



GRAND CHALLENGES

GRAND CHALLENGES CATALYST COMPETITION

REQUEST FOR PROPOSALS

Notice of Intent to Submit Deadline: February 28, 2023 (final day in February annually thereafter)

Proposal Deadline: April 28, 2023 (final Friday in April annually thereafter)

INTRODUCTION

The [N2025 Strategic Plan](#) is a guide to help propel the University of Nebraska-Lincoln (UNL) to increased excellence and impact. The rich record of faculty, staff, and student accomplishments across UNL's tri-partite mission of research, education, and engagement demonstrates a long-standing and deep commitment of service to society. But now is the time to embark on a bolder path.

The N2025 Strategic Plan calls on the university to "[Establish a culture at Nebraska committed to increasing the impact of research and creative activity](#)" and "[Focus research, scholarship, creative activity and student experiences to foster innovative, interdisciplinary endeavors and solve challenges critical to Nebraska and the world.](#)" To that end, as Nebraska's comprehensive research, land-grant institution, UNL is providing a framework and level of support that will enable the university community to increase its collective impact by thinking and acting in even bigger ways.

The Grand Challenges Catalyst Competition is the next step in UNL's pursuit of solutions across its portfolio of grand challenge themes. A \$40 million commitment by the Office of the Chancellor and the Office of Research and Economic Development will enable new interdisciplinary projects to move the needle toward the development of solutions for some of humanity's most wicked problems and pressing opportunities.

UNL'S GRAND CHALLENGE THEMES

A grand challenge theme represents a universal problem or opportunity that, if addressed, will positively impact society. Grand challenge themes are significant in scope; result from complex causes; and often can be solved only by a combination of innovative, interdisciplinary approaches.

During Chancellor Ronnie Green's 2020 State of Our University address, the Office of Research and Economic Development (ORED) was charged with implementing a process to identify and describe a set of grand challenge themes on which UNL should focus. This process, which involved more than 500 UNL faculty, staff, students, and emeriti, resulted in the selection of seven themes:

- [Anti-racism and Racial Equity](#)
- [Climate Resilience](#)
- [Early Childhood Education and Development](#)
- [Health Equity](#)
- [Quantum Science and Engineering](#)
- [Science and Technology Literacy for Society](#)
- [Sustainable Food and Water Security](#)

AWARD TYPES AND EXPECTED OUTCOMES

Two types of support are available through the Grand Challenges Catalyst Competition:

- **Planning grants:** Proposals in this category must describe the teaming and ideation activities necessary for collaborative groups to coalesce around one or more of UNL's grand challenge themes. The expected outcome for an interdisciplinary team receiving a planning grant is that they will prepare a catalyst award proposal. Planning grant proposals may request up to \$150,000 for a project period of no more than 24 months.
- **Catalyst awards:** Proposals in this category must describe a plan of work for implementing a goal-based project developed in response to one or more of UNL's grand challenge themes. The expected outcome for an interdisciplinary team receiving a catalyst award is that they will demonstrate measurable progress toward their goal and project sustainability. Catalyst award proposals may request the support necessary to pursue the project goal during a period of up to five years.

All proposals submitted to the Grand Challenges Catalyst Competition must be goal-driven. Project goals must be specific, measurable, aspirational (for planning grant proposals) or audacious (for catalyst award proposals), resourced, and time-bound. Project goals also must be bold and catalytic. Proposals must not be aimed at incremental advancement of existing work.

AVAILABLE FUNDS

Chancellor Green and Vice Chancellor for Research and Economic Development Bob Wilhelm have committed \$40 million toward the Grand Challenges Catalyst Competition. Up to \$10 million is available for allocation annually through 2025.

Multiple awards across the two categories of support are expected during each year of the competition; however, no planning grant proposals will be accepted in 2025.¹ Funding decisions and the number of awards will be determined based on proposal quality and availability of funds. Any Grand Challenges Catalyst Competition funds not awarded in 2023 or 2024 will carry forward and remain available for award.

PRINCIPAL INVESTIGATOR ELIGIBILITY

Full-time UNL faculty may serve as principal investigator (PI) and submit proposals to the Grand Challenges Catalyst Competition. Other essential project personnel must hold a UNL appointment.

Multiple PIs are allowed. Plans for this type of leadership configuration must be described within the page limit allowed for full proposals. Teams with multiple PIs must identify one individual to serve as the PI of record (or contact PI), because only one PI is identifiable in NuRamp. Proposers may wish to refer to National Institutes of Health guidance on multiple PI plans, including example plans, at https://grants.nih.gov/grants/multi_pi/index.htm.

Individuals may receive no more than one planning grant and one catalyst award as PI. There is no limit on the number of applications to which an individual may contribute in another role. Proposals must contain evidence that the PI(s) and essential personnel can provide the level of effort required for project success.

RESUBMISSION ELIGIBILITY

A declined proposal may be resubmitted after it has been substantively revised in response to reviewers' comments. However, all proposals will be treated as new applications. Resubmissions should not be described as revised applications, and revisions should not be called out in proposal narratives.

¹ Planning grant proposals submitted in 2024 should have a project period of no more than nine months. Planning grant proposals will not be accepted in 2025.

NOTICE OF INTENT TO SUBMIT

Notice of intent to submit is a pre-requisite for developing a full Grand Challenges Catalyst Competition proposal. Notices of intent to submit are non-binding. However, every PI who provides notice of intent according to the following guidelines may submit a full proposal.

To provide notice of intent to submit, send an email message to grandchallenges@unl.edu. Include the text “Grand Challenges – Intent to Submit” in the subject line. In the body of the message, list the name, title, and affiliation of the project PI; the project title; and the type of support sought: planning grant or catalyst award.

Attach to the message a document prepared using an 8.5” x 11” page size with 1” margins and single-spaced 11-point font (Arial, Calibri, Georgia, or Times New Roman). The attachment must be a **single** PDF containing the following:

- For **planning grant** proposals, a cover sheet (one page maximum) that includes the project title and a list of project team members, including their titles, affiliations, and roles along with an indication of whether funded external collaborators and/or human subjects research will be involved. Also include a project summary/specific aims page.

The project summary/specific aims should be no more than one page in length and outline the opportunity for an interdisciplinary team to prepare a catalyst award proposal for submission in a subsequent year. It should describe the activities that will be supported and outline specific teaming/ideation methods that will be employed.

- For **catalyst award** proposals, a cover sheet (two pages maximum) that includes the project title and list of project team members, including their titles, affiliations, and roles along with an indication of whether funded external collaborators and/or human subjects research will be involved. Also include a project concept note. The project concept note (three pages maximum) must describe:
 - The project vision and goals and how the effort aligns with one or more grand challenge theme.
 - What is novel in the proposed approach and how it represents a significant **new** opportunity.
 - Expected project impacts and their scale (i.e., local, regional, national, or global).
 - The expertise and resources that will be brought to bear.
 - The team’s approach toward project evaluation.
 - An estimated project timeline and cost.

In addition, teams providing notice of intent to submit a **catalyst award** proposal must provide information regarding collaborators and other affiliations (COA) for each individual expected to serve as essential project personnel (e.g., PI, co-investigator, co-PI, etc.). This information must be provided using the COA template.

Note: download and save the COA template available [here](#) before populating it.

Finally, teams providing notice of intent to submit a **catalyst award** proposal also have the option to suggest potential reviewers and/or indicate reviewers to exclude using the reviewer recommendations template.

Note: download and save the reviewer recommendations template available [here](#) before populating it.

Notices of intent to submit are due by **5:00 p.m. Central** on the following dates: **February 28, 2023; February 29, 2024; and February 28, 2025.**²

Late notices of intent to submit will not be accepted.

ORED will acknowledge all notices of intent to submit. In addition, catalyst award PIs also will receive an initial assessment of their concept note’s responsiveness to the RFP. No submissions will be rejected at this phase. The goal is to inform catalyst award PIs whose concept notes appear non-responsive.

² Only catalyst award proposals will be accepted in 2025.

PIs of catalyst award projects indicating they intend to request more than \$5 million will be invited to a consultative meeting with ORED leaders and their associate dean(s) for research or designee(s).

PROPOSAL REQUIREMENTS

PIs who provide notice of intent to submit as described above may submit full proposals.

Proposals should be prepared using an 8.5" x 11" page size with 1" margins and single-spaced 11-point font (Arial, Calibri, Georgia, or Times New Roman). The font sizes used in captions, graphics, and detailed budgets may be smaller, but this text must be legible when printed.

Planning grant proposals must be a **single** PDF containing the following components in the order specified:

- A cover page listing the project title, all project team members (including their titles, affiliations, and project roles), proposed project period, and total budget request (two pages maximum). Also indicate if funds are included for external collaborators and/or human subjects research.
- Project summary/specific aims (one page maximum) identifying the opportunity for an interdisciplinary team to prepare a catalyst award proposal for submission in a subsequent year. It also should outline the activities that will be supported and describe specific teaming/ideation methods that will be employed.
- A proposal narrative (four pages maximum) containing the following:
 - Discussion about the significance of and potential for a collaborative group to form and vision a feasible solution toward one or more of UNL's grand challenge themes.
 - Detailed plans that involve activities like networking, brainstorming, partnership building, and focusing that will result in the submission of a catalyst award proposal.
 - A project leadership and management strategy that details the relevant experience and expertise of the PI, essential personnel, and other team members and strategies for meaningful interdisciplinary engagement and collaboration. Proposals must contain evidence that the PI and essential personnel are able to provide the level of effort necessary to advance project goals.
 - A plan for diversity, equity, and inclusion that will increase the participation of underrepresented individuals, groups, or institutions in meaningful ways.
- A collaboration plan describing how interdisciplinary convergence will be achieved. If the proposal is led by faculty from the educational, life, physical, or social sciences; technology; engineering; or mathematics, the plan should describe efforts to intentionally integrate colleagues from the arts and/or humanities into the proposed activities in a substantive way. Conversely, if the proposal is led by faculty from the arts and/or humanities, the plan should describe efforts to intentionally integrate colleagues from the educational, life, physical, or social sciences; technology; engineering; or mathematics.
- A list of references cited (one page maximum).
- Biographical sketches in an agency-specific format (e.g., NIH, NSF, or USDA) or CVs or résumés up to three pages in length for the PI and any essential project personnel. The same format should be used for all team members.
- A listing of current and pending support (internal and external) for the PI and any essential project personnel. The same format should be used for all team members.
- A detailed budget (one page maximum) and budget justification (one page maximum). Proposers may wish to consider and make use of the budget template and budget justification samples curated by the Office of Sponsored Programs on its [forms and template webpage](#).

- Letters of commitment from partners engaging in or supporting the project in ways that are essential to its completion. Up to three letters may be submitted, and they should not be used to circumvent proposal page length requirements.

Catalyst award proposals must be a **single** PDF containing the following components in the order specified:

- A cover page (two pages maximum) listing the project title, all project team members (including their titles, affiliations, and project roles), the proposed project period, and total budget request. Also indicate whether funds are included for external collaborators and/or human subjects research.
- Project summary/specific aims (one page maximum) outlining: 1) the challenge or opportunity to be addressed, project vision and goals, and alignment with one or more of UNL's grand challenge themes; 2) activities that will be supported, specific aims/objectives, and associated methods; and 3) project innovation/novelty and expected impacts.
- A proposal narrative (15 pages maximum) containing the following:
 - Discussion about the significance and potential impact of the proposed project and its alignment with one or more of UNL's grand challenge themes.
 - A plan of work that describes:
 - the project's vision, goal, and specific objectives;
 - the proposed approach;
 - what is novel in the proposed approach and how it represents a significant **new** opportunity;
 - the project's potential to advance research, scholarship, and creative activity as well as education and engagement at UNL;
 - the project's alignment with institutional priorities; and
 - a project evaluation plan.
 - A project leadership and management strategy that details the relevant experience and expertise of the PI, essential project personnel, and other team members and strategies for substantive interdisciplinary engagement and collaboration. Proposals must contain evidence that the PIs and essential project personnel are able to provide the level of effort (and mentorship, where relevant) necessary to advance project goals.
 - A plan for diversity, equity, and inclusion that will increase the participation of underrepresented individuals, groups, or institutions in meaningful ways.
 - A collaboration plan describing how interdisciplinary convergence will be achieved. If the proposal is led by faculty from the educational, life, physical, or social sciences; technology; engineering; or mathematics, the plan should describe efforts to intentionally integrate colleagues from the arts and/or humanities into the proposed activities in a substantive way. Conversely, if the proposal is led by faculty from the arts and/or humanities, the plan should describe efforts to intentionally integrate colleagues from the educational, life, physical, or social sciences; technology; engineering; or mathematics.
 - Rationale for Grand Challenges Catalyst Competition support that clearly indicates how the project falls outside the mission or scope of established external funding programs.
 - Detailed plans for achieving project sustainability through institutionalization and/or strategic pursuit of follow-on external funding.
- A list of references cited (three pages maximum).
- Biographical sketches in an agency-specific format (e.g., NIH, NSF, or USDA) or CVs or résumés up to three pages in length for the PI and any essential project personnel. The same format should be used for all team members.

- A listing of current and pending support (internal and external) for the PI and any essential project personnel. The same format should be used for all team members.
- A detailed budget (two pages maximum) and budget justification (three pages maximum). Proposers may wish to consider and make use of the budget template and budget justification samples curated by the Office of Sponsored Programs on its [forms and template webpage](#).
- A plan for managing project data (two pages maximum) appropriate to the emphasis and scale of the proposed work. Data management consultation and resources are available throughout the university, including at the [UNL Libraries](#) and [Holland Computing Center](#).
- Letters of commitment from partners engaging in or supporting the project in ways that are essential to its completion and/or sustainability. Up to 12 letters may be submitted, but they should not be used to circumvent proposal page length requirements.

Incomplete proposals will not be reviewed.

BUDGET AND REPORTING

Budget requests must comply with applicable university policies.

Funds may not be used for faculty overload or stipends, which may be considered by the PI's academic unit or college to strengthen institutional commitment to the proposed effort. Facilities and administrative (F&A) costs, sometimes known as indirect costs, also are not allowed.

All other requested direct costs are likely to be permitted provided they are well-justified. This includes, but is **not** limited to, support for partnership development, faculty summer salary or course buyout, costs for faculty hiring (e.g., cluster hiring or recruiting research track faculty), instrument acquisition or development, and laboratory renovation or construction. Projects that include faculty hiring plans may request salary support for up to five years to cover costs associated with the research apportionment of proposed hire(s).

Subrecipients, or external collaborators who have responsibility for programmatic decision-making, are strongly discouraged. However, external contractors providing goods or services independent of programmatic decision-making, may invoice UNL for project-related costs. Click [here](#) to access federal definitions of subrecipients and contractors.

Annual progress and final project reports will be required. Funding beyond Year 1 is not guaranteed and will be contingent on adequate project progress (i.e., demonstrated progress toward a project's stated goal).

PROPOSAL SUBMISSION AND DEADLINES

Grand Challenges Catalyst Competition proposals must be submitted via the internal competitions module within NuRamp (<https://nuramp.nebraska.edu>).

Proposals will be accepted following submission of notice of intent to submit (see above). Proposals must be submitted by **5:00 p.m. Central** on the following dates: **April 28, 2023; April 26, 2024; and April 25, 2025.**³

Late proposals will not be reviewed.

PROPOSAL REVIEW PROCESS AND CRITERIA

ORED will solicit internal reviews of planning grant proposals and secure external reviews of catalyst award proposals to aid in the decision-making process.

³ Only catalyst award proposals will be accepted in 2025.

The Chancellor and Vice Chancellor for Research and Economic Development will make final funding decisions. Award notifications are expected to be made no later than the end of August.

Planning grant proposals will be reviewed based on the following scoring rubric (100 points possible):

Proposal Review Criteria – Planning Grant Proposals	Maximum Value
Potential for interdisciplinary collaboration involving multiple segments of the university (e.g., faculty, staff, and students) that will result in the development and submission of a catalyst award proposal	35 points
Quality and feasibility of the proposed plan of work	25 points
Qualifications of the project team	10 points
Quality of the plan for diversity, equity, and inclusion	10 points
Intentional, integrated plans for achieving interdisciplinary convergence	10 points
Alignment with UNL’s strategic priorities articulated in the Report of the N 150 Commission and the N2025 Strategic Plan as well as goals of participating colleges, schools/departments, and centers	5 points
Realism of the budget and quality of its justification, including the potential for sustainability through institutionalization and/or strategic pursuit of external funding	5 points

Catalyst award proposals will be reviewed based on the following scoring rubric (100 points possible):

Proposal Review Criteria – Catalyst Award Proposals	Maximum Value
Significance of the proposed project and its potential to provide measurable evidence of impact in research, scholarship, and creative activity as well as education and engagement at UNL	25 points
Quality and feasibility of the proposed plan of work	10 points
Potential for interdisciplinary collaboration involving multiple segments of the university (e.g., faculty, staff, and students)	10 points
Qualifications of the project team	10 points
Quality of the plan for diversity, equity, and inclusion	10 points
Intentional, integrated plans for achieving interdisciplinary convergence	10 points
Quality of the project evaluation plan	10 points
Alignment with UNL’s strategic priorities articulated in the Report of the N 150 Commission and the N2025 Strategic Plan as well as goals of participating colleges, schools/departments, and centers	5 points
Rationale for Grand Challenges Catalyst Competition support, including a clear indication of how the project falls outside the mission or scope of established external funding programs	5 points
Realism of the budget and quality of its justification, including the potential for sustainability through institutionalization and/or strategic pursuit of external funding	5 points

ADDITIONAL INFORMATION

For additional information about the Grand Challenges Catalyst Competition, contact:

- Rick Bevins, interim associate vice chancellor for research, at rbevins1@unl.edu or 402-472-2851
- Nathan Meier, assistant vice chancellor for research, at nlm@unl.edu or 402-472-3902

