

Dr. Richard S. Nelson
Plant Biology Division
The Samuel Roberts Noble Foundation

Virus intercellular transport: “Conversations” with the plant host

Plant viruses require various virus and host factors to spread in their hosts and cause disease. Our identification and functional dissection of these factors and their interactions is fragmented. Ectopically-expressed viral proteins and virus-induced cytoplasmic replication complexes associate with and sometimes traffic in the proximity of the cytoskeleton within cells: often with f-actin (microfilaments). The influence of this activity on the intercellular movement of a particular virus can vary with the development of the infection. In addition, between related virus species the requirement for f-actin and associated actin motor protein(s) to power this movement dramatically differs. Through much of this work the involvement of host membranes in virus movement has become an underlying theme. This talk will summarize what is known about virus movement between plant cells and what is needed in order to enhance our ability to control pathogenic “conversations” between the virus and host.

