

## IEEE RFID 2022 Workshop on



Digital Spectrum Twinning



## IEEE RFID 2022 Workshop on Digital Spectrum Twinning – Call for Participation

**Organizers:** Prof. Chris Anderson, United States Naval Academy  
Prof. 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 Prof. Gregory D. Durgin ([durgin@gatech.edu](mailto:durgin@gatech.edu)) by 7 February 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 (31 March 2022). See IEEE RFID 2022 call-for-papers for submission instructions.

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