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July 15, 2001

**Dr. Win Aung**  
**ICEE ISC Secretary General**  
**Division of Engineering Education & Centers**  
**National Science Foundation**  
**4201 Wilson Avenue**  
**Arlington, Virginia 22230**

Dear Dr. Aung:

This letter is to formally inform the International Conference on Engineering Education (ICEE) Steering Committee of the intention of the University of Puerto Rico at Mayagüez to be host of the 2005 ICEE Conference in Puerto Rico. We understand that this conference would provide an excellent opportunity for worldwide educators, industry and other parties to learn about our culture, our resources and our academic programs. It is especially important in view of Puerto Rico's Science & Technology Policy and the new Technology Corridor of which our institution is a major player.

Our Chancellor, Prof. Pablo Rodriguez, Prof. Lueny Morell, Assistant to the Chancellor and myself will travel to Norway to present of our proposal. We will take the opportunity in our presentation to formally turn in all the supporting documents that we have gather from government, and industry.

We are looking forward to our presentation and to work arduously to host such an important event in our history. Feel free to contact me should you need more information at this time.

Cordially yours,

**Ramón E. Vásquez –Espinosa**  
**Dean of Engineering**

Enclosures

# PROPOSAL TO HOST THE 2005 INTERNATIONAL ENGINEERING EDUCATION CONFERENCE AT THE UNIVERSITY OF PUERTO RICO - MAYAGÜEZ

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## Name of the Conference:

ICEE 2005: Education, Research and Development: Fostering Economic Growth

## Proposed Program Emphases/Themes:

### *Education, Research and Development: Fostering Economic Growth*

The government of Puerto Rico is refocusing the island economic development based in a new Science & Technology Policy. It is sponsoring a Technology Corridor in which Hewlett-Packard of Puerto Rico is starting a major R&D operation. UPRM is an important component of this effort and will play a major role in the economic development of Puerto Rico. This conference will play a major step in disseminating the Island's strategy and outcomes of this endeavor, and provide us with a showcase to the world. Around the world, universities engaged in engineering education face extraordinary challenges: new communications technologies, an increasingly fluid global marketplace, and rapidly evolving fields of research and teaching, and most recently the demand to take leadership for fostering economic growth on a knowledge base economic. The central theme proposed is how education and research aid in fostering economic growth, making use of university, government and industry partnerships as increasingly important tools in order to achieve high quality education and the development of new programs. This theme is supported with the following objectives:

- role of new technologies
- integrating professional and pedagogical research
- comparative assessments of standards and accreditation
- entrepreneurship
- determining which subjects must be mastered for students to thrive as engineers in the international arena
- technology transfer issues

These objectives suggest a wide list of topics which include (but are not limited to):

- Teaching innovation
- University, industry and government collaboration programs
- International co-operation and student and staff exchange programs
- Accreditation
- Quality assessment
- Multidisciplinary design integration
- Multimedia teaching tools

- Distance learning and autonomous/self-access learning
- Global engineering practice
- Current trends in engineering education
- Integration of basic sciences and engineering
- Model for economic development
- Entrepreneurship education in engineering
- Technology and learning systems

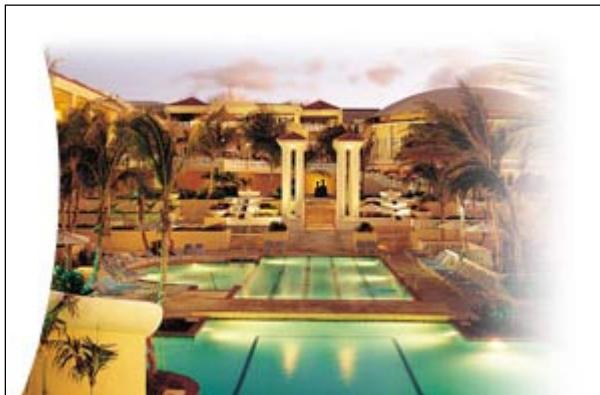
**Plans for Publication of Proceedings:**

All major means of publications will be considered, including hardcopy, CD-ROM and WWW-based.

**Proposed Dates and Location for the Conference:**

The proposed three day conference will be on August 1-3, 2005 at Puerto Rico. We are working with the Convention Bureau of Puerto Rico the selection of the hotel. We are looking low rate, enough conference rooms for 8 to 9 parallel sessions and enough space to support ad-hoc meetings, exhibitor area and capacity for handling more than 400 participants, and the availability of free shuttle from the airport to the hotel. The three candidates are Wyndham El Conquistador Hotel, Hyatt Cerromar & Dorado Hotels, and West Inn Río Mar. What is follow is a brief description.

*Wyndham El Conquistador*



On the northeastern coast of Puerto Rico, the **Wyndham El Conquistador Resort and Country Club** is made up of four "environments;" the Grand Hotel, Las Casitas Village, Las Olas Village, and La Marina Village. The Grand Hotel sits 300 feet above the water and is the centerpiece of the resort. There is an 18-hole golf course, seven tennis courts, casino, shopping arcade, and various dining options. Las Casitas Village is a "resort within a resort" offering a private, luxurious atmosphere with the amenities of the full hotel. The Las Olas Village is set into the cliffside, offering fabulous views. A ride down the funicular takes you to La Marina Village and the private 25-



**El Conquistador Resort**

slip yacht. While there is no beach directly at the property, a water taxi takes you to Palomino Island, a small Island where you can enjoy a variety of water sports. There is also a restaurant/bar and a curio shop on the Island.

#### *West Inn Río Mar Resort*

Also in the northeastern coast of the island the ***West Inn Río Mar Resort*** is the closest hotel to El Yunque rain forest, Puerto Rico's main tourist attraction. A spectacular 500-acre setting offers the Caribbean's ultimate, beachfront vacation and golf resort. Play Greg Norman's 6,945-yard River Course and Tom and George Fazio's 6,487-yard Ocean Course. Enjoy luxury accommodations with spectacular views, one mile of palm-lined beach, exciting water sports, tennis center, full-service spa and complete fitness center, 12 superb restaurants, lounges and entertainment venues and the thrilling Rio Mar Casino.



#### *Hyatt Dorado Hotels*



One of the most spectacular beaches of Puerto Rico's north coast, this hotel complex is 22 miles west of historic San Juan; 45 minutes to Luis Muñoz Marín International Airport. Hyatt Resorts Puerto Rico has completed a \$55 million renovation that restores and revitalizes two Caribbean classics: Hyatt Dorado Beach Resort and Hyatt Regency Cerromar Beach Resort & Casino. These two resorts share 1,000 lush acres, including waterfalls, flora and prolific

greenery, all of which have been restructured to enhance guests' enjoyment of the resorts' Atlantic Ocean view and tropically landscaped gardens. At Hyatt Cerromar Beach Resort & Casino, the island's vibrant blues and greens inspired a complete redesign for the hotel lobby and public areas of the resort. Throughout the resort, natural materials and outdoor motifs make a seamless transition from indoors to out. The renovated lobby bar offers live music in an inviting setting open to the outdoors. Our world-famous river pool has been improved, and complements an enhanced pool complex featuring a refurbished Olympic pool area and more waterslides, Jacuzzis and fun for children of all ages. The renovated Casino offers live music and a bright new open look. Guest rooms have been completely renovated and feature bright tropical colors and dramatic ocean views. Extensive improvements have also been completed to Cerromar's group facilities, already among the largest and most extensive in the Caribbean. Improvements include new carpets, lighting, bold new color schemes and updated technical enhancements. A variety of fantastic options are available for meetings both inside and under the stars. And our luxurious Spa del Sol and our Bacchus Night Club for drinks and dancing.

**Proposed Date and Location for the Post Conference Workshops:**

The proposed date for the post-conference is August 4-5 at the University of Puerto Rico at Mayagüez and the Mayagüez Resort and Casino. On August 4, 2001 a technical tour is planned to visit the urban train construction site, Arecibo Observatory and the industrial clusters for information technology, medical devices and plastics in the western area of Puerto Rico. On August 5, 2001 tour and meeting with administrator and faculty at University of Puerto Rico, workshops and wrap up session. In the afternoon ICEE SC meeting. Social event at night visit of the Phosphorecent Bay. (estimated 200 participants) If necessary, August 6, 2001 can be included depending of the workshops available.

**Proposed Schedule:**

1-1/2 Year Prior to Conference:

Mail Out First Call for Papers.

One Year Prior to Conference (at previous ICEE):

Distribute Brochures About Conference on Site.

Mail Out Second Call for Paper.

November – December of Prior Year: Mail Out Reminders/Third Call for Papers.

During Year of Conference:

February 15: Abstract due

March 31: Notice of acceptance

May 15: Camera-ready manuscripts due

May 15: Registration materials and Hotel Information mailed

June 30: Pre-registration deadline

August 1-6: Conference, technical tour and joint workshop (6 days)

**Hosting Institution(s) or Organization(s), including letter of endorsement and commitment from the head of the organization:**

Letters of endorsement will be presented at our presentation on Oslo, Norway, August 5, 2001. The sponsor institution is the University of Puerto Rico at Mayaguez. Other organizations are Puerto Rico Industrial Development Company (PRIDCO), Municipality of Mayaguez, Puerto Rico Convention Bureau, Technoeconomic Corridor.

**Proposed Conference Co-Chairs:**

Dr. Ramón E. Vásquez-Espinosa, Dean of Engineering, UPRM

Prof. Lueny Morell, Professor and Special Assistant to the Chancellor

Dr. Dan Budny, University of Pittsburgh

Dr. Vásquez was Co-Chair for the Technical Program of the 1999 Frontiers in Education (FIE) Conference in San Juan, Puerto Rico in November 1999, Chair of the ADMI Symposium in Mayaguez, Puerto Rico 1996.

Prof. Morell was Finance Chair for the 1999 FIE Conference

Both were members of the Organizing Committee, leading local arrangements for this 700 attendees conference.

Dr. Dan Budny was the Chair for the 1999 FIE Conference. He has ample experience in organizing international and national conferences.

## Introduction to the Hosting Institutions and City/Region:

### Puerto Rico and the University of Puerto Rico at Mayagüez

Puerto Rico is an island in the Caribbean inhabited by 3.7 million people, over 500 years of history and natural wonders, and a self-governing Commonwealth in association with the United States. Puerto Rico boasts miles of white sand



beach, rugged mountain ranges and historical sites dating to the 1400's. It is 180 by 63 kilometers in size, and exploration of the interior reveals the lush vegetation and wildlife of rain forests and mangroves as well as caves and lagoons. We are a friendly and hard-working country, education being a strong pillar and critical factor in our development. Puerto Rico has a fully developed economy with 41% of its GDP coming from manufacturing.



*The University of Puerto Rico at Mayagüez* was founded 1911. It is a land, sea & space grant university, with over 12,600 students and four

colleges: Engineering, Arts & Sciences, Business, and Agricultural Sciences. In the academic year 1996-97 we granted over 1,800 degrees, including over 140 MS, PhD's. Our College of Engineering ranks 7<sup>th</sup> in the United States with 4600 students enrolled in 1997, of which 38% are women. We offer bachelor degrees in traditional areas, 6 master degrees and three PhD's.

*The University of Puerto Rico at Mayagüez* is the second largest campus of the University of Puerto Rico's public system. It produces 4.5% of the total of all underrepresented minorities and 10.2% of all Hispanics graduating with undergraduate degrees in Science, Math and Engineering/Technology (SMET) fields in the United States. Furthermore, more than 16% of all Hispanics in the US who receive undergraduate engineering degrees come from UPRM. The College of Engineering is the largest, Hispanic engineering school in the United States. The engineering student population during the 1997-98 academic year was of 4,577, of which 62 (1.3%) were foreign



students, and the other 98.7% were from Puerto Rico. In 1996-1997 UPRM ranked 7<sup>th</sup> in the U.S. as one of the largest engineering colleges and 10<sup>th</sup> in granting engineering degrees (ASEE Manpower Commission, 1997). The College of Engineering also counts with one of the largest female student population (38%) in the U.S. just behind Texas A & M. Approximately 40% of the graduating engineers are hired in the U.S. mainland every year. For the past 18 years UPRM has enjoyed a serious research and educational relationship with national research & education sponsoring entities such as NSF and NASA.

#### **Comments of Conference Facilities:**

All resorts or hotels under consideration located in the metropolitan San Juan or in the northeast coast of the island have facilities for plenary sessions, workshops and accommodations for the estimated 400 participants. Accommodations in Mayagüez would have to be distributed among one or two hotels beside Mayagüez Resort and Casino (Holiday Inn and Casino, Hotel El Sol).

#### **Proposed Technical and Cultural Programs:**

##### *Cultural*

Old San Juan Historic District

El Yunque Rain Forest

Phosphorecent Bay

Camuy Cave

##### *Technical*

Bacardi Rum Plant

Arecibo Ionospheric Observatory

Hewlett-Packard Manufacturing and R&D Facilities

(information technology cluster)

Allergan (medical devices cluster)

Technoplastics Industry Inc



**Proposed Costs and Budget Method of Funding:**

The University of Puerto Rico will seek funds from government through the Puerto Rico Industrial Development Company (PRIDCO), the Puerto Rico Convention Bureau and from industry donations both in Puerto Rico and US mainland. The Government of Puerto Rico, Puerto Rico Convention Bureau, Puerto Rico Tourism Company, Puerto Rico Hotel and Tourism Association, Local SKAL Club Chapter and American Airlines, have all pledged support in the planning, promotion and on-site coordination to make the **International Conference in Engineering Education in 2005** in Puerto Rico the most successful ever. What follows is a tentative budget. For the computation we have assumed 400 participants during the conference plus 200 accompanying person. For the post-conference we are estimating 200 participants plus 100 accompanying person.

<b>Fixed Costs</b>	
Publication, proceedings, Program Committee	\$ 17,000.00
Hotel with technical equipment/support, exhibitors	\$ 15,000.00
Travel, representation, IEEE SC	\$ 20,000.00
Speakers, etc	\$ 10,000.00
Social and Cultural Program	\$ 10,000.00
Miscellaneous	\$ 10,000.00
<b>Total Fixed Costs</b>	<b>\$ 82,000.00</b>
<b>Variable costs/participant</b>	
Break (6*7*400 + 4*5*200)	\$ 20,800.00
Breakfast Continental (3*10*400 + 3*8*200)	\$ 16,800.00
Lunch (3*15*400 + 3*12*200)	\$ 22,800.00
Dinner (2*25*(400+200) + 2*20*(200*100))	\$ 42,000.00
Banquet with dance (45*(400 + 200))	\$ 27,000.00
Transportation ( 15 * 300)	\$ 4,500.00
Gifts, T-shirt, conference bags, etc	Donations
<b>Total Variable Costs</b>	<b>\$ 133,900.00</b>
<b>Total Expenses (Fixed + Variable)</b>	<b>\$ 215,900.00</b>
25% of income excluding grant and donations for iNEER Secretariat	\$ 49,000.00
<b>Total Expenses</b>	<b>\$ 264,900.00</b>
<b>Incomes</b>	
I. Registration Fee	
a. Conference Only (400 * 350)	\$ 140,000.00
b. Post-Conference and Technical Tours (200*100)	\$ 20,000.00
c. Accompanying person (200*125)	\$ 25,000.00
d. Exhibitors (20 * 550)	\$ 11,000.00
II. UPR	\$ 20,000.00
III. Sponsors	\$ 50,000.00
<b>Total Incomes</b>	<b>\$ 266,000.00</b>

**Dates and Sites for International Steering Committee Meeting for the Autumn Preceding Proposed Conference**

October 2004, San Juan Puerto Rico (1 ½ day) and Mayaguez, P.R (1 ½ day)

International Conference on engineering Education ICEE-2005  
Education, Research and Development: Fostering Economic Growth  
August 1-6, 2005 San Juan, Puerto Rico

<http://www.uprm.edu/icee2005> (Tentative)

## Important Dates:

February 15:	Abstract due
March 31:	Notice of acceptance
May 15:	Camera-ready manuscripts due
June 30:	Pre-registration deadline

The Conference program should include keynote speeches, contributed papers in sessions, special sessions and panel discussions, workshops. The conference papers should be published in electronic Conference Proceedings via internet and CD-ROM, small amount of printed proceedings will be available.

Topics included (but are not limited to) will be the following:

- Teaching innovation
  - University, industry and government collaboration programs
  - International co-operation and student and staff exchange programs
  - Accreditation
  - Quality assessment
  - Multidisciplinary design integration
  - Multimedia teaching tools
  - Distance learning and autonomous/self-access learning
  - Global engineering practice
  - Current trends in engineering education
  - Integration of basic sciences and engineering
  - Model for economic development
  - Entrepreneurship education in engineering
  - Technology and learning systems

## Abstract Submission:

Prospective authors are requested to submit abstracts of 300-500 words each in English. Submit your abstracts via our Web site at <http://www.uprm.edu/icee2005/conferences/abstracts> (tentative). Indicate A) paper, B) poster, C) special session, D) workshop