

## MICROBE HUNTING IN THE 21ST CENTURY

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Recent advances in nucleic acid diagnostic methods have revolutionized microbiology by facilitating rapid, sensitive microbial surveillance and differential diagnosis of infectious diseases. Implementation of these methods may enable intervention when the prognosis is optimal for limiting replication, dissemination, transmission, morbidity and mortality. It may also reveal unappreciated links between infection and chronic diseases. In this lecture I will discuss mechanisms of microbial pathogenesis, routes to proving causation, and a staged strategy for surveillance and discovery. In reviewing the strengths and limitations of various analytical platforms, I will provide examples that illustrate how each platform can be used to investigate clinical problems.