



**NEID: the New NASA-NSF Exoplanet Observational  
Research (NN-EXPLORE) Precision Radial Velocity  
Spectrograph on WIYN**

Chair: John L. Callas (JPL), NN-EXPLORE Manager  
ExEP Splinter Session at the 233rd AAS, Seattle, WA

# NEID Splinter Agenda

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2:00 - The NN-EXPLORE program (John Callas/JPL for Doug Hudgins)

2:05 - NEID instrument update (Suvrath Mahadevan/PSU)

2:25 - NEID science capabilities (Jason Wright/PSU)

2:40 - NEID queue and operations (Lori Allen/Jayadev Rajagopal/NOAO)

2:50 - NEID archive and community data (Rachel Akeson/NExSci)

3:00 - NEID proposal calls, utilization, policies (John Callas for Doug Hudgins)

3:15 - Discussion

3:30 – End

# NN-EXPLORE Program

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**2010 Decadal**, "NASA and NSF should support an aggressive program of ground-based precise radial velocity surveys of nearby stars to identify potential candidates."

**NN-EXPLORE** is a joint NASA-NSF program for exoplanet observational research.

- **NASA** is funding the development of the NEID radial velocity (RV) spectrograph, telescope port adapter, telescope facilities modification, guaranteed-time observations (GTO) and a guest observer (GO) program.
- **NSF** provides 40%-time on the WIYN 3.5-meter telescope on Kitt Peak.
- **ExEP**(JPL) provides overall project management.
- **Penn State** is building the NEID instrument and pipeline software and will conduct the GTO.
- **NOAO** is building the port adapter and performing the facility modifications, and conducts the GO selections and will operate the telescope and instrument(s).
- **NExSci** will operate the community RV data pipeline and archival database, and implements the GO awards.

# **NEID Proposal Calls, Utilization, Policies**

# NN-EXPLORE Guest Observer (GO)

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**NN-EXPLORE** provides a 2 semester/year Guest Observer (GO) program, administered by NOAO. There is limited funding support, sufficient to cover travel, modest research expenses, and publications costs, provided by NASA to observers through NExScI.

<http://ast.noao.edu/observing/>

- WIYN observations with NEID will begin with Semester 2019B.
- Approximately 90 nights per year awarded for GO observing.
- Semester B proposals due March 31 (awards announced mid-June)
- Semester 2019B will be a shared risk semester. NEID commissioning expected to complete in December 2019.
- NExScI will provide the automated RV pipeline and archive database.
- All NEID observations will be queue-based.
- WIYN Partners may use NEID but only through the queue and subject to NN-EXPLORE policies.
- Other WIYN instruments are available but will be evaluated for exoplanet science by the NOAO TAC.

# NN-EXPLORE Policies (1/2)

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- **Key Science/Multi-Semester Projects**
  - Key Science are large projects, evaluated separately from GO, up to 30 nights/year.
  - Allocated by the NOAO TAC
  - Not initially in Semester 2019B
- **Director's Discretionary Time/Targets of Opportunity**
  - TOO are top priority and submitted through the TAC.
  - DDT has no specific allocation, but push down other observations in the queue.
- **Guaranteed Time Observing**
  - 30 nights per year allocated to the Penn State team.
  - Same distribution of priorities as GO, perhaps with some adjustments.
  - GTO targets not exclusive and will be published with the call each semester.
- **Guest Observing**
  - Awarded by the TAC.
  - Queue-based.
- **Observation Prioritization**
  - Four bins of 25% each with the last bin oversubscribed.
  - PI's can request priorities for individual targets, but TAC has final authority to set the rank.
  - Priority 1 targets can carry over an addition two semesters if not completed.
  - Deadline for final object list for any proposal is set by the TAC.

# NN-EXPLORE Policies (2/2)

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- **Duplicate Targets**
  - Duplicate targets will be allowed.
  - Target lists will be published. PI's must affirm they have checked for duplicates against the published lists.
  - The NOAO TAC will make the final decision on allowing the duplicate observation.
  - Observed target metadata will be released as soon as observations are ingested into the archive.
  - For duplicate observations, each team only gets their data.
- **Data Acceptance Criteria**
  - As part of the proposal process, PIs will specify acceptable data quality and quantity.
  - Data acceptance based on the archival data (not quick look products).
- **Data Proprietary Periods**
  - 2 years for GTO.
  - 1.5 years for GO and TOO.
  - DDT is released immediately.
  - All metadata released immediately.

# Additional Information

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- Websites

<https://exoplanets.nasa.gov/exep/NNExplore/>

<http://ast.noao.edu/observing/>

- The NEID Splinter Session presentations will be posted on the NASA exoplanet website (above).
- Additional teleconferences on NN-EXPLORE observing will be held in the coming weeks to allow the community that missed this session to be briefed on this and to ask questions.
- Look for details in ExoPAG News and Announcements [exopagannounce].

# Acknowledgements

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