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Musings on Practical Radar Spectrum Sharing

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Abstract: The spectrum occupied by radar systems has been and continues to be an attractive resource, enabling the expansion of commercial telecommunications. The necessity of economic growth all but guarantees this trend will continue, but doing so also requires cognizance of a variety of practical technical trade-offs and some long term / big picture aspects that bear on those decisions. This talk will focus on the technical factors impacting research in this context, with an eye toward the practical issues that must be considered to go beyond theoretical study.



Biography: Dr. Shannon D. Blunt is the Roy A. Roberts Distinguished Professor of Electrical Engineering & Computer Science (EECS) at the University of Kansas (KU), Director of the KU Radar Systems & Remote Sensing Lab (RSL), and Director of the Kansas Applied Research Lab (KARL). He received a PhD in electrical engineering from the University of Missouri in 2002, and from 2002 until he joined KU in 2005 he was with the Radar Division of the U.S. Naval Research Laboratory (NRL) in Washington, D.C. His research interests are in sensor signal processing and system design with a particular emphasis on waveform diversity and spectrum sharing techniques, having made a variety of contributions that have been deployed in operational radar and sonar systems.

Prof. Blunt received an AFOSR Young Investigator Award in 2008, the IEEE/AESS Nathanson Memorial Radar Award in 2012, was named a Fellow of the IEEE for “contributions to radar waveform diversity and design” in 2016, was appointed to the U.S. President’s Council of Advisors on Science & Technology (PCAST) in 2019, and received the 2020 IET Radar, Sonar & Navigation Premium Award. He has likewise received multiple teaching awards. He has over 180 refereed journal, conference, and book chapter publications, and 17 patents/patents-pending. He co-edited the books *Principles of Waveform Diversity & Design* (2010) and *Radar & Communication Spectrum Sharing* (2018).

He has served as a subject matter expert on topics related to radar spectrum management and sharing for DARPA, the Air Force's S&T 2030 Initiative, the National Spectrum Consortium, the Office of the Under Secretary of Defense for Research & Engineering (OUSD(R&E)), and the White House Office of Science & Technology Policy (OSTP), the latter as part of America's Mid-Band Initiative Team (AMBIT) to enable

nationwide 5G deployment. He recently served as Chair of the IEEE/AESS Radar Systems Panel and on the Board of Governors for the IEEE Aerospace & Electronic Systems Society (AESS). He is currently an Associate Editor for IEEE Transactions on Aerospace & Electronic Systems and is on the Editorial Board for IET Radar, Sonar & Navigation. He was General Chair of the 2011 IEEE Radar Conference in Kansas City, a Technical Chair of the 2018 IEEE Radar Conference in Oklahoma City, and is Technical Chair for the 2022 IEEE Radar Conference in New York City. He was Chair of the NATO SET-179 research task group on “Dynamic Waveform Diversity & Design” and a member of SET-182 on “Radar Spectrum Engineering & Management” and SET-227 on “Cognitive Radar”.