



**(U//FOUO) SINIO Seminar: Emerging Technology: Ultra-Wideband Threats**

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**What:** SINIO Seminar on Ultra-Wideband Threats

**When:** 13 September 2006, from 1130 to 1300

**Where:** Ops 1, room 2N044

(U) Advance registration is required. See below for instructions.

(S) The SINIO Council and the National Cryptologic School are pleased to present the 16th in a series of Strategic Intelligence Issue Seminars for the Summer 2006. " (U) *Emerging Technology: ULTRA-WIDEBAND (UWB) THREATS* " will be presented by Mr. Dick Longbothum, SINIO for Science and Technology.

**Course Overview:**

(U//FOUO) Developments in Ultra-Wideband radio frequency technology are concentrated in three very significant areas: advanced short-range communications, very high-resolution radars, and RF weapons.

(U//FOUO) One of the newest emerging technologies to appear in the SIGINT environment is based on Ultra-Wideband signal technology. Applications using this technology include short-range communications systems analogous to U.S. systems recently approved by the FCC to occupy the spectrum between 3.1 and 10.6 Gigahertz. The electromagnetic characteristics of such systems will allow wireless networks and covert radios that have ranges of up to a few kilometers, but are extremely difficult to intercept, and will therefore impose a severe challenge to the SIGINT system.

(U//FOUO) Another application for Ultra-Wideband technology is in very high-resolution radars employing pulse widths on the order of picoseconds (10 to the minus 12 seconds). These radars operate at frequencies in the HF to UHF range, allowing them to penetrate foliage and "see through" opaque matter such as earth. Thus, UWB radars have probable applications in detecting minefields and improvised explosive devices (IEDs).

(U//FOUO) The latest investigation of UWB technology is in Radio Frequency Weapons that can be used to upset and/or destroy electronic circuits and systems such as computers and radars. Tests are presently being conducted to determine the ability of UWB devices to detonate or otherwise destroy IEDs.

(U//FOUO) **To register**, and for further info on this series of seminars, please consult the [SINIO "Brown Bag" Seminars Website](#) . Any questions or concerns regarding registration should be directed to the NCS.

**POCs:**

Dr. David H. Shore, Chief, Strategic Intelligence Issue [REDACTED]  
[REDACTED] National Cryptologic School [REDACTED]  
[REDACTED] Executive to the SINIO Council [REDACTED]  
Mr. Dick Longbothum, SINIO for Science and Technology [REDACTED]

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