

STELLINGEN behorende bij het proefschrift

PROPOSITIONS associated with the thesis

**“Effects of air pollution on the respiratory health and the respiratory immune system. Studies in Ecuadorian Children”**

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1. Children with carboxyhemoglobin (COHb) above the safe level are three times more likely to have acute respiratory infection than children with COHb  $\leq$  2.5%.  
*This thesis*
2. Volcanic eruptions increase acute lower respiratory infection especially in children younger than 5 years.  
*This thesis*
3. Environmental contamination and nutritional anemia act synergistically to increase the number of hospitalizations for pneumonia in Ecuadorian children.  
*This thesis*
4. Air pollution impairs the function of Innate lymphoid cell type 1 (NK cell) inhibiting its cytotoxic activity and cytokine (IFN- $\gamma$ ) production, thereby increasing the susceptibility to infections and allergies.  
*This thesis*
5. In Quito, the most polluted city in Ecuador, demonstrating the health impact of air pollution resulted in a citywide vehicular emissions control program which was successful in a reduction in the incidence of respiratory diseases in children  
*This thesis*
6. The cellular interaction of primary bronchial epithelial cells with macrophages in response to diesel exhaust particles plays a pivotal role for macrophages phenotypic alteration towards M2-subtypes.  
*Ji J, et al. Part Fibre Toxicol. 2018;15:19*
7. Chronic particulate matter exposure with high constitutive expression of proinflammatory cytokines results in relative cellular unresponsiveness.  
*Torres M, et al. Thorax. 2019;74:675-683.*
8. Persistence of respiratory infections beyond the fumarolic period of a volcanic eruption could be explained by the detrimental effects of volcanic particles on macrophages and NK cells.
9. The responsibility of a planet without pollution does not fall exclusively on the political class; users can also contribute to the cause adopting a more environmentally friendly lifestyle.
10. To investigate is to see what everyone has seen, and to think what nobody else has thought.  
*Albert Szent-Györgyi*
11. Laugh a lot. It clears the lungs  
*David Hockney*