报告人：Prof. Georgios B. Giannakis

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报告题目：

Online Learning and Management for Edge Computing in IoT

报告时间：**周三** *10:00—11:30（11月21日）*

报告地点：　*工控新楼501室*

报告摘要：

Internet-of-Things (IoT) envisions an intelligent infrastructure of networked smart devices offering task-specific monitoring and control services. The unique features of IoT include extreme heterogeneity, ubiquitous low-power devices, and unpredictable dynamics also due to human participation. The need naturally arises for foundational innovations in network design and management to allow efficient adaptation to changing environments, and low-cost service provisioning, subject to stringent latency constraints. To this end, the overarching theme of this talk is a unifying framework for online learning and management policies in IoT through contemporary communication, networking, learning, and optimization advances. From the network architecture vantage point, the unified framework leverages a promising architecture termed fog that enables smart devices to have proximity access to cloud functionalities at the network edge, along the cloud-to-things continuum. From the algorithmic perspective, key innovations include online approaches adaptive to different degree of nonstationary in IoT dynamics, and their scalable implementation under limited feedback that motivates bandit approaches, along with local information exchanges that enable distributed approaches. The outlined framework can serve as a stepping stone that leads to systematic designs and rigorous analysis of task-specific learning and management schemes for IoT.

报告人简介：

Georgios B. Giannakis (Fellow'97) received his Diploma in Electrical Engr. from the Ntl. Tech. Univ. of Athens, Greece, 1981. From 1982 to 1986 he was with the Univ. of Southern California (USC), where he received his MSc. in Electrical Engineering, 1983, MSc. in Mathematics, 1986, and Ph.D. in Electrical Engr., 1986. He was with the U. of Virginia from 1987 to 1998, and since 1999 he has been a professor with the U. of Minnesota, where he holds a Chair in Wireless Communications, a University of Minnesota McKnight Presidential Chair in ECE, and serves as director of the Digital Technology Center. His general interests span the areas of communications, networking and statistical signal processing – subjects on which he has published more than 430 journal papers, 720 conference papers, 25 book chapters, two edited books and two research monographs (h-index 134). Current research focuses on data science and network science with applications to social, brain, and power networks with renewables. He is the (co-) inventor of 32 patents issued, and the (co-) recipient of 9 best journal paper awards from the IEEE Signal Processing (SP) and Communications Societies. He also received Technical Achievement Awards from the SP Society (2000), from EURASIP (2005), and the inaugural IEEE Fourier Tech. Field Award (2015). He is a Fellow of EURASIP, and has served the IEEE in various posts including that of a Distinguished Lecturer.

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