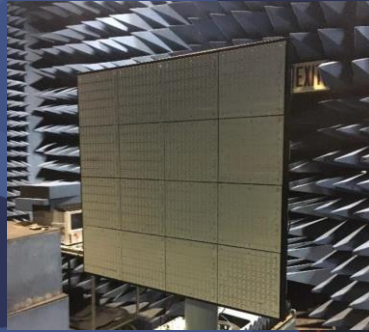


# Power Beaming Researcher

**U.S. NAVAL  
RESEARCH  
LABORATORY**



Power beaming is an emerging revolutionary technology. This position involves engaging with existing and proposed state-of-the-art power beaming technology development programs in DOD, spearheading new technology projects, ascertaining the most critical metrics for urgent applications, and mapping to existing and projected power beaming capabilities. This includes microwave, mm-wave, and laser modalities. The researcher will perform system, subsystem, and component design for unaddressed use cases, and plan and execute technology development and test efforts to validate power beaming's prospective utility versus alternatives. Building on the foundation of previous NRL and DOD studies, demonstrations, and technology development projects, the researcher will architect roadmaps and technology development campaigns to design, develop, and deploy means of long-distance power beaming. The researcher will construct both demonstration scenarios and perform system design for one or more of the following: long-distance ground-to-ground power link implementations, contexts in which either or both the power transmitter and receiver are airborne, and cases in which either or both the power transmitter and receiver are in orbit. NRL subject matter experts will be engaged in the iteration of these concepts.

## MAJOR DUTIES/POSITION DESCRIPTION

- Independently define, lead, and manage highly challenging and innovative technical activities related to power beaming and its applications.
- Formulate solutions to very difficult problems in advancing power beaming technology and research.
- Be lead/sole author on scientific papers, journal articles, or review articles documenting major advances.
- Prepare & deliver invited or contributed papers at international conferences & give policy-level briefings.
- Defines technology area strategy & resource allocations for in-house and contractual programs.
- Conduct overall program planning & coordination and/or program documentation.
- Develop strategy to leverage resources from other agencies.
- Work to stimulate development of customer alliances for several research and/or development areas.
- Generate strategic research objectives and/or business plans for core technical areas.
- Recognize warfighting trends, relate business opportunities and convince lab management to develop/acquire expertise and commit funds.
- Organize, lead, and market overall technology transition and transfer activities for organization at senior executive and command levels.
- Creates an environment that encourages widespread exploitation of both national and international technologies.



## MINIMUM REQUIREMENTS

US Citizenship required for all positions.

Ability to obtain and maintain a DoD Security Clearance.

Minimum 3.5 GPA.

MS or PhD in Electrical Engineering, Physics, Aerospace Engineering, Mechanical Engineering, or other suitable area.

## RELEVANT PUBLICATIONS

P. Jaffe, "Practical Power Beaming Gets Real," IEEE Spectrum, May 21, 2022. Accessed: Jun. 08, 2022. [Online]. Available: <https://spectrum.ieee.org/power-beaming>

C. T. Rodenbeck et al., "Terrestrial Microwave Power Beaming," IEEE Journal of Microwaves, vol. 2, no. 1, pp. 28–43, Jan. 2022, doi: 10.1109/JMW.2021.3130765.

C. T. Rodenbeck et al., "Microwave and Millimeter Wave Power Beaming," IEEE Journal of Microwaves, vol. 1, no. 1, 2021.

Thomas J. Nugent, Jr., David Bashford, Thomas Bashford, Thomas J. Sayles, and Alex Hay, "Long-Range, Integrated, Safe Laser Power Beaming Demonstration," in Technical Digest OWPT 2020, Yokohama, Japan, Apr. 2020, pp. 12–13.

P. Jaffe et al., "Opportunities and Challenges for Space Solar for Remote Installations," U.S. Naval Research Laboratory, Washington, DC U.S.A., Memo Report NRL/MR/8243--19-9813, Oct. 2019. Accessed: Apr. 21, 2020. [Online]. Available: <https://apps.dtic.mil/sti/pdfs/AD1082903.pdf>.

## JOB BENEFITS

The Department of the Navy offers a comprehensive benefits package that includes, in part, paid vacation, sick leave, holidays and a 401K-type retirement plan. For additional details visit <http://www.secnav.navy.mil/donhr/Benefits/Pages/Default.aspx>

## HOW TO APPLY

<http://www.nrl.navy.mil/careers/opportunities/>

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