

Opportunity Title: Deterrence that Disintegrates in Daylight: Military Deterrence

based on Hidden Capabilities

Opportunity Reference Code: ICPD-2019-06

Organization Office of the Director of National Intelligence (ODNI)

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How to Apply **Create and release your Profile on Zintellect** – Postdoctoral applicants must create an account and complete a profile in the on-line application system. **Please note: your resume/CV may not exceed 2 pages.**

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 co-applicant.

Additional information about the IC Postdoctoral Research Fellowship Program is available on the program website located at: <https://orise.orau.gov/icpostdoc/index.html>.

If you have questions, send an email to ICPostdoc@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 3/1/2019 6:00:00 PM Eastern Time Zone

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

If two parties agree who would win a fight between them, neither party starts a fight. If, however, there is uncertainty or disagreement on who would win a fight, a fight might start. Preventing war, then, often relies on deterrence, by one party credibly illustrating its relative strength superiority. However, sometimes the way to win a fight is to use a resource or technique that the adversary has never seen before. It is exactly because the adversary has little knowledge of the resource that makes it strong; advertising it would erode its strength. This prevents advertising the resource, which undermines the ability to credibly illustrate relative strength, which lowers deterrence and increases the probability of a fight. Game theoretical analyses have considered deterrence at length, as well as deterrence under uncertainty, but there has been much less analysis of the strategic ramifications of resources that *must* remain secret to be strengths.

Questions include:

- Are there consistent consequences of such resources being in play, for either or both parties?
- Are there optimal behaviors if one has such resources, or if one suspects an adversary has them?
- Are there conditions in which it is preferable to reveal such resources?
- Are there ways such resources can be stabilizing (i.e. prevent a fight)?
- Are there ways to move from a destabilizing regime to a stabilizing regime?

Example Approaches:

- Analytical game theory
- Simulations (e.g. agent-based modeling)
- Experiments with human subjects (e.g. running 2 or more subjects through a scenario together in lab; running 2 or more platoons through a scenario together in a simulated combat environment) *Example only. Note: human subjects research is not permitted in this research topic.*
- Historical analyses



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Relevance to the Intelligence Community:

The US defense and intelligence communities, along with their adversaries, have capabilities that would be relevant in a war, but which would be markedly less effective if they were publicized before the war. These capabilities are thus kept under wraps, but by doing so this prevents the benefits of deterrence, which increases the probability of a war. Determining general principles of the strategic effects of such capabilities and how to handle them would potentially allow for less brinksmanship and war.

Key Words: Deterrence; game theory; hidden capabilities; strategic interactions





Qualifications **Postdoc Eligibility**

- U.S. citizens only
- Ph.D. in a relevant field must be completed before beginning the appointment and within five years of the application deadline
- Proposal must be associated with an accredited U.S. university, college, or U.S. government laboratory
- Eligible candidates may only receive one award from the IC Postdoctoral Research Fellowship Program.

Research Advisor Eligibility

- Must be an employee of an accredited U.S. university, college or U.S. government laboratory
- Are not required to be U.S. citizens

Eligibility Requirements

- **Citizenship:** U.S. Citizen Only
- **Degree:** Doctoral Degree.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** ([12](#) )
 - **Communications and Graphics Design** ([6](#) )
 - **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** ([10](#) )
 - **Other Non-Science & Engineering** ([5](#) )
 - **Physics** ([16](#) )
 - **Science & Engineering-related** ([1](#) )
 - **Social and Behavioral Sciences** ([28](#) )