

Polycystic Kidney Disease (PKD) and Cancer

The [Kansas PKD Center](#) has partnered with the [KU Cancer Center](#) to offer pilot & feasibility grants to investigate the genetics, biochemistry, or cell biology related to polycystic kidney disease (PKD), recognizing that the neoplastic growth of cysts in PKD has many features in common with cancer. The goals of the funding opportunity are to 1) increase interdisciplinary research 2) promote collaborations between researchers in the KU Cancer Center and Kansas PKD Center, 3) improve our understanding in the relationship between PKD and cancer, and 4) to identify new potential PKD therapies.

Proposals should reflect innovative research in topics that are related to both cancer and PKD pathogenesis and will be highly competitive for future extramural funding at the national level. We will award one grant in the amount of **\$50,000 direct costs** for a twelve-month period with an opportunity for a second year of funding contingent on progress. No indirect costs will be awarded. **Application deadline: October 30, 2023 by 5pm CST.**

ELIGIBILITY

All faculty at KUMC, and members of the KU Cancer Center and Kidney Institute at KU-Lawrence, Stowers, and Children's Mercy are eligible to apply. Applicants must demonstrate how the project will formulate a collaboration between investigators in the Kansas PKD Center and the KU Cancer Center. Applicants are encouraged, but not obligated, to make use of the resources and expertise of the NIH-funded U54 PKD Research and Translational Core Center (RTCC) cores.

POLYCYSTIC KIDNEY DISEASE (PKD)

Autosomal dominant polycystic kidney disease (PKD) is a genetic disorder that affects approximately 1 in 1000 individuals, making it one of the most common inherited genetic diseases. Most cases of PKD are caused by mutations in *PKD1* (78% of cases) or *PKD2* (~15%), which encode polycystin-1 and polycystin-2, respectively. PKD is characterized by the formation of numerous benign fluid-filled cysts that progressively enlarge leading to inflammation, fibrosis, kidney enlargement and decline in kidney function. Many pathways identified in cyst growth are involved in tumor growth in cancer.

KANSAS PKD RESEARCH AND TRANSLATIONAL CORE CENTER (PKD-RTCC)

The Kansas PKD Center is supported by a [NIH U54 PKD](#) RTCC, which is part of national PKD Research Resource Consortium (PKD RRC). The goal of the consortium is to accelerate discovery in the field of PKD by generating and sharing innovative resources through biomedical research cores:

- 1. PKD Biomarkers and Biomaterials Core** maintains a biorepository of serum, plasma, urine, urinary exosome, and clinical information for participants of the Early-stage PKD Observational Cohort (EPOC) study. These individuals are 4 to 35 years of age at enrollment and have mild early-stages of PKD. Total kidney volume is monitored by MRI and blood and urine are collected annually. The Core also maintains a repository of serum, plasma and urine from PKD patients with established disease and repository consisting of freshly frozen tissues, paraffin-embedded fixed tissues, cyst fluids, and primary ADPKD and normal kidney cells. Director: Darren Wallace, PhD (dwallace@kumc.edu); Assoc. Director: Madhulika Sharma (msharma3@kumc.edu)
- 2. Rodent Models Core** maintains a live-animal repository of PKD rodent models and a tissue repository and can assist investigators on drug testing and dietary intervention services in PKD rodent models. A goal of the Core is to develop next-generation mouse models to help researchers investigate the genetics and function of the PKD genes and other cystogenic genes. Co-Directors: Pamela Tran, PhD (ptran@kumc.edu) and Stephen Parnell, PhD (sparnell@kumc.edu)
- 3. Clinical Research Core** is responsible for the recruitment of children and young adults with early PKD for the EPOC study. The Core has harmonized data across the clinical sites of the RRC to create a unified, queryable database of PKD clinical data that is linked to the biospecimens. The Core has developed and implemented a patient engagement framework to discuss patient perspectives and priorities in PKD clinical care and research. Director: Alan Yu, MB, BChir (ayu@kumc.edu); Assoc. Director: Reem Mustafa, MD, PhD, MPH (rmustafa@kumc.edu)

More information is available on the PKD Center website at <http://www.kumc.edu/pkd>. Applicants should contact Darren Wallace PhD, PKD-RTCC Director (dwallace@kumc.edu), and the appropriate Core Director(s) to discuss their project prior to submitting an application.

REVIEW AND REGULATIONS

All applications will be reviewed through a peer review process. While not required, a Letter of Intent (LOI) can be forwarded to Administrative Director Lyn Harris (lharris3@kumc.edu) by **Friday, September 29, 2023**. The letter should include the title of the project, intent to use any of the PKD Center Cores, names of PKD Center or Cancer Center collaborator(s), and a basic outline of the research plan. The LOI's help determine the reviewing needs. Please inform Lyn Harris if you choose to NOT submit a full application after the LOI has been submitted.

Evaluation criteria include: Scientific merit; relevance to cancer and PKD research; qualifications, experience and productivity of the applicant; collaboration between KU Cancer Center and PKD Center members; project feasibility given facilities, budget, time, and other resources available; and potential for future NIH grants and/or publications. External and/or internal peer reviewers will evaluate the proposals and make recommendations for funding. The Cancer Center and PKD Center Leadership will make final decisions on award funding.

Grant budgets may include: Small equipment (less than \$5,000) and supplies; core service expenses; personnel for research assistance; PI's salary up to 5% effort; and other expenses necessary for the successful execution of the proposal. Funds may not be used for travel, subscriptions, memberships, or indirect costs. Projects that include animals or human subjects must be reviewed in accordance with the University of Kansas guidelines; approval can be noted as "pending." All projects involving animals must be submitted to the Institutional Animal Care and Use Committee (IACUC). Funds will not be released to the recipient until final approvals have been received. To apply for a second year, a progress report and oral presentation is required. A final progress report must be submitted 3 months after the conclusion of the grant period.

Application Requirements

A complete application includes the following: NIH grant face page, summary, research proposal, bibliography, budget and justification, letters of support, current NIH biosketches for key personnel, other research support, proof of IRB/IACUC submission and/or approval, appendices, and bibliography. NIH forms: <http://grants.nih.gov/grants/funding/phs398/phs398.html>.

Grant Face Page – Grant Face Page and Abstract should be presented in standard NIH format. Grant Face Page should be signed by the PI's department head.

Summary – Describe the primary objective of the proposed research, the key components of the research design, and its significance in general terms (one-half page or less).

Research Proposal and Bibliography – Use the NIH format. The research plan for the application should be no longer than five pages (single spaced, Arial 11-point font, 0.5" margins). These pages should follow the NIH outline:

A. Specific Aims

List the broad, long-term objectives and what the specific research proposed in this application is intended to accomplish (one-half page recommended).

B. Significance

State the importance and relevance of the research project for advancing our understanding and treatment of polycystic kidney disease and/or cancer or its complications.

C. Innovation

Explain how the application challenges current research. Describe any novel concepts, approaches, instrumentation, or intervention(s) to be developed or used.

D. Approach

Describe the research activities to be carried out under the award. State your research design, and explain how it will allow you to address the questions and hypotheses of the project. Explain potential pitfalls you might encounter and how you plan to overcome them. Preliminary studies can be included but are not required. Describe how you will make use of the PKD Center Core(s) in your research. State succinctly how completion of this study will facilitate the submission of a future proposal for extramural funding and identify any potential funding sources.

Budget – The NIH initial budget form should be used to present your two-year budget. The accompanying budget justification should be detailed sufficiently so that reviewers are able to assess if the correct resources have been requested. Funds not to exceed **\$50,000 per year** direct costs may be budgeted for: equipment and supplies; personnel for research assistance, including the PI's salary up to 5% effort; and other purposes necessary for the successful execution of the proposed project. Funds may not be used for travel, subscriptions/memberships or indirect costs.

NIH Biosketches – Applications should include a **NIH biosketch** for the PI, Co-Investigators and any other faculty-level key personnel collaborating on the proposal. Use the current NIH form that includes a link to your complete list of published work in MyBibliography.

IRB and IACUC Approvals – Projects involving human subjects through intervention or clinical studies must be submitted and approved by the KUMC Institutional Review Board (IRB) and the Protocol Review and Monitoring Committee (PRMC) before the final award is made. Final approval is not required to submit an application; approval can be noted as “pending.” All projects involving animals must be submitted to the Institutional Animal Care and Use Committee.

Letters of Support – Include letters of support from collaborators.

Bibliography – The list of citations should not exceed 2 pages.

Other Support– List current and pending grant support.

Progress Report – The Progress Report is for renewal applications only (2-page limit). Applicants requesting a second year of funding are required to describe the progress made on the research project proposed in the original pilot grant. List any new grants funded, submitted grant applications and research manuscripts that were supported by the pilot grant. Describe the primary objective of the application and justify why a second year of funding is necessary. Please include a plan for how the proposed work will be used to obtain extramural funding.

Timetable

RFA posted	August 25, 2023
LOI Due	September 29, 2023
Applications Due	October 30, 2023
Awards Announced	November 6, 2023
Funding Available	December 1, 2023

Questions? Contact Lyn Harris at:
913-588-6075 or lharris3@kumc.edu

Submission

Submit a single PDF file to:

Lyn Harris
Administrative Director
Kansas PKD Center
Email: lharris3@kumc.edu
University of Kansas Medical Center
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MS: 3018, 6020A WHE
Kansas City, KS 66160-3018