Propositions

1. In sepsis there is a complex interplay of microcirculatory and mitochondrial dysfunction contributing to organ failure. (this thesis)

2. Current clinical sepsis treatment bundles focus on reversing hypoperfusion at the microcirculatory level assuming the occurrence of cellular hypoxia in order to prevent or mitigate organ dysfunction. (this thesis)

3. No hypoxia is found in the cardiac microcirculation and mitochondria during endotoxemia *in vivo*. (this thesis)

4. To date, there is no clinically diagnostic or therapeutic approach addressing sepsis-induced mitochondrial dysfunction in clinical routine. (this thesis)

5. Myocardial oxygen shortage is not found in pressure induced right heart hypertrophy and cor pulmonale. (this thesis)

6. Oxygen is one the most commonly administered drug in critically ill patients with known beneficial and detrimental effects but still unclear optimal dosing. (Am J Respir Crit Care Med. 2021; 204(6): 632–641).

7. Condensation due to economic pressure leads to less sprouting of new ideas in medicine, just as no plants grow in the tractor track in the cornfield. (Prof. em. Dr. Alexander Kiss, Basel, 2018)

8. In the absence of and sometimes despite evidence, therapies are based on intuition, belief or common-sense becoming dogmas and eventually considered state-of-the-art and not questioned any longer. (Critical Care 2019, 23(Suppl 1):125)

9. The great tragedy of science—the slaying of a beautiful hypothesis by an ugly fact—is constantly being enacted. (Nature, 1870:402)

10. The cognitive reflection test with its famous bat and ball puzzle uncovers that our brain will lead us to the intuitive but wrong answer in more than 50% of the cases. (J Econ Perspect 2005, 19:25-42)

11. Dubito, ergo sum vel quod idem est, cogito, ergo sum. (René Descartes, approx. 1647, published posthum 1684)