

Opportunity Title: High reliability RF to flexible circuit interconnections resilient to

classical wash cycles

Opportunity Reference Code: IC-17-27

Organization Office of the Director of National Intelligence (ODNI)

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> Complete your application – Enter the rest of the information required for the IC Postdoc Program Research Opportunity. The application itself contains detailed instructions for each one of these components: availability, citizenship, transcripts, dissertation abstract, publication and presentation plan, and information about your Research Advisor coapplicant.

Application Deadline 3/31/2017 11:59:00 PM Eastern Time Zone

**Description Research Topic Description, including Problem Statement:** 

Modern electronic systems including antennas, power sources, and displays require integration into garments/military load bearing equipment etc. As such, a key enabling technology will be robust and integrated electrical and RF interconnection systems able to survive harsh use environments, and also laundering/garment washing cycles. It is therefore proposed that research and development be undertaken to augment/supersede classical coaxial interconnects.

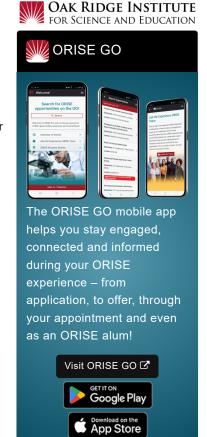
## **Example Approaches:**

Successful research could look to develop a new generation of interconnects based around circuit board to transmission line direct and capacitive coupling techniques by exploring some of the following:

- · Stitched Interconnect
- · Ultrasonic Welding
- Conformal Coating
- · Laser Cutting
- · Conductive Threads

## Eligibility Requirements

- Citizenship: U.S. Citizen Only
- Degree: Doctoral Degree.
- Discipline(s):
  - Business (<u>11</u> ②)
  - Chemistry and Materials Sciences (12 •)
  - Communications and Graphics Design (6 ②)
  - Computer, Information, and Data Sciences (16 ♥)
  - Earth and Geosciences (21 )
  - Engineering (27\_●)
  - Environmental and Marine Sciences (14 🍩)
  - Life Health and Medical Sciences (45 )
  - Mathematics and Statistics (<u>10</u> <a>®</a>)
  - Other Non-Science & Engineering (13 ②)
  - Physics (<u>16</u> )



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- Science & Engineering-related (1\_●)
- Social and Behavioral Sciences (<u>28</u>.

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