

RESEARCH COOPERATION AGREEMENT

between the Board of Supervisors of Louisiana State University and Agricultural and Mechanical College Parish represented by its Pennington Biomedical Research Center, hereafter ("PBRC"), on behalf of its Executive Director, John Kirwan, PhD

AND

UNIVERSITY of CAGLIARI, represented by the DEPARTMENT of BIOMEDICAL SCIENCES, hereafter ("DiSB"), on behalf of its Head, Prof. Roberto Crnjar

Be it known, that on this 28 day of November 2019, the parties above, agree to the following:

1. **MISSION** : Both PBRC and DiSB are involved in enhancing scientific development on basic mitochondrial research by means of developing study protocols by using High Resolution Scanning Electron Microscopy – HRSEM].
2. **ACTIVITIES**: In order to pursue this interest as described above, both PBRC and DiSB, agree to each appoint a Project Partner for their institution whose activities will be shared between the institutions as follows:
 - 2.1 DiSB, through its employee, Dr. Raffaella Isola, head of the Laboratory of Electron Microscopy, will serve as DiSB Project Partner and will work with PBRC in: a) development of experimental design protocols and culturing two different kinds of cells: H9 cardiomyocytes and C2C12 myotubes; b) performing all the experiments on the assessment of mitochondria activity by use of Clark-type electrode; performing pilots experiments on the three-dimensional morphology of mitochondrial cristae by HRSEM in isolated mitochondria from different cell cultures; c) performing HRSEM observation and post-acquisition evaluation of scanning electron microscopy images, in order to accomplish morphological evaluation of mitochondria in different energetic states and to evaluate as different expression of mitochondrial proteins affects mitochondrial cristae.
 - 2.2 PBRC through its employee, Dr. Hoppel, Adjunct Faculty Member will serve as Project Partner for PBRC and will work with DiSB, by: a) setting the specific objectives of the research project; b) supervising and interpreting results of experiments lead by DiSB as described above; c) supporting DiSB Partner in defining the experimental protocols concerning the cell cultures conditions, and different energetic states attainment in cell cultures; defining protocols in which specific RNA will be silenced to knockdown mitochondrial proteins supposed to affect cristae structure during metabolic transitions ; d) supervising as well as interpreting results of experiments described above, and e) performing a final data reconciliation process to ensure final data matches data supplied by DiSB, in order to write scientific articles.
3. **AUDITING CRITERIA**: PBRC shall check the performance of whole project according following criteria:
 - a) successful completion of HRSEM; b) transfer of data from DiSB to Dr. Hoppel c) monitor the quality and progress of work from DiSB to PBRC; d) monitor the responsiveness of DiSB to any queries; e) approval for processing of all payments as outlined in this Agreement.
4. **REPORTS**:, Dr. Isola shall communicate to Dr. Hoppel the status of the activities outlined in 2.1 by means of technical-scientific reports; Dr. Hoppel shall edit the final report representing the data collected which shall be the foundation for writing scientific articles for these activities.
5. **TERMINATION FOR CAUSE**: PBRC may terminate this Agreement for cause based upon the failure of the DiSB to comply with the terms and/or conditions of the Agreement; provided that PBRC shall give the DiSB written notice specifying

the DiSB failure. If within thirty (30) days after receipt of such notice, the DiSB shall not have either corrected such failure or, in the case which cannot be corrected in thirty (30) days, begun in good faith to correct said failure and thereafter proceeded diligently to complete such correction, then PBRC may, at its option, place the DiSB in default and the Agreement shall terminate on the date specified in such notice. DiSB may exercise any rights available to it under Louisiana law to terminate for cause upon the failure of PBRC to comply with the terms and conditions of this Agreement; provided that the DiSB shall give PBRC written notice specifying PBRC's failure and a reasonable opportunity for PBRC to cure the defect.

5. **TERMINATION FOR CONVENIENCE:** PBRC may terminate the Agreement at any time by giving thirty (30) days written notice to the DiSB. DiSB shall be entitled to payment for deliverables in progress, to the extent work has been performed satisfactorily.

5. **OWNERSHIP:**

All records, reports, documents and other material delivered or transmitted to Project Partner by PBRC shall remain the property of PBRC, and shall be returned by Project Partner to PBRC, at Project Partner's expense, at termination or expiration of this Agreement. All records, reports, documents and other material delivered or transmitted to PBRC by Project Partner shall remain the property of Project Partner, and shall be returned by PBRC to Project Partner, at PBRC's expense, at termination or expiration of this Agreement.

All results developed within the project's implementation shall be owned jointly by both parties, except those results whose carrying out may be identified as a Project Partner's own exclusive work output.

It's understood that both parties will agree, under a separate and specific agreement to be negotiated in good faith by the parties, on ways of exploiting results above by means of –but not limited to – transfers and/or licenses of intellectual property rights coming from outputs above.

6. **BUDGET:** In consideration of the activities described above, PBRC agrees to provide to DiSB a maximum sum of \$70,000. Payment to DiSB shall be made on the approval of deliverables of Dr. Hoppel.

If progress and/or completion to the reasonable satisfaction of PBRC is obtained, shares are scheduled as follows:

Non-Refundable Set-UP Fee for Personnel Support, Experimental Design and Material Preparation	\$28,000
Hours (840 hours @ \$50/hour) billable monthly	\$42,000
Total	\$70,000

Financial reports should be sent to the following address:

Business Manager
 Pennington Biomedical Research Center
 6400 Perkins Road
 Baton Rouge, LA 70808

7. **TAXES:** DiSB hereby agrees that the responsibility for payment of taxes from the funds thus received under this agreement and/or legislative appropriation shall be kept under its responsibility.

8. **NONASSIGNABILITY:** Neither Party shall assign any interest in this Agreement by assignment, transfer, or novation, without prior written consent of the other Party. This provision shall not be construed to prohibit the Parties from assigning his bank, trust company, or other financial institution any money due or to become due from approved Agreements without such prior written consent. Notice of any such assignment or transfer shall be furnished promptly to the other Party.

9. **AUDITORS CLAUSE:** PBRC shall be entitled to audit the books and records of DiSB or any subcontractor under the negotiated Agreement or subAgreement, to the extent that such books and records relate to the performance of such Agreement or subAgreement. Such books and records shall be maintained for a period of five (5) years from the date of final payment.

10. **DISCRIMINATION CLAUSE:** Both Parties agree to abide by the requirements of the following as applicable: Title VI of the Civil Rights Act of 1964 and Title VII of the Civil Rights Act of 1964, as amended by the Equal Employment Opportunity Act of 1972, Federal Executive Order 11246 as amended, the Rehabilitation Act of 1973, as amended, the Vietnam Era Veteran's Readjustment Assistance Act of 1974, Title IX of the Education Amendments of 1972, the Age Discrimination Act

of 1975, the Fair Housing Act of 1968 as amended, and DiSB agrees to abide by the requirements of the Americans with Disabilities Act of 1990. The Parties also agree not to discriminate in its employment practices, and will render services under this Agreement without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, veteran status, political affiliation, disability, or age in any matter relating to employment. Any act of discrimination committed by DiSB, or failure to comply with these statutory obligations when applicable shall be grounds for termination of this Agreement.

11. **FISCAL FUNDING CLAUSE:** The continuation of this Agreement is contingent upon the appropriation of funds to fulfill the requirements of the Agreement by the legislature. If the legislature fails to appropriate sufficient monies to provide for the continuation of the Agreement, or if such appropriation is reduced by the veto of the Governor or by any means provided in the appropriations act to prevent the total appropriation for the year from exceeding revenues for that year, or for any other lawful purpose, and the effect of such reduction is to provide insufficient monies for the continuation of the Agreement, the Agreement shall terminate on the date of the beginning of the first fiscal year for which funds are not appropriated.
12. **ALTERATIONS:** Any alterations, variations, modifications, or waivers of provisions of this agreement shall be valid only when they have been reduced to writing, duly signed, and attached to the original of this agreement. No claim for services furnished or requested for reimbursement by DiSB, not provided for in this agreement, shall be allowed by PBRC. It is the responsibility of the DiSB to advise PBRC in advance if Agreement funds or Agreement terms may be insufficient to complete Agreement objectives.
13. **REMEDIES FOR DEFAULT:** Any claim or controversy arising out of this Agreement shall be resolved by the provisions of LAC 34:XIII.1503.
14. **INDEMNIFICATION:** Each party hereto agrees to indemnify, defend and to hold the other, its officers, directors, agents and employees, harmless from and against any and all losses, liabilities, demands, suits, judgments and claims, including reasonable attorney's fees, to the extent that such losses, liabilities, demands, suits judgments, claims or fees arise out of or result from the willful act, fault, omission, or negligence of the indemnifying party, or of its employees, servants or agents, in performing its obligations under this agreement, provided, however, that neither party hereto shall be liable to the other for any consequential damages arising out of its willful act, fault, omission or negligence.
15. **FORCE MAJEURE:** Each party shall be excused without liability for failures and delays in performance caused by war, civil war, riots or insurrections, strikes, floods, fires, explosions: or other occurrences or disturbances beyond the control and without the fault of such party. Any party claiming any such excuse for delay or nonperformance shall give notice thereof to the other parties.

Inclement weather which results in the closure of the University by official act of the Chancellor may be deemed a force majeure.
16. **PBRC CONTACT:** The contact person listed below shall be the principal point of contact on behalf of PBRC and will be the principal point of contact for DiSB under this Agreement.

Administrative Contact:
Kelly Pitre, Director
Sponsored Project Services
225-763-2500 – grants@pbrc.edu

17. **DURATION:** This agreement shall begin on 7/01/2010 and shall terminate on 6/01/23. It shall be governed by the laws of the State of Louisiana.
18. **EXPORT CONTROL:** Notwithstanding any other provision of this Agreement, the parties understand and agree that they are subject to, and agree to abide by, any and all applicable United States laws and regulations controlling the export of technical data, computer software, laboratory prototypes and other commodities. As a research institution, PBRC does not wish to allow its employees to receive export-controlled information except as may be knowingly and expressly agreed to in writing and signed by an authorized PBRC representative and for which PBRC has made specific arrangements. Project Partner certifies that it will not provide or make accessible to PBRC employees any export-controlled materials (including, without limitation, equipment, information and/or data) without first informing PBRC of the export-controlled nature and classification of the materials or information and obtaining the PBRC's authorized representative's written consent to accept such materials, as well as any specific instructions regarding the mechanism pursuant to which such materials should be passed to PBRC. Notwithstanding the above, PBRC reserves the right to decline the receipt of any export controlled materials and to terminate this agreement, in whole or in part, in the event that the services specified herein cannot be performed without export-controlled materials.

for Pennington Biomedical Research Center



Guy LaVergne
Associate Executive Director

For Operations & Chief of Staff

12/11/2019

Date

for DiSB

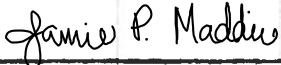


Name Roberto Crnjac
Title. Full Professor, Head of the Department of
Biological Sciences

Nov. 28th, 2019

Date

Board of Supervisors of Louisiana State
University and Agricultural and Mechanical
College



Jamie P. Maddie
Manager

7/15/2020

Date

Name and title of individual responsible for monitoring the Agreement and approving all payments in connection with the Agreement:

Dr. Charles Hoppel, Professor

