



Request for Applications

2023 GLOBAL TEAM SCIENCE AWARD

\$3 million over 3 years

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INTRODUCTION

The central challenge to developing safer and more effective treatments for people with systemic lupus erythematosus (SLE) stems from the tremendous clinical and mechanistic heterogeneity of SLE. To overcome this challenge, the Lupus Research Alliance (LRA) has established the Global Team Science Award (GTSA), which provides up to \$3 million over three years to support **interdisciplinary, collaborative, and highly synergistic** projects that focus on unravelling human lupus heterogeneity. Successful teams will push the boundaries of innovation and bridge research and clinical efforts in lupus by applying **cutting-edge technologies** to address critical questions that could bring about **breakthroughs** in lupus care, research, or drug development.

The LRA invites established investigators worldwide and across scientific disciplines to submit Letters of Intent (LOIs) for four-month planning grants (up to \$10,000 each) to assemble competitive teams to develop and submit full applications. The LRA anticipates that up to six planning grants and then up to two GTSAs will be awarded.

PROGRAM DESCRIPTION

The GTSA mechanism is strongly aligned with LRA's strategic priorities to 1) define human lupus heterogeneity by molecular pathology, 2) enable patient stratification based on active disease mechanisms, and 3) facilitate global research collaborations.

Principles and Objectives

Proposed projects must apply cutting-edge technologies to the study of lupus clinical samples or datasets in a way that interconnects technology and human immunology experts with clinical scientists to bring about breakthroughs in the molecular understanding of heterogeneity in human lupus through cross-disciplinary synergies.

Proposed projects must adhere to the following five principles and objectives:

- **Interdisciplinary research**, defined as research across disciplinary boundaries that attracts and engages scientific talent from diverse research and clinical fields such as systems biology, computational biology and bioinformatics, biomedical engineering, immunology, microbiology, molecular biology, biochemistry, rheumatology, nephrology, neurology, and infectious diseases.
- **Collaboration**, where the relevant research goals can only be achieved if all Co-Principal Investigators (Co-PIs) combine their complementary expertise and resources in a novel and strongly integrated research program.
- **Synergy**, in which the team's research constitutes an effort much greater than the sum of the individual team members' efforts should they be working alone.
- **Cutting-edge technologies**, which for the purpose of this RFA denote the expectation that patient samples and clinical data will be studied using state-of-the-art analytic approaches such as, but not restricted to, scRNA-Seq, REAP-Seq, CITE-Seq, ATAC-Seq, CyTOF, proteomics, metabolomics, machine learning algorithms, or any other cutting-edge approach investigators may wish to use. While this RFA requires the application of new technologies, it does not support their development.
- **Breakthrough research** characterized by a high potential for shifting or creating new paradigms. Such research goes beyond existing doctrines, models, and approaches to open new research areas or deliver critical knowledge to transform lupus care and research.

Research Emphasis Areas

Examples of the types of research questions that could be explored include, but are not limited to, the following **in the context of human lupus**:

- Understanding functional consequences of variants, genes, and pathways implicated by human genetic studies
- Understanding the role of the microbiome in lupus development and progression

- Characterizing the immunologic, genetic, and molecular factors differentiating responders and non-responders to approved or investigational therapies in SLE
- Correlating clinical subsets of SLE with peripheral biomarkers
- Understanding how the mechanisms of disease differ for different clinical manifestations of lupus
- Defining genetic or molecular factors conferring susceptibility to developing lupus nephritis
- Utilizing the Accelerating Medicines Partnership (AMP) SLE samples/data or other high-quality samples/data sets to examine racial and ethnic differences in key cellular/molecular pathways

Activities that will **not** be supported as part of this funding mechanism:

- Generation of new clinical cohorts as the primary aim
- Development of new technologies
- Conducting clinical trials; however, mechanistic studies related to already funded clinical trials will be considered
- Discovery or validation of novel therapeutic targets as the sole focus of the project
- Development of clinical outcome measures
- Exclusively clinical collaborations studying heterogeneity from a purely clinical angle

Award Structure

The GTSA has a unique structure. Unlike other collaborative awards where individual investigators work on their own distinct projects under the umbrella of a program or center, the GTSA requires that all Co-PIs work on a common project from distinct angles. Specifically, the team should address a single overall question or challenge by employing the complementary skills and contributions of the Co-PIs and realizing the synergies within this collaborative environment.

A team must consist of at least three but ideally not more than five Co-PIs, one of whom must serve as the corresponding Co-PI. The team must be multi-disciplinary. There are no restrictions on the number of disciplines represented on the team. Collaborations between human immunology researchers, technology experts, and lupus clinicians are strongly encouraged.

General operational expectations for each funded team include sharing of data among team members in real time and frequent interactions among Co-PIs and their research teams. At a minimum, this should include frequent conference calls and one to two in-person meetings per year, one of which should coincide with the annual LRA site visit.

Applicants who wish to consult with program staff to discuss the responsiveness of their proposal to this program or to discuss ideas for resources that might benefit this initiative are invited to do so. Please refer to the contacts provided at the end of the document.

ELIGIBILITY

Applicants must hold an MD, PhD, DVM, or equivalent academic degree with a faculty position or equivalent at a college, university, medical school, or comparable institution. The corresponding Co-PI must have held their current faculty position or equivalent for a minimum of five years at the time of application submission.

Applications may be submitted by domestic or foreign non-profit organizations, public or private, such as colleges, universities, hospitals, or laboratories. The LRA does not impose geographic restrictions or citizenship requirements. Researchers working outside of the United States are encouraged to apply.

For-profit entities such as pharmaceutical or biotechnology companies may participate as collaborators but are **not** eligible to receive any financial support through the grant award.

REQUIREMENTS SUMMARY

- The core team must consist of at least three but ideally not more than five Co-PIs, one of whom must serve as the corresponding Co-PI.
- The core team must be multi-disciplinary.
- The proposed project must fulfill the five principles and objectives listed above.
- The proposed research must be strongly aligned with LRA's strategic priorities as described above.
- Studies using existing cohorts or samples and data are preferred. Limited funding for the acquisition of samples and data from already existing resources may be available. Examples of potential sources of samples and data are provided in Appendix I.
- If animal studies are proposed, they must constitute a focused component linked to the results of human studies and aimed towards further understanding of human lupus.

APPLICATION PROCESS AND INSTRUCTIONS

A two-stage application process, bridged by a planning grant, will be employed. A Letter of Intent (LOI) will be used to judge the significance, innovation, and alignment of the proposed project concept with the GTSA funding mechanism. The specific LOI review criteria are detailed below. Applicants with approved LOIs will be invited to submit a full application and will be provided a four-month planning grant of up to US\$10,000 to develop the full proposal.

KEY DATES

RFA Release:	April 25, 2022
Letters of Intent Due:	August 1, 2022
Letter of Intent Decision:	October 14, 2022
Planning Grant Timeline:	November 1, 2022 – February 28, 2023
Full Applications Due*:	March 1, 2023
Full Application Decision^:	June 30, 2023
Earliest Start Date:	September 2023

*By invitation only with an approved LOI

^For full applications only

LETTER OF INTENT

An LOI is required and will be used to judge the significance, innovation, and alignment of the proposed project concept with the GTSA funding mechanism. LOIs must be submitted electronically, via [ProposalCentral](#), by **11:59pm US ET on the stated deadline**. Applications will not be accepted via any other means.

The following information is required to submit a complete LOI. Numbers correspond to the application sections found on the left side of the ProposalCentral website.

1. **Title Page:** Enter the title of the proposed project. Indicate whether the LOI is a resubmission and, if so, select the prior application from the dropdown menu.
2. **Download Templates & Instructions:** The Request for Applications, Cover Page, and Letter of Intent Template can be downloaded from this page.
3. **Enable Other Users to Access this Proposal:** Enter the information for any other users who will need to work on the LOI.
4. **Corresponding Co-PI:** The corresponding Co-PI's information is pre-loaded with the contact information from their ProposalCentral profile. Click the Edit Professional Profile button if any changes need to be made. Upload a standard [NIH Biosketch and Other Support Format Page](#), which should detail other financial support available to the corresponding Co-PI for their research endeavors. Applicants who are not based in the United States may submit a copy of their curriculum vitae, which must be limited to five pages in length.
5. **Organization/Institution:** The lead institution will be pre-loaded with the corresponding Co-PI's institution.
6. **Co-PIs and Key Personnel:** Enter the requested information for each Co-PI and upload a standard [NIH Biosketch and Other Support Format Page](#), which should detail other financial support available to the Co-PI for their research endeavors. Applicants who are not based in the United States may submit a copy of their curriculum vitae, which must be limited to five pages in length.
7. **Application Documents:** Upload the Cover Page, Letter of Intent, Planning Grant Budget, Letters of Collaboration, and Resubmission Statement (if applicable). Please note that when a template is provided, it **must** be used.
 - A. **Cover Page:** Provide the name, institution, position, and role on the team for each Co-PI on the cover page template provided on ProposalCentral.
 - B. **Letter of Intent (LOI):** The LOI template provided on ProposalCentral must be used. Margins must not be less than .5 inches on each side. 12-point Times New Roman font or the equivalent should be used for the text. The LOI should not exceed four pages.

The information listed below must be included in the indicated order. Section word limits are offered as suggestions only.

- i. **Brief background:** Provide a succinct contextual framework for the proposed project. (100 words)
 - ii. **Objective:** State the overall research question and aim of the proposed project. (75 words)
 - iii. **Innovation:** What novel questions, approaches, or areas does the team plan to explore? (250 words)
 - iv. **Research plan:** Outline the research approaches anticipated to be pursued by each core team member in addressing the team's overall question. (500 words for all Co-PIs)
 - v. **Team attributes:** How will team members work together, that is, what is the general collaboration plan? How will the team's activities be integrated? What synergies does the team plan to realize? Explain how the research efforts described in the research plan will be interlaced to create a truly integrated endeavor that is much greater than the sum of its parts. (300 words)
 - vi. **Significance:** Briefly state the anticipated impact of the outcomes of the proposed project on improving lupus treatments and clinical care. (75 words)
 - vii. **Resource assessment:** Provide an overview of the team's ability to carry out this project and outline the resources and expertise each team member will contribute. (200 words)
 - viii. **Planning grant:** Describe the key activities to be undertaken during the four-month planning grant stage should the LOI be approved. Describe how the planning grant funds will be used to generate the full application and provide a corresponding itemized budget for the planning grant. (500 words)
- C. **Planning Grant Budget:** Applicants invited to submit a full application will receive a planning grant of up to US\$10,000 for the period between November 1, 2022, and February 28, 2023. The level of support will depend partially on the geographic distribution of the proposed team members and must be well-justified within the LOI. Indirect costs on the planning grant are not allowed. (Should not exceed one page.)
- D. **Letters of Collaboration:** Each Co-PI, except the corresponding Co-PI, must provide a letter confirming their willingness to be an active participant in the proposed project.

- E. **Resubmission Statement (if applicable):** A half-page resubmission statement (up to 300 words) must be provided for all resubmissions. The statement should highlight any major changes. If substantial changes are made to the original LOI or if this is an entirely different or new project, the LOI should be submitted as a new submission.
8. **PI Data Sheet:** Please verify the corresponding Co-PI's gender, race, and ethnicity. This information will not be used in any way during the selection process.
9. **Validate:** Click the "Validate" button to check for any missing required information or attachments.
10. **Sign:** Click the "Sign" button to electronically sign the LOI. By signing, the corresponding co-PI certifies that the information contained in the LOI is true, complete, and accurate to the best of their knowledge and agrees to facilitate the availability of data and materials by executing a Data Sharing Plan based on the [2020 NIH Policy for Data Management and Sharing](#) should the proposed project be funded by the LRA.
11. **Submit:** After successfully passing the validate check, click the "Submit" button. An e-mail will be sent confirming submission.

Restriction on number of LOIs

Only one LOI will be accepted per corresponding Co-PI in a grant cycle. The corresponding Co-PI may not participate on any other GTSA. However, other Co-PIs may do so if the projects they are involved with are non-overlapping and a compelling justification for multiple participation has been provided.

FULL APPLICATION

Full applications may be submitted only by applicants whose LOIs have been approved to advance to the next stage of the review process.

Approval of the LOI will trigger the release of a four-month planning grant from the LRA to be used for the sole purpose of developing a well-coordinated and synergistic GTSA application. The planning grant will provide up to US\$10,000, which must be used between November 1, 2022, and February 28, 2023. During this period, the team must develop a detailed plan of the proposed research activities for the three-year grant term.

Detailed instructions for completing the full application will be provided after LOI approval. In brief, the following sections will be included in the research plan: 1) Goals of the project; 2) Interdisciplinary aspects; 3) Relevance and significance; 4) State of the art of the field relevant to the project; 5) Research approach; 6) Description of the collaborative and synergistic aspects of the Team; 7) Project implementation and coordination; 8) Risk management; 9) Milestones and corresponding timeline.

Applications should be submitted via ProposalCentral by 11:59pm ET on the stated deadline. Please log on to the site for detailed instructions. The full application site will be accessible

only to applicants with approved LOIs.

Resubmission information

Applicants resubmitting full applications that were not funded in the last two award cycles must include a one-page resubmission statement highlighting the planned overall modifications to address the concerns of the original review panel. A copy of the summary statement must be included in the appendix of the resubmission. If you have not received a statement, please contact the LRA research staff.

If major changes are made to the original application or if this is an entirely different or new project, the application should **not** be submitted as a resubmission.

REVIEW CRITERIA

The scientific review committee will consider each of the following criteria in assigning the application's overall score, weighting them as appropriate for each application.

LOI Review

- Alignment of the concept proposal with the objectives and scope of the GTSA and the LRA's strategic research priorities
- Potential of the proposed collaborative team: Do the Co-PIs have a demonstrated track record of innovation and of shifting scientific paradigms and breaking open new areas of research? Do the Co-PIs have a history of creating and maintaining meaningful scientific collaborations with investigators in other disciplines or within the same discipline? Please note that prior collaborations among the proposed team members are not required. Do the core team members complement each other's expertise? Does the proposed team create a unique research environment that can serve as a catalyst for scientific breakthroughs in lupus? Does the team have compelling preliminary collaboration and integration plans? Please note that the planning grant will enable the full development of these components.
- Novelty of the proposed research: Does the project employ novel concepts, approaches, or methods? Are the aims original and innovative? Does the project challenge existing paradigms or develop new methodologies?
- Potential impact of the overall effort on lupus treatments or care
- Environment: Does the proposed project take advantage of unique features of the scientific environments at each site? Is there evidence of institutional support?

Full Application Review

- Assessment of the proposed research approach
- Evaluation of the interdisciplinary character of the team in relation to the proposed project and the added value of the collaboration
- Assessment of the proposal's innovation
- Potential for research breakthroughs in lupus
- Assessment of the implementation and coordination aspects of the proposal
- Alignment with LRA's strategic priorities
- Review of Data Sharing Plan

Review Process

GTSA applications are reviewed by a scientific committee specifically empaneled by the LRA for this grant mechanism. This expert panel makes funding recommendations to the Scientific Advisory Board and the Research Committee of the Board. The Board of Directors of the LRA makes the final funding decisions.

Review Feedback

For applicants invited to submit full proposals, a summary statement containing the reviewers' critiques will be provided within three months of the review date. Applications not recommended to advance to the full proposal stage will not receive written critiques. LRA does not provide scores or application rankings to applicants.

AWARD TERMS AND CONDITIONS

Planning Grant

The purpose of the planning grant is to facilitate the interactions between prospective team members necessary for the preparation of a highly coordinated and synergistic proposal.

Applicants invited to submit a full application will receive a planning grant for up to US\$10,000 for the period between November 1, 2022, and February 28, 2023. The level of support will depend in part on the geographic distribution of the proposed team members and must be well justified in the LOI. Indirect costs on the planning grant are **not** allowed.

Any unused planning grant funds in excess of \$500 must be returned to the LRA by September 30, 2023.

Global Team Science Award

The GTSA will be supported for up to US\$1,000,000 per year for up to three years. Indirect costs must not exceed 10% of the total budget (excluding equipment) and must be included within the \$1,000,000 annual budget cap. The Co-PIs, including the corresponding Co-PI, must devote a minimum of 5% effort on this award. Equipment purchase is discouraged unless indispensable for the conduct of the project. If so, a compelling justification must be included within the grant application, and the equipment purchase, if approved, needs to occur during the first year of the award. The LRA will provide all award funds to the corresponding Co-PI's institution, which will be responsible for distributing the monies to the other Co-PIs' institutions according to the LRA-approved budget.

The formal start of the three-year program must follow a two-month start-up period intended to complete all administrative and research preparatory tasks required to initiate fully the research activities of the team. These should include but are not limited to the execution of subcontracts, acquisition of institutional resources at the sites, finalization of common protocols, establishment of a common data sharing platform, finalization of operating processes for the team, etc. The start-up phase will culminate in an LRA site visit to ensure that the team is well poised to launch the research effort. The successful completion of these preparatory activities, as determined during the site visit, will trigger the standard award payments. Funds for the start-up phase must be budgeted within the overall \$3 million grant budget.

Continued funding beyond the first year of the grant is contingent on demonstrating research progress and on meeting the pre-established project milestones. Progress reports are required at the end of each year and are reviewed by LRA staff and external scientific advisors. In addition, site visits will be conducted at the end of year one and year two of the grant as well as at the end of the start-up phase as noted above.

The LRA is committed to the publication and dissemination of all information and materials developed using the organization's resources. All recipients of LRA awards must agree to this principle and must take steps to facilitate availability of data and materials as similarly required by NIH. A data sharing plan describing how data generated from the project will be managed and shared must be part of the full application submission. LRA funding must be acknowledged in all publications and presentations of the supported research.

Forming partnerships with the grant recipients is one of the cornerstones of the LRA's funding philosophy. Towards this end, awardees are required to attend the LRA annual scientific conference, Forum for Discovery, and share the concepts and progress of their research. Travel funds, provided by the grant award, should be used to attend this meeting.

INQUIRIES

Scientific:

Hoang Nguyen, PhD
Senior Scientific Program Manager
Lupus Research Alliance
hnguyen@lupusresearch.org
646-884-6059

Administrative:

Diomaris Gonzalez
Director, Grant Programs
Lupus Research Alliance
dgonzalez@lupusresearch.org
646-884-6056

ProposalCentral:

For assistance with the electronic grant application process, please contact ProposalCentral at pcsupport@altum.com or 800-875-2562, extension 227.

APPENDIX I

Examples of potential sources of data and samples from lupus studies

Accelerating Medicines Partnership (AMP) RA/SLE data available through the [Immunology Database and Analysis Portal](https://www.immport.org/home) (<https://www.immport.org/home>)

Lupus Family Registry and Repository (LFRR)
<https://ordrcc.omrf.org/about-lupus-family-registry-and-repository/>

Multiple lupus data sets can be accessed through the database of genotypes and phenotypes (dbGAP) (<https://www.ncbi.nlm.nih.gov/gap/>), including:

- Accelerating Medicines Partnership (AMP) RA/SLE
- The International Consortium on the Genetics of Systemic Lupus Erythematosus (SLEGEN)
- OMRF SLEGEN GWAS Data from European-American Women with Lupus
- Whole Genome Association Study of Systemic Lupus Erythematosus
- CLRR-Cincinnati Lupus Registry and Repository

Childhood Arthritis and Rheumatology Research Alliance (CARRA) Registry
<https://carragroup.org/>

Vivli – Center for Global Clinical Research Data
<https://vivli.org/>

ClinicalStudyDataRequest.com (CSDR)
<https://www.clinicalstudydatarequest.com/Default.aspx>

GSK Study Register and patient level data
<https://www.gsk.com/en-gb/research-and-development/trials-in-people/gsk-study-register-and-patient-level-data/>

Pfizer Data Access Requests
[https://www.pfizer.com/science/clinical trials/trial data and results/data requests](https://www.pfizer.com/science/clinical%20trials/trial%20data%20and%20results/data%20requests)