



**NRL BAA Announcement
82-09-02**

TACTICAL COMMUNICATIONS

The Space Electronics System Branch part of The Spacecraft Engineering Department (SED) of Naval Center for Space Technology (NCST) of the Naval Research Laboratory (NRL) is seeking to advance the state of the art by fostering innovative ways to develop and mature 1) Space-based Tactical communication systems 2) Spaceborne Command, Telemetry, and High Rate communication systems, 3) Novel Space Based Data Exfiltration and Infiltration Systems. These systems will be used to increase war fighter connectivity, improve communications bandwidth and reduce system cost. Involvement will be in conjunction with several naval programs including NanoSATs, SmallSATs, Gapfiller R&D missions and Operationally Responsive Space Missions.

Focus is on the consideration of: innovative ideas and approaches for increasing the communication bandwidth and/or reducing the cost of systems; novel ideas or architectures for transmitters, receivers, pre/post processing mechanisms and algorithms for more efficient extraction of information from the received signal in the presence of clutter and noise. Novel approaches for the exploitation of commercial technologies and higher millimeter-wave bands will be considered. Other specific interest include ideas for NanoSAT compatible Secure TT&C systems (i.e UHF radio with embedded NSA approved Type 1 encryption)

Important aspects include but are not limited to; flexible I/O, flexible software algorithms, spread spectrum, COMSEC security, expandability, lower weights and novel operating modes for efficient utilization of hardware resources. Dynamic access schemes, network management capability, bandwidth efficient modulations, power control algorithms, and related services will need to be addressed to provide seamless connectivity in an efficient manner.

Address initial proposals to Code 8241, or [e-mail](#), telephone (202) 767-4480. Allow at least one month before requesting confirmation of receipt of initial proposal, if confirmation is desired. Substantive contact should not take place prior to evaluation of an initial proposal by NRL. If necessary, NRL will initiate substantive contact.