<table>
<thead>
<tr>
<th>INSTITUTION AND LOCATION</th>
<th>DEGREE</th>
<th>YEAR(s)</th>
<th>FIELD OF STUDY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hacettepe University, Ankara-Turkey</td>
<td>MD</td>
<td>1983</td>
<td>Medicine</td>
</tr>
<tr>
<td>University of Leiden, The Netherlands</td>
<td>MSc</td>
<td>1989</td>
<td>Biomed. Sciences</td>
</tr>
<tr>
<td>University of Leiden, The Netherlands</td>
<td>PhD</td>
<td>1994</td>
<td>Immunology</td>
</tr>
</tbody>
</table>

**A. Positions and Honors.**

**Positions:**

- **1983-1985** Head and principal physician at Medical Health Centers, Pervari and Batman, Turkey
- **1989-1994** PhD training, Dept. of Immunohematology and Blood Bank (IHB), Leiden Univ. Medical Center (LUMC), The Netherlands (NL)
- **1994-1998** Post Doc, Dept. of IHB, LUMC, NL
- **1988-2000** Research Associate, Dept. of IHB, LUMC, NL
- **2000-2003** Assistant Professor, Dept of IHB, LUMC, NL
- **2003-2009** Assistant Professor, Dept. of Clinical Chemistry and Hematology, UMC Utrecht (UMCU), NL
- **2009-9.2014** Associate Professor, Dept. of Clinical Chemistry and Hematology, UMC
- **9.2014- now** Associate Professor, Dept. of Hematology, VU University Medical Center, Amsterdam, NL

Dr. T Mutis is a medical doctor and a senior immunologist with specific expertise in the immunobiology of minor H antigens, immune regulation and cellular immunotherapy. Since the mid nineties, his research program has aimed at the identification of relevant minor H antigens for immune therapy, development of minor H antigen-based therapeutic strategies, analysis of helper, cytotoxic and regulatory T cell subsets in GvT and GvHD and analysis of immune regulation and immune resistance in the MM microenvironment. Currently running and granted projects are: (a) identification of GvT associated minor H antigens using genome-wide association analyses (GWAS) (b) improving the GvT effect of DLI through vaccination of patients with minor H antigen loaded host or donor DCs in phase I/II clinical trials, (c) preclinical testing of natural regulatory T cells (Tregs) for GvHD prevention, (d) development of therapies for MM with the use of immune modulatory agents and novel antibodies. His recent efforts focus on understanding and effective modulation of immune resistance and suppression mechanisms in the MM microenvironment.
**Honors and awards:**

1994  Leiden University Medical Center award for best Scientific Publication.
1999  Translational Research Award, Leukemia and Lymphoma Society, USA
2001  Van Bekkum Award, European Group of Blood and Marrow Transplantation (EBMT)
2004  The Bekales Prize for Leukemia Research.
2006  International Myeloma Foundation Brian D. Novis Senior Grant Award
2011  Multiple Myeloma Research Foundation Senior Research Fellowship

Synopsis of the talk.

The bone marrow is the natural niche of normal and malignant plasma cells. Mainly through tight cellular contacts and secretion of cytokines, the bone marrow niche appears essential for the survival, proliferation, and differentiation of malignant Multiple Myeloma (MM) cells. Via interactions through adhesion molecules and integrins, MM cells tightly engraft in these niches and cross talk with stromal cells. We and others have shown that MM cell-stroma interactions can lead to secretion of strong T cell suppressive factors. Among many others, an important suppressive factor appears to be PGE2.

Stromal cells of the BM have been shown capable of not only inhibiting T cell immune response but also inducing drug resistance of MM cells. As one of the mechanisms of cell adhesion mediated/ drug resistance, it has been shown that integrins can activate MAPK/ERK and AKT signalling pathways which in turn promotes the transcription of BCL2 family of anti-apoptotic proteins such as Bcl-2, Bcl-xL, and MCL-1 and caspase 3 inhibitors like survivin or xiap.

We and others have recently discovered that a similar cell adhesion mediated immune resistance mechanism exists in against cytotoxic machinery of T cells\(^1\), NK cells\(^2\), and NK cell mediated ADCC. In our T cell related work, BMSCs from MM patients and healthy individuals, as well as vascular endothelial cells, significantly inhibited lysis of MM cells in a cell-cell contact-dependent manner and without substantial T-cell suppression, thus showing the induction of a cell adhesion-mediated immune resistance (CAM-IR) against CTL lysis, which was largely dependent on survivin expression\(^1\). NOTCH signalling pathway seems to be involved in this CAM-IR. We demonstrate that repressing the effector molecules of CAM-IR for instance by inhibition of survivin/MCL-1 with the small-molecule YM155 or blocking the NOTCH signalling can synergize with CTLs and abrogates CAM-IR Thus, the efficacy of cellular therapies can be improved by pharmacologic modulation of microenvironment mediated immune resistance mechanisms.