This Master Research Core Services Agreement (the “Core Services Agreement”), effective as of December ___, 2018 (the “Effective Date”), is entered into by and between The Children’s Hospital of Philadelphia (together with its affiliates collectively referred to as “CHOP”) and The Trustees of the University of Pennsylvania (hereinafter referred to as “PENN”). CHOP and PENN are sometimes referred to herein, individually, as a “Party” and, collectively, as the “Parties.”

WHEREAS CHOP and PENN each have as part of their charitable missions the goals of facilitating the development of new therapies for human disease and improving patient care through research;

WHEREAS CHOP and PENN each operate core centers offering services to investigators and others conducting research (each a “Core” and collectively the “Cores”);

WHEREAS researchers at CHOP utilize Cores at PENN for carrying out their research projects and researchers at PENN utilize Cores at CHOP for carrying out their research projects;

WHEREAS each Party wishes to provide researchers at the other Party access to certain of its Cores at terms equal to those offered internally to employees and/or faculty of the respective Party;

WHEREAS the Parties intend for this Core Services Agreement to cover circumstances where one Party provides the other with a fee-for-service in connection with that Party’s conduct of a Study, and do not intend for it to cover circumstances where the Parties are collaborating on a Study and both are engaged in the conduct of the Study; and

WHEREAS the Parties will enter into a separate agreement to govern circumstances where the Parties are collaborating on a Study and both are engaged in the conduct of the Study; and

WHEREAS each Party desires to provide a full statement of their respective rights, obligations and duties with the performance of this Core Services Agreement.

NOW THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, CHOP and PENN mutually agree as follows:

1. Research Core Services. Each Party agrees to make the Cores included on Appendix A, as amended from time to time, available to the other Party pursuant to the terms of this Core Services Agreement in order to provide core services requested in connection with various research projects (the “Services”). Except to the extent the Parties agree in writing to modify the terms of this Core Services Agreement for a specific research project (each, a “Study”) through a Study-specific statement of work in the form included on Appendix B (“SOW”), the Parties agree that this Core Services Agreement constitutes the entire understanding and agreement between the Parties hereto with respect to the subject matter hereof. This Core Services Agreement and any applicable SOW (collectively, the “Agreement”) shall constitute
the complete and exclusive statement of the agreement between the Parties with respect to
the provision of Services in connection with a specific Study.

2. **Non-Exclusivity.** The Parties acknowledge and agree that nothing in this Core Services Agreement (i) requires a Party to provide Services for a Study or in response to a request for Services if the Party determines it is not in its interest to do so; or (ii) precludes a Party from offering or rendering to other parties services similar to the Services provided pursuant to this Core Services Agreement.

3. **Request for Services.**

a. The Party requesting Services is responsible for:
   i. Collecting, labeling, handling, storing, transferring, packaging and, where applicable, de-identifying any samples or other materials provided to the other Party for the purpose of performing the Services (“Materials”) and any related data (“Data”) in accordance with all applicable requirements; and
   ii. Including in the SOW, as applicable, any Study-specific or other written instructions applicable to the relevant Core’s provision of the Services; and
   iii. Ensuring that any informed consents, authorizations, approvals and permissions required by law or any applicable policy to conduct the Study and provide the Materials and/or Data to the other Party in order to receive the requested Services (“Appropriate Approvals”) have been obtained; and
   iv. Ensuring that providing the Materials and Data to the other Party in order to receive the requested Services does not violate any applicable laws and regulations; and
   v. Packaging, labeling, transporting, and shipping any hazardous materials, items containing hazardous materials and any other regulated materials necessary for the requested Services in accordance with all applicable federal, state, and local laws, rules, ordinances, and regulations, and furnishing any appropriate documentation. Prior to each shipment of any hazardous or regulated materials, the Party requesting Services shall notify the other Party of the nature of such shipment by such means of communication as will allow for the proper preparation for acceptance of the delivery and shall identify same on all shipping documents. The Party requesting the Services shall be solely responsible for notifying carriers and other handlers of any risks inherent in any such shipments.

b. In addition to any SOW, when PENN is requesting Services from CHOP, PENN will submit a Purchase Order (secured by PENN following receipt of the estimate of costs provided by the CHOP Core, where applicable) documenting the request and the associated consideration, as further outlined in Section 8 (Consideration). In the event of a conflict, the terms of the Agreement take precedence over the terms of any Purchase Order issued by PENN.
c. In addition to any SOW, when CHOP is requesting Services from PENN, CHOP investigators should follow the process as set forth by the individual core facility, and provide either a CHOP cost center/activity number or purchase order as requested. Contact information for each of the PENN core facilities can be found here: https://www.med.upenn.edu/cores/. In the event of a conflict, the terms of the Agreement take precedence over the terms of any Purchase Order other document issued by PENN.


a. The Parties agree to perform the Services in accordance with the terms of this Core Services Agreement, all applicable laws and regulations, applicable scientific and professional standards, and, if applicable, any specific instructions outlined in an applicable SOW.

b. If requested by the Party providing the Services, the Party requesting the Services shall provide a copy of the approved Study protocol for which the Services are being requested as a reference for the information and instructions set forth in an applicable SOW.

5. Use and Ownership of Materials.

a. As between the two Parties, the Party requesting Services will retain ownership of any Data or Materials submitted in connection with the request for Services.

b. Upon completion of the Services, any residual Materials (i.e., Materials in excess of what is needed to perform the Services and remaining in the Core’s possession after the Services) shall be:
   i. Returned to the Party who provided them in connection with the request for Services, if such return is explicitly requested in writing; or
   ii. If no written request to return the Materials is submitted within ninety (90) days after the completion of the relevant Services, discarded by the Core at the Party providing the Services in accordance with normal policies and procedures.

6. Results and Deliverables.

a. If applicable, the Party performing the Services will provide the requesting Party with results of the Services (the “Results”) in the form that the performing Party customarily provides for purposes of the Core’s standard operations, unless the requesting Party requires, and the providing Party agrees, to provide results in a specific format agreed to by the Parties in the SOW.

b. The Parties agree that Results delivered pursuant to the Agreement are to be used for RESEARCH PURPOSES ONLY and that such Results will not be used by either Party to make clinical diagnosis or treatment decisions.

c. The Party requesting the Services shall own the Results and shall be free to use them for any lawful purpose.
7. **Engagement.** The Parties agree and acknowledge that the Party performing the Services shall not, by virtue of performing the Services, be performing human subjects research and shall not be engaged in human subjects research as a result of performing the Services. The employees or agents of the Party performing the Services will be limited to providing a service, providing clinical trial-related medical services, or performing other activities that will not cause the Party performing the Services to be engaged in human subjects research under current federal agency guidance, regardless of the source of funding for the research project for which the Services are being requested. The Parties agree that this Core Services Agreement is not intended to cover circumstances where the Parties are collaborating on a Study and both engaged in the conduct of the Study, and that such collaborations will occur pursuant to separate written agreements to be entered by the Parties.

8. **Consideration for Services.**

   a. The Parties agree to compensate one another for the Services in accordance with the current internal pricing schedule for Core services maintained by each Party. For the avoidance of doubt, in recognition of the close affiliation of the Parties, CHOP will offer Services through its Cores to PENN researchers at the same price available to CHOP researchers, and PENN will offer Services through its Cores to CHOP at the same price available to PENN researchers.

   b. The Party providing Services will bill the Party requesting Services for all reagents, supplies, processing, analysis and other miscellaneous costs as necessary to perform the Services at the completion of the Services unless otherwise specified in the SOW, as applicable.

   c. The Party requesting Services shall pay the Party providing Services within sixty (60) days of receipt of an invoice or may be subject to late fees in the amount of 1.5% of all outstanding balances per month. In the event any payment is more than sixty (60) days late, the Party providing the Services has the right upon written notification to suspend performance of the related Services until all overdue payments are made current.

   d. Where PENN is the Party requesting Services, payment for such Services shall be made by check payable to The Children’s Hospital of Philadelphia, including reference to the invoice number and relevant Core, sent with a copy of the invoice to: The Children’s Hospital of Philadelphia – Research Institute Lockbox #1457 P.O. Box 8500 Philadelphia, PA 19178-1457

   e. Where CHOP is the Party requesting Services, payment for such Services shall be made by check payable to The Trustees of the University of Pennsylvania, including reference to the invoice number and relevant Core, sent with a copy of the invoice to: The Trustees of the University of Pennsylvania. Penn will provide CHOP with the mailing address for each Penn Core to which payment shall be sent.
f. Each Party represents that the compensation provided under the Agreement has not been determined in any manner with regard to any implicit or explicit agreement to provide favorable procurement decisions with regard to the value or volume of any business or referrals generated between the Parties.

9. **Quality and Licensure.** The Parties each represents and warrants that it will ensure, at all times during the term of this Core Services Agreement, that the Cores through which it provides Services are appropriately registered, accredited or licensed by all government authorities as required or appropriate to undertake and provide the Services.

10. **Governmental or Regulatory Authority Inspections.** The Party requesting Services will notify the Party providing Services immediately if, in connection with an SOW, any governmental or regulatory authority, or any Study sponsor, requests permission to or does inspect the requesting Party’s and/or researchers’ facilities or records related to the SOW, or requests to inspect the Core or records related to the SOW. The Party providing the Services, in turn, will promptly notify the Party requesting the Services if any governmental or regulatory authority, or any Study sponsor, requests permission to or does inspect the Core in connection with its provision of Services under an SOW or records of the Services under an SOW. Any Party who is the subject of an inspection or request for inspection pursuant to this Section 10 shall provide in writing to the other Party copies of all materials, correspondence, statements, forms and records received in connection with the inspection or request thereof to the extent they are relevant to the provision of Services under an SOW governed by this Core Services Agreement and not otherwise privileged or subject to an obligation of confidentiality.

11. **Confidentiality.**

   a. Each Party agrees to maintain confidence and not disclose to third parties information disclosed to it by the other Party in connection with this Core Services Agreement, including, but not limited to, written or oral communications, personal data, protected health information, Study protocols, plans, specifications, and other data or information that a reasonable person would consider confidential based on the nature of such information and the circumstances of such disclosure (collectively “Confidential Information”). The terms and conditions of the Agreement shall also be deemed Confidential Information.

   b. The obligations set forth above shall not extend to any information that: (i) is now or later made known to the public through no default by the receiving Party of its obligation hereunder; (ii) the receiving Party can show was in its possession prior to the earliest disclosure by the disclosing Party; (iii) is rightfully received by the receiving Party from a third party having no obligation of confidentiality to the disclosing Party at the time of disclosure; (iv) the receiving Party can demonstrate was developed by the receiving Party without the use of Confidential Information; or (v) is required to be disclosed by law, rule
of court, or regulation. The terms of this Confidentiality section shall survive any termination or expiration of this Core Services Agreement for a period of five (5) years.

c. Notwithstanding the foregoing, a Party may disclose the other Party’s Confidential Information without violating its obligations under this Section to the extent reasonably necessary in any of the following circumstances: (i) to fulfill its obligations under this Core Services Agreement; (ii) for purposes to which the other Party provides written consent; and (iii) as required by its attorneys, auditors/accountants, and consultants who require such Confidential Information to provide their professional services to the Party and who are doing so under a professional or contractual obligation of confidentiality.

d. For the purposes of clarity, it shall not be a violation of this Section for the Party requesting Services to publish the Results of the Services in connection with a related Study publication or further disclose them for any lawful purpose as permitted in Section 6(c).

12. **Intellectual Property.** It is recognized and understood that certain existing inventions and technologies are the separate property of CHOP and PENN respectively and are not affected by this Core Services Agreement, and neither Party shall have any claims or rights in such separate inventions and technologies. Except as expressly provided herein, nothing in this Core Services Agreement shall be construed as granting or implying any rights to either Party pertaining to background intellectual property rights of the other Party, under any patents or intellectual property rights associated therewith. The Parties mutually acknowledge and agree that it is the intent of this Core Services Agreement and any associated SOWs for each Party to provide Services to the other; the intent is not to develop new intellectual property. Ownership of any new intellectual property made during and directly as a result of performance of the Services, whether or not patentable, will be determined in accordance with applicable federal and state patent, copyright, trademark, and other intellectual property laws; *provided, however:* (i) all Results under the Agreement shall be the exclusive property of the Party requesting the Services that lead to their generation and shall be deemed to be works made for hire; and (ii) any invention made solely by the Party providing the Services that relates to the technical processes of the Core at which the Services are performed shall be owned by the Party providing the Services. This Section shall survive any termination or expiration of the Agreement.

13. **Assumption of Responsibility.** Unless otherwise prohibited by law, the Parties agree to each be responsible for their own acts of negligence and/or reckless acts or omissions in the performance of the Services hereunder and shall be financially and legally responsible for all of their expenses, liabilities, and attorneys’ fees resulting from or attributable to any such acts or omissions. This provision shall survive termination or expiration of this Core Services Agreement.

14. **Insurance.** The Parties represent and warrant that each maintains, and will maintain for the duration of this Core Services Agreement, insurance coverage in amounts sufficient to meet its obligations, indemnification and otherwise, under this Core Services Agreement. Each
Party will provide certificates of insurance or evidence of self-insurance to the other upon written request.

15. Compliance with Law.

a. The Parties shall comply with all applicable laws, rules and regulations, including, but not limited to, the Federal Anti-Kickback Statute at 42 U.S.C. 1320a-7(b); Stark legislation; fraud and abuse legislation; laws and regulations affecting the tax-exempt status of hospitals and universities; hospital licensure and accreditation requirements; all applicable conditions of participation in governmental health care programs; and the Health Insurance Portability and Accountability Act of 1996, as codified at 42 U.S.C. § 1320d-d8 (“HIPAA”) and the requirements of any regulation promulgated thereunder including, without limitation, the federal privacy regulations as contained in 45 C.F.R. Part 142 and the federal security standards as contained in 45 C.F.R. Part 142. The Parties agree to execute additional mutually agreed upon documents as required under HIPAA and its implementing regulations to assure the safeguarding of protected health information. In the event such documentation is not agreed upon and executed, either Party may terminate this Core Services Agreement.

b. In addition, the Parties intend that, throughout the Term of this Core Services Agreement, the activities undertaken pursuant to this Core Services Agreement are in furtherance of and consistent with the Parties’ respective charitable mission. If, at any time, a Party in good faith determines that this Core Services Agreement may violate, or is likely to violate, federal, state, or local laws, rules, or regulations, or if either Party reasonably believes that any Services performed pursuant to the Agreement are inconsistent with that Party’s charitable mission, the Agreement and Services may be immediately suspended and the Parties shall use good faith efforts to conform the Agreement and/or activities so as to comply with such law, regulation, rules and/or mission.

16. Publicity / Use of Name. Neither Party will, without the prior written consent of the other Party, use the name, trademark, logo, symbol, or other image or mark of the other Party or that other Party’s employee, medical staff member, or agent, or any adaption thereof, for advertising, trade, publicity, news or other purposes or in connection with any press release, advertising, promotional literature, or any other publicity matters relating to this Core Services Agreement. Provided that this Section shall not restrict a Party’s ability to use the other Party’s name: (i) in regulatory filings, prosecuting or defending litigation, and complying with applicable governmental regulations and legal requirements; and (ii) for internal use and reports generated in the normal course of business.

17. Disclaimer of Warranties; Limitation of Liability. TO THE MAXIMUM EXTENT ALLOWED BY APPLICABLE LAW, NEITHER PARTY WARRANTS NOR MAKES ANY REPRESENTATION OF ANY KIND, EITHER EXPRESS OR IMPLIED, WITH RESPECT TO ANY RESULTS, INCLUDING ANY FITNESS FOR A PARTICULAR PURPOSE, OR THAT THE SERVICES SATISFY ANY FDA OR OTHER
18. Term and Termination.

a. The term of this Core Services Agreement shall become effective on the Effective Date and shall remain in effect unless terminated earlier as permitted herein.

b. This Core Services Agreement may be terminated:
   i. By either Party without cause upon thirty (30) days prior written notice to the other Party;
   ii. By either Party immediately if this Core Services Agreement is deemed in good faith by one Party to be in violation of applicable law or regulations or any third party legal rights, and upon consultation of the Parties, the notifying Party determines in its sole discretion that the Core Services Agreement cannot be modified to avoid any such violation.

c. Termination of this Core Services Agreement shall not affect the rights and obligations of the Parties accrued prior to termination hereof; provided, however, that termination of this Core Services Agreement shall serve also to terminate any active SOWs entered pursuant to its terms except to the extent the Parties mutually agree in writing to continue a specific SOW pursuant to the terms of the Agreement.

d. Termination of a specific SOW, if permitted pursuant to the terms of the SOW, shall not serve to terminate this Core Services Agreement.

e. In the event of termination of this Core Services Agreement or, where applicable, a specific SOW, the Party providing the Services shall return all Results generated prior to termination and any Materials and Data provided in connection with the request for Services which have not yet been utilized for the Services. If requested in writing by the Party who had requested the Services, the Party providing the Services under active SOWs shall promptly complete any testing in progress at the time of termination and
report the Results to the Party who had requested the Services. Upon termination, the Party requesting the Services shall pay all amounts owing to the Party providing the Services for Services rendered prior to the effective date of termination in accordance with the terms of the Agreement, including any Services in process at the time of notification of termination.

19. **Independent Contractor.** For purposes of this Core Services Agreement and all activities engaged in hereunder, the Parties shall be, and shall be deemed to be, independent contractors engaged in the operation of their own respective businesses. Neither Party is, or is to be considered as, the agent, representative, partner, joint venturer, or employee of the other Party for any purposes whatsoever, nor shall either Party make any statement to the contrary. Neither party shall have authority to make any statements, representations, nor commitments of any kind, or to take any action which shall be binding on the other Party, except as expressly provided for herein.

20. **Export Controls.** This Core Services Agreement is made subject to any restrictions concerning the export of products or technical information from the United States of America. Each Party shall not export, directly or indirectly, any technical information or any products using such technical information to a location or in a manner that at the time of export requires an export license or other governmental approval, without first obtaining written consent to do so from the appropriate agency or other governmental entity.

21. **Jurisdiction / Governing Law.** This Core Services Agreement shall be governed in all respects by, and be construed in accordance with, the laws of the Commonwealth of Pennsylvania without giving effect to the rules of conflicts of law. Each Party hereby irrevocably consents to the jurisdiction of all state and federal courts sitting in Philadelphia County, Pennsylvania, agrees that venue for any such action shall lie exclusively in such courts and agrees that such courts shall be the exclusive forum for any legal actions brought in connection with this Core Services Agreement or the relationships between the Parties hereto.

22. **Counterpart Signature.** This Core Services Agreement may be executed in one or more counterparts (facsimile transmission or otherwise), each of which counterpart shall be deemed an original agreement and all of which shall constitute but one agreement.

23. **Assignments and Amendments.** Neither Party may assign this Core Services Agreement without prior written consent of the other Party. No modification or amendment to this Core Services Agreement shall be binding unless executed in writing by both Parties; provided, however, that Appendix A may be updated by either Party at any time upon notice to the other Party to reflect the current Cores subject to this Core Services Agreement.

24. **Severability.** If any one or more provisions of this Core Services Agreement is invalid, illegal or found to be unenforceable by a court of competent jurisdiction for any reason
whatever, the unenforceability shall not affect the validity, legality or enforceability of the remaining provisions of this Core Services Agreement, and the unenforceable, illegal or invalid provision or provisions shall be severable from the remainder of this Core Services Agreement.

25. No Third-Party Rights. Except for the rights expressly granted herein, nothing in this Core Services Agreement shall be construed as conferring upon any party by implication, estoppels or otherwise any additional rights, including, but not limited to, any additional rights in or to confidential information, intellectual property, or inventions of the Parties.

26. Waiver. The failure of any party to this Core Services Agreement to exercise or enforce any right conferred upon it hereunder shall not be deemed to be a waiver of any such right nor operate to bar the exercise or performance thereof at any time or times thereafter.

27. Review. The Parties agree that each Party will review this Core Services Agreement every three years or as necessary to address any changes in regulations that impact this Agreement.

IN WITNESS WHEREOF, the Parties hereto have caused this Core Services Agreement to be executed by their duly authorized representatives on the day of each Party's signature below.

THE CHILDREN'S HOSPITAL OF PHILADELPHIA

By: ____________________
Name: Elizabeth Duggins Peloso
Title: Assoc. VP Research Services
Date: 3/8/19

THE TRUSTEES OF THE UNIVERSITY OF PENNSYLVANIA

By: ____________________
Name: Michelle A. Lewis
Title: VP Research Admin & Operations
Date: 3/8/19
Appendix A
[List of Cores Subject to Core Services Agreement]

CHOP Cores
Aquatic / Zebrafish Core
Biostatistics and Data Management Core
Flow Cytometry Core
Metabolomics Core
Nucleic Acid PCR Core
Pathology Core
Protein and Proteomics Core
Small Animal Imaging Core
Transgenic Core

PENN Cores
Bioinformatics Core
CDB Microscopy Core
CRISPR Cas9 Mouse Targeting Core
Cell Center Services Facility
Cell Center Stockroom
Clinical Cell and Vaccine Production Facility
Clinical Research Computing Unit
Electron Microscopy
Flow Cytometry and Cell Sorting Facility
High Throughput Screening
Human Immunology Core
Investigational Drug Service
Neurobehavior Testing Core
Next Generation Sequencing Core
Penn Genomic Analysis Core DNA Sequencing Facility
Molecular Profiling Facility
Penn Gnotobiotic Mouse Facility
Quantitative Proteomics Resource Core
Research Instrumentation Shop
Small Animal Imaging Facility
Stem Cell and Xenograft Core
Transgenic and Chimeric Mouse Facility
Vector Core
Appendix B

[Form of Statement of Work]