

Boldyrev Alexander
National Instruments
Key Account manager (Academic manager)

RF-supercomputer – SDR HIL system

As modern generations cellular technology emerges (4G, 5G, 802.11, etc.), it is apparent that the radio frequency (RF) spectrum is constrained by the ever-growing demands of application bandwidth and the number of devices vying for that bandwidth. Databases and procedures for managing the spectrum have become very complex and do not scale to meet today's on-demand spectrum requirements. In pursuit of novel methods to overcome these limitations, researchers and developers have to be able to simulate signals propagation and interaction. The goal of the challenges - to research, develop, and test artificial intelligence algorithms across a network of radios to find the future paradigm for ensuring that the RF spectrum can support the bandwidths that next-generation applications will require. National Instruments designed and developed the first-of-its-kind wireless research test bed in which developers can test their algorithms and conduct their experiments. This presentation briefly describes the test bed architecture and the challenge events.