

**Opportunity Title:** Controllable and quantifiable methods for real-time explosive vapor generation

**Opportunity Reference Code:** IC-18-47

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

**Reference Code** IC-18-47

**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://orau.org/icpostdoc/>.

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

**Application Deadline** 3/12/2018 11:59:00 PM Eastern Time Zone

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

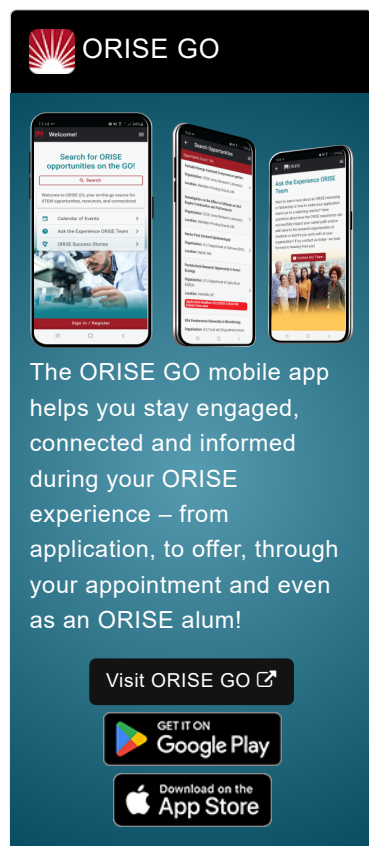
- Explosives vapor trace detection systems have been shown to be an effective tool for the detection of explosives in military and civilian security sectors, but testing against common standards can be challenging due to difficulties in reliably producing known concentrations of explosive vapor samples in real-time.
- Reliable and quantifiable means of producing explosive vapor samples are required to accurately determine limits of detection, and to better understand fundamental detection performance of devices

**Example Approaches:**

- There are expected to be many potential approaches to this challenge, including the vaporization of liquid samples on heated surfaces and thermal desorption.
- Any means of generating small concentrations of explosive vapor could be a valid approach to this problem, or fundamental work exploring the issues around reliable generation of vapor.

**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,



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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](#) )