EDUCATION PARTNERSHIP AGREEMENT

EDUCATION PARTNERSHIP 12-EPA-RZ-03

BETWEEN

THE DEPARTMENT OF THE AIR FORCE, REPRESENTED BY THE AIR FORCE RESEARCH LABORATORY PROPULSION DIRECTORATE

AND

THE CHANCELLOR OF THE UNIVERSITY OF PUERTO RICO
ON BEHALF OF THE
UNIVERSITY OF PUERTO RICO – MAYAGUEZ
SCHOOL OF ENGINEERING

I. Preamble

The United States of America as represented by the Department of the Air Force, Air Force Research Laboratory, Propulsion Directorate (AFRL/RZ). 5 Pollux Dr. Edwards Air Force Base, and The Acting Chancellor of the University of Puerto Rico, on behalf of the University of Puerto Rico, Mayagüez School of Engineering (UPRM) (hereinafter referred to as "the parties") hereby enter into this Education Partnership Agreement (hereinafter referred to as the "Agreement") pursuant to title 10 United States Code Section 2194. The Terms and conditions of this Agreement are set forth as follows

II. Introduction

The Parties enter this Agreement in recognition of the importance of engineering education to the future and economic well-being of the nation, as well as the importance of AFRL to the business, industrial and educational institutions in the United States.

As a defense laboratory, AFRL has a responsibility to encourage the study of science, mathematics, and engineering at all levels of education by entering into education partnership agreements with educational institutions in the United States.

UPRM School of Engineering has been providing one of the highest quality education in U.S. in Mechanical and Aerospace Engineering, Computer Engineering and Electrical Engineering, Industrial Engineering and Chemical Engineering at undergraduate and graduate levels. Research in several engineering areas, including propulsion, turbine design, spacecraft design, materials science research, and high performance computing for aerospace applications is an integral part in both graduate and undergraduate education at UPRM.

UPRM believes that engineering education is enhanced by exposing students to cutting edge research in space and propulsion research. This is an area that is exciting to incoming students,

attracting them to challenging engineering problems and at the same time improving their retention in engineering disciplines. Educational outreach programs to K-12 students are also an integral part of UPRM's goal of preparing students to meet the challenging problems facing the nation and the world. The UPRM is a co-educational and bilingual school with over 900 professors and researchers and about 13,500 undergraduate students. There are approximately 800 students enrolled in the various graduate programs. UPRM is the largest Hispanic minority engineering school in the US. This educational partnership agreement in research and education is in line with the vision of enhancing the capacity of minority institutions in contributing to the research and education needs of our nation.

III. Objective

The objective of this agreement is to encourage and enhance the study of engineering in the United States by contributing towards the establishment of a research and education partnership. AFRL will:

- a. Provide co-operative opportunities for students to work in propulsion related research at AFRL and UPRM, and
- b. Loan modern, or donate excess, defense laboratory equipment to UPRM for the purpose of establishing laboratories in the area of space and propulsion, and supporting research projects by students and faculty members.
- c. Work with UPRM and its faculty in developing innovative teaching programs to introduce our engineering students to Propulsion Science and Technology, through development and teaching of courses, and coordination of research and professional development seminars.
- d. Work with UPRM faculty and students to enhance the UPRM's capacity to contribute to the Propulsion Science and Technology research needs of our nation.

IV. Authority

Pursuant to the Education Partnership Act, Title 10 United States Code 2194, for the purpose of encouraging and enhancing science, mathematics, and engineering education at all levels, AF RL/RZ is authorized to:

- a. Loan defense laboratory equipment to the UPRM.
- b. Transfer to the UPRM defense laboratory equipment determined by the director to be surplus.
- c. Make laboratory personnel available to teach courses or assist in the development of courses and course materials at the UPRM.
- d. Involve faculty and students in defense laboratory projects.
- e. Cooperate with UPRM in developing a program under which students may be given academic credit for work on defense laboratory research projects.
- f. Provide academic and career advice and assistance to UPRM students.

V. Patents and Copyrights

In the event patentable material is developed under this Agreement, each Party shall separately own any invention made solely by its respective employees under this Agreement. Inventions

made jointly by the Parties will be owned jointly by the Parties. Licensing of intellectual property, if any, will be set out in separate agreements. In the event copyrightable material is developed under this Agreement, UPRM shall own the copyright in all works created in whole or in part by UPRM and grants in advance to the United States Government a license conveying the right to use, duplicate or disclose such works in any manner, and to have or permit others to do so, for government purposes only.

VI Specific Obligations

a. UPRM shall:

- 1. Be responsible for all UPRM faculty, student-worker, and other employee salaries or other compensations and benefits as necessary under this Agreement.
- 2. Provide adequate security for the equipment under this Agreement.
- 3. Ensure that safety is observed at all times when this equipment is used and provide adequate lab space for the use of the equipment.
- 4. Develop courses in Propulsion and Propulsion Related Technologies at the Undergraduate and Graduate levels to increase the knowledge of the US workforce in these critical areas.

b. AFRL/RZ shall:

- 1. Be responsible for all AFRL/RZ employee salaries or other compensations and benefits as necessary under this Agreement.
- 2. Encourage its scientists and engineers to provide academic and career advice to UPRM students.
- 3. Loan or donate defense laboratory equipment for the purpose of furthering space and propulsion research if and when it becomes available.
- 4. Appoint an individual to maintain a property account of all equipment loaned under this Agreement, and provide assistance with the installation of the equipment.
- c. Subject to Article X (Liabilities) and Article XIII (Risk of Loss) below, neither Party shall be obligated to compensate the other Party for costs incurred by the other Party in carrying out activities defined by this partnership.
- d. Each of the Parties shall direct its own activities pursuant to this partnership. No Party shall have authority to direct the other's activities.
- e. Any public announcement of this partnership shall be coordinated among the Parties to include the AFRL/RZ public affairs office. UPRM shall not use the name of AFRL/RZ or Government on any product or service that is directly or indirectly related either to this partnership or any assignment that implements this partnership agreement without prior written approval of AFRL/RZ. Similarly, AFRL/RZ shall not use the name of UPRM on any product or service that is directly or indirectly related to this partnership without prior written approval of UPRM. By entering into this partnership, neither Party directly or indirectly endorses any product or service provided, or to be provided, by the other Party. Neither Party shall in any way imply that this partnership is an endorsement of any such product or service.

- f. Generally, only United States citizens are eligible to be participating faculty or students under this Agreement. Exceptions will be determined by AFRL/RZ on a case-by-case basis.
- g. UPRM faculty and students participating under this Agreement will not be required to obtain security clearances. Activity performed under this agreement will not require access to classified materials, proprietary information in the possession of AFRL/RZ, or information for which export is restricted by the Arms Control Act (Title 22 United States Code Section 2571 et seq.), the Export Administration Act (Title 22 United States Code Section 240i et seq.), or the International Traffic in Arms Regulation (22 CFR 120-25).
- h. The Parties' obligation under this Agreement is contingent upon and subject to availability of funds and resources.

VII Value of Contributions

- a. UPRM's resources related to this agreement are as follows:
 - 1. Human resources, including faculty, students, and research and administrative staff.
 - 2. Providing resources such as laboratory space and maintenance, instrumentation, and utilities.
 - 3. Supplies and services necessary for conducting research and teaching.
- b. AFRL/RZ's resources related to this agreement are as follows:
 - 1. Human resources, such as research and administrative staff.
 - 2. Providing resources such as laboratory space and maintenance, equipment, and utilities.
 - 3. Supplies and services necessary for conducting research.

Note: An estimated value of UPRM's and AFRL's contribution to this agreement is not available.

VIII Benefits

- a. The benefits to UPRM, its students, and the Commonwealth of Puerto Rico, in concluding this EPA with the AFRL/RZ and the Air Force, are as follows:
 - 1. This EPA will enable UPRM to greatly enhance its capacity to better prepare tomorrow's engineers by improving its teaching and research programs in space and propulsion education and research.
 - 2. The UPRM will be able to educate engineering students from the region who might not otherwise choose engineering as a profession due to lack of opportunity to relocate to schools outside of Puerto Rico.
 - 3. UPRM will be able to establish a mutually beneficial long-term relationship with a leading Department of Defense laboratory, and provide opportunity for establishing joint research and development activities and scholarly exchange of ideas.
- b. The benefits to AFRL/RZ and the Air Force are as follows:

- AFRL has a vision to increase the number of graduate engineers available to solve the looming shortage of engineers and scientists available to support the nation's military industrial complex over the next 10-20 years.
- 2. Key work in the area of advanced propulsion technologies will be performed giving students an introduction to future Air Force Missions and needs.
- 3. Research will be focused on solving some of the most challenging problems facing the Air Force. AFRL will gain favorable community publicity. This EPA demonstrates concern for the community.
- c. Goodwill, respect, and trust, will result from all who recognize this commitment.

IX. Partnership Administration

The administration of this Agreement and the coordination of specific activities that comprise this program will be the joint responsibility of the designated program managers from AFRL/RZ and UPRM.

Dr. Tae-Woo Park, AFRL/RZS, will serve as the partnership Program Manager on behalf of AF RL/RZ. The AFRL/RZ Program Manager will work with the Program manager for the UPRM to identify, select, and prioritize the activities in which the Parties engage pursuant to this Agreement, and will ensure that program activities meet the statutory and regulatory requirements of the Federal Government and the Department of the Air Force.

Prof. Jaime Seguel, UPRM, will serve as the partnership program manager on behalf of UPRM. The UPRM Program Manager will work with the program manager for AFRL/RZ to identify, select, and prioritize activities in which the Parties engage pursuant to this Agreement, and will ensure that program activities meet all applicable statutory and regulatory requirements.

For AFRL/RZ:

Dr. Tae-Woo Park 5 Pollux Drive Edwards AFB, CA 93524-7048

Telephone: 661-275-5424

Email: taewoo.park@edwards.af.mil

For UPRM:

Prof. Jaime Seguel
Recinto Universitario de Mayaguez
Stefani 513
Mayaguez Program Picas 00681 0006

Mayaguez, Puerto Rico, 00681-9000

Telephone: 787-832-4040 Ext 2523 Email: jaime.seguel@upr.edu

Loan of all equipment from AFRL/RZ to UPRM shall be documented on AF Form 1297, and appended to this Agreement.

X. Liabilities

As between the Parties, each Party acknowledges that it will be responsible for claims or damages arising from personal injury or damage to persons or property in proportion and to the extent they result from negligence of its employees, agents, instructors, or students.

XI. Force Majeure

Neither Party shall be liable for any unforeseeable event beyond its reasonable control not caused by the fault or negligence of such Party, which causes such Party to be unable to perform its obligations under this Agreement (and which it has been unable to overcome by the exercise of due diligence), including, but not limited to, flood, drought, earthquake, storm, fire, pestilence, lightning and other natural catastrophes, epidemic, war, riot. civic disturbance or disobedience, strikes, labor disputes, or failure, threat of failure, or sabotage, or any order or injunction made by a court or public agency. In the event of the occurrence of such a force majeure event, the Party unable to perform shall promptly notify the other Party. It shall further use its best etibrts to resume performance as quickly as possible and shall suspend performance only for such period of time as is necessary as a result of the force majeure event.

XII. Deliverables

There are no deliverables agreed upon at this time. However, when equipment that will be beneficial to the UPRM School of Engineering becomes available from AFRL/RZ, they will be loaned to UPRM.

XIII. Risk of Loss

The UPRM shall return all government-owned equipment loaned under this Agreement to AFRL/RZ in good working order, normal wear and tear excepted, at the end of the time period for the loan or 30 days following the end of this agreement, whichever comes first. UPRM is self insured for property loss, and the equipment provided for the care or possession of the School of Engineering and Applied Science shall be covered for loss as if it were UPRM property. AFRL/RZ shall provide the replacement value for any such equipment for purposes of insurance coverage. Any modifications or repairs to the government-owned equipment that the School of Engineering may find necessary to make shall be performed only after receiving written approval of AFRL/RZ. Any such repair or modification shall be at the expense of UPRM and shall not affect the title of AF RL/RZ to said hardware and software.

XIV. Period of Agreement

The term of this Agreement is for a period of seventy two (72) months, commencing on the date of the last signature affixed below. Any party may terminate this Agreement earlier upon delivery of written notice at least sixty (60) days in advance, PROVIDED, HOWEVER, that such termination shall be effective only upon completion of the then-current semester. Termination of this Agreement by any Party for any reason shall not affect the rights and obligation of the Parties accrued prior to the effective date of termination of this Agreement. If any Party requests modification of this Agreement, including extension of this Agreement, the Parties shall, upon reasonable notice of the proposed modification by the Party desiring the change, confer in good faith to determine the feasibility of such modification. Modifications shall not be effective until a written amendment is signed by duly authorized representatives of

the Parties. If AFRL/RZ terminates this Agreement, it shall not be liable for any costs resulting from or related to the termination, including but not limited to, consequential damages or any other costs experienced by third parties including participating schools, or their students.

XV. Signatures

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed in duplicate.

UPRM

By:

Signature of Official)

Name: Jorge Rivera Santos, PhD, P.E.

Title: Acting Chancellor

University of Puerto Rico

Mayaguez Campus

Date: Ocr. 14,2011

AFRL/RZ

By:

Signature of Official)

Name: Douglas L. Bowers, SES

Title: Director, Propulsion Directorate

Date: 28 1000 11

Recommended by:

Dr. Walter Silva Araya

Director

Research and Development Center

University of Puerto Rico

Mayagüez Campus

Date: X//3/2011