



I am currently working as an Internist-Infectious Diseases specialist in the Erasmus Medical Centre in Rotterdam, the Netherlands and in 2011 I was awarded an ESID long-term fellowship, which started in January 2012.

The research I am involved in, mainly focuses on novel treatment approaches in patients with so called Mendelian Susceptibility to Mycobacterial Disease (MSMD). These patients develop severe, life-threatening infections with otherwise poorly pathogenic non-tuberculous mycobacteria (NTM) due to genetic defects in the IL-12/IFN- $\gamma$  pathway. In MSMD patients, mutations have been found in the genes encoding the p40 subunit of IL-12 and IL-23, the IL-12R $\beta$ 1 subunit of the IL-12 and IL-23 receptor, the IFN- $\gamma$ R1 and R2 subunits of the IFN- $\gamma$  receptor, Signal Transducer and Activator of Transcription (STAT) 1 and nuclear factor- $\kappa$ B-essential modulator (NEMO).

NTM infections in these patients are difficult to treat and often recurrent and are associated with high mortality. Therefore, finding new therapeutic approaches is essential to try and improve the prognosis of these patients.

Until now, the main focus of my research has been to investigate interferon gamma and interferon alpha cross talk in these patients, which I investigated at both clinical and laboratory levels. As part of my ESID fellowship, I am currently also evaluating alternative antimycobacterial treatment approaches in NTM infections. For this purpose, we are currently investigating the *in vitro* activity of several novel antibacterial agents, such as tigecycline, alone and in combination with other antimycobacterial drugs against *Mycobacterium Avium* Complex (MAC) and *Mycobacterium abscessus*, using time-kill kinetics.

The ESID long-term fellowship allows me to combine my clinical work with clinically relevant basic research, which is extremely challenging for me as a doctor. This fellowship will assist me in the last steps of obtaining my PhD degree, which is a necessity in maintaining a fruitful academic career.