ORPHAN DISEASE CENTER
MILLION DOLLAR BIKE RIDE
PILOT GRANT PROGRAM

The ODC MDBR Pilot Grant Program provides a one-year grant to support research related to a rare disease represented in the 2024 Million Dollar Bike Ride. Number of awards and dollar amounts vary per disease based on fundraising totals by each disease team.

Eligibility
This RFA is open globally. International applicants are invited to apply. All individuals holding a faculty-level appointment at an academic institution or a senior scientific position at a non-profit institution or foundation are eligible to respond to this RFA. Prior MDBR award recipients must have current and updated project reporting to be eligible for selection.

Letter of Interest Instructions:
Please visit our website to submit your Letter of Interest (LOI), which can also be found here.
This one-page LOI is due no later than **Friday, September 20, 2024 by 8pm (EST).**

Full Application Instructions and Review Procedure

NOTE: Full Application is by invitation only after review of Pre-Application

Proposal Due Date: **Monday, October 21, 2024 no later than 8pm (EST)**
Full application documents are to be uploaded on our website, by invitation only.

FORMAT for documents:
Font and Page Margins: Use Arial typeface, a black font color, and a font size of 11 points. A symbol font may be used to insert Greek letters or special characters. Use 0.5 inch margins (top, bottom, left, and right) for all pages, including continuation pages. Print must be clear and legible; all text should be single-spaced.

Header: There should be a header at the top right on all pages of the PDF indicating the full name of the PI (e.g., **PI: Smith, John D.**).
For your convenience, a continuation page template is included at the end of the application document.

File names: ALL files to be uploaded should start with the LAST NAME of the PI followed by the brief name of the document. Examples: SMITH CV, SMITH Cover Page, SMITH Budget. **If files are not labeled properly, you will be asked to resubmit the PDFs before your application can be considered.**

CONTENT to be uploaded:

- ☐ **Cover Page/Checklist/Institutional Signature Page [PDF].**
- ☐ **NIH-style Biosketch with Other Support of PI and key personnel** (5 pages max/PI, including Other Support). **[PDF]**
  The PI must include accurate and complete information regarding all other sources of grant support (current and pending), including title, abstract, annual and total amount of grant, inclusive funding period, and percent effort.

☐ **Detailed Budget and Justification. [combined into one PDF]**
Complete Excel budget sheet (to be provided). Describe justifications in a Word document. Award will be for one year. Proposed funding period: February 1, 2025 – January 31, 2026. Total Budget depends on disease RFA:

Disease	Total Funds	# of Awards	Award Total
APBD	$113,714	2	$56,857
A-T	$41,740	1	$41,740
BPAN/NBIA	$75,815	1	$75,815
CACNA1A	$57,450	1	$57,450
CADASIL	$101,776	1	$101,776
Castleman	$58,775	1	$58,775
CDKL5	$61,007	1	$61,007
CHI	$154,330	2	$77,165
CHM	$61,273	1	$61,273
CLA	$62,398	1	$62,398
CMD	$93,222	2	$46,611
Cohen Syndrome	$98,828	1	$98,828
CRB1	$66,991	1	$66,991
CSNK2A1	$60,013	1	$60,013
CTNNB1	$63,312	1	$63,312
DUP15Q	$47,038	1	$47,038
FD/MAS	$120,702	3	$40,234
Glut 1DS	$60,367	1	$60,367
KCNT1	$68,667	1	$68,667
LAM	$73,958	1	$73,958
LNS	$57,332	1	$57,332
MPS	$60,000	1	$60,000
MPS Gene Spotlight	$60,378	1	$60,378
NEHI	$166,308	2	$83,154
Pitt Hopkins	$58,602	1	$58,602
RASopathies	$58,222	1	$58,222
Ring14	$60,840	1	$60,840
SCN2A	$62,492	1	$62,492
SETBP1	$68,544	1	$68,544
SGS	$70,000	1	$70,000
STXBP1	$139,416	2	$69,708
SynGAP	$74,851	1	$74,851
TBC1D24	$62,937	1	$62,937
Telomere	$62,158	1	$62,158
ZC4H2	$54,187	1	$54,187

Institutions may opt to take up to 10% IDCs from their award totals. Awarded amounts will not exceed Award Totals listed above.

Allowable direct costs

- Salary for PI*
- Salary/stipend and related benefits for graduate student/postdoctoral fellow/technical support
- Travel (up to $1,500)
- Laboratory supplies and other research expenses
- IDCs of 10% are included in the total award amount

Unallowable costs

- Consultant costs
- Tuition
- Professional membership dues
- Equipment >$5,000
- General office supplies, institutional administrative charges (e.g., telephone, other electronic communication, IT network, etc.)
- Pre-award charges
- Any other expenses not directly related to the project

* Beginning in May 2020, PI salary on all ODC Pilot awards will be applicable to the National Institutes of Health Executive Level II Salary Cap. The current NIH Salary Cap for the year 2024 is $221,900. For background and guidance, please refer to the following link: https://grants.nih.gov/grants/policy/salcap_summary.htm

☐ **Research Plan** (5 pages max) and **Bibliography** (1 page max). **[combined into one PDF]**
Include the following sections: Specific Aims, Background and Significance, Preliminary Studies/Data, Research Design and Methods. Research plan should address the following questions: 1) Do you require access to reagents, cell lines, animal models, IRB/ethical board approvals, and/or equipment necessary to complete work? If so, please describe your plan to gain access within the timeframe of this grant period. 2) Have you identified qualified personnel to complete this project within the grant period? If not, please provide your plan to do so. Text citations should use a numbered format. Include all author names in the reference list.

All previous MDBR grant awardees must include a statement of outcomes including publications, patents and additional funding granted as a result of data generated from those grants. Specific aims must be different from those in previous applications.

☐ **Appendix [combined into one PDF]**
Limited to 5 pages of supplemental information pertaining to proposal or preliminary data only. In addition to 5 pages of supplemental information, a maximum of 3 relevant reprints are also acceptable. Include IRB and/or IACUC approval letters if relevant.

Project Disclosures and No Cost Extensions (NCE):

- NCEs will be granted at the discretion of the ODC.
- Awardees will be limited to 1 NCE request for their award.
- Maximum NCE time awarded will be 6 months.
- NCEs will be granted after a formal request through this form found on the ODC website prior to the NCE deadline with adequate justification.
- If granted a NCE, you are still required to submit an interim scientific report 6 months into the duration of the original award period, regardless of your new project end date.
- In your letter of interest, you will be required to certify that you have identified qualified personnel to complete this project within the grant period **PRIOR** to the start date of the award. If you have not, you will be required to provide your plan to engage said personnel. Only under extenuating circumstances will personnel issues be considered for NCE requests.
- In your letter of interest, you will also be required to state whether or not you require access to reagents, cell lines, animal models, IRB/ethical board approvals, and/or equipment necessary to complete your work. If so, you will be required to describe your plan to gain access within the timeframe of this grant period.

Research Focus Areas for Pilot Grants:

1) Adult Polyglucosan Body Disease (APBD) is an adult-onset, neurological form of glycogen storage disease type IV. APBD is caused by recessive mutations in the glycogen branching enzyme (GBE1) gene. Deficiency of GBE1 results in the pathogenic accumulation of polyglucosan bodies in the nervous system.

APBD symptoms typically develop in the fourth or fifth decade of life and include bladder dysfunction, gait disturbance, sensory and motor neuropathy, weakness, and fatigue. Cognitive decline is seen in approximately half of the individuals with APBD. Progressive symptoms lead to wheelchair dependence and premature death. APBD is commonly misdiagnosed as multiple sclerosis, amyotrophic lateral sclerosis, and peripheral neuropathies. There are presently no treatments available for APBD.

The APBD Research Foundation is seeking research proposals such as:

- advancing the understanding of mechanisms of the disease, or
- clinical phenotyping that will facilitate future treatment trials, or
- basic science or clinical studies aimed at biomarker development (e.g., neurofilament light chain and glial fibrillary acidic protein assays) for the design of future therapeutic trials, or
- development of novel treatments.

Studies that have a strong likelihood of future federal funding are a plus.

- **Two grants are available at $56,857 each.**
- A project may be considered for up to **$113,714** in funding if the researcher has an outstanding project and submits two proposals. **One for $56,857 and another for $113,714.**

The primary focus for this grant opportunity is the identification of a biomarker(s) that could be used to demonstrate the effectiveness of a therapeutic for APBD. Investigations related to the development of approaches that will prevent polyglucosan body accumulation or will facilitate its removal from the central and peripheral nervous systems will also be considered.

Applicants are encouraged to collaborate with other scientists and clinicians and should include a statement on resource sharing in their proposal. Applicants are encouraged to use existing disease models (i.e., mouse models, cultured skin fibroblasts) and to contact the APBD Research Foundation (info@apbdrf.org) with any questions about these resources. All grant applications will be considered confidential. This grant is made possible by the APBD Research Foundation.

2) Ataxia-Telangiectasia (A-T): Team Derek's Dreams and the A-T Children's Project have provided a **$41,740 grant** to support the testing of gene editing technologies such as base and prime editing, or dual-vector approaches that deliver large genes, to restore ATM protein function in cells from children with ataxia-telangiectasia. The tested methodologies must have a clear path by which promising results can subsequently be advanced into preclinical and clinical development.

3) Beta-propeller protein-associated neurodegeneration (BPAN)/Neurodegeneration with Brain Iron Accumulation Disorder (NBIA) disorders: One pilot grant for $75,815 is available for clinical and translational research studies related to treating and/or advancing knowledge of this rare, X-linked disorder caused by mutations in WDR45. BPAN is typically recognized in early childhood with delayed development and seizures. In adulthood, people with

BPAN develop rapidly progressive parkinsonism and dementia. At the present time, symptoms may be treated but there is no cure.

Grants are expected to generate essential information for the scientific community to advance knowledge about BPAN disease processes and to produce preliminary data to enable national and international funding to carry the work forward. Examples of priority topic areas include developing and exploiting disease models including computer models, identifying biomarkers, delineating the molecular cascade that leads to early cellular changes, developing rational therapeutics, establishing outcome measures to be used in clinical trials, and developing other essential resources to substantially prepare the BPAN community for clinical trials. **Applications for Natural History Studies are not being funded at this time.** This grant is made possible by Team NBIA Disorders and BPAN families with the NBIA Disorders Association.

4) CACNA1A-Related Disorders: This RFA aims to advance the discovery or development of therapeutic treatments for CACNA1A-related disorders. These are rare autosomal dominant neurodevelopmental disorders caused by mutations in the CACNA1A gene, which encodes for the pore-forming alpha 1A subunit of the voltage-gated calcium ion channel Cav2.1. This channel plays a major role in fast synaptic neurotransmitter release in the brain, among other functions. The spectrum of neurological phenotypes associated with CACNA1A variants includes hemiplegic migraine (sporadic and FHM1), episodic ataxia type 2 (EA2), epileptic encephalopathies, global developmental delays, intellectual disability, ASD, hypotonia, eye movement disorders, cerebellar atrophy, and neuropsychiatric disorders.

We seek applications for **one $57,450 grant** that will help bring CACNA1A-specific treatments closer to the regulatory pathway.

Specific areas of interest include:

- Discovery and validation of outcome measures and endpoints for CACNA1A-related disorders. This could include (but is not limited to): identification of surrogate endpoints for the episodic disorders EA2, seizures, and hemiplegic migraine, or adaptation of currently used outcome measures for ataxia, communication, and cognition for the broader CACNA1A community.
- Establishing a human cell-based model system to 1) investigate CACNA1A protein expression in an allelic series of established patient-derived iPSC lines and 2) investigate disease mechanisms of CACNA1A variants in both glutamatergic and GABAergic circuits, 3) develop phenotypic and/or molecular readouts for screening of potential therapeutics.
- Therapeutic approaches for CACNA1A-related disorders. The heterogeneity of symptoms requires the development of multiple therapeutic treatments for the CACNA1A community. Approaches we are interested in funding include (but are not limited to): drug repurposing or repositioning, small molecules, antibodies, gene therapies, and nucleotide-based therapies. While we are looking for approaches that will broadly impact the patient community, we will also support the development of disorder-specific treatments.

In addition, applicants are encouraged to collaborate with existing CACNA1A researchers and the CACNA1A Foundation to leverage existing disease models and patient data (animal models, patient-derived iPSCs from the CACNA1A Biorepository with COMBINEDBrain, CACNA1A Natural History Study, Ciitizen data, etc.) This grant is made possible by Team CACNA1A and the CACNA1A Foundation.

5) CADASIL (Cerebral autosomal dominant arteriopathy with subcortical infarcts and leukoencephalopathy) is the leading genetic cause of stroke, vascular cognitive impairment and vascular dementia and is linked to cysteine-altering mutations in NOTCH3. The precise mechanisms driving vascular dysfunction, leukodystrophy, or neurodegeneration in CADASIL are not clear. Moreover, clinical markers that can be used to assess treatment efficacy are sparse. cureCADASIL Association seeks applications for research that will advance the understanding of mechanisms of the disease or clinical phenotyping that will facilitate future treatment trials (e.g. identification of biomarkers or clinical predictors). Disease model initiatives and drug repurposing projects are of interest. Both basic laboratory and clinical projects will be considered. **One $101,776 grant available.** This grant is made possible by Team CADASIL and cureCADASIL Association.

6) The Castleman Disease Collaborative Network's (CDCN) patient, physician, and research communities have identified the following priority research questions (though applications to study additional areas will also be considered). **One $58,775 grant is offered.**

- What are diagnostic biomarkers that could improve the diagnosis of idiopathic multicentric Castleman disease (iMCD)? Blood tests, tissue-based assays, and AI-based analyses of histology are all of interest.
- What are novel mechanisms involved in iMCD pathogenesis that may be therapeutic targets beyond IL6, mTOR, and JAK/STAT, particularly for treatment-refractory iMCD?
- What biomarkers can be used to improve diagnosis and tracking (predicting impending relapse) of iMCD?
- What are potential mechanisms underlying why some iMCD patients do not respond to anti-IL-6 therapy?
- What biomarkers can be used to predict a high likelihood of treatment response in individual patients?
- What is the etiological driver of iMCD?
- What mouse model (xenograft, mutant, etc) can be developed to be an effective model of human UCD or iMCD?
- What causal inferences or associations can be identified from whole exome sequencing and SNP arrays of constitutional DNA from a cohort of 200-300 iMCD patients?
- What is the role of specific auto-antibodies identified through auto-antibody screens in iMCD?
- What proteomic patterns may be present in the serum of the 100 iMCD patients who have had auto-antibody profiling performed?
- What insights can be gained from multi-omic profiling of lymph node tissue from iMCD and/or UCD patients (grants intending to address this question would propose performing multi-omic analyses)?

Proposals should seek to explore one of the above priority research questions. We expect the investigator's application to provide information on the preliminary data that exist, hypotheses being tested, relevant experiences performing similar work, and the experimental plan. Proposing studies with a clear therapeutic impact is a plus. The CDCN will support the project through sample procurement, as needed, and can provide its expertise and guidance throughout the grant. For a complete listing of CDCN studies, visit: https://www.cdcn.org/research-pipeline

7) CDKL5 Deficiency Disorder (CDD): This funding opportunity will focus on proposals with a strong likelihood of future federal funding to improve the health of patients affected by CDKL5 Deficiency Disorder (CDD). **One $61,007 grant is available.** Examples of desirable research priorities include, but are not limited to:

1. Research dedicated to furthering the understanding of CDKL5 function to inform the development of targeted, novel therapies.
2. Development of sensitive biomarkers with temporal specificity that may be useful in determining the clinical efficacy of a potential therapy.
3. Research to enhance our understanding of the cellular, molecular, genetic, and systems-level mechanisms contributing to the pathogenesis of CDD, facilitating the continued investigation of disease-modifying strategies.
4. Research aimed at improving CDD disease models (e.g., cell-based, tissue-based, or animal models) in an effort to assess the potential efficacy of therapeutic interventions against phenotypic deficits in the CDD patient population.

The International Foundation for CDKL5 Research encourages collaborative research that leverages existing resources (e.g., animal models, iPSCs, ICDD registry data). This grant is made possible by Team "CDKL5 Riding for a Cure" and the International Foundation for CDKL5 Research.

8) Congenital Hyperinsulinism (HI)/Hyperinsulinism-hyperammonemia syndrome (HI/HA) - Two grants for $77,165 each

1. Congenital Hyperinsulinism (HI) includes many subtypes that all cause hypoglycemia due to the overproduction of insulin, which can lead to permanent brain damage or death. The consequences of HI are preventable – however, HI is often overlooked, misdiagnosed, or even when detected, mistreated. We are seeking applications for an innovative clinical or pre-clinical study that has the potential to benefit patients living with HI and should lead to: (1) an improved treatment; (2) novel endpoints for evaluating efficacy of treatments; (3) a better understanding of the patient experience including difficulty with feeding, fear of hypoglycemia, or the patient experience in resource limited settings; (4) knowledge of the cause of neurological damage; (5) novel or more effective methods for diagnosing hyperinsulinism at or near birth; or (6) enhanced management for HI. Multi-institution or multi-center collaboration is highly encouraged. Proposals that have the potential to benefit patients with all types of HI will be prioritized. The HI Global Registry (HIGR) is a global patient-powered congenital hyperinsulinism patient registry and consists of a series of thirteen surveys made up of questions related to a patient's HI experience over their lifetime (https://www.higlobalregistry.org/). It is highly recommended that HIGR be used as one of the data sources or tools to collect study data. Applicants are encouraged to contact CHI to explore how to utilize HIGR. Please contact research@congenitalhi.org if you would like to discuss your proposed project. One grant of $77,165.00 is made possible by Team CHIbra and Congenital Hyperinsulinism International.
2. Hyperinsulinism-hyperammonemia syndrome (HI/HA) is a form of congenital hyperinsulinism, characterized by excessive/ uncontrolled insulin secretion, asymptomatic hyperammonemia and recurrent episodes of profound hypoglycemia induced by fasting and protein rich meals, requiring rapid and intensive treatment to prevent neurological sequelae. We are seeking applications for an innovative clinical or pre-clinical study that has the potential to benefit patients living with HI/HA and should lead to: (1) an improved treatment; (2) novel endpoints for evaluating efficacy

of treatments; (3) a better understanding of the patient experience including difficulty with feeding, fear of hypoglycemia, or the patient experience in resource limited settings; (4) knowledge of the cause of neurological damage; (5) novel or more effective methods for diagnosing hyperinsulinism at or near birth; or (6) enhanced management for HI/HA. Multi-institution or multi-center collaboration is highly encouraged. The HI Global Registry (HIGR) is a global patient-powered congenital hyperinsulinism patient registry and consists of a series of thirteen surveys made up of questions related to a patient's HI experience over their lifetime (https://www.higlobalregistry.org/). It is highly recommended that HIGR be used as one of the data sources or tools to collect study data. Applicants are encouraged to contact CHI to explore how to utilize HIGR. Please contact research@congenitalhi.org if you would like to discuss your proposed project. One grant of $77,165.00 is made possible by Team CHIbra and Congenital Hyperinsulinism International.

9) Choroideremia (CHM): One $61,273 grant is available to initiate or advance research towards a treatment or cure for Choroideremia (CHM). CHM is an X-linked retinal disease-causing progressing loss of vision and eventual blindness. Applications will be considered for research including gene therapy, CRISPR, stem cell therapy, or other methods that will potentially halt the progression of CHM and/or restore retinal functioning. This grant is made possible by Team CHM and the Choroideremia Research Foundation.

10) Complex Lymphatic Anomalies (CLA): We are soliciting research applications for **one $62,398 award** focused on Complex Lymphatic Anomalies (CLAs), including Gorham-Stout disease (GSD), generalized lymphatic anomaly (GLA), kaposiform lymphangiomatosis (KLA) and central conducting lymphatic anomaly (CCLA). Priority will be given to laboratory or clinical research proposals with a strong likelihood of future federal funding. Areas of interest include, but are not limited to, genomic and/or proteomic analyses, biomarker identification/validation, cell line creation and characterization, and imaging. This award is made possible by Team LGDA (Lymphangiomatosis & Gorham's Disease Alliance), Team LGD Alliance Europe and Team LMI (Lymphatic Malformation Institute).

11) Congenital Muscular Dystrophy (CMD)
Funding: Two $46,611 grants available
Purpose: Promote the discovery of underlying disease mechanisms and the preclinical development of potential therapies, as well as the clinical translation of those efforts for the COL6-related dystrophy (COL6-RD) subtype of congenital muscular dystrophy (CMD).
Areas of Interest:

Including but not limited to,

1. understanding the pathomechanisms of disease,
2. understanding tissue-specific phenotypes,
3. unraveling pathways involved in disease,
4. identifying novel drug targets or gene therapies
5. testing new strategies to treat disease or any of its incapacitating consequences (e.g. contractures, respiratory function decline).

We will also accept applications proposing to create or improve disease models (e.g. animal models, patient-derived cell models), and encourage applications on biomarker discovery or functional outcome measures to assess therapeutic impact in an effort to bring COL6-RD closer to Clinical Trial Readiness.

12) Cohen Syndrome (CS) is a rare autosomal recessive disorder caused by loss-of-function mutations in VPS13B. VPS13B is a transmembrane protein thought to function in vesicle-mediated transport and sorting. Individuals with CS present diverse clinical features including intellectual disability, developmental and motor planning challenges, microcephaly, hypotonia, joint laxity, truncal obesity, intermittent neutropenia, progressive high myopia and retinal dystrophy. Loss of vision generally begins in early childhood and advances to legal blindness over time, which directly impacts their quality of life as individuals with CS often live full, long lives.

While research opportunities in this area are broad in scope, priority will be given to grants that cover one of the following areas:

1. Studying the functions of VPS13B and interconnected pathways to understand the molecular basis of CS
2. Studying the functions of VPS13B in an ocular system to understand the role of VPS13B in retinal dystrophy and loss of vision
3. Development of potential therapeutic interventions including drug repurposing, small molecules, oligonucleotides, gene and cell therapies or protein replacement therapies

13) CRB1 degenerative retinal disorder: One $66,991 grant is available for work toward treatments for CRB1 retinal disease. Applications including gene therapy, CRISPR, cell therapy or other methods that will halt the progression of CRB1 retinal disease and ultimately restore retinal function will be considered. CRB1 retinal disease is a rare disease causing Leber's Congenital Amaurosis (LCA), Retinitis Pigmentosa (RP) or Cone Rod Dystrophy. Children with CRB1 are blind or visually impaired from a very early age (at birth in LCA) and most are Braille readers and white cane users. This grant is made possible by Team Bike4Sight and the Curing Retinal Blindness Foundation.

14) CSNK2A1: This RFA aims to enhance our understanding of the biology of Okur-Chung Neurodevelopmental Syndrome (OCNDS) and/or advance the discovery or development of therapeutic options for OCNDS. OCNDS is a rare, autosomal dominant neurodevelopmental disorder caused by mutations in the *CSNK2A1* gene. *CSNK2A1* encodes for the alpha catalytic subunit of an ubiquitous Ser/Thr kinase called CK2 that is critical in neurodevelopment.

The phenotypic spectrum includes speech and motor delays, hypotonia, intellectual disabilities, behavioral challenges, GI issues, short stature, sleep issues and other neurological problems. There are no known treatments or cures for OCNDS.

<u>One $60,013 grant available. We seek applications that address the following research priorities:</u>

1. **Disease mechanisms and variant classifications.** To develop effective therapeutics, we need to improve our understanding of how different variants in the *CSNK2A1* gene impact protein function and cause disease phenotypes. The CSNK2A1 Foundation registry has recorded ~80 distinct missense variants and other changes (e.g., deletions) with minimal functional data. We are interested in funding studies of the functional outcomes of variants observed in OCNDS patients.
    a. While many *CSNK2A1* variants have been classified as pathogenic or likely pathogenic, there remains a subset labeled as variants of uncertain significance (VUS). We are interested in projects focused on the design and implementation of assays to assess variant classification in OCNDS including but not limited to computational predictive models, unbiased global phosphoproteomics assays,

MAVE assays, cellular electrophysiology, protein structure, cell models, etc.

2. **Biomarker discovery.** There are no OCNDS-specific biomarkers. We are interested in funding discovery research into biomarkers for OCNDS. We are open to biomarkers in OCNDS models or clinical biomarkers that could assist in developing our community's clinical trial readiness.
3. **Therapeutic approaches.** Novel approaches to treating OCNDS. OCNDS presents variably and may require distinct treatments depending on variant function. We are interested in but not limited to funding proof-of-concept gene therapy studies and drug repurposing efforts.

Applicants are encouraged to leverage existing resources (e.g., mouse models, patient-derived fibroblast and iPSC models, Simons Searchlight Natural History data, etc.; for full list, please visit: https://www.csnk2a1foundation.org/for-scientists).

15) CTNNB1: We are offering **one $63,312 grant** for a research project aimed at developing therapeutics to treat CTNNB1 patients. Potential therapies include small molecules, RNA-based approaches, gene therapy, targeted exon skipping, and drug repurposing. Applications are welcome from individual principal investigators or collaborative projects involving scientists or clinicians. Applications should include robust preliminary data and demonstrate relevant experience. Based on the board's discretion and satisfactory progress, the selected research team may be eligible for additional funding.

16) Dup15q Syndrome affects up to 1 in 30,000 children worldwide and is highly penetrant for autism spectrum disorder (ASD), intellectual disability (ID), and epilepsy, with hypotonia affecting motor function and GI motility. There are two primary genetic subtypes of Dup15q syndrome: Idic (15), caused by an isodicentric supernumerary chromosome that carries two or more extra copies of the 15q11.2-q13.1 region, and (int) dup(15), an interstitial duplication of the same region that carries one or more extra copy of the region.

One $47,038 grant available. Therapeutic targets of interest include the gene cluster encoding GABAA receptor subunits and maternally imprinted UBE3A. Treatment for Dup15q is mainly supportive and limited to interventional therapies and the use of medication for symptomatic management of medical complications. We are soliciting applications that support work towards a precision therapeutic for Dup15q syndrome.
While we are keeping the opportunity broad in scope, preference will be given to awards that focus on three areas:

1. Model systems that explore any aspect of the syndrome's pathophysiology, including, but not limited to, identification/confirmation of the role of the duplicated genes and genotype/phenotype correlation.
2. Identification of biomarkers for Dup15q, including but not limited to molecular, neuroanatomical, neurophysiological, or physiologic.
3. Development of approaches or systems that may lead to targeted therapeutics: ASOs, siRNA, small molecules, editing technology, etc.

17) Fibrous dysplasia/McCune-Albright syndrome (FD/MAS) is a rare multisystem disease caused by somatic mutations in GNAS. The mutation results in constitutive activation of the Gsα cAMP signaling pathway. Skeletal manifestations include bone pain, fractures, deformity, and osteomalacia/rickets

- As many as **three grants are available at $40,234 each.**
- A project may be considered for up to **$80,468** in funding if the researcher has an outstanding project and submits two proposals. **One for $40,234 and another for $80,468.**

Studies focusing on the pathogenesis of FD/MAS or clinical studies to address any unmet needs in the care of FD/MAS patients will be considered. Research priorities for the FD/MAS Alliance include studies that characterize mouse models; studies to understand the mechanism and/or treatment of FD-related bone pain; development or testing of therapeutics, such as those targeting Gsα, PKA, Wnt, or other signaling pathways; and studies of the pathophysiology, such as the role of RANKL, IL6, and FGF23.

The grants are made possible by Team FD/MAS and the FD/MAS Alliance. First-time applicants are encouraged. Previous awardees must describe progress, publications, and other funding awarded due to data generated from a previous grant(s) and must describe how the new proposal is distinct or extends from the previous funding. Projects that feature collaborations across multiple institutions are encouraged.

Reagents and research tools, including animal models generated or studied using support from FD/MAS Alliance and MDBR, must be freely accessible without restrictions and deposited in a public repository.

18) Glucose Transporter Type 1 Deficiency Syndrome (Glut1DS): One $60,367 grant is available to support a project that will lead to a deeper understanding of this disease so it can be diagnosed earlier and treated more easily and more effectively.

Glut1 Deficiency Syndrome is a rare genetic condition that impairs brain metabolism. It is caused by variants in the SLC2A1 gene, which encodes the glucose transporter protein type 1 (GLUT1). GLUT1 is the principal transporter of glucose and also moves other important sugars across the blood-brain barrier. Impaired glucose transport associated with Glut1 Deficiency creates a metabolic crisis in the brain and often results in a range of neurological symptoms such as seizures, speech and movement disorders, and developmental delays. Not all patients experience all symptoms, and there is a wide spectrum of severity. Symptoms may change and evolve over time.

Potential areas of emphasis for this RFA may include but are not limited to: open source resource development (cell lines, assays, functional studies, etc.); GLUT1 at the blood brain barrier; brain glucose metabolism; ketogenic diets as metabolic therapies; basic science to better understand underlying disease mechanism; identification of new biomarkers and outcome measures to be used in future clinical studies; pre-clinical and clinical therapy development projects; and understanding how the involvement of GLUT1 in different diseases can lead to the development of better treatments for Glut1 Deficiency. Projects with novel concepts and collaborative/team approaches are especially encouraged as are projects with a direct link to therapy development.

This grant is made possible by the generous support of the Orphan Disease Center, Miles for Millie, Team Glut1, and the Glut1 Deficiency Foundation.

19) The KCNT1 Epilepsy Foundation is seeking proposals for a **$68,667 award** for a translational research project focused on the development of therapies for KCNT1 disorders. The goal of this grant is to support research that can lead to the development of effective treatments for KCNT1 disorders. Examples of research priorities include and are not limited to:

- Research into understanding KCNT1 function that helps inform the development of targeted, novel therapies. This can include cellular mechanisms, splice variants, and gene modifiers that potentially influence KCNT1 and could serve as a potential therapeutic target. Proposals should emphasize therapeutic potential.

- Validation of assessment tools in KCNT1 patients for use in clinical trial outcome measures, especially non-seizure outcomes. The proposal should include details of the assessment tools, the validation process, and the expected outcomes.
- Investigation of symptoms/pathophysiology outside of the brain, especially the role of KCNT1 in the heart. Proposals may include clinical studies or translational lab research.
- Stratification of KCNT1 variants by genotype, phenotype, and severity, including the analysis of variants of uncertain significance. This study should elucidate correlations that can inform diagnosis and treatment strategies.
- Development of gene therapies: the proposal should include details of the gene therapy approach, preclinical data, and the proposed plan for clinical translation.
- Investigation into the relationship between fever-range hyperthermia and KCNT1-related epilepsy: KCNT1 patient caregivers report that KCNT1 patients experience fewer seizures during illnesses that include fever, and following recovery, seizures are often worse. Proposals should include a plan to identify thermometric contributors to seizure frequency and intensity as a means towards development of a therapeutic.
- Research that explores the causal relationship between KCNT1, seizures and traumatic brain injury (TBI).

Applicants are encouraged to collaborate with existing KCNT1 researchers and to leverage existing disease models and data (e.g., animal models, Citizen Health databank, registry data, biobank, cell lines, etc.) and should include a statement on resource sharing in their proposal. This grant is made possible by the KCNT1 Epilepsy Foundation, its generous supporters, and the Penn Orphan Disease Center.

20) Lesch Nyhan Syndrome (LNS): Lesch Nyhan Syndrome is a recessive, x linked genetic disorder that impacts the HPRT1 gene. It is characterized by impaired kidney function, acute gouty arthritis, self injurious behavior (such as lip/finger biting and head banging, among others), and severe motor impairments. Signs are usually seen as early as 6 months, although getting a diagnosis can be tricky due to the disease's rare nature and it is often misdiagnosed early as Cerebral Palsy. There are treatments that decrease uric acid buildup which reduces renal and skeletal symptoms (including kidney stones and gout) but have no effect on the neurological aspects of LNS.

One $57,332 grant will be available for Research that will facilitate the development of an effective treatment for Lesch Nyhan Syndrome. This would include, but is not limited to, biomarkers, model development, characterization of the natural history or therapeuti c approaches.

21) Lymphangioleiomyomatosis (LAM): One $73,958 pilot grant is available, and we welcome proposals with a strong likelihood of future federal funding. Proposals that use LAM patient samples, animal models, or patient data, and have the potential to favorably impact human health will be given priority. Examples of desirable topic areas include:

- Better understanding of the molecular or clinical aberrations in LAM with the goal of identifying targets for the future development of novel therapeutics and interventions
- Improving the existing models or creating new models to study disease pathogenesis or to test new therapeutics
- Biomarker development to enable non-invasive diagnosis, better prognosticate the risk of disease progression, predict the response to treatment or act as endpoints in clinical trials. A biomarker is broadly defined as any objective modality that can measure disease activity and could include quantified biological variables (e.g., blood- or urine-based tests), novel imaging techniques, or patient-reported outcomes

- Molecular pathogenesis-guided pilot clinical trials

These grants are made possible by Team LAM Foundation Easy Breathers and The LAM Foundation.

22) Mucopolysaccharidosis (MPS) and Mucolipidosis II/III (ML II/III): These disorders comprise a group of 14 distinct lysosomal storage diseases, each a monogenic disease due to a specific single enzyme defect, but all of which lead to multiorgan pathologies due to either primary glycosaminoglycan storage or other abnormal metabolic changes. Neuropathology and/or connective tissue pathology, are primary features of these disorders. We seek applications directed to treating the life limiting and life threating central nervous system manifestations, cardio-respiratory disease, and/or bone and connective tissue issues. **One grant of $60,000** is made possible by Team MPS and the National MPS Society.

23) Mucopolysaccharidosis (MPS I) Gene Spotlight: a $60,378 pilot grant is available for proposals focused on translational or clinical research to treat MPS I Scheie or MPSI Hurler-Scheie that have a strong likelihood of future federal funding or where the grant amount can be matched. MPS I S/HS results from reduced enzymatic activity of alpha-L-iduronidase that leads to abnormal metabolic storage products and multi-organ pathologies. We are seeking proposals for oral or parenteral drugs that will slow the progression of central nervous system (CNS) manifestations of this disease or new methods for measuring CNS disease progression, including identification of novel disease-related functional, structural or biochemical changes. This grant is made possible by Gene Spotlight, Inc.

24) Neuroendocrine Cell Hyperplasia of Infancy (NEHI): The purpose of this RFA is to advance research or projects already in progress or to initiate new research or studies. Examples of priority topics include but are not limited to (1) increasing understanding of pathology (including Genetics); (2) quicker and more accurate diagnosis; (3) quality of life improvements; (4) development of treatments or cure. Previous awardees of grants supported by NEHI Research Foundation must describe progress, publications, and other funding awarded as a result of data generated from those grants. They should also describe how the new proposal is distinct from previous one(s).

- **Two grants are available at $83,154 each.**
- A project may be considered for **$166,308** in funding if the researcher has an outstanding project and submits two proposals. **One for $83,154 and another for $166,308.**

This grant is made possible by NEHI Research Foundation.

25) Pitt Hopkins Syndrome (PTHS): One $58,602 pilot grant available. Pitt Hopkins Syndrome is due to a deficiency in the TCF4 gene and is characterized by severe developmental delays, including most being non-speaking and many being non-ambulatory. Other symptoms include extreme gastrointestinal issues (76%), debilitating anxiety (55%), episodic hyperventilation and/or breath-holding (34%), recurrent seizures/epilepsy (25%), and distinctive facial features. The Pitt Hopkins Research Foundation would like to focus this research on finding therapeutics and a cure for this debilitating syndrome and are not interested in natural history studies at this time. These grants are made possible by Team Pitt Hopkins Pedalers with the Pitt Hopkins Research Foundation.

26) RASopathies are a group of genetic conditions caused by mutations in genes on the Ras-MAPK pathway. These conditions, including Noonan syndrome/Noonan-related conditions (NS), cardio-facio-cutaneous syndrome (CFC), and Costello syndrome (CS) share many clinical features, including developmental delay, gastrointestinal difficulties, skeletal abnormalities, hematologic abnormalities, and growth delay. **One $58,222 grant is available.** This grant will be awarded to academic researchers to initiate or advance RASopathies research - specifically CFC, Costello, and/or Noonan syndrome. Grants will be reviewed based on the quality of the science and its potential impact on any one of the RASopathies. All things being equal, however, we will favor research that is relevant across multiple RASopathies.

27) Ring chromosome 14 syndrome is a rare chromosomal abnormality where the 14th chromosome forms a ring like structure r(14). The disorder is characterized by early onset refractory epilepsy, intellectual disability, autism spectrum disorder and a number of diverse health issues. There is a heavy health burden associated with Ring14 which affects the whole the family.

One $60,840 pilot grant is available and will be awarded to research that has the potential to lead to better understanding and better treatments to improve the quality of life for those affected by Ring Chromosome 14 and related disorders. Potential topics of interest may include but are not limited to: open source resource development (cell lines – in particular, direct differentiated neuronal cell lines as IPSCs are unstable for ring chromosomes, assays, functional studies, etc.), basic science to understand disease mechanisms relevant to Ring Chromosome 14, clinical studies to better define the national history, and translational studies. Preference may be given to novel concepts and collaborative/team approaches.

28) SCN2A: The FamilieSCN2A Foundation

One grant of $62,492 to support research aimed at accelerating the development of therapeutic treatments and disease-modifying advancements for individuals with autism and/or epilepsy resulting from SCN2A gene mutations. We seek to fund thoughtful projects that will advance therapeutic treatment options for SCN2A-related disorders.

Areas of interest include but are not limited to:

1. Exploring Safe Drug Options: Investigating the repurposing of FDA-approved drugs or examining previously shelved drugs with established clinical safety records for treating SCN2A-related disorders.
2. Biomarker Discovery and Validation: Identifying and validating novel biomarkers for SCN2A-related disorders.
3. Compensatory Mechanisms: Discovering compensatory mechanisms resulting from SCN2A mutations and evaluating their therapeutic potential.
4. Exploration of Downstream Pathways: Investigating downstream pathways relevant to SCN2A and other developmental and epileptic encephalopathies (DEEs) to identify potential therapeutic targets and interventions.
5. Phenotypic Variability Mechanisms: Evaluating mechanisms leading to phenotypic variability within SCN2A variants.

Priority will be given to innovative projects with the potential to lead to therapeutic treatments or cures for SCN2A-related disorders. Additionally, applicants are encouraged to collaborate with existing SCN2A researchers and leverage existing disease models and data sources, such as

animal models, iPSC, the Simons Searchlight registry and biobank, CTRS, RDCA-DAP, and Citizen Health data.

29) SETBP1: The purpose of this RFA is to promote understanding of underlying disease mechanisms and pre-clinical development of potential therapies and tools for SETBP1 haploinsufficiency disorder (SETBP1-HD). SETBP1-HD is an ultra-rare neurodevelopmental disorder arising from loss-of-function de novo germline mutations in the SETBP1 gene.

One $68,544 grant available for SETBP1-HD research.

Areas of interest for the SETBP1-HD grant include, but are not limited to:

- Identifying molecular pathways involved in this disease
- Investigating repurposing of existing FDA approved drugs as a treatment for SETBP1-HD
- Identifying novel drugs or therapies for SETBP1-HD
- Investigating language, cognitive, behavioral and/or attention clinical profiles through natural history studies to further delineate the SETBP1-HD phenotype and develop diagnostic and/or predictive biomarkers for clinical trials with a preference for virtual administration with multi-language support

In addition, applicants are encouraged to collaborate with existing SETBP1 researchers and to leverage existing disease models (e.g. animal models at JAX, patient-derived cell models at SFARI, etc.) to assess therapeutic impact. Contact SETBP1 Society at info@setbp.1org with any questions about these resources. This grant is made possible by Team SETBP1Strong and SETBP1 Society.

30) Schinzel-Giedion Syndrome (SGS) is a clinically recognizable, ultra-rare multisystemic disorder arising from de novo germline mutations in the SETBP1 gene (SET-Binding Protein 1) located on chromosome 18. A small number of missense mutations alter a discrete region on SETBP1 encoding for the degron. As a consequence, functional SETBP1 protein accumulates in cells, resulting in a toxic gain of function. As SETBP1 appears to act as an epigenetic regulatory protein, turning on and/or off target genes, and as a protein-protein interaction with SET, the result of persistent SETBP1 levels is developmental dysregulation across numerous organ systems including the brain, kidneys and urinary tract, as well as the respiratory tract and gastrointestinal tract. The burden of disease is very significant with most affected individuals having severe neurodevelopmental delay, refractory epilepsy and recurrent respiratory tract and urinary tract infections, as well as an increased risk of developing specific solid and haematological malignancies.

The Schinzel-Giedion Syndrome Foundation is seeking research proposals that will advance the understanding of disease mechanisms and pre-clinical discovery and/or development of potential therapies and tools.

A single grant up to $70,000 is available.

Areas of interest include, but are not limited to:

- **Discovery and validation of biomarkers (molecular and functional).** To date, no SGS-specific biomarkers have been identified.
- **Disease models.** The multisystemic nature of SGS may require multiple models of disease development and progression, including, but not limited to, brain, renal, and respiratory. The SGS community is interested in funding disease model development that may lead to the discovery of therapeutic strategies for intervention. High throughput-amenable models are encouraged.
- **Novel therapeutic approaches for SGS.** The multisystemic nature of symptoms requires the development of multiple therapeutic treatments for the SGS community. Approaches we are interested in funding include (but are not limited to): drug repurposing, small molecules, PROTAC, gene therapies, and RNA-based therapies.
- **Identification of disease mechanisms**. Developing specific treatments highly depends on understanding how variants impact protein function and lead to disease phenotypes. We are interested in exploring new areas of research which we feel have huge translational relevance to SGS, such as the role of immune dysfunction.

Applicants are encouraged to collaborate with existing SGS researchers and to leverage existing disease models and data (animal models, patient-derived cell models in our CombinedBrain biobank, clinical health data in patient registry on AcrossHealthcare's Matrix platform), and to contact the Schinzel-Giedion Syndrome Foundation (contact@sgsfoundation.org) with any questions about these resources. This grant is made possible by Team SETBP1Strong and The Schinzel-Giedion Syndrome Foundation.

31) STXBP1 Disorders: Two $69,708 grants are available to advance research that supports therapeutic development for STXBP1 disorders. Projects addressing any stage of pre- clinical to clinical development will be considered. Areas of priority interest include, but are not limited to:

1. Understanding pathomechanisms and genotype-phenotype relationships of STXBP1 disorders. This may include the development of novel murine or iPSC-based models to determine pathomechanisms of missense variants.
2. Development of clinical trial readiness, including identification of novel biomarkers and non-seizure clinical endpoints and assessments.
3. Determining the trajectory of STXBP1 disorders from pediatric to adult presentations.
4. Developing or advancing novel therapeutic approaches to correct STXBP1 disorders

These grants are made possible by Lulu's Crew/Team STXBP1.

32) SYNGAP1-related disorder (S1RD): Requests research proposals to advance research that supports therapeutic development for S1RD. **One $74,851 grant available** for projects addressing any stage of pre-clinical to clinical development with a priority in an endpoint proteomics biomarker is desired. Areas of priority interest include, but are not limited to:

1. Development of clinical trial readiness, including identification of novel biomarkers and non-seizure clinical endpoints.
2. Understanding pathomechanisms and genotype-phenotype relationships of SYNGAP1 disorders, with an emphasis in missense variant structure-function analysis.
3. Developing or advancing therapeutic approaches to correct SYNGAP1 disorders, including the repurposing of FDA-approved drugs.
4. Determining the trajectory of SYNGAP1 disorders from pediatric to adult presentations.

33) TBC1D24: One $62,937 Grant Available

TBC1D24 gene variants have been associated with a few different clinical presentation including DOORS syndrome, early onset epilepsy and isolated hearing loss.

The TBC1D24 Foundation, with funding from generous donors, is accepting applications from applicants in the field of neurology, genetics and behavior.

Research Objectives: The TBC1D24 Foundation 2024 Grant is being established to encourage meritorious scientific and clinical studies designed to improve the diagnosis or develop therapies for individuals with a TBC1D24 gene mutation.

Proposals that focus on defining the natural history, early detection and diagnosis, or novel treatment strategies will be given priority.

Support: We aim to partner with you in research by providing access to patient data (where available) and to our board members.

We appreciate your interest and efforts in furthering understanding of the TBC1D24 gene mutation and the impact it will have on our families.

34) Telomere Biology Disorders, including Dyskeratosis Congenita: One $62,158 grant available to investigators conducting basic or clinical research on all aspects of Dyskeratosis Congenita / Telomere Biology Disorders. Dyskeratosis Congenita is a progressive, genetic condition caused by defects in telomeres, the protective caps at the ends of chromosomes. Impaired telomere maintenance in Dyskeratosis Congenita/Telomere Biology Disorders results in problems throughout the body, notably including blood, liver, and lung disease, and cancer. Proposals that seek to advance the understanding of the genetics, biology, pathophysiology, disease manifestations, treatment, natural history and/or outcomes of telomere diseases, including late effects of stem cell transplant, will be considered. This grant is made possible by Team Telomere.

35) ZC4H2 Associated Rare Disorders (ZARD) is an ultra-rare genetic condition with central and peripheral nervous system involvement caused by pathogenic variant of the ZC4H2 gene. ZC4H2 is located on the X chromosome and encodes the ZC4H2 (zinc finger C4H2-type containing) protein essential for normal development. ZARD can manifest in a broad range of clinical severity. Clinical presentations of affected individuals who carry the same pathogenic ZC4H2 gene variant can vary within families and between families. Males and females can be affected. To date, approx. 250 cases have been diagnosed worldwide.

There is currently very limited understanding on the role of the ZC4H2 gene and its protein. **One $54,187 grant is available.** This grant aims to expand the current research and understanding of ZC4H2 and ZARD, in any of the following areas:

1. **Creation of research tools for ZC4H2:**
   Including a specific ZC4H2 antibody and a viable KI male mouse model.
   The currently commercially available antibody has shown non-specific binding.
   Previous efforts to develop a viable KO male mouse model have not been successful.
2. **Creation of human model/system for ZARD**
   Through iPSC creation or gene editing of the existing iPSC cell line. The novel human models must include at least 3 different pathogenic variants of the ZC4H2 gene.
3. **Molecular mechanisms for ZARD pathogenesis**
   Advance the current knowledge of disease mechanism in ZARD, utilizing animal models and identify therapeutic target genes to develop potential therapeutic drugs for ZARD patients.
4. **Physiology of human skeletal muscles in ZARD**

Advance the current the studies in the subject. This may involve in-vivo, in-situ and/or in-vitro human materials and in-vivo and in-vitro animal materials. The in-situ and in-vivo human studies should not be invasive

5. **ZARD as a channelopathy and potential therapeutic drugs applying precision medicine**
   Previous studies have demonstrated a link between ZC4H2 and the Transient Receptor Potential channel TRPV4. Moreover, anecdotal observations show striking similarities between the ZARD phenotypes and the phenotypes observed in the TRPM3-Related Neurodevelopmental Disorder (TRPM3-NDD). Promising advances in the search of a viable therapy for TRPM3-NDD with precision medicine have been currently published.
   With this in mind, we aim to advance the existing studies on the role of ZC4H2 in the expression and/or function of Transient Receptor Potential channels (including but not limited to TRPV4 and TRPM3) and jumpstart the application of precision medicine in the search of viable therapies for ZARD.

Applicants are expected to collaborate with other scientists and clinicians currently or previously involved in ZC4H2 research, and should include a statement on resource sharing in their proposal. Applicants are encouraged to use existing tools and existing ZARD cell lines and human models and to contact the ZC4H2 Research Foundation (info@zc4h2foundation.org) with any questions about these resources.

This grant is made possible by the ZC4H2 Research Foundation and the Orphan Disease Center (under the Million Dollar Bike Ride initiative).

Grant Review Process:

1) Grants will be reviewed for scientific content and relevance to the goals of the RFA.
2) Full applications proceed through a two-step review process. The first step includes external review and rating with an assessment of the strengths and weaknesses of each application based on the defined review criteria described below. During the second step, funding recommendations are determined based on an assessment of the reviewer scores and written comments. Final decision of funding will be made by Center Leadership.
3) Proposal Content and Review Criteria: The following criteria will be utilized in proposal review.
   - **Project Proposal -** Is the proposed project of high scientific quality? Is the budget fully justified and reasonable in relation to the proposed project?
   - **Background -** Is the fundamental objective of the study and hypothesis to be addressed clearly defined?
   - **Scientific Approach -** Will the proposed specific aims answer the study hypothesis? Will the scientific approach effectively test and answer each specific aim? Are the study goals supported by existing data?
   - **Clinical Impact -** Is the answer to the study hypothesis important to our ability to treat or reduce rare disorders/disease incidence and/or mortality? Will the proposed research lead to substantial advances and/or contribute to large leaps of understanding or knowledge that will contribute to reductions in disease incidence and/or mortality within the decade?
   - **Research Significance -** Does the study address an important question that is not likely to be addressed without this funding? Does the proposed study offer a unique opportunity to explore an important issue and/or employ a novel approach to this disease research? Will the study outcomes advance our knowledge of this disease and/or contribute to changes in the focus of future research questions or the way we conduct research on this issue?
   - **Investigator Qualifications –** Does the investigator hold a track record of outstanding accomplishment as evidenced by peer-reviewed publications and funding awards?

Does the investigator have access to the resources and environment necessary to complete the study as outlined?

Anonymous reviewer feedback is shared upon the request of the applicant at the discretion of the Orphan Disease Center where appropriate.

Confidentiality:

The MDBR Grant Program is a confidential process and all content of the LOIs and Full Applications will be kept confidential by the ODC; our expert reviewers sign a CDA in advance of the review process. In order to encourage sharing of new techniques and findings to advance science, after funding decisions are made, the ODC will share a non-confidential lay summary of the research proposals received (required with your letter of interest), including those that were not funded, with each participating funding organization upon request.

Fund Disbursement:

Funds will be issued through a cost reimbursement mechanism executed by purchase order from the University of Pennsylvania. Details of invoicing schedules and reporting requirements will be made available upon award. For additional information, please contact the Orphan Disease Center at psom-odcadmin@pobox.upenn.edu.