

## **Invited Talk 1.1**

### **NETWORKS IN SPACE**

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#### **Abstract**

The nodes of many networks lie at specific points in geographic space. The Internet, power grids, pipelines, roads, railways, and airline routes are all examples of networks in which the locations of nodes play a crucial role in determining network behavior. This talk will describe empirical studies of the properties of a number of such networks, as well as growth and optimization models that can help us understand how the networks come to have the shape they do.

#### **Biography**

Mark Newman is a Professor in the Physics Department at the University of Michigan. His research interests are in statistical physics and the theory of complex systems, particularly social, biological and computer networks. Among other topics, he has worked on scientific coauthorship networks, citation networks, epidemiological contact networks, and animal social networks and looked at models of disease propagation, friendship formation, the spread of computer viruses, the Internet, and network navigation.