry and bioinformatics methods in immunology which have been used to precisely predict and determine cancer-associated peptides presented on MHC molecules, including neoantigens. With colleagues Prof. Dr. Günther Jung and Prof. Dr. Karl-Heinz Wiesmüller, his team was able to show that peptide-specific T cells can be induced against the influenza virus using a component of the bacterial cell membrane as a vaccine booster.

A major research focus of Prof. Rammensee has been on personalized cancer vaccination, applying and translating the knowledge obtained from experimental models for the design of personalized vaccination in clinical studies.

Moreover, he is one of the pioneers of mRNA vaccination. He already made extraordinary achievements in this field more than 25 years ago: With colleague Prof. Dr. Günther Jung and their PhD student Ingmar Hoerr the team was able to show that T cells and antibodies can be induced against a model antigen, laying the scientific basis for a method to produce mRNA vaccines. Using his approach towards therapeutic cancer vaccines, Prof. Rammensee's goal is to be able to immunize with cancer-specific peptides recognized by T cells to develop innovative therapeutic approaches and individualized production of modern drugs for immunotherapies.

From his academic research, several companies have spun out under his guidance, among these are CureVac, Immatix Biotechnologies and Synimmune.

From 1974 to 1980, Rammensee studied biology at the Eberhard Karl University in Tübingen where he received his PhD under Jan Klein at the Max-Planck-Institute for Biology. After a post-doctoral fellowship at the Scripps Institute in La Jolla and then member of the Basel Institute for Immunology, he moved back to Tübingen where he headed a research group on Immunology at the Max Planck Institute from 1987 to 1993. From 1993 to 1996, he became professor at the University of Heidelberg and headed the Tumor Virus Immunology Division at the German Cancer Research Center in Heidelberg. He then returned to the University of Tübingen where he directs the Department of Immunology in the Interfaculty Institute of Cell Biology. In 2022, he became a member of the German National Academy of Sciences Leopoldina.