

**Opportunity Title:** Deterrence that Disintegrates in Daylight: Military

Deterrence Based on Hidden Capabilities

**Opportunity Reference Code:** ICPD-2020-15

**Organization** Office of the Director of National Intelligence (ODNI)

**Reference Code** ICPD-2020-15

**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.ora.gov/icpostdoc/index.html>.

If you have questions, send an email to [ICPostdoc@ora.gov](mailto:ICPostdoc@ora.gov). Please include the reference code for this opportunity in your email.

**Application Deadline** 2/28/2020 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 credible illustration of relative strength, which lowers deterrence and increases the probability of a fight. Game theoretical analysis 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)




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- 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)
- Historical analyses

**Relevance to the Intelligence Community:**

Governments have capabilities that would be relevant in a war, but publicizing these capabilities before war would make them less effective. Capabilities are kept under wraps, but by doing so, 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, Strategic Stability, Peace Studies, Strategic Surprise, Preventing War, Information Theory, Inference

## 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** (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** (10 )
  - **Other Non-Science & Engineering** (2 )
  - **Physics** (16 )
  - **Science & Engineering-related** (1 )
  - **Social and Behavioral Sciences** (27 )