

PROPOSITIONS

TO THE THESIS

Development of antivirals against norovirus: linking the bench to the bedside

By Wen Dang

1. The burden of norovirus gastroenteritis in transplant recipients is more severe than was expected. Thus, awareness of this problem should be raised. *(this thesis)*
2. Every coin has two sides, which is the case for mycophenolic acid. It weakens host antiviral immune responses, meanwhile it directly inhibits norovirus replication. *(this thesis)*
3. Hundreds of ISGs are induced upon treatment with interferons, but only a small subset of them mediate anti-norovirus activity of interferons. *(this thesis)*
4. Genogroup matters, as nitazoxanide exerts opposing effects on murine and human norovirus. *(this thesis)*
5. Two hits are better than one: inducing innate immunity and depleting cellular GTP pool rationalize combination of nitazoxanide with ribavirin as a promising therapy for norovirus gastroenteritis. *(this thesis)*
6. The efficacy of the first human vaccine trial for norovirus provides a major boost for this field, enabling one to envision a major reduction in the disease burden associated with these important human pathogens. *(Karst SM et al., Cell Host & Microbe 2014)*
7. Enteric viruses have intimate functional and genetic relationships with both the host and other microbial constituents that inhabit the intestine, such as the bacterial microbiota, their associated phages, helminthes, and fungi, which together constitute the microbiome. Enteric viruses regulate, and are in turn regulated by, these other microbes through a series of processes termed "transkingdom interaction". *(Pfeiffer JK et al., Science 2014)*
8. As a community of scientists, clinicians, public health experts, and caregivers, we have so far been able to answer the challenges posed by a spectrum of pathogens ranging from "A"vian influenza virus to "Z"ika virus. *(George F. Gao, Cell 2018)*
9. International partnerships (e.g. the Global Virome Project and the establishment of a CDC network in Africa) will greatly improve our capacity for surveillance, contributing to, ideally, a worldwide system in the "big data" era of the 21th century. *(George F. Gao, Cell 2018)*
10. The first principle is that you must not fool yourself – and you are the easiest person to fool. *(Richard Feynman)*
11. 天行健，君子以自强不息；地勢坤，君子以厚德載物。 The movement of heaven is full of power. Thus the superior man makes himself strong and untiring. The earth's condition is receptive devotion. Thus the superior man who has breadth of character carries the outer world. *(Book of changes)*