

Department of Electrical and Computer Engineering



TEXAS TECH UNIVERSITY

Edward E. Whitacre Jr.
College of Engineering

Fall 2026 Seminar Series

Seminar Title: *Non-Terrestrial Networks in 5G and 6G*

Time: 2:00-2:50 PM, Monday, Oct 19, 2026

Location: ECE 101

Speaker:

Dr. Nishith Tripathi is a research associate professor at Virginia Tech.

Abstract:

Non-Terrestrial Networks (NTNs) are expected to play a critical role in ensuring ubiquitous and seamless coverage for wireless communications services. The recent reductions in the overall costs of designing and launching satellites and unmet service needs have led to rising interest in the NTN. The 3GPP introduced the NTN as a feature in Release 17 and enhanced the NTN in subsequent releases 18 to 20. 6G will rely on the NTN for ubiquitous coverage. This tutorial provides a concise introduction to the 5G-based NTN and discusses the role of the NTN in 6G.

Speaker Bio:

Dr. Tripathi has 24 years of hands-on industry experience and is an expert on various aspects of commercial 3G, 4G, and 5G wireless networks including design, operations, testing, and optimization. At Virginia Tech, he has led several sponsored research projects on 5G, 5G-Advanced, and 6G in the areas such as O-RAN testbeds, SpaceNet testbed, O-RAN xApps, O-RAN testing, enhanced security for 5G and 6G, NTN, V2X communications, geofencing, positioning, UAV/UAS, and smart warehouses. He has co-authored five books including the world's first multimedia book on 5G, a comprehensive textbook on cellular communications, a pioneering monograph on the RRM using AI, a book on O-RAN fundamentals, and a book on 3GPP-based NTN. He has made more than thirty contributions to the development of the 3GPP 5G specifications. He has served as an academic engagement lead at the Next G Alliance and has contributed to several NGA white papers. He leads a 5G/FutureG Working Group at the NSC to develop 3GPP contributions on 5G-Advanced and 6G. As a wireless industry expert, Dr. Tripathi has contributed to organizations such as FCC, CTIA, GSMA, NGA, NSC, Scientific American, FTC, EE Times University, and CNN. He is a founder of Aum Research and Consulting (ARC) that provides research, consulting, training, and expert witness services.