CIMT | CIMT Lifetime Achievement Award

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The CIMT Lifetime Achievement Award honors a European researcher who has significantly contributed to the advancement of cancer immunotherapy.

In 2017, the CIMT Awards Committee has chosen Cornelis Melief to be the first recipient of this award that celebrates the dedication, ingenuity, and impactful success of a researcher who has dedicated his life's work to finding immunological treatment options for cancer patients.

Internationally recognized for his insights into the relationship between tumors and the immune system and for his clinical research and development of innovative cell therapies and therapeutic vaccines, Cornelis Melief has provided leadership for a generation of European scientists.

About Cornelis Melief

Cornelis (Kees) J.M. Melief is emeritus professor of immuno-hematology at Leiden University, where he worked for decades on the elucidation of the immunological mechanisms that can lead to effective, clinically applicable T cell-based immunotherapy of cancer. Since 2010, he is Chief Scientific Officer of ISA Pharmaceuticals, a biotech company specializing in the development of synthetic therapeutic cancer vaccines.

He received his PhD degree in 1967 from the University of Amsterdam, where he also received his MD degree in 1970. He spent two years as a postdoctoral fellow at the New England Medical Center and Dana Farber Cancer Center in Boston. In 1975, he became a staff member of the Netherlands Red Cross Blood Transfusion Service, heading a newly established department of cell-mediated immunology. In 1985, he became Head of the Department of Tumor Immunology at the Netherlands Cancer Institute in Amsterdam. In 1991, he became head of the Department of Immunohematology and Blood Transfusion at Leiden University Medical Center, also establishing and heading the tumor immunology group in the department.

Of his many contributions to basic immunology, including work in mouse models and clinical immunology, the most striking highlights are the eradication of large vascularized mouse tumors by adoptive transfer of cytotoxic T lymphocytes (CTL) directed against a molecularly defined T cell epitope of an oncogene-encoded protein (Cell, 1989) as well as the discovery that T cell help for cytotoxic T lymphocyte induction involves cognate interaction between CD40 ligand on T helper cells and CD40 on dendritic cells (Nature, 1998). This is now recognized as a major pathway of cytotoxic T lymphocyte induction in non-inflammatory conditions. In the same year, his group published that CD4+ T cell help was crucial in CTL-mediated eradication of an experimental MHC class II negative mouse tumor.

In recent years, effective immunotherapy of tumors with synthetic long peptides (SLP) was developed in mouse and rabbit models. This has led to the implementation of clinical trials in patients with premalignant disease of cancer of viral origin. Clinical effectiveness was shown in the treatment of patients with premalignant established lesions caused by high risk human papilloma virus type 16 (HPV 16) (NEJM, 2009; CCR 2016). Weaker vaccine-induced T cell responses in patients with recurrent or metastatic cervical cancer were markedly increased to the levels seen in patients with premalignant disease by combination of HPV SLP vaccination and standard carboplatin and paclitaxel chemotherapy, associated with chemotherapy-induced depletion of myeloid-derived suppressor cells in the absence of T cell depletion (Science Transl. Med., 2016). Through such observations, Kees Melief is now a champion of combination immunotherapy of cancer, using optimal target antigen selection for therapeutic vaccination (neo-antigens, viral antigens), chemotherapy, checkpoint blocking and/or use of agonists stimulating selected members of the TNFR family such as CD27 (first described by the Melief group in 1987) CD40 and CD137.