

Request for Applications
PIDD-PIIN Alzheimer's disease and other dementias RFA
Announcement Date: Friday, October 30th, 2020
Proposal Deadline: Friday, December 4th, 2020

Introduction and Background

To increase the prominence of research and drug discovery/development activities within Alzheimer's disease (AD) and other dementias at Purdue University, the Institutes for Drug Discovery (PIDD) and Integrative Neuroscience (PIIN) are allocating funds to support research projects and/or the establishment of collaborative teams.

While there have been advances in our understanding of dementias over the past two decades, there are currently no disease-modifying therapies for these disorders. Several key limitations that have hampered the development of such therapies include: (i) a poor understanding of the disease etiology; (ii) an over-reliance on animal models of uncertain translational value during preclinical studies; (iii) a lack of biomarkers to enable early diagnosis, identification of disease subtypes, or validation of drug target engagement/modulation in humans; and (iv) lack of identified druggable targets. The Purdue Institute for Integrative Neuroscience (PIIN) and Purdue Institute for Drug Discovery (PIDD) invite applications to address these limitations.

Examples of research directions responsive to this RFA include (but are not limited to):

Preclinical models

- Development of new preclinical models across the drug discovery pipeline (e.g. computational tools, invertebrates, iPSC-derived cell cultures, organoids/3D cultures, animal models, etc.)
- Characterization of preclinical models using innovative engineering technologies
- Pharmacokinetic analyses of drug candidates in rodents or large animals
- Use of multiple preclinical models to test drug candidates

Biomarkers

- Identification of new disease biomarkers (e.g. protein biomarkers, transcriptomic or epigenomic profiles, imaging signatures)
- Development of new biomarker assays (e.g. immunoassays, assays supported by 'omic' or imaging technologies)
- Identification and development of blood or CNS biomarkers to monitor drug-target engagement

Identification and/or validation of novel therapeutic targets

- Identification of potential targets through approaches such as bioinformatics, genetic association, systems biology, etc.
- Chemical biology approaches to validate potential targets
- Hit/lead discovery and preclinical testing

Ultimately, a successful project or team should raise the prominence of Purdue and its drug discovery efforts in neuroscience, impact patient care by enabling the successful translation of laboratory discoveries into the clinic, and/or provide a benefit to affiliated researchers. Funds allocated through this program should lead to the attainment of external funding (e.g. R01s, multi-PI grants, center grants, etc.).

Applicants are encouraged to consult with the PIIN/PIDD leadership teams. Questions or requests for consultations can be directed to Karson Putt (puttk@purdue.edu).

General Guidelines:

1. **Qualification** – Lead PI must currently be or become a member of the Institute for Drug Discovery or the Institute for Integrative Neuroscience. Co-PIs or other key personnel are not required to be members, but membership is strongly encouraged.
2. **Proposal Length** – Proposals should be single-spaced and a maximum of 2 pages in length (Calibri or similar font at 11pt) with no less than 0.5 inch page margins. References are not part of the page limit.
3. **Timeline** – Funding will be available during the spring semester 2021 and must be fully spent before June 30th, 2021.
4. **File format** – Only .doc, .docx, or .pdf files will be accepted. Any figures should be embedded in the document and must fit within the maximum page limit.
5. **Progress Report and Future Reporting** – Any funding and/or publications that are generated from this activity must be reported to the Institutes (Karson Putt, puttk@purdue.edu).
6. **Deadline** – Applications must be received by Karson Putt (puttk@purdue.edu) by 5:00 pm on Friday, December 4th, 2020. Applicants **do not** need to work with pre-award/SPS to submit an application for this internal RFA.

Award:

Up to \$25,000 will be made available to the project. Project should not exceed 6 months in total. Budgets should adequately reflect the needs of the project and must be spent before the end of the fiscal year (June 30th, 2021).

Funds can be used for S&E, core facilities, and/or to support graduate student(s), post-doctoral fellow(s), and/or technical staff. Travel, if deemed critical for the successful implementation of the program by the reviewers, is allowable in the budget.

Funds cannot be used for faculty salaries, hospitality expenses, F&A, or capital equipment.

Opportunities to use tools or work with team members of the NIH-funded IUSM/Purdue TREAT-AD Center for the discovery of Alzheimer's therapeutics may be made available depending on the specific project.

Application Format:

The following information must be included within the maximum 2 page limit

1. Overview of proposed project
2. Specific aim(s)
 - Including milestones, quantitative project deliverables and/or metrics for success
3. Significance
 - How will the research address unmet therapeutic needs in AD/dementia?
 - How will the project help translate lab discoveries into positive clinical outcomes for patients, or otherwise impact human health?
4. Approach
 - How will project deliverables be met?
 - How will resources be leveraged?
5. Extramural funding strategy
 - Provide an outline of steps that will be taken to procure external funding after PIIN/PIDD support ends. This section should clearly describe how completion of milestones would aid in strengthening a planned or pending submission. Potential categories of extramural funding (e.g. philanthropic, government, corporate partnership), as well as specific sponsors or funding mechanisms within each category, should be indicated.
6. Additional resources in addition to funding required from PIIN and/or PIDD to successfully implement the project (if applicable)

Additional information that must be included (not included in the page limit requirements)

1. References
2. List of key personnel/Co-PIs (in the case of pre-existing collaborations, personnel such as graduate students, post-docs or staff that are already collaborating may be listed as well)
3. Budget justification
4. NIH Biosketches for all involved PIs and key personnel

Review Criteria:

1. Potential for the proposed project to raise the prominence of Purdue and the Institutes for Integrative Neuroscience and Drug Discovery
2. Scientific merit
3. Potential for subsequent external follow-on funding (Center grants, multi-PI grants, R01s, etc.)
4. Appropriateness of budget requested
5. Feasibility of completing the proposed milestones within the proposed timeframe

6. Potential impact on patient care via feasibility of translating academic discoveries into the clinic or technology/methodology to enhance translational activities.
7. Synergy of collaborating faculty/co-personnel

Publications resulting from PIDD and PIIN support should be acknowledged as follows:

“The authors gratefully acknowledge support from the Purdue University Institute for Drug Discovery and Institute for Integrative Neuroscience”