



IEEE DTPI 2022 Workshop on Digital Spectrum Twinning – Call for Participation

Organizers: Chris Anderson, United States Naval Academy

Gregory D. Durgin, Georgia Tech

This workshop explores the emerging field of *Digital Twins* and its applicability to modeling and monitoring radio spectrum. With invited expertise from the fields of manufacturing and logistics, we explore the concept of *digital spectrum twinning* – maintaining updated, cloud-based databases of radio spectrum usage to enable spectrum sharing, location-based services, network optimization, spectrum valuation, new technology development, and other applications.

Topics Include

Adapting Digital Twins to Spectrum
 Adaptive/Site-Specific Propagation Modeling
 Crowd-Sourced RF Propagation Measurements
 Novel Spectrum Sensing Networks
 Fog Computing Techniques for Spectrum
 Cloud Storage for Digital Twins
 Number Resolution for RFID
 CBRS-related Spectrum Management
 5/6G and Beyond
 Propagation Modeling

Space-based RF Observations
 Radiometry Hardware
 Low-powered Sensing Technology/IoT
 Digital Twin Tech. Relevant to Spectrum
 Network Densification Studies
 Geographical Information Systems
 Cooperative Radio Communications
 Encryption and Security
 Decentralized Databases/Blockchain
 Passive Radio Spectrum Usage

National Radio Dynamic Zones (NRDZ)
 Emerging Location-Based Services
 New Spectrum Sharing Methods
 Frequency Agile Radio Systems
 Computation on the Network Edge
 Privacy/Data Protection
 Quantum Computing Applications
 Radio Astronomy Usage
 Spectrum Policy
 Related Applications

The Workshop on Digital Spectrum Twinning accepts several submission types:

Abstracts, Tutorials, and Demos: lightly-reviewed summaries of proposed oral presentations. Submit abstracts via e-mail to Greg Durgin (durgin@gatech.edu) by 1 September 2022.

Full Papers: peer-reviewed manuscripts intended for publication on *IEEEExplore*. Manuscripts should be 2-6 pages (2 col, IEEE format), submitted by the advertised conference paper deadline. See IEEE DTPI 2022 call-for-papers for submission instructions.

Check the IEEE DTPI 2022 website for announcements, conference program, and more. Participation and attendance in the DST Workshop is included for IEEE DTPI 2022 registrations.