AGREEMENT BETWEEN

THE DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING AT THE UNIVERSITY OF MASSACHUSETTS AT AMHERST

AND

THE DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING AT THE UNIVERSITY OF PUERTO RICO MAYAGUEZ

I. INTRODUCTION:

This Memorandum of Understanding is made by and between The Department of Electrical and Computer Engineering (ECE) at the University of Massachusetts at Amherst (UMass) here represented by Robert C. Holub, Chancellor and The University of Puerto Rico at Mayaguez (UPRM), here represented by Jorge Rivera Santos, Acting Chancellor.

Both parties agree to collaborate in enrolling students from UPRM in the UMass PhD program in Electrical and Computer Engineering. The main goals of this agreement are: 1) to encourage minority engineering students from UPRM to pursue graduate studies and careers in engineering research, and 2) to provide a means for faculty at UPRM to mentor PhD graduate engineering students. UPRM does not currently offer a PhD degree in ECE. Therefore, until such time as the UPRM ECE Department establishes a PhD degree program, this collaborative agreement will serve as an important bridge for both UPRM students and faculty researchers. The PhD degree will be granted by UMass and the student is required to spend a minimum of two consecutive semesters in residence on the UMass Amherst campus. However, it is anticipated that the student will conduct most of their research on the UPRM campus working with UPRM faculty.

II. FACULTY PARTICIPATION:

- 1. One faculty member each from UMass and UPRM will serve as co-chair of the student's dissertation committee.
- 2. The UPRM faculty co-chair will work closely with the PhD Student supervising their research and serving as their primary mentor.
- 3. UPRM faculty members must become members of the UMass ECE Graduate Faculty in order to serve as either a co-chair or as a member of the student's dissertation committee. To apply for graduate faculty status at UMass, UPRM faculty will state their interest in writing to the head of the UMass ECE Department along with a current curriculum vitae. Graduate faculty appointments are recommended by the Head of ECE and approved by the Dean of the Graduate School.
- 4. Other UPRM faculty may also elect to become graduate faculty members at UMass and serve on the student's dissertation committee.
- 5. UPRM dissertation committee members must be willing to travel to the UMass Amherst campus to attend both the student's oral PhD comprehensive exam and PhD dissertation defense.

6. UMass ECE faculty are encouraged to participate as dissertation committee members.

III. STUDENT PARTICIPATION:

It is envisioned that the student will come to UMass early in the course of their PhD program to both satisfy the UMass residency requirement and to take courses in preparation for written PhD comprehensive exams. These and other requirements for the PhD degree are described briefly below and in more detail in the UMass Graduate School Bulletin. However, these requirements are subject to change.

- 1. The student must be accepted into the UPRM Electrical and Computer Engineering Department as a 'visiting student' registering for 0-9 credits per semester.
- 2. The student must be accepted into the UMass Electrical and Computer Engineering Department PhD program. It is recommended that the student submit their UMass application one semester prior to the start of their year in residence at UMass-Amherst. Official UMass graduate program deadlines are on or about October 1 for Spring admission and on or about January 15 for Fall admission.
- 3. In order to be admitted to the UMass Graduate School students must submit a completed graduate school application. The student must have graduated from an accredited university with a bachelor's degree, have a minimum 2.75 GP A on a 4.0 scale, have taken the GRE, submit at least 2 letters of recommendation and pay the application fee. Additional information provided by potential graduate students through essays and other correspondence will be taken into consideration as part of the admissions application process.
- 4. The student should indicate on their UMass application that they are applying to the UMass ECE PhD program through the collaborative agreement with UPRM.
- 5. The student will be provided with office and laboratory space (as required) while on either the UMass or UPRM campus.
- 6. When the student is admitted to the UMass ECE PhD program they may also be nominated by the UMass ECE Department for a Northeast Alliance Graduate Fellowship. Eligibility for this Fellowship is described in the National Science Foundation's NEAGEP program. Northeast Alliance Fellows will receive a stipend to support their year in residence at UMass (1st official year as a PhD student) or to augment stipends from UPRM or UMass research grants.
- 7. Northeast Alliance Fellows are expected to attend Alliance Fellows workshops and seminars, occasionally assist with recruiting, and agree to mentor other underrepresented-minority students during their professional careers.

IV. PhD DEGREE REQUIREMENTS:

To complete the PhD degree, students must fulfill the same graduate school and departmental requirements as other UMass ECE PhD candidates:

1. The student must spend a minimum of two consecutive semesters in residence on the Amherst campus, after their acceptance into the UMass ECE PhD Program. The student must register for a minimum of 9 course credits (non-thesis credits) while satisfying the

residence requirement. Student may register for thesis credits during subsequent semesters at UMass.

- 2. The student must pass two 700 level breadth courses or equivalent. These two courses must be in areas of ECE outside the student's area of concentration. The courses may be taken at UMass or transferred from UPRM with approval from the UMass ECE Graduate Program Director. Overall the student must maintain a 3.0 or higher GPA.
- 3. The student must pass two written PhD Comprehensive exams. PhD candidates may take the written exams at either institution but these must be identical to the exams offered in Amherst. They must be administered at the same time as the exams are given in Amherst and be graded by UMass professors.
- 4. The student must pass an oral PhD comprehensive exam (must be conducted at the UMass Amherst campus). All committee members must attend.
- 5. The student must present a proposal for the PhD dissertation to their dissertation committee. The UMass Graduate School does not require holding the dissertation proposal presentation on the Amherst campus. The proposal must be signed by all members of the dissertation committee and the UMass ECE Graduate Program Director, and submitted to the UMass Graduate School at least 7 months prior to the dissertation defense.
- 6. The student must defend their PhD dissertation on the UMass Amherst campus and schedule with the UMass Graduate School at least 4 weeks in advance of the exam date. All committee members must be present for the defense.

V. PROJECT FUNDING:

Funding to the student will be in the form of full fellowships, renewable according to a student's progress. The amount of the fellowship is determined by the individual program and the faculty in charge of the program. Individual faculty members are responsible for funding their travel between campuses. At a minimum, the student and UPRM dissertation committee members must travel to the UMass Amherst campus to attend the student's oral PhD comprehensive exam and PhD Dissertation defense.

UPRM faculty members are responsible for funding student stipend and student travel for the oral exam and dissertation defense through research grants or student fellowships, etc. While in residence at UMass, the student may receive a stipend from UPRM or one year of support through a Northeast Alliance Fellowship, as described above. We will not encourage students without a promise of funding from a UPRM faculty member to apply to this program.

VI. UMASS MANDATORY STUDENT FEES:

- Students with UPRM-funded research assistantships are considered non-working fellows by the UMass ECE Dept. and are eligible to apply to the UMass Graduate Assistantship Office for a "courtesy tuition waiver". If granted the curriculum fee is also waived. As of Fall 2010 there are other required fees per semester (19 weeks) for a full time student (9+ credits) and other special fees. There is also a one-time Grad Entering Fee for new students. These fees may increase in future years.
- 2. Massachusetts requires college students to have comprehensive health insurance.

Students may elect to waive the fee for UMass Amherst's Student Health Insurance Plan (SHIP) coverage only on proof of comparable coverage.

3. While at UPRM, PhD candidates must pay a program fee to UMass. This fee must be paid to maintain status as a UMass PhD student. This fee may increase in future years. This fees are responsibility of the each student and can increase in the future.

VII. UPRM MANDATORY STUDENT FEES:

- 4. The student is required to pay a registration fee to UPRM while in residence at the UMass-Amherst campus. (As of September 2010, the fee includes a thesis fee plus a construction fee). These fees may increase in future years.
- 5. While at UPRM, students will register in a special PhD program course, which carries a flexible 0-9 credits hours load. The student can also register in courses approved by his/her graduate committee, which may be transferred to UMass in order to comply with UMass requirements as specified in Section IV.2.

VIII. DURATION OF AGREEMENT:

This agreement will be in effect a minimum of 7 years beginning from the date it is signed by both parties. At the end of the seven years this agreement will be reviewed and considered for renewal by the both parties.

IX. OTHER TERMS AND CONDITIONS

- 1. Both parties are committed to maintaining records of all reports of timesheets for jobs, communications and all other documents related to the coordination of activities discussed in this agreement in order that they be available for examination or copying by the Office of Internal Auditors of the University of Puerto Rico, by a firm of outside auditors hired by the University of Puerto Rico, by the Office of the Comptroller of Puerto Rico in its auditing of the University of Puerto Rico as required by law. Audits will be carried out at reasonable times during the course of the services or after their completion, in accordance with generally recognized auditing practices. Said documents will be kept for a period of no less than six (6) years or until the Office of the Controller of Puerto Rico has made its investigation, whichever occurs first.
- 2. Neither party shall use the name of the other institution, its initials, stamp, logos, seal, or any other identifying emblem or distinctive symbol of the other institution without the express written authorization of the institution to which said objects belong.
- 3. Neither party shall assume any liabilities to each other. As to liability to each other the parties do not waive any defense as a result of this agreement. Likewise, this provision shall not be construed to limit the parties' rights, claims or defenses which arise as a matter of law pursuant to any provisions of this agreement. Additionally, this agreement shall not be construed to limit the sovereign immunity of the Government of Puerto Rico and the University of Puerto Rico.

- 4. UMass Amherst and UPRM subscribe to the policy of Equal Opportunity and will not discriminate on the basis of race, sex, age, political orientation, ethnicity, religion, or natural origin. UMass Amherst and UPRM shall abide by these principles in the administration of this Memorandum of Understanding, and neither entity nor any of its representatives shall knowingly impose criteria for the exchange of scholars, staff, or students that would violate the principles of nondiscrimination.
- 5. Either party may rescind the present agreement by notification thirty (30) days prior to the date of the rescission. One party may immediately cancel the agreement without prior notice upon the other party committing negligence, non-compliance or violation of a condition of the present Agreement.

X. MODIFICATION

This Memorandum of Understanding may be modified only in writing by authorized representatives of UMass and UPRM. Modifications shall be incorporated by reference and made a part of this Memorandum of Understanding.

XI. FORCE MAJURE

In the event that the performance of the obligations under this Memorandum are impeded by reason of Force Majeure, the parties shall be released from their obligations and neither party shall be responsible for any damage sustained and have no further recourse against the other party. Force Majeure shall mean accident before and after the installation of the equipment, fire, earthquake, hurricane, flood, Act of God or natural disaster, epidemics or pandemics, nuclear explosions, strike, work stoppages, or other labour disturbance, riots or civil commotions, vandalism, war or other act of any nation, terrorism, power of government, or government agency, or any other cause which is beyond the control of the parties.

The undersigned approve this agreement on this 22 day of 3 and 3

University of Massachusetts at Amherst

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Robert C. Holub Chancellor

James Staros Provost

John R. Mullin Graduate School Dean

Theodore Djafer)s Dean College of Engineering

C. Mani Krishna ECE Graduate Program Director

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