Opportunity Title: Detecting Anomalous Small-scale Seismic Events
Opportunity Reference Code: ICPD-2023-35

Organization	Office of the Director of National Intelligence (ODNI)
Reference Code	ICPD-2023-35

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 2/28/2023 6:00:00 PM Eastern Time Zone

Description

Research Topic Description, including Problem Statement:

Seismic activity can come in many forms from many different origins. Detection of seismic activity can help develop early warning signs of earthquakes and prevent loss of life through rapid evacuation. Disaggregating simultaneously occurring seismic events becomes more challenging. The ability to differentiate between events of concern and routine background noise.
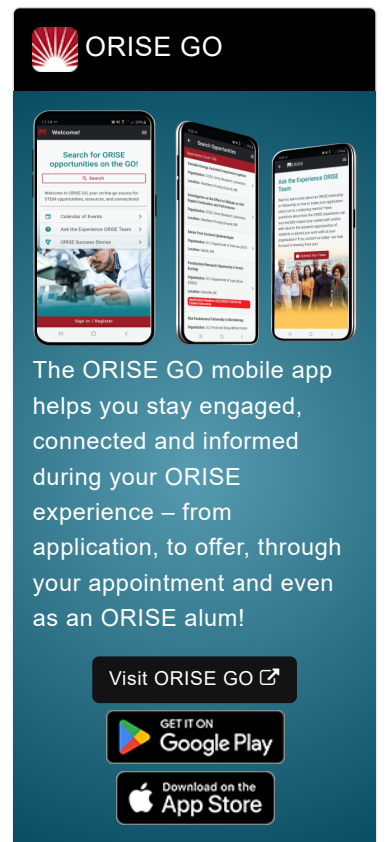
From a security aspect we want to detect anomalous seismic events that could affect our buildings. We want to be able to develop techniques that enable us to create a seismic profile of a building and study this over a period of time with the ability to explain the origin, nature and duration of all seismic activity, however subtle.

We need to understand the technology landscape in this area and develop ways of protecting our people and assets from compromise. Detection of subtle seismic events and activities would help the UK protect its science, engineering, industry and critical infrastructure.

Example Approaches:

Current seismic monitoring can enable earthquake detection and prediction of events that require protection of towns and citizens. Early, volcanic activity detection over a wide range and monitoring to aid scientific understanding and protection of neighboring communities and infrastructure.

Novel drilling techniques for construction proposes to determine if there is likely to be any impact on integrity of a building or infrastructure, while providing benefits of its application for legitimate law enforcement, CT and military operations, see The Almost Silent Drill, courtesy of International Procurement Services Ltd.

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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

Key Words: Earthquake, Noise Floor, Drilling, Erosion.

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** (17 👁)
  - **Earth and Geosciences** (21 👁)
  - **Engineering** (27 👁)
  - **Environmental and Marine Sciences** (14 👁)
  - **Life Health and Medical Sciences** (48 👁)
  - **Mathematics and Statistics** (11 👁)
  - **Other Non-Science & Engineering** (2 👁)
  - **Physics** (16 👁)
  - **Science & Engineering-related** (1 👁)
  - **Social and Behavioral Sciences** (29 👁)