Pediatric Centers of Excellence in Nephrology
Call for Pilot & Feasibility Proposals in Pediatric Kidney Disease
Cycle 2: 2024 Start Date

Overview

The Pediatric Centers of Excellence in Nephrology (PCENs) at the University of Virginia (UVA), Children's Hospital of Philadelphia (CHOP), and Washington University in St. Louis (WashU) are issuing a joint RFA for Pilot and Feasibility (P&F) projects. The PCEN program is funded by the National Institute of Diabetes and Digestive and Kidney Diseases, and was established to:

1. Attract new scientific expertise to the study of human pediatric kidney physiology, kidney development, and pediatric kidney disorders;
2. Encourage multidisciplinary research in these areas; and
3. Develop the pediatric nephrology research community—in part through the P&F Program.

The PCENs are seeking applications for one-year pilot and feasibility research projects. The maximum funding is **$50,000 in direct costs for one year,** with one optional no-cost extension (NCE).

Applications are expected to generate preliminary data to support future research applications. Research with science proposed that is not relevant to pediatric kidney disease or health will not be accepted. Proposals that utilize one of the PCENs' Cores are encouraged but not required (see descriptions below).

Eligibility

Early-stage investigators, new investigators, or established investigators not previously involved in pediatric nephrology research are invited to apply. The P&F program and funds are not intended to support or supplement ongoing research of an established investigator.

Key Dates

- **Intent to Apply surveys are due by Friday, October 27, 2023, at 5:00PM ET.**
- Invitations to submit Full Applications will be issued by November 13, 2023, at 5:00PM ET.
- **Full Applications are due by Friday, December 15, 2023, at 5:00PM ET.**
- Awards will be announced in March 2024.

The funding period will be April 1, 2024, to March 31, 2025.

How to Apply

In lieu of letters of intent, the Centers will be requiring the completing of a brief REDCap survey. You will receive a confirmation after the survey has been submitted. All final applications should be submitted electronically to the administrative contact at the applicable Center (listed on page 3) as PDFs. All proposals must receive Institutional Review Board (IRB) or Institutional Animal Care and Use Committee (IACUC) approval (as applicable) before the funding begins.

Application Guidelines

Intent to Apply Survey: Please complete the REDCap survey by following the QR code. The information requested is to confirm that applications will be within scope and to aid in Center planning purposes. Requested information includes:

- Name, department, and contact information for the PI
- Center and core utilization
- Working title of the proposed research
- Brief description of the proposed research

Please note: Applicants who propose for the CHOP PCEN will be notified of the date and time of a webinar to describe and address common questions about their LHS Core.

Full Applications (if invited):

Applications must be submitted as a single PDF file. Submissions must be in Arial, 11-point font with 0.5-inch margins.

- **Research Proposal** (3 pages): The research proposal must be no longer than 3 single-spaced pages. References do not count towards the page limit. The research proposal should include the following information:
  - Essential background information relative to the project.
  - Specific aims, central hypothesis, rationale, research approach, and implications for potential findings.
  - Description of Core resources or services to be used and how they will benefit the project (if applicable).
  - Timeline and milestones for completion of the project.
  - The importance of this funding to the feasibility of your research proposal and future research applications. Indicate if any other funds are available to you for the proposed research.
  - Anticipated findings and how they relate to the theme of the Center.
- **NIH Biosketch**: NIH format biosketches must be submitted for the PI and the Co-PIs.
- **Budget** (Template): Please use the Excel template budget page and provide detailed expenses. This form will be provided to those who are invited to submit the full application.
- **Budget Justification**: Please provide a short justification for all personnel, supplies, and services for the project.

Budget Guidelines

- Budgets of any size up to $50,000 may be submitted.
- *The following are not allowable and cannot be requested:*
  - Indirect costs are not allowable.
  - Salary support for faculty is not allowable. However, salary support for staff is allowable.
  - Equipment expenditures are not allowable. Please keep in mind that equipment is defined as any item costing more than $5,000 with an estimated useful life greater than one year.

- Name, title/role, percent effort, salary, and benefits must be defined in the budget for each grant participant.
- Supplies should be detailed by type and number in the budget and the budget justification.
- Service contracts should be detailed in the budget and budget justification.
- *If you are invited to submit a full proposal, guidance on budget preparation for Core utilization will be provided.*

Information for Funded Projects

Funded projects will be assigned to one of the 3 PCEN Centers for subsequent administration.

IRB or IACUC Approval Letter: Funding will be delayed until these approval documents are received by your assigned PCEN Center. The applicants are encouraged to have a feasible plan to obtain these in a timely manner.

Progress Reports: All progress reports will be submitted to your assigned PCEN Center should serve as a summary of progress of the research to date. Each report should be no more than 2 single-spaced pages and list any abstracts/publications and/or additional awards related to this pilot project.

Any publications or presentations that are the direct result of this funding **MUST** include the applicable funding reference text, to be provided to applicants upon award. *You will be prohibited from applying for future pilot funding if you do not reference the funding support on publications and if you do not submit timely progress reports.*

All grantees are expected to present research results at the annual PCEN P50 scientific symposiums.

Application or Funding Questions

For questions, please contact the administrative lead at the institution to which you are applying:

- **University of Virginia:** Patricio Ray (PER4DP@uvahealth.org) or Ariel Gomez (rg@virginia.edu)
- **Children's Hospital of Philadelphia:** Michelle Denburg (CHOPPCEN@chop.edu)
- **Washington University in St. Louis:** Vikas Dharnidharka (vikasd@wustl.edu) or (pcen@wustl.edu)

Institution Cores and Resources

University of Virginia

The PCEN at UVA supports one biomedical research core to assist investigators interested in applying transcriptome and epigenome technologies and bioinformatics to pediatric kidney research.

Single Cell Epigenomics, Transcriptomics, and Bioinformatics Core: The objective of the core is to provide support and services for transcriptome and epigenome studies, validation, functional/ phenotypic analysis, and data analysis with state-of-the-art bioinformatics approaches. The Single Cell Genomics and Epigenomics component of the core provides 1) high quality scRNA-seq, snATAC-seq, ChIP-seq, Cut&Tag and Cut&Run services, 2) validation of genomic data at the RNA and protein levels, and 3) CRISPR services for gene editing (gene knock-out, epigenetic manipulations). The bioinformatics component provides both 1) computational infrastructure and 2) analytical support for large-scale 'omics experiments. The mission of the core is to generate new biological and therapeutic knowledge from the large-scale data generated by PCEN projects.

For more information about UVA's PCEN and Core visit our website: https://med.virginia.edu/pcen/overview/research-cores/

Children's Hospital of Philadelphia

CHOP PCEN's mission is to increase efficiency and reduce barriers to collaborative clinical trials by serving as a widely available resource to all clinicians, researchers, and investigators helping children with kidney disease.

Learning Health System Core: The LHS Core has partnered with PEDSnet to establish a national interconnected, multi-institutional infrastructure able to reach large numbers of children with kidney disease and to provide the depth of information necessary to comprehensively characterize their clinical course and outcomes and to evaluate therapies.

Molecular Precision Nephrology Core: The objective of the MPN Core is to provide a pediatric kidney cell reference atlas and molecular phenotyping services for PCEN investigators and for the pediatric nephrology community. Molecular phenotyping services include single cell multi-omics experiments and data analysis.

Read more about CHOP's PCEN and Cores at our website: https://www.research.chop.edu/pediatric-center-of-excellence-in-nephrology

Washington University in St. Louis

General information: The PCEN-WU biological cores support innovation in modeling kidney development and disease using iPSC cell lines and multiomic studies using human pediatric kidney specimens. The areas supported by the PCEN-WU include kidney development, experiments using iPSCs, pediatric kidney diseases (CAKUT, glomerular diseases, AKI, CKD), tissue engineering, disease modeling, pediatric tissue-based research, multiomics studies related to single cell and spatially resolved methods to understand kidney biology.

Human iPSC Core
The induced pluripotent stem cells (iPSC) core has set up an infrastructure of inter-institutional regulatory approvals to provide a number of human iPSC cell lines including parent and lineage and cell type specific reporter lines that can be differentiated into various kidney cell types. These cell lines are distributed throughout the world for various aspects of kidney development, disease modelling and tissue engineering. More information and procedure to request these cell lines can be found here. Look through our available cell lines: Browse Reporter Lines | Browse Parental Lines

Pediatric kidney tissue will be preserved in different media for broad application in single cell omics technologies. Planned preservations include FFPE blocks, Fresh frozen OCT-embedded blocks, flash frozen tissue, cryoprotected fixed frozen OCT-embedded tissue blocks and parent and reporter human iPSC lines. The source of pediatric deceased donor kidney tissue is from a network of organ procurement centers coordinated by Gloria Pryhuber, MD at University of Rochester Medical Center and nephrectomy and biopsy cases at Washington University coordinated by Sanjay Jain, MD, PhD. As the repository is being built, we anticipate pediatric kidney tissue to be available upon request and necessary regulatory approvals in 2024 Spring.

Read more about PCEN-WU and Cores at our website: https://sites.wustl.edu/pcen/