



## IEEE Systems Council Chapter presents IEEE Distinguished Lecture Series:

**Dr. Samet Yıldız**

**Hybrid: In-Person and/or Online**

**Date: Fri, April 5th, 2024**

**Time: 12:00 noon -1:00PM**

**VEC 424, CSULB**

<https://csulb.zoom.us/j/89208692867>



### **Systems Engineering in Wi-Fi Hardware Platforms**

**Abstract:** The 802.11 standards have significantly evolved with the widespread adoption of wireless communication. These standards have advanced to the 802.11ac/ax/be specifications, introducing numerous challenges in both hardware and software aspects. The development of Wireless Fidelity (Wi-Fi) mesh extender devices that comply with these standards encompasses a variety of design challenges. In this turn, systems engineers assume a vital role in ensuring the precise production of hardware by accurately defining radio frequency (RF) performance metrics. They also orchestrate the most suitable software configurations as the linchpin between the hardware and software teams.

The incorporation of the 6GHz frequency band and the allowance of Standard Power on this band for Wi-Fi usage introduces fresh challenges that necessitate meticulous consideration and resolution, both in the design phase and in adherence to regulatory standards set by authorities such as the Federal Communications Commission and Central Européenne. This presentation will delve into the significant role of systems engineering in the Wi-Fi mesh extender hardware design, examine the processes required for regulatory compliance and RF performance assessment, offering insights via real-world examples, and provide a balanced perspective on the challenges and solutions encountered in systems engineering for Wi-Fi mesh extenders, integrating technical complexity with regulatory requirements.

**About speaker:** Dr. Samet Yıldız is the RF Systems Engineering Team Lead at Airties Wireless Networks, a position he has held after joining the company as a Systems Engineer in 2015. In parallel to his professional role, he completed his Ph.D. in Electrical and Electronics Engineering at Ozyegin University, Turkey, in 2022. He is an alumnus of CSULB, where he earned a Master of Science in Electrical Engineering in 2015.

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\*This is a joint invitation between CSULB IEEE Student Branch and IEEE Systems Council Chapter.