

Opportunity Title: Astronomer: Stellar Occultations and Spectroscopic Techniques

Opportunity Reference Code: NGA-VSP-2020-0001

Organization U.S. Department of Defense (DOD)

Reference Code NGA-VSP-2020-0001

How to Apply Components of the online application are as follows:

- Profile Information
- Educational and Employment History
- Essay Questions (goals, experiences, and skills relevant to the opportunity)
- Resume (PDF)
- Transcripts/Academic Records - For this opportunity, an unofficial transcript or copy of the student academic records printed by the applicant or by academic advisors from internal institution systems may be submitted. [Click here for detailed information about acceptable transcripts.](#)
- 2 Recommendation(s)

Submitted documents must have all social security numbers, student identification numbers, and/or dates of birth removed (blacked out, blackened out, made illegible, etc.) prior to uploading into the application system.

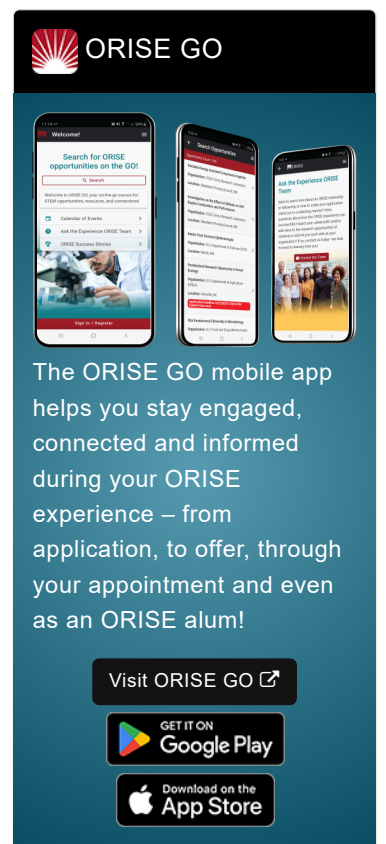
If you have questions, send an email to orisedod@orise.orau.gov. Please list the reference code of this opportunity in the subject line of the email.

All documents must be in English or include an official English translation.

References should be from persons familiar with your educational and professional qualifications (include your thesis or dissertation advisor, if applicable). Personal references are NOT acceptable.


Description The National Geospatial-Intelligence Agency (NGA) delivers world-class geospatial intelligence that provides a decisive advantage to policymakers, warfighters, intelligence professionals and first responders. Anyone who sails a U.S. ship, flies a U.S. aircraft, makes national policy decisions, fights wars, locates, targets, responds to natural disasters, or even navigates with a cellphone relies on NGA. NGA enables all of these critical actions and shapes decisions that impact our world through the indispensable discipline of geospatial intelligence (GEOINT).


The selected candidate will use the method of stellar occultations and spectroscopic techniques to observe and characterize solar system objects including planets, asteroids, and trans-Neptunian objects. Candidate should have experience developing physical models and simulations of these objects, performing statistically valid analysis and interpretation of models as well as observed data. Under the guidance of a mentor, the participant will also:




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- Have opportunity to travel to other locations to collect data
- Collaborate with other subject matter experts to create models of sensor systems and potential solar system objects
- Perform simulations using these models to develop determine the maximum amount of information that can be measured about these objects
- Assist in developing Standard Operating Procedures (SOPs) for using existing sensors and analyzing the resulting data
- Research and develop methods for using other existing platforms/sensors and developing new platforms/sensors to best perform this work
- Review, evaluate, and analyze data from observations
- Perform spectroscopic and stellar occultation analysis using applicable instrumentation and techniques required to identify detection signatures, characterization signatures, and other applicable information.
- Document all research efforts in the required systems and databases
- Perform administrative and/or technical reviews of files, reports, data, etc.
- Assist junior personnel on equipment, instruments, methods, and procedures
- Position requires a Top Secret Security Clearance

Appointment Length

This appointment is a twelve month research appointment, with the possibility to be renewed for additional research periods. Appointments may be extended depending on funding availability, project assignment, program rules, and availability of the participant.

Participant Benefits

Participants will receive a stipend to be determined by **NGA**. Stipends are typically based on the participant's academic standing, discipline, experience, and research facility location. Other benefits may include the following:

- Health Insurance Supplement. *Participants are eligible to purchase health insurance through ORISE.*
- Relocation Allowance
- Training and Travel Allowance

Nature of Appointment

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The participant will not enter into an employee/employer relationship with ORISE, ORAU, DOD, or any other office or agency. Instead, the participant will be affiliated with ORISE for the administration of the appointment through the ORISE appointment letter and Terms of Appointment.

While participants will not enter into an employment relationship with DOD or any other agency, this opportunity will require a suitability investigation/background investigation. Any offer made is considered tentative pending favorable outcome of the investigation.

Qualifications Candidate should possess experience and use of spectroscopic astronomical techniques in a variety of regimes including visible and infrared; experience working with radio, ultraviolet, or x-ray sensors and data is also desired

Candidate should possess, at a minimum, intermediate computer skills and experience with Microsoft Office applications including Word, Excel, PowerPoint, and Outlook. Candidate should also be proficient in one or more of C++, IDL, Fortran, Mathematica, Matlab, Python, or equivalent computer languages

A Bachelor's degree in astronomy or a related field with 5 years of experience OR a Master's degree with 3 years of experience or a PhD required.

Current college or university faculty members on sabbatical are also eligible. Other applicants will be considered on a case-by-case basis.

A background check will be conducted for an SCI security clearance. Completion of Questionnaire for National Security Positions is required. Details under security requirements.

NGA is a drug-free workplace. Initial and random drug tests will be conducted.

- Eligibility Requirements**
- **Citizenship:** U.S. Citizen Only
 - **Degree:** Bachelor's Degree, Master's Degree, or Doctoral Degree received within the last 60 months or currently pursuing.
 - **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](#))