Antibody responses to *Mycoplasma pneumoniae*:
protecting against and triggering disease

1. Antibodies targeting *M. pneumoniae*-proteins are essential to clear pulmonary *M. pneumoniae* infection, but have a limited effect on *M. pneumoniae* carriage in the upper respiratory tract *(this thesis)*.

2. The development of cross-reactive IgG antibodies against the major myelin glycolipid galactocerebroside (GalC) is a critical step in the pathogenesis of *M. pneumoniae*-associated nervous system disease such as encephalitis and Guillain-Barré syndrome (GBS) *(this thesis)*.

3. The finding that antibodies against *M. pneumoniae*-glycolipids are redundant for pulmonary clearance but cross-react with GalC is important for the design of *M. pneumoniae*-targeting vaccines, as our results postulate that such vaccine formulations should include *M. pneumoniae*-proteins rather than –lipids thereby avoiding the induction of potential autoimmune anti-glycolipid antibodies *(this thesis)*.

4. The intrathecal production of *M. pneumoniae*-specific antibodies in patients with encephalitis and GBS with additional central nervous system (CNS) involvement indicates that CNS infection may occur preceding or during nervous system disease and that its detection may be a promising diagnostic tool *(this thesis)*.

5. The measurement of the *M. pneumoniae*-specific B cell response by antibody-secreting cells has the potential to become the new gold standard to diagnose pulmonary infection – extending this method to other pathogens may pave the way for reliably determining disease etiology in childhood pneumonia *(this thesis)*.

6. *M. pneumoniae* continues to be a significant cause of community-acquired pneumonia, and on rare occasions, manifests as fulminant disease that leads to mortality, even in healthy individuals *(Kannan et al. Clin Infect Dis 2012;54:225–31)*.

7. Efforts to overcome the challenges of pneumonia etiology studies of the past could have meaningful impact in pneumonia treatment and prevention in the future *(Feikin et al. Clin Infect Dis 2017;64:S188–96)*.

8. Pneumonia kills more children than any other illness – more than AIDS, malaria, and measles combined *(Pneumonia: the forgotten killer of children. UNICEF/WHO report 2006)*.

9. A post-antibiotic era – in which common infections and minor injuries can kill – far from being an apocalyptic fantasy, is instead a very real possibility for the 21st century *(WHO Antimicrobial resistance: global report on surveillance 2014)*.

10. The improvements in sanitation at the start of the last century, rather than the later development of antibiotics, contributed most to the reduction in death from infectious diseases – simple population-level measures may offer as much as personalized, targeted immunotherapies in the second century of GBS *(Rinaldi. GBS100: Celebrating a century of progress in GBS 2016)*.

11. Kein Pilz ist zu klein, um nicht auch ein Glückspilz zu sein *(unknown author)*.