



Request For Proposals (RFP) –N85306X

Gemini Instrument Upgrade Program



Association of Universities for Research In Astronomy, Inc.
Operating the Gemini Observatory
Hilo, Hawaii and La Serena, Chile

RFP Issued:
July 24, 2017
Proposals due:
October 5, 2017, 3:00pm UTC-7/MST

*Prepared by:
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Introduction

The Gemini Observatory consists of two 8-meter telescopes; one located on Maunakea in Hawaii, USA (Gemini North), the other on Cerro Pachón, Chile (Gemini South). The Association of Universities for Research in Astronomy, Inc. (AURA) is the managing organization of the Gemini Observatory under a cooperative agreement with the National Science Foundation (NSF). Gemini Observatory Participant nations are the United States of America, Canada, Brazil, Argentina, and Chile. For more information, visit the Gemini Observatory website at www.gemini.edu. For the purposes of this RFP, AURA and Gemini are used interchangeably.

Gemini Observatory is overseen by the Gemini Board of Directors ([GBoD](#)), which is advised by the Science and Technology Advisory Committee ([STAC](#)). The STAC endorsed Gemini's guidelines for the Instrument Upgrade Program ([IUP](#)) activity in its [2015A](#) and [2016A reports](#).

Gemini's development program provides annual funding to upgrade existing operational instrumentation intending to create new instrument capabilities at the Gemini North and/or Gemini South telescopes. Gemini also welcomes proposals to perform instrument upgrades with minimal or no funding from Gemini. Funds to support the IUP are made available through the Instrument Development Fund (IDF) as defined in the [Gemini International Agreement](#).

The 2017 budget is 600,000 USD. The baseline plan is to fund one project of approximately 500,000 USD and one smaller project of approximately 100,000 USD. The Observatory will consider other distributions of funds and welcome requests for amounts between no funding from Gemini to the full 600,000 USD budget. Gemini seeks the best community-created, science-driven instrumentation proposals that fit within the total available budget.

This RFP is open to all institutions or companies from Gemini Participant nations. The RFP is also open to non-Participant country Principal Investigators who have significant and relevant experience in using, designing, upgrading and/or building a Gemini instrument. Small businesses, minority-owned firms, and women's business enterprises that meet the minimum qualifications are encouraged to apply.

Proposals to the Instrument Upgrade Program must request support for projects providing new or enhanced scientific capability to one of Gemini's existing facility instruments (Flamingos-2, GMOS-N, GMOS-S, GNIRS, GPI, GSAOI, NIFS, and NIRI) and GRACES. In addition to the 2017 budget described above, Gemini is also offering to provide, at its cost, a science grade HAWAII-4RG (H4RG) detector and controller package, with specifications to be agreed upon with the selected team to be incorporated into an upgrade. Gemini has the rights to one detector it will select from a small number of them, based on the needs of the proposed projects. The available detectors are science grade devices with some significant areas of bad pixels. Proposers may assume a standard H4RG detector with a science grade area of 3600x3600 pixels.

Gemini welcomes and encourages substantive and meaningful partnerships for instrumentation projects, including partnerships between the academic and private sectors. Gemini will provide a [web site](#) for those seeking additional partners to develop a team for this work. Groups interested in the IUP call who are looking for additional partners or want to offer their services to other potential proposers, should [email](#) Gemini as soon as possible.

All information provided by AURA in this RFP is offered in good faith. Individual items are subject to change at any time. AURA makes no certification that any item is without error.

Schedule of Events

The following schedule applies to this RFP. It may change in accordance with AURA's needs. AURA will send further updates to this RFP through an email list and website updates. AURA recommends all proposers request membership on the [email](#) list to ensure prompt notifications of any changes to this RFP.

Event	Date / Deadline
Release RFP	July 24, 2017
Proposers Conference	August 21, 2017, 1pm UTC-7/MST
Notice of Intent due (see section 3)	September 14, 2017
Proposal due	October 5, 2017, 3pm UTC-7/MST
Contract negotiations begin	December 2017*

*Date is flexible and subject to change

Proposers Conference

AURA will hold a Proposers Conference via videoconferencing to provide a forum to review the RFP material and encourage potential proposers to ask questions regarding the RFP. The conference will be held August 21, 2017, at 1pm UTC-7/MST. Information regarding the Proposers Conference agenda and video conferencing connection details will be listed on the 2017 [IUP RFP](#) webpage five (5) days prior to the Proposers Conference.

Notice of Intent

Notice of intent to submit a proposal should be emailed to the AURA Contracts Officer by the date in the event table above. Include in the email the following:

- A synopsis of the proposed project (an abstract of 500 words or fewer).
- A point of contact for communications.
- A list of proposed key personnel, including the PI(s) and Project Manager.
- A list of the proposed project team member organizations including potential subcontractors, collaborators, and participating institutions and their roles in the project.

AURA will use the Notices of Intent to ensure reviewers have the appropriate expertise and are not demonstrably conflicted. Not receiving Notices of Intent may delay the evaluation and selection process.

Conflicts of Interest

Proposers will be asked to certify that to the best of their knowledge and belief, and except as otherwise disclosed, it does not have any personal and or organizational conflict of interest (COI). A COI is defined as a situation in which the nature of work under a proposed contract and the prospective contractor's organizational, financial, contractual, or other interests are such that the award of the contract may result in or be the result of an unfair competitive advantage, the Contractor's objectivity in performing the contract work may be impaired, and that the Contractor has disclosed all relevant information and requested AURA to make a determination with respect to its proposal.

Surety Plan

AURA requires proposers submit a Surety Plan that will describe how the proposing organization will protect AURA from harm or loss by non-productivity of themselves or a subcontractor. The Surety Plan Form will be posted on the 2017 IUP webpage.

Reference Documents

The Gemini facility [operational instruments](#) information website provides instrument details and fact sheets to help inform teams' proposals.

Requirements

Proposed projects must provide new or enhanced scientific capability to one of Gemini's existing facility (Flamingos-2, GMOS-N, GMOS-S, GNIRS, GPI, GSAOI, NIFS, and NIRI) instruments and GRACES. Gemini will also assess the significance of the proposed project in view of the expected future of the given instrument.

The project's scientific value must be clearly described in the proposal. Each proposal must include top-level science requirements for the project clearly motivated by or derived from the project's science cases.

The proposal must thoroughly identify and suggest the mitigation of key risks and expected instrument downtime. Proposals must demonstrate the project deliverables are achievable with existing technology. Gemini will only consider projects of minimal to moderate technical risk.

The proposed instrument project must not require major alterations to the Gemini telescopes and must comply with the [Gemini Interface Control Documents](#) (ICDs).

The project plan must include readiness testing prior to going on-sky and full characterization of the project after going on-sky.

The proposal must clearly state the Gemini relevant documentation and Gemini resources needed for project completion. The project should require a minimal level of effort from Gemini staff. Gemini will assess the impact of the project and the outcome against the resources needed to support the project.

The project must provide any necessary updates to Gemini-supplied data reduction software, procedures, and the existing instrument documentation resulting from the project. The proposal must clearly state what documentation will be delivered as part of the project.

The proposal must include a description of the proposed project and the resulting new or enhanced capability. The description must adequately describe the optical, opto-mechanical, electrical, and software elements of the proposed project.

The project must produce an Acceptance Test Plan and Acceptance Test Report and provide measured results for the tests contained in the Acceptance Test Plan. The report must also provide baseline measurements, where applicable, for all tests prior to the upgrade. The proposal should demonstrate that meeting the acceptance test requirements is sufficient for producing the expected performance.

The proposal may include a request for up to 10 hours of on-sky telescope time to demonstrate the scientific capability of the project. The proposal must describe in detail how the requested telescope time would be used to demonstrate the new scientific capability. Successful proposers will be responsible for the normal Phase 1 and Phase 2 work needed to schedule and execute their Gemini observations.

Gemini's Project Support

Gemini will provide access to available observatory facilities and equipment to aid the Contractor in the instrument project.

Gemini will assign the relevant resources, pending availability, to support the team in its work to help facilitate successful completion of each project.

Once selected, Gemini and the proposing team will negotiate a contract for completion of the work with a Statement of Work and Contract Deliverables extracted from the proposal.

How to Propose

Each proposal must have a lead institution. AURA prefers proposals from a single contractor. AURA encourages groups of institutions to submit a joint proposal in which they are all listed as partners with one institution identified as the lead institution for contract negotiation and project oversight.

If selected, proposers must submit any objections to the *Contract* and *Terms and Conditions* forms provided with this RFP using change-tracked versions of those documents before contract negotiations begin. To facilitate that process, AURA strongly recommends but does not require proposers submit the Contract form and Terms and Conditions to their legal departments for review and include their objections to the Contract and Terms and Conditions as part of their proposal.

The proposal shall be no longer than 30 pages with a one-page Executive Summary highlighting the driving science cases and identifying the instrument and the proposed project, project schedule, and total cost. The page limit will not include required forms, such as the Proposal Form, Surety Plan, Budget Spreadsheets, or Budget Narratives. Proposal contents should be presented in the order of the following headings:

- Executive Summary
- Scientific Justification
- Science Requirements
- Proposal for Telescope Time
- Technical Requirements
- Project Plan
- Risk Assessment
- Project Management Approach and Team Experience
- System Engineering Approach
- Supporting Materials

The entire proposal must be uniformly paginated with margins in all directions of at least one inch. Proposal text must be in a standard, single-column format with a minimum 11pt. font size. All included figures, tables, and other attachments must be **easily** readable when printed on standard sized, portrait oriented paper.

Proposals must be submitted as a single electronic document in Adobe Acrobat PDF format. Where signatures are required in the Proposal Form, proposer may sign by electronically signing a PDF file using the Adobe Acrobat Digital Signature Tool or by signing a hard copy, scanning the signed page to PDF, and attaching the signature page to the main document.

Proposals shall be submitted by email to the AURA Contracts Officer. All proposals must be received by AURA on or before the due date and time stated on the cover page of this document. AURA may reject any contractor's response if it does not contain the required signatures on the proposal form.

Acknowledgement of Proposals

Receipt of proposals will be acknowledged by email within three (3) working days following the deadline for submitting proposals. Contact the AURA Contracts Officer if an acknowledgement has not been received. AURA reserves the right to accept proposals submitted after the deadline if it can be documented that the failure to meet the deadline was due to technical problems with the transmission of the proposal by email.

Modification of Proposal

No oral, telegraphic, or telephonic modifications to proposals will be considered after the proposal due date has passed. Proposals that have already been submitted may only be modified by means of submitting a replacement proposal before the deadline for receipt of proposals. Proposals may not be modified after the due date, and supplemental documents will not be accepted after the proposal due date, unless requested by AURA.

Proposal Representations

By submitting a proposal, the proposer is representing that it has carefully examined this RFP and its referenced documents, understands all aspects of the work, and is not aware of any ambiguities in the requirements that may affect the proposed price or schedule. Submitting a proposal binds the proposer to good faith negotiations during the identified negotiation period.

Evaluation Criteria

Scientific Justification for the instrument project and science requirements 40%

- Is the proposed scientific benefit of value to the Gemini community?
- Has the proposal included clear and comprehensible science objectives/questions that the work will address?
- Are the science cases clearly enabled by the proposed work?
- Is the scientific motivation for the proposed instrument project relevant and well justified?
- How well have the science requirements been derived from the science case?
- Are well-defined metrics proposed for assessing the scientific success of the work?

Technical Requirements and Design Changes 30%

- Is the proposed work technically feasible with an acceptable level of risk and lifetime support

from Gemini staff?

- Has the team demonstrated that the proposed project design will achieve the objectives described in the scientific justification?
- Are the top-level technical specifications clearly linked to the science requirements and science case(s)?
- Does the proposal provide the needed details of the optical, opto-mechanical, electrical, and software design of the proposed instrument project, detailing the subassemblies to be changed?
- Are the project's risks well-explored, handled, and of moderate magnitude?
- Does the proposed instrument project fit within the technical constraints of the Gemini telescopes?
- Does the proposed upgraded instrument comply with the Gemini ICDs?
- Is there an adequate and complete plan to update the relevant instrument documentation a part of the proposed work?
- Are the documentation and technical resources requested from Gemini available?
- Does the proposer's team have the needed resources and abilities to perform the technical work required?

Project Management, System Engineering, and Team Experience 30%

- Can the envisioned instrument project realistically be completed within the proposed cost and schedule envelopes?
- Does the project plan consider the impact on Gemini resources and required Gemini staff level of effort?
- Will the project adequately monitor and control cost, schedule, and scope?
- Does the project propose adequate system engineering methodology, project management approach, and tools to be used during the project execution?
- Is the proposer's team well qualified and supported for successful completion of the proposed work?
- Have key project members demonstrated relevant scientific work in the proposed areas?
- Has the proposal identified sufficient institutional support for the project?
- How reasonable and realistic is the proposed installation schedule?
- Are the expected ongoing operational and maintenance needs for the project acceptable to Gemini?
- Does the project align with Gemini's long-term instrumentation plans?
- Is the proposed scientific use of the requested observing time well justified?

Evaluation Panel

Gemini will select a team of non-conflicted experts to serve on the Evaluation Panel. The Evaluation Panel will assess each proposal based on the Evaluation Criteria, producing a ranked list of proposals to consider funding.

Selection

Gemini will make a best value selection after considering, in relative order of precedence, the following: the Evaluation Panel report, Price analysis and Cost analysis, Gemini's ability to support the work, and resolvable contract objections.

AURA reserves the right to: (1) accept or reject any or all proposals, (2) withhold an award of the contract for any reason, in its sole discretion, (3) delay an award of a contract for any reason, in its sole discretion, (4) cancel the Request for Proposal; and/or (5) waive any deviations, irregularities, or informalities in the proposals.

Communications and Questions

Questions and requests for clarification can be directed to and only to:

Karen Godzyk
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Association of Universities for Research in Astronomy, Inc.
950 N. Cherry Avenue
Tucson, AZ 85719
Email: RFPIUP@gemini.edu
(520) 318-8357 (US Arizona Time)

General procedural questions may be handled by telephone. Questions or requests for clarification regarding requirements or specifications must be submitted by email and must be received at least 10 working days before the proposal due date. Answers and clarifications that modify or clarify any of the documents included in this RFP will only be made in writing; proposers shall not rely on verbal answers or clarifications. AURA may decide to share any questions and their answers with all of the proposers by issuing an addendum to the RFP.

If addenda are issued to this RFP, all information contained in an addendum is binding on all proposers who respond to this RFP. Changes/additions will be highlighted with new language underlined and marked in **blue bold** (i.e., **word**) and language deleted marked with a ~~strikeout~~ (i.e., ~~word~~). AURA will make a good faith effort to provide a written response to each question or request for clarification that requires addenda within five (5) working days.

To ensure that all proposers receive the same information, clarification or direction by persons other than the AURA Contracts Officer is not permitted during the RFP process. Proposers may not contact any other person at AURA or Gemini regarding this procurement without express permission from the AURA Contracts Officer. Proposers may be disqualified from participating in this procurement if they attempt to communicate about this procurement with AURA or Gemini personnel other than the AURA Contracts Officer.