**Spectrum Management for Science in the 21st Century**

Michael M. Davis
Committee on Radio Frequencies, Board on Physics and Astronomy
National Academies, 500 5th Street NW, Washington, DC 20001

The U.S. National Research Council's Committee on Radio Frequencies (CORF) has finished overseeing the completion of "Spectrum Management for Science in the 21st Century," a report aimed at protecting the scientific use of the radio and microwave spectrum. The report attempts to lay the foundation of an effort to identify the needs of radio astronomy and Earth remote sensing, identify the benefits of these two activities, and develop practical, forward-looking approaches to spectrum access that are needed to ensure the necessary conditions for their important observations. The committee focused on three major topics: Earth remote sensing (Chapter 2), radio astronomy (Chapter 3), and interference mitigation and technology (Chapter 4). The committee process included an in-depth study of each of the topics of these chapters, including the current and expected future status of Earth remote sensing and radio astronomy and applicable radio frequency interference mitigation technologies. A series of findings were developed from these chapters, and an associated series of recommendations to help ensure the viability of these scientific endeavors were made. The findings and recommendations are detailed in Chapter 5. The Spectrum Study is available (free of charge for personal use) as a pdf download at http://www.nap.edu/catalog.php?record_id=12800 .

This talk will review the implementation efforts that have taken place since publication of the report. In particular, CORF has brought in experts from other fields sharing the spectrum with science applications to share views on viable approaches to sharing spectrum where it is physically realistic. A review of the spectrum above 300 GHz indicates that sharing should be feasible among all services due to the very high absorption and low transmitter power in this part of the spectrum.