Distinguished Lectures
Spring 2019

Colorado State University's Information Science and Technology Center (ISTeC) presents two lectures by

Dr. Henning Schulzrinne
Julian Clarence Levi Professor
Computer Science Department
Columbia University

ISTeC Distinguished Lecture

In conjunction with the Department of Computer Science and Department of Electrical and Computer Engineering Seminar Series

"Internet Beyond Packets: Network Neutrality, Rural Broadband, Spectrum and Access for People with Disabilities"

Monday, April 29, 2019
Reception with refreshments: 10:30 a.m.
Lecture: 11:00 a.m.-12:00 noon
Morgan Library Event Hall

Department of Computer Science and Department of Electrical and Computer Engineering Seminar Series Sponsored by ISTeC

"The Economics of Networks"

Monday, April 29, 2019
Lecture: 4:00-5:00 p.m.
328-330 Lory Student Center

Abstracts

Internet Beyond Packets: Network Neutrality, Rural Broadband, Spectrum and Access for People with Disabilities

The Internet has become one of the most important core nfrastructures. Thus, it has raised important new public policy issues, with four different issues illustrating the range of problem.

- Network neutrality, in earlier versions, dates back to 1956. Even though it is often seen as being about packet discrimination, it is really about whether Internet service providers get to capture more of the value generated by their networks. What are the key disputes and how can they be resolved?

- While urban areas now routinely get 100 Mb/s access, households in rural areas often only have unreliable DSL or high-latency satellite connectivity. How can we provide broadband to low-density areas?

- Applications from radar and satellites to 5G all rely on spectrum, with 100 years of communication history reflected in our allocation of radio spectrum. How can we make more effective use of spectrum for new applications?

- People with hearing disabilities should be able to make phone calls even if they rely mainly on sign language. How can we ensure functional equivalence?

The Economics of Networks

Internet infrastructure is a multi-hundred billion dollar business in the United States alone, but researchers generally ignore the economic aspects of networks. I will discuss the economic models for different types of networks, and how the research community may want to focus on the 85% of the expenses caused by operations rather than capital investment. Network neutrality can be partially explained by the desire of carriers to retain more of the value generated by applications, as the user-perceived value of bits differs by orders of magnitude. The cost of building networks also makes "natural", rather than government-mandated, competition as a remedy for network neutrality concerns less likely. The historical origins of network technology dating back to the 1960s largely explain the competitive landscape both in the United States and other countries.

Speaker Biography

Prof. Henning Schulzrinne, Levi Professor of Computer Science at Columbia University, received his Ph.D. from the University of Massachusetts in Amherst, Massachusetts. He was an MTS at AT&T Bell Laboratories and an associate department head at GMD-Fokus (Berlin), before joining the Computer Science and Electrical Engineering departments at Columbia University. He served as chair of the Department of Computer Science from 2004 to 2009, as Engineering Fellow, Technology Advisor and Chief Technology Officer at the US Federal Communications Commission (FCC) from 2010 to 2017.

He has published more than 250 journal and conference papers, and more than 70 Internet RFCs. Protocols co-developed by him, such as RTP, RTSP and SIP, are used by almost all Internet telephony and multimedia applications.

He is a Fellow of the ACM and IEEE, has received the New York City Mayor's Award for Excellence in Science and Technology, the VON Pioneer Award, TCCC service award, IEEE Internet Award, IEEE Region 1 William Terry Award for Lifetime Distinguished Service to IEEE, the UMass Computer Science Outstanding Alumni recognition, and is a member of the Internet Hall of Fame.

To arrange a meeting with the speaker, please contact Prof. Anura Jayasumana, Anura.Jayasumana@colostate.edu.

ISTeC (Information Science and Technology Center) is a university-wide organization for promoting, facilitating, and enhancing CSU's research, education, and outreach activities pertaining to the design and innovative application of computer, communication, and information systems. For more information please see ISTeC.ColoState.edu.