Abstract:
Hundreds of Internet-based fans tune in by running software-based audio/video codecs on general-purpose workstations and PCs. At the concert site, a machine digitizes and compresses the analog audio and video feeds into a serial bit stream, and in turn, breaks the bit stream into a sequence of discrete messages, or packages, for transmission over the Internet. Rather than sending a copy of each packet to each user individually – as is required by the conventional unicast packet delivery model in the Internet – each packet is efficiently multicast to all receivers simultaneously using a multicast-capable portion of the Internet known as the Multicast backbone. Though bandwidth-efficient, this style of multipoint transmission – where a packet stream is transmitted to all receivers at a uniform rate – is undesirable because receivers are usually connected to the Internet at heterogeneous rates. In this seminar, I will address the problem posed by this Rolling Stones broadcast, namely that of the delivery of real-time media streams, in particular video, to heterogeneous sets of receivers connected to the network at heterogeneous rates. Some preliminary results will be presented.