

MAY\2011

COLABSQUARE

NUMBER\35

UT Austin | Portugal INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB



Digital Media

Summer Institute 2011

Workshops Lisboa | Porto

Applications open until 6 June to:

Collaborative Screenwriting
Richard Lewis, UT Austin
13 June to 1 July | **FCSH/ UNL**

Entrepreneurial Journalism
for the Digital Age
Rosental Alves, UT Austin
13 to 17 June | **U.Porto**

Experimental Animation
Jeanne Stern
27 June to 15 July | **FEUP**

More information: www.utaustinportugal.org

UT Film Professor Tom Schatz Returns to Cinemateca



The Summer Institute offers a special opportunity for students in Porto and Lisbon to work with UT faculty and develop skills in short intensive workshops. **This year, students will not be the only ones to benefit from the summer institute. Screenings of films significant to an understanding**

of globalization and new media platforms will be open to the public in Lisbon.

The screenings will be held at the **Cinemateca Portuguesa, a historic theater in the heart of Lisbon, from 23 to 27 May at 18h00.** Professor Tom Schatz, a renowned film scholar from the University of Texas, will introduce the films each evening with a short talk relating the movies to the theme of media con-

vergence. Viewers will be able to situate familiar films within broader changes in the global entertainment industry.

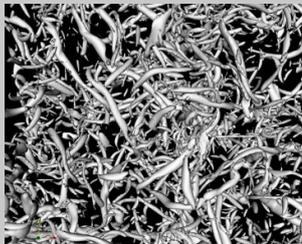
Professor Schatz is working on a book that examines how Hollywood films today are often not just standalone texts, but anchors for a variety of ancillary media products. Films such as *Star Wars* provided the opportunity for spin-offs such as toys, novels set in the same diegetic universe, and other product tie-ins. Today, big-budget pictures such as the *Lord of the Rings* trilogy and the *Dark Knight* were produced with multiple media platforms from the start.

The screening series will also include the animated film *Toy Story* and more adult-oriented fare such as *Sex and the City*. Of course, viewers can just sit back, relax, and enjoy the movies, but they might learn something in the process anyway.

R&D PROJECT HIGHLIGHT

Project: Modeling the sub-filter scalar dissipation near the Turbulent/Non Turbulent interface in jets: applications to combustion

Principal Investigator: José Carlos Fernandes Pereira



1. Detail of the fine scales of motion (small eddies) of a massive direct numerical simulation (DNS)

This project (UTAustin/CA0053/2008) aims at (i) understanding the physics and (ii) developing advanced models, for a key quantity that governs the exchanges of scalars (e.g. heat) in many natural and engineering flows: the subfilter-scalar dissipation. The simulation of scalar transport is crucial to many problems e.g. the simulation of pollutant dispersion, plankton transport, cloud formation, and the mixing

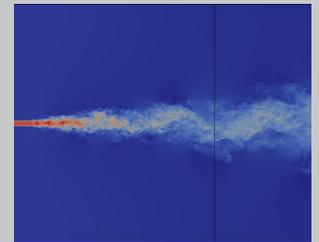
of oxygen and fuel inside a combustion chamber are all influenced by this process, and since the scalar transport is deeply affected by the subfilter-scalar dissipation, this quantity is extremely important.

The subfilter-scalar dissipation represents the dissipation of scalar variance (or the energy of the scalar fluctuations/agitation) in fluid flows, and is governed by the smallest scales of motion existing in any turbulent flow. Consequently, this quantity is extremely difficult to model since even in the most advanced engineering simulations or in the simulations of natural processes in the atmosphere and the oceans the number of degrees of freedom is simply too big to be simulated even in the most powerful

computers in existence.

As a prerequisite for investigating this quantity however, a massive direct numerical simulation (DNS) has to be carried out, where all the scales of motion in a given turbulent flow (in the present case a planar jet) are actually simulated. This can only be done with a fine assessment of the smallest scales of motion (Fig. 1), by implying the most accurate numerical methods, and by a high degree of optimization (MPI/Open MP) of the computer code used in the simulations.

At the present the team is assessing the DNS simulations (Fig. 2) using several different configurations run at TACC. The code solves the Navier-Stokes equations with the addition of a passive scalar field and the possibility of investigating jets with variable density. The second part of the work will be aimed at developing new models for the subfilter-scalar dissipation near the jet edges, where this quantity is most active in jets



2. Side view of a massive direct numerical simulation (DNS) of a planar turbulent jet run at the TACC. The number of collocation points is over 1 billion

Design and Computation Series

Digital Media lecture series continues in Lisbon

UT Austin | Portugal, in collaboration with UNL and IST, continues during May the Design & Computation series. This event is a speaker series addressing computer-based design innovations, particularly focused on game environments and interactivity.

On 25-26 May, Panos Markopoulos from Eindhoven University of Technology is going to talk about "Awareness and Persuasion": *In the last 10 years Europe has invested heavily in pursuing the research agenda of Ambient Intelligence. From the various possibilities that this technological vision opens up we are concerned specifically with applications that help improve social interactions between people and will help them change their behavior and attitude.*

On 26-27 May, Anthony Brooks from Aalborg University will present "Designing for Fun through Creative Expression and Video Game Play: Interaction Design and Sensor-based Computation - The SoundScapes story". This talk will discuss how the SoundScapes research evolved from a simple idea conceived from synthesizing experiences with profoundly disabled relatives, an education as an engineer, and a background in performance art.

The Design & Computation series is designed to foster creativity and innovation within some of Portugal's best digital media programs.

For a list of speakers, dates, locations and topics, please see the website on the series here: http://utaustinportugal.org/news/design_and_computation_series

UT Professors Wrap-Up Classes in Porto

Two UT professors are visiting Porto this spring to wrap up discussion and critiques for their team taught courses at U.Porto. RTF professors Karin Wilkins and Andrew Garrison each co-taught full semester courses for Porto students, using video conferencing technology.

Karin Wilkins co-taught Research Methods with U.Porto's Helena Santos. This course for digital media PhD students provided an overview of the different approaches used by communication and media studies scholars. Students learned about quantitative and qualitative methods, formulating research questions, and study design. The course culminated with students designing their own research proposals.

For most of the semester, Wilkins conducted her classes from Austin using video conferencing software. This enabled her to lecture and conduct discussions with a classroom of students in Porto. In May, however, Wilkins traveled to Porto to meet the students in person and conduct class face-to-face. "I appreciate the opportunity to meet our colleagues and students in person," Wilkins said, adding, "Education takes on an entirely different texture when not mediated through a screen."

RTF production professor Andrew Garrison co-taught a Docu-

mentary Lab course this spring. This course was team taught with three faculty members from Porto: Soraia Ferreira, José Azevedo, and Artur Pimenta Alves. Austin-based recording engineer Tom Hammond also contributed to teaching the class and will join Garrison when he visits Porto to wrap up the semester this June.

The Documentary Lab class provides students with an intensive introduction to documentary production. Students first develop ideas individually and produce three-minute documentaries. They then move on to make a ten-minute film in groups for the final project. While the course emphasizes the hands-on elements of documentary production, the class also touches on the history and aesthetics of the form, using the 2007 picture *War Dance* as a case study.

Since its first year, the UT Austin | Portugal Digital Media Program has used teleconferencing and team teaching for many of its full-semester classes. This enables students to have substantial exposure to a topic while reducing travel costs and logistical issues for instructors. Course evaluations have indicated that students felt that these courses have been successful and appreciated the access to additional faculty through the Digital Media program.

"Shaking Hands with CEOs: My Technology Transfer Experience at the University of Minho in Portugal" by Rosemary French*

How do you generate commercial support for an idea in terms of development and funding? More specifically, how do you turn a schematic napkin drawing into a viable commercial product that benefits society? This is the question that I wrapped my brain around during my 3-month internship at TecMinho, the technology transfer office for the University of Minho based in Guimarães, Portugal.

My past and current work experience in technology transfer has involved the rare opportunity to simultaneously interact with the scholarly minds of professors, CEOs of companies large and small, grant writers, prototype engineers, clinicians, research sponsors, and freelance entrepreneurs. I came to TecMinho with these types of associations under my belt from three years of past experience at the University of Texas at Austin Office of Technology Commercialization, and was excited about the opportunity to apply my expertise in relationship-building at a university located in a country that I had never visited before: Portugal. At TecMinho as well as UT-Austin, I have served as a bridge between research and industry, namely by focusing on the formation of strategic international partnerships to assist researchers in turning their ideas into legitimate commercial products.



TecMinho Directors and Staff: Teresa Martins, Pedro Silva, Paula Dias, Augusto Ferreira, Marta Catarino, Rosemary French, Mariana Peixoto, Sílvia Teixeira, Marco Sousa and Clara Silva



TecMinho: School of Engineering Building, University of Minho

If you do not already routinely engage in chemical explosions in your garage, pretend for a moment that you are an inventor. The mind of a research scientist is like a machine: it churns out creative solutions to complex global issues at the drop of a hat. So, what do you (the inventor) do when a potential investor shoots down your idea? What do you do next? The answer is to take some time to make your idea more appealing to the investor by developing it into a functional prototype, or by generating convincing data in support for your novel pill to solve world hunger. In order to further develop your idea, you probably need help. This is where I and other technology transfer specialists step in.

During my internship at TecMinho, I leveraged my previous expertise in fostering relationships between faculty and industry to assist researchers from the University of Minho in the commercial development of their inventions. Specifically, I met with researchers and start-up company leaders from the University of Minho to discuss their commercialization timelines and goals, and then pinpointed specific international contacts from the commercial, academic and medical sectors that had potential interest in collaboration opportunities to propel the development of these early-stage, university based technologies.

In addition, I interviewed industry leaders that specialize in specific markets in order to get their feedback on the commercial viability of some of the technologies from the University of Minho, as well as their commentary on alternative business models for creating a start-up company. It is my hope that these new ties between these international contacts and Portuguese technologists will lead to long-term collaborative partnerships.

My internship at TecMinho proved to be a rewarding learning experience for me, as I was able to form multiple connections to highly enthusiastic potential research and development partners for the University of Minho. The next big steps are to formalize these partnerships in order to establish concrete timelines for these types of collaborations, such as in the areas of joint prototype development, sponsorship, collaborative research, and clinical trial development. These types of partnerships between Portu-

guese researchers and international commercial partners allow faculty members to turn their test tube reactions into physical products that have the potential to positively impact society. It was an immense pleasure to work with the faculty and staff at the University of Minho, and I hope to return to this top flight university as well as the picturesque locale of Portugal in the near future.

**Rosemary French is a technology transfer officer and freelance writer based in Austin, Texas. Please direct inquiries to rosemaryafrench@gmail.com. Her internship at TecMinho was proudly hosted by the University Technology Enterprise Network (UTEN), a network of technology transfer offices across Portugal that focuses on the commercialization and internationalization of Portuguese technologies.*

■ Submissions open for U.Frame, the International Academic Video Festival

U.Frame 2011 will take place October 6-8 in Porto, Portugal. Entries will be accepted through July 15.

U.Frame is a unique international film and video festival exclusively for students and recent graduates. Works are accepted in the categories of documentary, fiction, animation and experimental.

Now in its fourth year, it is a project of the University of Porto with the participation of the University of Coruña in Galicia, Spain, the University of Texas at Austin, Nanyang Technological University in Singapore and Universidade Metodista in São Paulo, Brasil.

UT Austin has had a significant presence at U.Frame. In 2008, two RTF students participated; Nazanin Shirazi won the Audience Award for her pre-thesis film "Red Wednesday," while Marianela Vega Oroza won the Best Document-

tary Award for her pre-thesis film "Conversations II". In 2010, two more RTF students presented films at U.Frame. In that competition, Angela Chen was a finalist in the fiction category with her film "By Jude", while Angela Torres screened her pre-thesis film "Frente Noreste" ("Northeast Front"). U.Frame 2010 included a master class on screenwriting by UT Austin professor Stuart Kelban.

For entry details, see www.uframe.org.



■ Workshop on GPU Programming for Scientific Applications 6-8 July 2011, University of Coimbra

Do you want to learn how to develop TeraFlop-class applications? Is your 12-core machine lacking the ability to run your scientific applications? Come and learn how to develop high-performance applications using the latest GPUs in the market! This unique workshop meets with world-class experts directly from **NVIDIA** and the **University of Texas at Austin** who give you hands-on help in understanding and

learning about the future of high-performance computing.

The University of Coimbra invites you to participate in a great workshop with a **thrilling Programming Competition! Register until 31st May at <http://www.uc.pt/fctuc/dei/gpu2011>**

■ UTEN CORNER

UTEN Portugal and Carnegie Mellon Portugal Programme promoted workshop on How to Value University Assets.

Specialists from the Carnegie Mellon University (CMU) visited Aveiro to present some of the best current practices in negotiation and valuation of assets created within academic contexts, such as new products, services and new start-ups. The workshop was titled «Valuation of Intangibles – valuation of licensing opportunities and early stage

companies» and took place at the Technology Transfer Unit (UATEC) of the University of Aveiro on 10th and 11th May.

The debates covered various topics such as capital gains, the benefits for the universities' spin-offs and the importance of attracting entrepreneurial investors. How universities approach investors to request funding and universities' abilities to develop business plans for new start-up companies. Tara Branstad and Barbara Carryer, both specialists in entrepreneurialism and technology transfer at CMU,

presented different models of business strategies that coincide with the objectives of the new companies and also capitalise on and optimise the advantages of inventions or creations developed at universities.

Entrepreneur and investor Raymond F. Vennare, the president and CEO of Thermal Therapeutic Systems, discussed real life examples drawn from his personal experience creating five successful companies. He demonstrated how the promoters should present their product and/or business in terms of competitive advantages, market differentiation, the costs involved (direct and indirect), expectations and valuation – a concrete number that shows the company's potential and their future returns. This plays a fundamental role in raising funds and in the negotiating processes with investors.

Barbara Carryer, an Adjunct Professor in entrepreneurialism and innovation advisor at the Institute of Social Innovation at CMU, highlighted how entrepreneurialism has become more apparent in universities: "the youths of today have a strong entrepreneurial spirit and we therefore need to look to the senior researchers because they are the ones that do not come looking for us as frequently".

The participants who attended the workshop included young entrepreneurs, managers of technology transfer offices at universities, professors and researchers, as



well as start-up companies and large companies such as Treat U and PT Inovação respectively. The workshop looked at various case studies on subjects such as licensing processes, protecting individual property rights and valuation for start-up companies, approaching the different variables involved that are relevant for each subject.

This initiative was organised by the UTEN Portugal network in partnership with the Carnegie Mellon Portugal Programme and aims to raise awareness of the importance of adequate valuation and evaluation of intangibles for start-up companies and highlight the information that is required for this process.

In addition to sharing CMU's knowledge and experience in this area, the workshop was also an opportunity to encourage flexibility in evaluation and valuation processes for intangible assets. It presented various methods to help universities maximise the profits on their inventions and research results, for example through raising capital, licensing, joint-ventures or sales.

This workshop is part of a group of initiatives that was launched in 2009 within the framework of the UTEN Portugal network to strengthen knowledge and competencies in technology transfer and the commercialisation of technology in Portugal in an international context.

ZON Winners' Internships Conclude

ZON Prize Multimedia category winners Paulo Martins and Cíntia Mendonça Morais recently completed their internship experiences in Austin. Paulo interned for major public radio station KUT as a photographer and videographer, while Cíntia interned at the Knight Center for Journalism in the Americas in addition to serving as a blogger and web editor at KUT.

KUT news director Emily Donahue expressed the station's pleasure in hosting the talented interns, referring to Cíntia as "a wonderful addition to the KUT newsroom" and to Paulo as "a delight to work with."

Regarding her time in Austin, Cíntia commented:

It was a great experience. I simply loved the way both the

Knight Center and KUT teams work. The focused communication, the hierarchical dynamics and the everyday work efficiency were really motivating. I got to meet a lot of people I hope I'll be able to keep in touch with in the future. And it goes without saying that Austin is a great place to live, with a lot of animation and life, both during the day and at night.

A third spring intern, multimedia designer Katerina Markova, has also successfully completed her participation in the Digital Media Leadership Program. Katerina interned at Austin data management company Infochimps and received very positive reviews for her performance of design and web programming, among other tasks.

ZON Digital Animation Advanced Lab at UT Austin Commences in June

Ten participants have been selected to attend the ZON Digital Animation Advanced Lab at UT Austin, which will take place during June and July. This year's UT Austin ZON Lab offers an intensive course of three tightly coordinated classes that will enable students to quickly gain expertise in several aspects of this media form. UT instructors Geoff Marslett and Ben Bays, highly experienced experts in their fields, will conduct the courses.

Award winning animator Geoff Marslett will lead Animated Project Conception and Management. This class will teach

the basics of animated film writing, character design, storyboarding, animatic creation and project management. Students will study stop motion and rotoscoping techniques and develop their individual styles using Flash, Photoshop, and After Effects programs. The course will conclude with students using compositing techniques to bring all of these elements together into one cohesive project.

Ben Bays, whose work in motion graphics, digital paintings, animation and virtual worlds has been shown on a variety of widely viewed media platforms, will teach Compositing

and Image Integration. This component of the ZON Lab program focuses on the integration of image, video and 3D surfaces, with compositing and projection in Maya and After Effects. Students will explore a variety of techniques including the creation of matte paintings, facades and digital environments; the use tracking data on human performance footage to build articulated skeletons for use in 3D animation; and building spatial volumes and physical simulations. Students will create procedural simulations and explore advanced materials and particle rendering.

Finally, the course Animation Techniques: Visitors and Modules will introduce the students to a variety of specialists from the Austin media industry. Enrichment lectures will be given by David Levy, an expert on concept art; Mike Wood, an expert on matte painting; Lance Meyers, a spe-

cialist in 3D animation and Flash; Brad Clark, who will talk about motion tracking, and Wiley Akins, who will address holograms.

UT Austin looks forward to the June arrival of the program participants, who come from across Portugal and were chosen in a competition conducted by ZON. They include Ana Gomes of GamelInvest, Anabela Faria of Bang Bang Animation, David Mourato of Digital Unit, professional freelancer Diana Salavisa, Dulce Gonçalves of Multimedia Superior Studies of the Instituto Politécnico de Bragança, Filipa Lopes of Biodriod Entertainment, Joana Paiva, a freelance artist who has worked with MTV Portugal, João Alves of Lisbon Labs, Manuel Rodrigues, a freelance artist whose employers have included Artes Gráficas, and Sofia de Botton of Laureate International Universities.

ZON winner Pedro Resende and his film "Maybe" presented on the New York Portuguese Short Film Festival

Pedro Resende did an internship at 501 Post in Austin through CoLab's Digital Media Leadership Program and later returned to Austin to make his film with a crew of UT students. Then he went on to win the 2010 Prémio ZON in the Short Film category.

The New York Portuguese Short Film Festival will take place

in both New York and Lisbon on 2-3 June, 2011. For more information see this page <http://arteinstitute.org/shortfilmfestival> and Pedro's site <http://www.maybe-short.com/> To see Pedro Resende's comments about his project and about his participation on the festival please visit: http://utaustinportugal.org/news/premio_zon_winner_pedro_resende_talks_about_his_film_maybe

Applications for ZON Creativity in Multimedia Award 2011 now open Applications at: www.zon.pt/premio until 7th November 2011

This is one of the largest monetary prizes awarded in multidisciplinary national competitions, reaching a total of 200.000€, divided into three categories: Contents and

Multimedia Applications, Digital Animation and Short Films. The prize also includes fellowships at UT Austin.

Diogo Cabral, Digital Media PhD student at the 29th Annual CHI Conference on Human Factors in Computing Systems - CHI2011



Diogo Cabral at CHI2011

Diogo Cabral, Digital Media PhD Scholarship student of the UT Austin | Portugal Program, presented a Work-In-Progress paper and poster, entitled "Multimodal Video Annotation for Contemporary Dance Creation", at the 29th Annual CHI Conference on Human Factors in Computing Systems - CHI2011. CHI is the premier international conference of human-computer interaction and this year occurred in Vancouver, BC, Canada, between 7 and 12 of May.

The published paper presents a video annotator that supports multimodal annotation and is applied to contemporary dance as a creation tool. The creation tool is one of the components under development in the framework of the TKB project, an international transdisciplinary research project, working in the intersection of cognitive linguistics, dance studies and new media. It is running at FCSH/UNL, under the coordination of Carla Fernandes, and it involves several partners from different institutions. Its software development is being undertaken at FCT/UNL.

The poster was available during the conference and the research was presented by a running live demo of the project's main prototype. The feedback, from academia and industry, was significantly positive, with many participants showing interest in following the next steps of the published work.



CHI is a very inspiring and interesting conference, which not only gathers the most influential people from the discipline of human-computer interaction but also around 3.000 people from distinct fields such as computer science, psychology, arts or design. The next edition of the conference, CHI2012, will be held in Austin, Texas.



■ Karin Wilkins from UT Austin presented “Advocacy Communication” at FEUP

Based on a critical review of literature on development communication and communication for social change; I propose a framework for advocacy communication, as a comprehensive approach to using communication technologies and processes. In contrast to social marketing's focus on immediate behavior change, advocacy communication attempts to influence structural and normative change to benefit marginalized and oppressed communities. Bridging the value of attracting audiences through entertainment-education approaches with media



advocacy's social justice orientation; advocacy communication incorporates attention to news with popular culture, with the additional recognition of interactive communication technologies in contributing to social movement strategies. This model is described in terms of its goals, its conceptualization of communication as contributing to strategic intervention, and its use of research to enhance this process.

■ UTEN Roundtable 2 – Benchmarking Best Practices on Running an Effective TTO

14-15 April 2011

Associate Vice Chancellor of Technology Brett Cornwell of Texas A&M University System (TAMUS) conducted a best practices workshop on redefining the role of technology transfer offices (TTO) within university systems at the University of Porto. Mr. Cornwell has been instrumental in refocusing the effort of the TAMUS TTO towards the core university missions of research and education.

During UTEN Roundtable 2, he suggested various strategies to TTO managers, officers and university leadership to better leverage TTO efforts to support university initiatives. Key best practices shared included TTO organization

schemes for better alignment of staff, ways in which to best secure inventor involvement with TTOs and further a redefinition of TTO metrics of success with university mission in mind. Following the Roundtable, Mr. Cornwell met with several Portuguese entrepreneurs and TTOs in Porto and Coimbra to advise companies on international on-shoring possibilities.

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

We want to hear from you! Want to share your doubts and concerns about something you read? Want to see other topics featured in next month's newsletter? Want to contribute with articles or art? Please send all your feedback to carolina.enes@fct.unl.pt.

UT Austin | Portugal

INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB

THE UNIVERSITY OF
TEXAS
AT AUSTIN

FCT Fundação para a Ciência e a Tecnologia

MINISTÉRIO DA CIÊNCIA, TECNOLOGIA E ENSINO SUPERIOR