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

Bertha Magdalena Estrella Cahueñas

1. Children with carboxyhemoglobin (COHb) above the safe level are three times more likely to have acute respiratory infection than children with COHb ≤ 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-γ) 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.  

7. Chronic particulate matter exposure with high constitutive expression of proinflammatory cytokines results in relative cellular unresponsiveness.  

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