



NATIONAL SCIENCE FOUNDATION

Wireless Spectrum Sharing: Enforcement Frameworks, Technology, and R&D Workshop

AGENCY: The National Coordination Office (NCO) for Networking and Information Technology Research and Development (NITRD).

ACTION: Notice.

SUMMARY: This workshop will focus on spectrum sharing enforcement issues and will provide a forum for information exchange and the identification of relevant research and development opportunities.

DATES: May 5, 2016.

FOR FURTHER INFORMATION CONTACT: Wendy Wigen at 703-292-4873 or wigen@nitrd.gov. Individuals who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 1-800-877-8339 between 8 a.m. and 8 p.m., Eastern time, Monday through Friday.

SUPPLEMENTARY INFORMATION:

Registration: The event has a limited capacity and registration must be received in advance to be admitted to the facility. No onsite registration will be available. Registration will end on April 25, 2016 or when we reach capacity. However, the event

will be webcast and the video will be available after the event. Further information, including registration and links to the webcast are available at:

https://www.nitrd.gov/nitrdgroups/index.php?title=WSRD_Workshop_VIII_-_Wireless_Spectrum_Sharing

Overview: Enforcement needs for wireless spectrum sharing extends well beyond just the enforcement of usage rights (i.e. interference protection). A complete enforcement regime (1) should explicitly recognize that enforcement requirements are bi-lateral (i.e., apply to the primary user as well as the secondary user), and (2) should also include the collective action rights - which encompass management rights (determining which users get to transmit when), exclusion rights (who gets to transmit at all) and alienation rights (who gets to sell the resource). To support a dynamic spectrum sharing environment, consistent and sustainable technology mechanisms are needed to monitor, detect, evaluate or adjudicate, classify, inform, and enforce compliance of the enforcement regime. Enforcement frameworks can rely on central architectures based on data clouds or device level distributed architectures, or a combination of both. This may entail adopting new standards or developing automated enforcement mechanisms and compliance certification methods for next-generation technologies to

support the enforcement regime. Other issues to be considered include enforcement-related privacy and security issues, and the economic tradeoffs in ex ante and ex post enforcement mechanisms.

The main goals of this workshop are to:

- Outline the wireless spectrum sharing enforcement needs, scenarios and issues for the short-term and long-term, from multiple perspectives.
- Discuss the architectural, economic, regulatory and business frameworks that can deliver enforcement solutions.
- Identify innovative tools, techniques and database requirements for additional research.
- Develop ideas for advanced R&D to help inform WSRD recommendations to the OSTP.

Background: This workshop series stems from the Presidential memorandum issued on June 14, 2013, *Expanding America's Leadership in Wireless Innovation* and has focused on ways to make more wireless spectrum available by encouraging shared access by commercial and Federal users. As with any sharing environment, such as the way aircraft share airspace or vehicles share the roads, underlying enforcement principles for spectrum sharing are critical. Industry and government innovators agree

that enforcement is a necessary component for any dynamic spectrum sharing environment to be meaningful and effective.

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Suzanne H. Plimpton,
Reports Clearance Officer,
National Science Foundation.

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