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**Dynamics of RNA dependent RNA polymerases during transcription: The deadly engines within
Negative Sense RNA Viruses**

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Transcription is the process of polymerase driven synthesis of mRNA from the genome template. In viral infections, transcription is the first step for efficient replication. Many viruses, however, do not rely on cellular polymerases for transcription. Specifically non segmented negative strand (NNS) RNA viruses which include potent human pathogens e.g. Ebola, RSV and VSV, deliver special RNA dependent RNA polymerases to transcribe and replicate their genome template. Transcription initiates only at or near the 3' end of the genome which immediately poses the question of initiation and sustainability of transcription during early stages of infection. How do these polymerases initiate and sustain transcription is completely unknown. I will show the progress we have made in understanding these viruses and specifically show that transcription machinery of NNS RNA viruses is capable of function at almost infinite dilutions.