

REQUEST FOR PROPOSALS

DePaul – RFUMS Grant Program: AI in Biomedical Discovery & Healthcare

As part of the new alliance between DePaul University and Rosalind Franklin University of Medicine and Science (RFUMS), we are pleased to announce the initiation of a new inter-institutional collaborative research grant program focused on Artificial Intelligence (AI) in Biomedical Discovery and Healthcare. The primary goal of this program is to facilitate development of *new* inter-institutional collaborative research projects between DePaul and RFUMS investigators that recognize the applications, opportunities, and transformational potential of AI in healthcare. Such projects are expected to: i) result in high-impact peer-reviewed publications; ii) “seed” larger, long-term extramural funding of new collaborative research between the two institutions, and iii) stimulate technology transfer and commercialization arising from such collaborative research. Funds procured to support this effort will be awarded on a competitive, peer-reviewed basis.

If you are uncertain as to whether your research project is appropriate for this grant mechanism, please contact either Dr. Daniela Raicu (AVPR, DePaul University) or Dr. Ronald Kaplan (EVPR, RFUMS) before preparing an application.

IMPORTANT CONSIDERATIONS

- Each proposed project must have Multiple Principal Investigators (multi-PIs) – *at least* one from DePaul University and one from RFUMS.
- Funds available through this program cannot be used to supplant funds or resources that are available from other sources.
- Project multi-PIs are expected to complete a six-month progress report and a year-end final report.
- Project multi-PIs should be certain the activities proposed are realistic for the project period; pre-spending and no-cost extensions are not available under this initiative *for any reason*, and unspent grant funds will be forfeited at the close of the project.
- Evidence of appropriate federally-mandated Review Committee (IRB/ IACUC/ IBC, etc.) approval to the proposed research project is required of finalists in advance of Award Notification. **Multi-PIs are accordingly strongly encouraged to submit IRB/IACUC/IBC applications, as relevant, at the time of proposal submission to minimize delays in initiating funded projects.** Failure of finalists to produce evidence of appropriate federally-mandated Review Committee (IRB/IACUC/IBC, etc.) approval or exemption as applicable to the proposed research project a minimum of two weeks in advance of anticipated awards potentially could reduce the project period of the award and may jeopardize funding status. No-cost extensions will not be considered for project delays related to securing protections approvals.

TOTAL AWARDS

- Up to \$200K per year will be available under this Solicitation to support new applications.
- Project funding of up to \$67,000 in direct costs per proposal is available to accommodate new studies of up to 12 months
- A January 15, 2024 start date is anticipated for funded proposals; awards will extend through January 14th, 2025.

TENTATIVE KEY DATES

September 29, 2023 (5pm CST)

Deadline for receipt of Required Letters of Intent

October 27, 2023 (5 pm CST)

Deadline for receipt of full proposals.

December 4, 2023

Grant Finalists Announced

January 5, 2024

Notice of Grant Awards and IRB, IACUC/IBC Approval Due, if relevant

January 15, 2024

Funded Projects Start

January 14th, 2025

All Funded Projects Close.

HOW TO APPLY

There are two stages in this competitive proposal process.

Stage 1: Required Letters of Intent

Stage 2: Full Proposals

LETTER OF INTENT AND FULL PROPOSAL FORMATTING REQUIREMENTS

Font/Paper Size/ Margins:

- Prepare the application using Arial, Helvetica, Palatino Linotype, or Georgia typeface in black font color.
- After text attachments are converted to PDF, font size in each final PDF document must be at least 11 points (or larger).
- Final PDF documents should be formatted to be no larger than *standard paper size (8 ½" x 11)*.
- The final PDF document should have at least one-half inch margins (top, bottom, left, and right) for all pages. No information should appear in the margins, including the PI's name and page numbers.

Figures, Graphs, Diagrams, Charts, Tables, Figure Legends:

- You may use a smaller type size for Figures, Graphs, Diagrams, Charts, Tables, Figure Legends but it must be in a black font color, readily legible.
- Color can be used in figures; however, all text must be in a black font color, clear and legible.

APPLICATION REQUIREMENTS FOR LETTERS OF INTENT (Stage 1)

Applicants are required to submit an appropriately formatted, one-page letter of intent that includes the following Information, in the specified order:

- Proposal Title
- DePaul PIs: Names, Titles, and Academic Departments and institutional email addresses of the DePaul University multi-PI(s) on the Project
- RFUMS PIs: Names, Titles, and Academic Departments and Research Centers (when applicable) and institutional email addresses of the RFUMS multi-PI(s) on the Project
- Project Synopsis: Please provide a brief description of the proposed project.

Letters of Intent for this solicitation must be submitted by email; the one-page LOI should be a PDF attachment to the email. The email should be submitted by *one* of the DePaul or RFUMS multi-PIs of the Project Teams choosing and cc the other multi-PIs. The email should be addressed to both the Office of the Associate Provost for Research, DePaul (dstan@depaul.edu) and the Office of the Executive Vice President for Research, RFUMS (ronald.kaplan@rosalindfranklin.edu) and include the following subject line: "DPU-RFUMS Pilot LOI". Letters of intent

must be received no later than September 29, 2023 at 5pm CST. Late or nonconforming submissions will not be considered. *LOIs are for planning purposes only and responses to them will not be provided.*

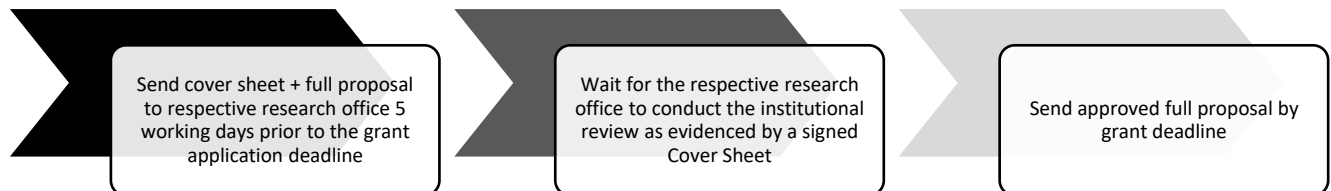
DETAILS REGARDING APPLICATION REQUIREMENTS FOR FULL PROPOSALS (Stage 2; NIH R21 FORMAT)

Proposal submissions are required to follow NIH R21 format (<https://grants.nih.gov/grants/funding/r21.htm>). Full proposals are to be emailed by *one* multi-PI of the Project Team's choosing (as a single PDF of the complete application) to the Office of the Associate Provost for Research, DePaul (dstan@depaul.edu) and the Office of the Executive Vice President for Research, RFUMS (ronald.kaplan@rosalindfranklin.edu) no later than 5pm CST, October 27, 2023. The submission email must include the subject line: "DPU-RFUMS Pilot Proposal" and cc the non-submitting DePaul-RFUMS multi-PIs on the proposal team. Late or incomplete proposals will not be accepted.

A complete Proposal application consists of:

1. **Proposal Cover Sheet:** Complete the Cover Page tab in the Cover and Budget excel file; one Cover Sheet is required per Proposal.

Note, Institutional Review and approval of full proposals is required in advance of submission. ORS (DePaul) and OSR (RFUMS) will attest to institutional review by signing the Cover Sheet for PIs in advance of proposal submission.



Complete Proposals should be provided to the respective institutional research offices for institutional review and signature five working days in advance of the proposal deadline. Once approved, signed cover pages will be returned to PIs for inter-institutional coordination (i.e., routing/review/sign-off by the other Research Office). The proposal cover sheet includes a 100-word proposal synopsis.

2. **Specific Aims (One Page Limit):**
 - State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will exert on the research field(s) involved.
 - Following the above referenced Statement of Goals, succinctly list the specific objectives of the research proposed, e.g., to test a stated hypothesis, create a novel design, solve a specific problem, challenge an existing paradigm or clinical practice, address a critical barrier to progress in the field, or develop new technology.
3. **Research Strategy (Six Page Limit):** The Research Strategy section of the submission should be ordered using the specific section headings and include the content detailed below. Start each section with the appropriate section heading – Significance, Innovation, and Approach. If an application has multiple Specific Aims, the applicants may address the Significance/Innovation/Approach/Experience Sections for each Specific Aim individually or for all Specific Aims collectively.

Significance

- Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.
- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.

- Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

Innovation

- Explain how the application challenges and seeks to shift current research or clinical practice paradigms.
- Describe any novel theoretical concepts, approaches or methodologies, instrumentation or interventions to be developed or used, and any advantage over existing methodologies, instrumentation, or interventions.
- Explain any refinements, improvements, or new applications of theoretical concepts, approaches or methodologies, instrumentation, or interventions.

Approach

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project. Include how the data will be collected, analyzed, and interpreted as well as any resource sharing plans as appropriate.
- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.
- If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high-risk aspects of the proposed work.
- Point out any procedures, situations, or materials that may be hazardous to personnel and precautions to be exercised. A full description on the use of any Biohazardous agents should appear in Item 5, below.

4. **References Cited** (No Page Limit): Provide the full reference for publications cited in the Research Strategy.
5. **Protection Issues:** (No Page Limit): The Protection issues section of the submission is *required for all submissions*. This Section should be ordered using the specific section headings (Human Subjects, Vertebrate Animals, and Biohazardous Agents) and content detailed below. If the application does not include issues relevant to one or all of the specified Sections, include the appropriate Section Heading in the submission, followed by the text "Not Applicable". Failure to appropriately address Protections issues in the submission may delay and or jeopardize funding consideration. The Protections Section of the Proposal should not be used to circumvent the page limits of the Research Strategy.

Human Subjects

For research that involves human subjects but does not involve one of the eight categories of research that are exempt under 45 CFR Part 46, please address the justification for involvement of human subjects and the proposed protections from research risk relating to their participation according to the following five review criteria: 1) risk to subjects, 2) adequacy of protection against risks, 3) potential benefits to the subjects and others, 4) importance of the knowledge to be gained, and 5) data and safety monitoring for clinical trials.

For research that involves human subjects and meets the criteria for one or more of the eight categories of research that are exempt under 45 CFR Part 46, please address: 1) the justification for the exemption, 2) human subjects involvement and characteristics, and 3) sources of materials. For additional information, consult the relevant institutional IRB policies at DePaul and RFUMS.

Vertebrate Animals

If Vertebrate Animals are involved in the project, address each of the five points below. This section should be a concise, complete description of the animals and proposed procedures, including which multi-PI and Institutions will be responsible for direct animal contact or procedures. While additional details may be included in the Research Strategy, the responses to the five required points below must be cohesive and include sufficient detail to allow evaluation by peer reviewers.

The five points are as follows:

1. Provide a detailed description of the proposed use of the animals in the work outlined in the Research Strategy section. Identify the species, strains, ages, sex, and numbers of animals to be used in the proposed work. Identify which multi-PI or Institution will be responsible for purchasing, housing, and conducting animal-related activities.
2. Justify the use of animals, the choice of species, and the numbers to be used. If animals are in short supply, costly, or to be used in large numbers, provide an additional rationale for their selection and numbers.
3. Provide information on the veterinary care of the animals involved.
4. Describe the procedures for ensuring that discomfort, distress, pain, and injury will be limited to that which is unavoidable in the conduct of scientifically sound research. Describe the use of analgesic, anesthetic, and tranquilizing drugs and/or comfortable restraining devices, where appropriate, to minimize discomfort, distress, pain, and injury.
5. Describe any method of euthanasia to be used and the reasons for its selection. State whether this method is consistent with the recommendations of the American Veterinary Medical Association (AVMA) Guidelines on Euthanasia. If not, include a scientific justification for not following the recommendations.

Biohazardous Agents

Use this section to identify the type of biohazardous agent(s) that will be utilized in the research project, how it will be utilized, the risks to personnel and the environment related to the agent(s), the containment procedures required for the agent(s), special containment equipment (i.e., Biosafety hoods, etc.) available at the site where work with the agent(s) will occur, and any special registrations or permits that may be required to work and/or ship or receive the agent(s). This information will help to determine the feasibility of conducting the activity with these agents and whether the proper facilities are available to appropriately contain the biohazardous agent(s).

6. **Biographical Sketch for multi-PIs:** A biographical sketch is required for each PI on the project using NIH or NSF format.
7. **Budget:** A separate Project Budget is required *for each institution* detailing the respective costs of both DePaul University and RFUMs associated with the proposed project. Project PIs must ensure the two project budgets collectively do not exceed \$67,000 in direct costs and conform to the additional criteria detailed below. Complete the Cover and Budget excel file.

Project Period:

The anticipated project period for this year's awards is 1/15/24 to 1/14/25. Project PIs should be certain the activities proposed are realistic for Project Period; no-cost extensions are **not** available under this initiative, and unspent grant funds will be forfeited at the close of the project.

Multi-PI Effort:

Multi-PI AY or Calendar year effort, as appropriate based on institutional appointment, is required for institutional tracking purposes and should be detailed in the Effort Section of the Proposal Budget. DePaul and RFUMS faculty academic or calendar year salary or fringe benefits charges may not be recovered on this proposal.

USE OF GRANT FUNDS

Grant funds may be used for direct costs associated with the conduct of the proposed program during the project period specified in the award.

Allowable Costs:

- Staff (not Faculty) salaries

- Graduate/Undergraduate Student Research Assistant Salary Costs not to exceed 20 hrs/wk/per student, subject to the no-tuition limitation below
- Institutional Fringe Benefit costs on staff/student salaries as applicable
- Materials, Supplies, and Equipment in excess of \$2,000/item will require strong justification and written approvals from the AVPR (DePaul) and the EVPR (RFUMS). Noteworthy, electronics supplies such as iPads, desktop, or laptop computers costing \leq \$2000 or less will be considered to the extent adequately justified in the Budget Justification. Electronic supplies items such as iPads, desktop, or laptop computers remain institutional property (not PI property) at project close
- Modest Participant Incentives for Research Subjects consistent with institutional costing practices
- Printing and Photocopying Expenses Related to the Conduct of the Project
- Project-Related Travel will be allowed to present project findings at external meetings (\$2,000 maximum per grant for all PIs).
- External Consultants and Vendor Services: External consultants *not* associated with RFUMS or DePaul University as faculty/staff/instructors or adjuncts, and modest vendor services, are allowed on the project to the extent necessary to accomplish project activities, and to the extent such costs are fully documented and justified in the Budget Justification. Keep in mind however, the purpose of this program is to support DePaul/RFUMS collaborations and excessive consultation/vendor costs may be viewed negatively by the proposal reviewers.

Unallowable Costs:

- DePaul or RFUMS faculty academic or calendar year salary or fringe benefits charges.
 - Graduate or Undergraduate Tuition expenses.
 - Food, Beverage, or Refreshment costs of any kind
 - Indirect costs
8. **Budget Justification (One Page Limit per Institution):** Prepare a Budget justification detailing the rationale for the budgeted cost for each institution. All budget requests, including personnel, must be clearly justified.
 9. **Additional Information (One Page Limit):** Address the following three questions with regard to the proposed application on a single page:
 - What is your precise plan to obtain extramural funding? Include the time-line, benchmarks to be attained, and the current or recent external funding opportunities/program announcements (e.g., RFAs or PAs) the multi-PIs are aware of that focus on this area of research.
 - What are the specific roles of each multi-PI in the proposed project?
 - How does this proposed project compare with each multi-PIs current and previous research efforts?
 10. **Resource Sharing Plan (One Paragraph Limit):** Briefly describe how the research data will be disseminated to communities of interest. Describe how new technologies developed through the use of these funds will be shared with the scientific community.
 11. **Facilities and Other Resources (No limit):** Describe facilities, equipment, and other resources already available to the multi-PIs that will be utilized for this research proposal.
 12. **Multiple PD/PI Leadership Plan (One Page Limit):** Detail how the multi-PIs will work together to lead the proposed study. Include details regarding meeting frequency, authorship responsibilities, progress reports, and a conflict resolution plan.
 13. **Authentication of Key Biological Resources (One Page Limit):** Highlight any new biological resources that have been or will be developed as part of the study. Describe how such resources will be authenticated.

APPLICATION REVIEW

Applications will be reviewed for scientific and technical merit by a Grant Review Committee (GRC) consisting of an equal number of DePaul and RFUMS faculty members. External reviews may be solicited if thought necessary by the Co-Chairs of the GRC. The GRC will review and score the grant applications using the AI Grant Review Criteria. The GRC will assign a merit score to each submitted grant proposal, rank order the proposals, and report its findings to the Associate Provost for Research at DePaul and the Executive Vice President of Research at Rosalind Franklin University for review. Following receipt of the scores from the GRC, the Associate Provost for Research at DePaul and the Executive Vice President of Research at Rosalind Franklin University will determine which projects will be funded and at what level, based on GRC scores and programmatic aims.

AI Grant Review

Applications will be reviewed using the AI Grant Review Criteria and Overall Score guidelines.