Third Round of DATA Research Funding Spring 2025 Call for Proposals

The [Center for Data-Driven Drug Development and Treatment Assessment (DATA)](), an NSF-funded [Industry-University Cooperative Research Center (NSF IUCRC)](), in partnership with DATA's industry members, is pleased to announce its 2025-26 round of research funding awards, to be distributed in Spring 2025. We are inviting proposals for projects that will apply novel computational methods, data science solutions, artificial intelligence (AI) and machine learning (ML) techniques to solve problems of interest to our industry partners within the focus research areas of the Center, including drug design, drug repositioning, drug treatment assessment, patient phenotyping, and quantitative pharmacovigilance.

Submission information

- **Submission deadline**: **Monday February 10, 2025, 11:59 pm EST**.
- **Method of submission**: Please upload all documents, as described under guidelines below, as a single PDF file using this [Google form]().
- **Eligible applicants**: **University of Michigan researchers** eligible to serve as a [U-M Principal Investigator (PI) on sponsored projects]() (e.g., tenured-track or research faculty) are eligible to apply as the project lead PI or lead co-PI, i.e., the individual(s) responsible for the scientific or technical direction of the project. If a project has several lead co-PIs, the first PI listed on the proposal will hold primary responsibility for the project.
- **Research topics of interest** include but are not limited to:
  - Computer vision multi-modal learning to interpret clinical trial data and patient trajectories
  - Quantitative methods to assess the reliability, quality, and fairness of Gen AI methods used in drug design and clinical trials
  - Effective methods of combining physics and AI/ML techniques, particularly to fill in gaps in data for AI
  - Development of AI-enhanced digital twins that can be used as a testbed for drug design and assessment
  - Design of AI-enhanced assessment of the health effects of non-adherence to prescribed treatment regimens
  - Development of Gen AI and agent-based systems to model interactions among molecules/proteins with other factors such as water, mutations, metals, and lipids
  - Development of algorithmic methods to enhance health data security and availability
  - Quantitative approaches to assess performance changes in AI tools in post-market stage and to address factors such as data shift
  - Design of new approaches to integrate AI/ML into clinical trials for precision medicine, particularly for oncology
  - Design of new AI methods to construct patient trajectories for disease classification or target identification
  - Development of AI methods that utilize signal and image processing for post-market assessment of drugs

- o   Design of new AI methods to help improve the efficacy of adaptive clinical trials
- An **information session** will be held on **December 12, 2024, 12 noon -1 pm EST**, via Zoom. Please follow this link to join: [DATA Spring 2025 Funding Round Information Session](#) (meeting ID: 952 2626 4577, passcode: 867583). The session will be recorded and made available for viewing on DATA's website.

Content guidelines

Proposals should include:

1. **Project description** briefly discussing:
   - **Problem statement**: Description of the problem(s) within the Center's focus research areas that the project will aim to solve. Please also address the importance of solving the problem(s) to the pharmaceutical and healthcare industries.
   - **Methods**: Description of the data science, AI, and ML methods and techniques that will be used to investigate the problem(s).
   - **Innovation**: Discussion of how the proposed methodologies contribute to innovation in the field of drug discovery and/or treatment assessment.
   - **Milestones & deliverables**: Description of project milestones and proposed deliverables through the anticipated length of the project.
   - **Industry partners**: A list of industry sectors within the Center's focus areas that are expected to participate in and/or benefit from the project. DATA's industry focus includes pharmaceutical, biotech, healthcare, computing & technology (big tech, startups), AI/ML, and data standardization sectors. Proposals involving multiple industry fields and/or partners are strongly encouraged.
     DATA-funded projects should be designed to foster active research collaboration between University researchers and the Center's industry partners. While not required, applicants who have discussed their project ideas with a DATA member or affiliate should specifically identify their expected collaborators. For an up-to-date list of DATA industry partners, contact data-iucrc@umich.edu.
     Please **do not include any proprietary or confidential information** and limit your project description to **two (2) pages** in length.

2. **References:** Please limit your references to **two (2) pages**.

3. **Budget**
   While a detailed budget is not required at the time of submission, proposals should include the estimated funding needs by expense category.
   - **Eligible expenses** include support for research personnel (e.g., students, trainees, post-docs, non-tenured faculty), lab resources (e.g., high performance computing and storage, consumables).
   - Tenured faculty effort or funding for travel **may not be included** in the budget.
   - Awards are limited to **$40,000**/project/year, including a **10% indirect cost rate**.

4. **Biosketch** of the lead PI and each lead co-PI (if any), no more than **two (2) pages** in length.

Limit on number of proposals
Multiple submissions by the same applicant will be accepted, with a cap of **two (2)** proposals for which an applicant may serve as a PI or a co-PI.

Selection process & review criteria

A two-tiered evaluation process will be used to select funded projects:

1. Proposals satisfying the content and submission guidelines will be evaluated by members of the Center's Industry Advisory Board (IAB) using criteria including (i) significance & relevance of the problem(s) to DATA's mission, (ii) novelty of the suggested methodological approach, (iii) project team & resources, (iv) a member's preference for funding the project & interest in active collaboration, (v) the extent to which the project will involve or benefit multiple industries and/or multiple DATA industry partners.
Results of the first round of selection will be communicated in March 2025.

2. Applicants with top-rated proposals will be invited to give a brief, 10-minute presentation at DATA's Spring 2025 IAB meeting, which will be held on April 10-11, 2025, in Ann Arbor, MI (U-M North Campus Research Center). The IAB will make its funding decisions at this meeting or shortly afterwards. **Please be available for in-person participation on Thursday April 10, to deliver the project presentation, and in the morning of Friday April 11, for a discussion & review session with the IAB**.

Award information

- Please review the full DATA award terms and the supplemental RFP FAQs.
- Proposed projects may be designed for multiple years; however, award decisions are made on a year-by-year basis.
- Proposed projects may not duplicate projects funded by other awards received by the researchers.
- **Intellectual Property**: DATA is a pre-competitive consortium of academia and industry. In accordance with NSF rules, DATA's industry members receive a non-exclusive royalty-free license to intellectual property derived from inventions conceived or first actually reduced to practice within the Center. If you wish to receive more details on the nature of this license, please contact U-M Innovation Partnerships at alliances-team@umich.edu. If intellectual property created prior to, or outside the scope of, a Center project is required for a research project selected for funding, U-M Innovation Partnerships will negotiate appropriate agreements as necessary.

Questions?

Please contact DATA staff at data-iucrc@umich.edu.

About DATA

Established in 2022, the Center for Data-Driven Drug Development and Treatment Assessment (DATA) is part of the Industry-University Cooperative Research Centers (IUCRC) Program of the National Science Foundation hosted at the University of Michigan. DATA advances U.S. competitiveness by working with industry to solve current, emerging, and industry-relevant challenges in drug design, drug repositioning and repurposing, treatment monitoring, assessment and optimization, patient phenotyping, and quantitative pharmacovigilance using novel computational and data science techniques such as metrology, machine learning (ML), and/or artificial intelligence (AI), including generative AI, and by training the next generation of talent in this field. DATA seeks to produce new methodologies and infrastructure for industry-wide collaborative drug discovery and treatment assessment, with the goal of significantly accelerating the pace of drug development to help target the right drug to the right person at the right safe and effective dose while reducing R&D costs.

The advent of generative AI has created an urgent need for stakeholders in all stages of the drug life cycle to come together, share experiences with this revolutionary technology, and jointly address its implications for health care. Thanks to its cross-industrial and cross-disciplinary nature designed to bring together data scientists, mathematicians, biomedical researchers, pharmaceutical companies, healthcare providers and payers, and government agencies, DATA is ideally positioned to catalyze these conversations, identify best practices, and develop solutions to the challenges generative AI brings to the health care sector.