

UT Austin | Portugal INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB



■ Welcome Note from CoLab@Advanced Computing Co-director

The Texas Advanced Computing Center (TACC) is pleased to participate in the International Collaboratory for Emerging Technologies (CoLab) program. Just as the CoLab Advanced Computing program promotes cross-disciplinary research among science and engineering fields, TACC supports multidisciplinary projects at The University of Texas at Austin, across the United States, and around the world.

TACC's mission is to enable discoveries that advance science and society through the application of advanced computing technologies. Our staff conducts leading-edge research and development in advanced computing and visualization technologies, and educates the public about the role of advanced computing in research and society. TACC is committed to preparing the next generation of researchers across all disciplines for careers in fields that utilize advanced computing technology, by providing innovative and engaging education programs.

TACC staff members were privileged to travel to Lisbon and Porto in May to provide training in basic and advanced concepts in parallel programming, optimization and scientific visualization, and to promote interaction with TACC systems, including the Ranger supercomputer – one of the most powerful computing systems in the world, with 579 Teraflops peak performance and 123 terabytes of memory. Through these training workshops, we expect to strengthen contacts with the Portuguese research community in advanced computing, and forge new connections which will result in bringing Computational Science & Engineering PhD students to TACC for internships.

As we move into the third academic year of the Co-Lab program, TACC is pleased to be able to support projects at the intersection of Advanced Computing, Math and Digital Media – projects that will require original computational algorithms to produce innovative solutions for interactive products and services. Our newly-renovated, state-of-the-art Visualization Laboratory will provide ample resources for collaborative projects with Portuguese researchers and CoLab Fellows, alongside researchers from the UT Institute for Computational Engineering and Sciences (ICES). TACC is well-situated to support this type of project, as Austin is home to some of the industry leaders in digital arts and media, film, and gaming technologies. We have strong ties to these organizations, and will seek to involve them in the CoLab projects as opportunities arise.

We look forward to developing productive collaborations with the researchers from CoLab, creating a strong culture of Advanced Computing expertise, and supporting a range of Digital Media projects on both sides of the Atlantic.

Jay Boisseau

MARK YOUR CALENDARS:

- **Network of Creative Cities Conference (Digital Media)** – July 7 – Pavilhão de Portugal, Lisbon, Portugal – For more information on how to attend please visit <http://creativecitieslisbon.org/>
- **TACC S12TH INTERNATIONAL CONFERENCE ON TECHNOLOGY POLICY AND INNOVATION (UTEN)** – July 13-14, 2009, Porto, Portugal – For more information www.ictpi09.org.pt

COLAB News Center

INTERNATIONAL Summer School on Digital Transformation

More than 20 faculty from around the world will converge on Porto in July to inaugurate the School for Digital Transformation. The topics that faculty will address include an array of cutting edge issues. Here is a small sampling:

We will hear about data visualization techniques for civic action from Tanya Noley, the Skills Building Project Leader at the Tactical Technology Collective; Doug Schuler (Canada) will discuss how to reinvent social thought and action with "civic intelligence." Berkeley Professor Tapan Parikh will talk about bringing accessible mobile services to microfinance groups in rural regions. Rui Barros (Portugal) will talk about e-inclusion



and new methods for democratic participation in local level decision-making. Scott Robinson (Mexico) will share some of his work on telecenters and cybercafés in Latin America. Laura Stein (US-Texas) shares her work on environment groups and how the web is used as a communication resource among activists. Siva Vaidyanathan (US-Virginia) will talk about the Googlization

of Everything, examining identity, communication and knowledge.

The 50 students enrolled in the School come from all over the world, and their resumes and interests are a match for such a diverse faculty. We're looking forward to a fascinating week.

Upcoming Digital Media Research Call

There will be a new research call soon focusing on the digital media area. People with math and advanced computing interests may also find some digital topics that interest them in this call. One new element of the call identifies three strategic areas for proposals: the Future of Television; the Future of News; and Interactive Media Environments/Serious Games. As well, the Digital Media area is trying to arrange a proposal writing workshop, to occur sometime during the next two months.

Spring School in Advanced Computing

The Spring School in Advanced Computing workshops took place at Instituto Superior Técnico (IST), in Lisbon, and at Universidade do Porto, in Porto, from May 25th to May 29th.

The Lisbon workshop happened at the Centro de Congressos of IST, from May 25th to 27th. It focused on subjects such as: Parallel Computing, Ranger Hardware, Introduction to Ranger, OpenMP, Optimization and Performance Engineering for Scientific Applications, MPI, Scalability Performance and Visualization on Ranger and Spur.

The workshop at Universidade do Porto, took place on May 28th and 29th and discussed subjects like Advanced MPI programming, Hybrid programming with OpenMP and MPI, Profiling, optimization and debugging of code, Advanced visualization techniques and Visualization of very large datasets. For more information about these events please visit their official websites: <http://taccspringschool.ist.utl.pt> for Lisbon's workshop and <http://taccspringschool.dcc.fc.up.pt> for Porto's workshop.



■ Multicore Platforms Seminar in Braga

The Advanced Computing program at CoLab has organized 3-day Advanced Seminar on Multicore Platforms. The Seminar took place from June 1-3, at University of Minho, in Braga.

The 3 day event had a series of invited talks on topics such as: "Intel Threading Building Blocks", (by Alexey Kukanov, by Intel Corporation), "Parallel computing on GPUs", (by Michael Garland, NVIDIA Research), "The Unified Parallel C programming paradigm", (by Montse Farrera, Universitat Politècnica de Catalunya), "Data parallel programming", (by David Padua, University of Illinois at Urbana-Champaign), "Parallelism in irregular algorithms" (by Keshav Pingali, University of Texas, Austin) and "High performance dense linear algebra libraries" (by Robert van de Geijn, University of Texas, Austin).

The overall seminar structure emphasized the organization of current computing devices, whose trend towards increased parallelism, and the issues related to their programmability. The audience, based on the 70 registered participants from the towns of Coruña in Galicia to Lisbon, was participative and considered their time well spent on this event, as some pointed out during successive chats.

Researchers from Intel and NVidia (the manufacturer of the most successful graphics processors and boards) stressed their approach on multi- or many-core devices, while the speakers from several universities described complementary approaches for data parallelism, and for regular and irregular applications to take advantage of current architectural trends.

The seminar organization prepared special equipments for the Intel demos, including a 24-core computing node with 64GB RAM, the only one in Portugal. This computing node is accessible to all participants for experiments, until the end of June (more details on the Seminar website, <http://advcomp.di.uninho.pt/uta/multicore/>).

The overall quality of the presentations was very high, and the dialogue between speakers and audience was intensive and constructive. Coffee and lunch breaks proved to be quite fruitful to create new cooperation bridges and to get together novel ideas for future collaboration projects.

All speakers also enjoyed relaxed evenings with participants, either visiting the Bom Jesus icon place in Braga or its city center, or the historical center of the World Heritage town of Guimarães.



■ PROJECT FROM 2008'S SUMMER INSTITUTE Screenwriting Workshop gets picked up by national television

The UT Austin | Portugal Program is pleased to congratulate Miguel Crespo (Screenwriting student of the 2008 Summer Institute). Miguel has taken his work created in the Screenwriting workshop and developed it into a movie and a mini-series for TV.

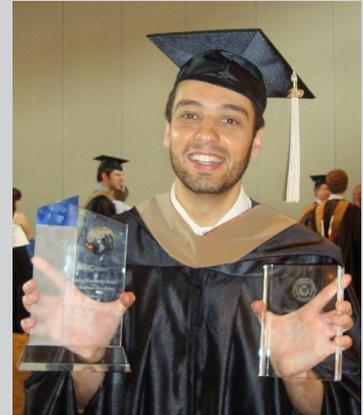
The project, a teenage horror film, will be premiered first as a movie, followed by the broadcast of the TV mini-series on a national channel a few months later. It will later be compiled in a DVD for public distribution.

Congratulations!

■ THE UTEN CORNER

ACADEMIC AWARD FOR MARCO BRAVO

On May 23, Marco Bravo, currently with the Portuguese government, was awarded both the Kozmetsky Scholar and Outstanding Student Awards for the 2009 graduating class of IC2 Institute's MS in Technology Commercialization Executive Program (<http://www.ic2.utexas.edu/mstc/>). This elite online and Class-Based executive degree prepares students to be successful technology entrepreneurs. Students learn to identify and evaluate emerging technologies, identify customers and marketing strategies, develop broad, flexible business plans, build a high-functioning management team to drive a new venture, devise approaches for securing funding, and manage and protect intellectual property. Students work on virtual and international S&T Commercialization Teams to produce year-end S&T business and marketing plans for international markets.



Marco Bravo at Graduation in Austin

■ UTEN present at Innovation Days – FIL, Lisbon

UTEN will be represented at this year's Days of Innovation event, promoted by the Portuguese Innovation Agency (ADI), Foundation for Science and Technology (FCT) and the Ministry for Science Technology and Higher Education (MCTES).

UTEN will have a booth at the event, where people can learn more about the program and all its advantages, but it will also present two workshops: the UTEN Researcher Workshop (June 18th, from 10:30am to 1:30pm) and UTEN Entrepreneur Workshop (June 20th, from 10:00am to 1:00pm).

The Researcher Workshop will explore best practices and global perspectives on technology transfer. The participant will learn how to best present your technology to business people; explore what researchers do right (or not) in the tech transfer process; and learn how best to interface with your technology transfer office. The Entrepreneur workshop will be focused on business strategy, global focus, and market-based entrepreneurship.

For more information please visit <http://utenportugal.org/events/jornadas-de-inovacao/>.

■ UTEN WORKSHOP #3 focuses on Patents for Technology Transfer and Commercialization

Under the theme "From the Laboratory to the Market Place: Obtaining Strong Patents for Technology Transfer and Commercialization" the third UTEN Workshop was hosted by Tecminho, University of Minho (Guimarães), from 3 to 5 May 2009.

Organized in collaboration with General Electric and the International Partnerships Program of the Science and Technology Foundation (FCT), the workshop had three prominent speakers in the Patent Field: Mardson McQuay (General Electric Co), Remus Fetea (Potomac Patent Group) and Steven DuBois (Potomac Patent Group).



A strong and enforceable patent is essential for the protection of important technology for Commercialization. Hence, the importance of including this Workshop in the 2009 UTEN Workshop Series.

The hands-on workshop focused on the necessary working knowledge from a legal perspective of several important issues involved in the preparation and prosecution of patent applications, including patentability, patent searches, preparation of strong and enforceable patent applications, claim and specification drafting, invalidity, infringement, as well as licensing. The workshop also addressed the roles of inventors and other professionals involved in the creation of new technology, such as Technology Transfer professionals, in order to assure the development of the needed legal protection for a successful product.

Once again UTEN administered an electronic survey to solicit feedback from participants - University officials in Technology Transfer offices or GAPI's, government officials and post-doctoral students - with quite satisfying results. Almost all of respondents felt using cases was a good method of presenting information and that the acquired data will prove helpful in their jobs. They also felt very positive about the structure of presentations, considering that the workshop helped them to strengthen their Technology Transfer capabilities. The four highest rated panels were: "Licensing Consideration When Commercializing a Strong Patent", "Avoiding Fatal Errors While Prosecuting a Strong Patent: Inventorship, Duty of Disclosure, and Information Disclosure Statements", "From Conception to Filing: Patentable Subject Matter and Preparation of a Strong Patent".

All in all, the participants who responded to the survey about the UTEN | GE (Tecminho) workshop were very positive about all aspects of the event.

■ TITO2 -Week Training and Mentoring Program Austin, Texas - May 18 to 29, 2009

After submitting applications to the FCT and after being selected by an international committee 12 Portuguese TTOs and IP managers participated in a 2-week workshop at IC2 Institute in Austin Texas (www.icc.utexas.edu). The program included intensive day-long training and Q&A sessions with directors and managers from Technology Commercialization Offices (OTC's) at UT-Austin, UT-Dallas, Texas A&M, and South Texas Technology Management (STTM). Additional training sessions focused on The Austin Technology Incubator (ATI), Mexican Technology Business Accelerator (TechBA), Technology Marketing in the US, a visit to YDreams US Office that is based Austin, and additional know-how and assistance provided by IC2 Institute and UTEN@Austin Directors and Managers, see www.utenportugal.org

At the end of the workshop the following technology transfer officers and IP managers were awarded certificates of graduation: Pedro Silva, University of Minho; Filipe Castro, University of Porto; Carla Mascarenhas, Universidade de Tras-os-Montes e Alto Duro; Ana Rita Remigio, David Resende, and Marlos Silva all from the University of Aveiro; Isabel Alte da Veiga, INOVISA; Dina Chaves and Miguel Moura representing INPI; and Hugo Barros, Alexandra Marques, and Sofia Vairinho all from the University of Algarve. This workshop was Phase I of an on-going UTEN training and internship program coordinated and managed by UTEN@Austin. During Phase II selected TTOs and IP managers will be offered 2-3 month internships hosted by Technology Commercialization Offices at associated universities, technology incubators, IP offices, and other select offices associated with the UTEN@Austin program.



Dina Chaves and Miguel Moura from INPI in the background.
Hugo Barros and Sofia Vairinho, both from University of the Algarve (UALG) are in the foreground.



Eli Mercer, UTEN@Austin Manager, Training and Internships talking with Ana Rita Remigio, from University of Aveiro.

■ ONGOING OPPORTUNITIES

Digital Media:

INTERNSHIP OPPORTUNITIES IN AUSTIN COMPANIES

We have recently updated our internship program and encourage graduate students and early-career professionals interested in gaining hands-on experience working at Austin-based companies to apply. The program includes airfare to Austin, housing for up to 3 months, health insurance, and visa fees. We also list interns as "visiting researchers" at the University of Texas, which grants them access to the university library system, gyms, and other campus amenities as well as the city bus system. Those interested in applying can find more information about the program, including application procedures at <http://colab.ic2.utexas.edu/dm/internships/>

Applications may be submitted at any time, but the minimum time for processing and placement is 4 months, so those interested must plan ahead. Internships will last a minimum of 6 weeks, and interns will be placed at digital media companies in Austin. During their time in Austin, interns will not only have the opportunity to learn about the digital media industry through their internship assignment, but will also be able to participate in professionalization and leadership training with University of Texas students enrolled in the Digital Media Leadership Program.

Mathematics:

SUMMER SCHOOL AND WORKSHOP ON "KINETICS AND STATISTICAL METHODS FOR COMPLEX PARTICLE SYSTEMS"

This is a two-week summer program to be held this coming July 2009 in Lisbon, Portugal. The week of July 13 to 17 will feature a summer school for graduate students and post-docs, with 5 mini course series by E. Carlen, P. Degond, I. M. Gamba, M. Katsoulakis and R. Pego. The following week of July 20 to 24 will hold a workshop featuring lectures on recent progress in this field.

This program is a University of Texas at Austin-Universities in Portugal initiative <http://www.math.ist.utl.pt/~dgomes/austin> and is also supported by the ICTI Carnegie Mellon University | Portugal partnership, CIM and CMAF.

How to Apply:

We invite graduate students and post-docs to register and apply for funding for the first and second week of the program. Updated information about the school and workshop program can be found at: <http://kinetic.ptmat.fc.ul.pt>.

Useful links

www.utaustinportugal.org

www.fct.mctes.pt

www.utexas.edu

www.ic2.org

www.ati.utexas.edu

www.austin-chamber.org

<http://colab.ic2.utexas.edu/dm/>

www.utenportugal.org

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