



Association of Universities for Research in Astronomy

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## SOLICITATION

**October 5, 2005**

The Association of Universities for Research in Astronomy, Inc. (AURA) invites letters of intent for the development of key technologies and design studies needed to advance an alternative concept for an Extremely Large Telescope (ELT).

### **Background:**

A 30-meter telescope (TMT) comprised of ~1,000 segments that builds on the heritage of the Keck telescopes is presently being carried out by the California Extremely Large Telescope Corporation in partnership with the Association of Canadian Universities for Research in Astronomy and AURA. AURA has determined that a second ELT concept that proposes an alternate technical solution would ensure that the broadest arrays of technologies are explored and that all credible options for an ELT are maintained.

The aim of this solicitation is to provide for the initial actions to:

- Enable completion of a preliminary design for an alternate concept. This design, together with that developed by TMT, will provide the basis for understanding the performance, cost and risk of two concepts early enough to enable completion of at least one ground based ELT telescope near the beginning of the James Webb Space Telescope (JWST) era—thus meeting the highest priority goal for ground-based astronomy set by the Astronomy and Astrophysics Survey Committee (AASC) decadal survey.
- Ensure effective community input during telescope design and technical development so that the delivered performance of each telescope concept meets the scientific aspirations of the community.
- Provide opportunities for merit-based public access to the resulting ELT(s) proportionate to the federal investment during the design and development phase (DDP);
- Encourage significant non-federal funding for both design studies.
- Promote open communication between these complementary ELT design efforts.
- Promote innovative education and outreach programs.

**Evaluation Criteria:**

In evaluating responses to this solicitation, criteria will primarily be based on the extent to which a proposal meets the scientific goals defined by the AURA sponsored Giant Segmented Mirror Telescope (GSMT) Science Working Group. Also, criteria will include the extent to which the basic scientific goals of the Decadal Survey are met, technical maturity, extent to which a private/public partnership is supported, and the extent of private funding.

**Letter Content:**

All responses to this solicitation must:

- Provide a credible design and development cost, schedule, and technical content leading to a preliminary design review in three or four years
- Describe a project management plan to ensure cost control
- Describe federal funding requirements over the life of the design phase and their relationship to the anticipated private and other non-NSF funding that is envisioned over the life of this subaward.
- Establish a means for transparency that will allow an understanding and monitoring of technical progress.
- Establish a means for participation and involvement by the scientific community.
- Include any proposed mechanisms for engaging the community in any technology development and instrumentation efforts.

**Funding Available:**

The funding available for the full term of this subaward cannot be fully described at present in view of the annual funding available from the NSF. However it is AURA's goal, in accordance with our proposal of July 2004, to provide a total of \$14,000,000 pending funding actions by the National Science Foundation.

For Fiscal Years 05 and 06, AURA intends to provide the following:

Fiscal Year 2005: \$339,300

Fiscal Year 2006: \$738,048 (pending outcome of FY06 budget)

**Letter Submission:**

All letters must be received by November 30, 2005

Letters should be sent to:

Daniel Calabrese

Subawards and Contracts

National Optical Astronomy Observatory

950 North Cherry Avenue

Tucson, AZ 85719