Welcome to the first Newsletter of the Carnegie Mellon|Portugal Partnership!

"To a partnership that lasts for many years"

These words were uttered by Dr. Jared L. Cohon, President of Carnegie Mellon University, during a dinner in Pittsburgh for members of the Board of Directors and of the Executive Team of the Carnegie Mellon|Portugal Partnership.

The fifth meeting of the Board of Directors took place on the 27th and 28th of May 2009 in Roberts Hall, Dilks Library at Carnegie Mellon University, Pittsburgh, Pennsylvania, USA. Among other discussion items, the Board of Directors heard the report of the Program Directors, reviewed the evaluation of the Professional Masters programs held on May 4-8,

the first draft of a Strategic Plan entitled “ICTI Portugal: An Innovation Agenda for Research, Technology and Graduate Education.” This plan is currently under discussion in the scientific community and among industrial partners. Version 1.0 will be presented at the First Annual Carnegie Mellon|Portugal Conference on June 22, 2009, in Porto, in Portugal.

The Carnegie Mellon|Portugal Program kicked off eight new research projects and supports the training of 101 students, of which 30 are international students from 13 different countries. In the current academic year 67 students (24 Ph.D. and 43 M.Sc.) were admitted from 226 received applications. To date, 32 research professors have been recruited under the Partnership. More than 15 high-tech companies train their professionals and participate in the research activities of the program.

The mission of the Carnegie Mellon|Portugal Partnership is to create new knowledge in key focused areas of information and communications technologies by means of cutting-edge research, world-class graduate education and a close connection with the Portuguese Industry, thus placing Portugal at the forefront of innovation.
Executive team visits Carnegie Mellon University

Members of the new executive team of ICTI@Portugal traveled to Pittsburgh between May 24 and 29, 2009. Specifically, João Barros, National Director of the Carnegie Mellon|Portugal Program, Carlos Freire, Executive Director, and Alexandra Carvalho Vieira, Communication Officer.

While visiting the Carnegie Mellon campus, Barros, Freire and Vieira met with several Carnegie Mellon representatives, faculty, scientists, students, department heads and program directors, as well as key staff members of ICTI|Carnegie Mellon. Peter Steenkiste, ICTI Research Coordinator and Professor of Computer Science received the team on May 26 and elaborated on networking research. Manuela Veloso, Herb Simon Professor of Computer Science, showed a demo of robots that her group is developing, and Hyong Kim, Professor of Electrical and Computer Engineering (ECE) and CyLab member highlighted ongoing research on network management with Portugal Telecom. Next in line was the Human-Computer Interaction Institute (HCII) where Director Daniel P. Siewiorek and Jenna Date, ICTI Director of MHCI, explained how engineers, designers and psychologists can work in new and interdisciplinary ways.

They met also with Lorrie Cranor, Associate Professor of the Institute for Software Research (ISR) and EPP, and with Marija Ilic, Professor of ECE and an expert on Energy and Electrical Power Systems. The team had dinner with Ed Schlesinger, Department Head of ECE, who emphasized that: “students must understand that it is very important to have a critical way to see things and also they have to be good communicators to succeed.”

On May 27, the members of the executive team were joined by Vasco Varela (FCT) and Manuel Garcia (PT). Virgil Gligor, Co-Director of Cylab, and Gene Hambrick, Director of Corporate Relations, explained that CyLab—Confidence for a Networked World—is one of the largest university-based cybersecurity education and research centers in the USA. It is multidisciplinary and university-wide, involving six colleges from Carnegie Mellon. The team then had lunch with Ph.D. Students from different areas of the Program (more details on the next newsletter).

On May 29, the team met with Francisco Veloso, ICTI Research Coordinator and Lee Branstetter who lead a thrust in Technological Change and Entrepreneurship. They also visited the Information Networking Institute (INI) to talk with Dena Haritos Tsamitis, ICTI Program Coordinator for MSIN and MSIT-IS and Director of INI. Barros, Freire and Vieira had lunch with Jonathan Aldrich, Assistant Professor of the Institute for Software Research. Then they met with Frank Pfenning, Professor of the School of Computer Science and Associate Dean of Graduate Education. The last encounter was with Ramayya Krishnan, Acting Dean of Heinz School of Public Policy and with Pedro Ferreira, Visiting Assistant Professor, Heinz College, who identified a number of research opportunities in Engineering and Public Policy.

“The goals of this visit were to learn about opportunities, success stories and challenges and talk about the next steps,” Freire says. “The goals were completely achieved,” says Barros.

Feedback
What do you think about our newsletter? Share your doubts and concerns about something you read, suggest other topics and contribute with articles or pictures. Please send all your feedback to news@cmuportugal.org.

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Research: “Looking at hard problems and solving them”

Peter Steenkiste is a Professor of Computer Science at Carnegie Mellon University and is also part of the leadership team of the Carnegie Mellon|Portugal Partnership.

**What is the importance of participating in this Partnership?**

For me, this is an opportunity to work with universities in Portugal and in Europe. I grew up in Europe so I have lots of contacts there. The thing I enjoy most is talking with groups with different expertise. There are some great opportunities in Porto for research because of their expertise and the same is true for the University of Aveiro. The research in Europe is different because the industry is structured differently and there are also diverse focus areas than in the USA. Again when I look to people in Aveiro, I know that there are some interesting matches with slightly different expertise.

Portuguese students: “The ones I worked with were good!”

You are involved in two projects...

One is Drive-In - Distributed Routing and Infotainment through Vehicular Inter-Networking. It’s looking at a very hard technical problem which is doing vehicular wireless networking. Extend wireless to the road and also developing new applications are things that have a lot of potential. We are investigating how vehicle-to-vehicle communication can improve the user experience and the overall efficiency of vehicle and road utilization.

How does it work?

We have many wireless networks and we know how that works. Typically we talk to an access point that is in a building and both points are stationary. Now, suppose you have two cars driving at 120 km an hour and each has a laptop with wireless and they have to talk to each other. This becomes a lot harder. The problems are much more challenging. The applications are also very different.

And the other project?

On the other project I have been working with the Portuguese student Victor Jesus. We are looking at internet quality of service deployment issues. How the nature of the relationship affects some of the routing decisions that can be made. So it’s really about quality of service in an internet scale. It’s a large system design.

What will be important in the future?

I think the importance of quality of service has been known for a long time. I also had a student working in this area and we developed a lot of protocols and we know how this works but no one deploys it because I think the relationship with business models is not yet understood. We have a technology but we don’t know how to put it on the market, how to make money of it and the reason is because the internet has a specific business structure. If you have traffic in the network, you will have multiple service providers that carry your traffic and they all want to get paid. So there is a very specific business structure to follow which is not consistent with the way the internet works.

Innovation: “Generating new ideas and being able to apply them and figure out which ideas are good.”

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**News from Carnegie Mellon University**

- Carnegie Mellon University Re-Designated Center of Excellence by U.S. Government
  Read more
- Carnegie Mellon President Jared L. Cohon Named Distinguished Member of National Civil Engineering Society
  Read more
“Economy 3.0: Re-Boot and Re-Connect”

The First Annual Carnegie Mellon|Portugal Conference, entitled “Economy 3.0: Re-Boot and Re-Connect” is sponsored by the Fundação para a Ciência e Tecnologia and will take place on June 22, 2009, at Palácio da Bolsa, Porto, Portugal.

The current financial crisis has cast doubt on the existing economic model. Rather than re-booting the system, leaders around the world must re-connect and work towards the growth of global innovation networks, capable of providing robust and sustainable solutions for our common future.

In this context, information and communication technologies have an important role to play, not only because they remove both geographic and cultural barriers, but also because they are basic building blocks in the search for technical solutions. These solutions will ensure a more intelligent use of natural resources (i.e., smart grids, vehicular networks, precision agriculture, etc.) and human resources (i.e., workflow software, social networks, personalized contents, etc.).

The goal of this conference is to identify some areas, from basic research to applications, actively promoting the formation of industrial and academic consortia capable of meeting the challenges of Economy 3.0.

Free registration and other information: http://www.cmuportugal.org/conference2009/

Profile: Ph.D. Student

Andreia Christina Rafael began her Ph.D. in Technological Change and Entrepreneurship (TCE) two years ago in Portugal and has been in Pittsburgh since 2008.

In her opinion it is a "very rewarding experience because I feel I have learned a lot." Andreia is developing a project in the area of intellectual property. In May, she presented her first paper and is currently starting to work on the second one. Her goal is to understand how companies can spend a period without IPR protection before submitting their patents. "In my view, the decision to patent is very strategic and depends on the competition", because "we only need protection when someone wants to emulate our products." Her major objective from a very young age has been to follow an academic career. "I graduated from the Universidade Católica Portuguesa, took my master at ISCTE and then came to this program with a top university that does a great job at interdisciplinary."

"The Program allows a person to experience two worlds: Portuguese and American. Perceive what is good or bad and draw comparisons."

The next weekly newsletter will feature an article about the Program Statistics, as well as an interview with Manuela Veloso and with Manuel Garcia (PT).