



## Innate immunity to infections

Mihai G. Netea

Radboud University Nijmegen Medical Center, Nijmegen, The Netherlands

The innate immune response was once considered to be a limited set of responses aimed to contain an infection by primitive 'ingest and kill' mechanisms, giving the host time to mount a specific humoral and cellular immune response. In the mid-1990s, however, the discovery of Toll-like receptors heralded a revolution in our understanding of how microorganisms are recognized by the innate immune system, and how this system is activated. Several major classes of pathogen-recognition receptors have now been described, each with specific abilities to recognize conserved bacterial structures. The challenge ahead is to understand the level of complexity that underlies the response that is triggered by pathogen recognition. A model of the recognition pathways through which the pathogens *are* recognized will be presented, as well as the initiation processes leading to the activation (and modulation) of the innate immune system.