

UT Austin | Portugal INTERNATIONAL COLLABORATORY FOR EMERGING TECHNOLOGIES, CoLAB

STUDENT HIGHLIGHT – Hassan Najafi Alishah - "Symplectic Geometry, Poisson Geometry and KAM theory" (Mathematics)

Hassan Najafi Alishah, a CoLab program student specializing in mathematics, is doing advanced work in the Mathematics Departments of Instituto Superior Técnico, Lisbon, and the University of Texas at Austin. This article provides an overview of his research topics.

Symplectic and Poisson geometries underlie all mechanical systems including the solar system, the motion of a rigid body, or the interaction of small molecules. The origins of symplectic and Poisson structures go back to the works of the French mathematicians Joseph-Louis Lagrange (1736-1813) and Simeon Denis Poisson (1781-1840). Hermann Weyl (1885-1955) first used "symplectic" with its modern mathematical meaning in his famous monograph "The Classical groups." (The word "symplectic" itself is derived from a Greek word that means complex.) Lagrange introduced the concept of a symplectic structure in his 1808 paper studying the slow variations of the orbital element of the planets in the solar system. Later he used symplectic structures as a fundamental ingredient in the mathematical formulation of any problem in mechanics (now called Lagrangian mechanics.) While Lagrange introduced the concept of a symplectic structure, Poisson defined the composition law, today called the Poisson bracket, which defines a Poisson structure on a manifold. In modern language, symplectic and more generally Poisson manifolds are the phase spaces of a mechanical system and are the main objects of study in symplectic and Poisson geometry.

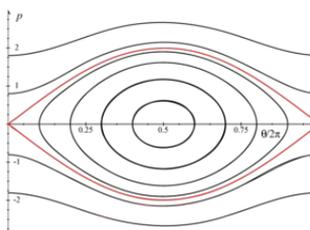
In the modern mathematical formulation, a conservative mechanical system is called a Hamiltonian system (named in honor of William Rowan Hamilton (1805-1865), who reformulated Lagrangian mechanics) and is specified by a choice of a function on a symplectic or a Poisson manifold. Such a choice defines a vector field and hence a flow.

The Hamiltonian function (or energy function) is constant along the flow. In other words, the Hamiltonian function is a constant of motion, a principle that is sometimes called the energy conservation law. A

harmonic spring, a pendulum, and a one-dimensional compressible fluid provide examples of Hamiltonian systems. In the former, the phase spaces are symplectic manifolds, but for the later phase space one needs the more general concept of a Poisson manifold.

A Hamiltonian system with enough suitable constants of motion can be integrated explicitly and its orbits can be described in detail. These are called completely integrable Hamiltonian systems. Under appropriate assumptions (e.g., in a compact symplectic manifold) the motions of a completely integrable Hamiltonian system are quasi-periodic. The mathematical formulation of this statement is known as the Arnold-Liouville Theorem, which asserts that the phase space of a completely integrable Hamiltonian system on a compact symplectic manifold is foliated by tori that are invariant under the motion.

However, most Hamiltonian systems are not completely integrable, leading mathematicians to study perturbations of completely integrable Hamiltonian systems. The KAM theory, developed by A. Kolmogorov (1903-1987), V. Arnold (1937-2010) and J. Moser (1928-1999), explains what happens to the invariant tori in a perturbed system. This theory predicts that some of these invariant tori survive and create boundaries for the size of the phase space filled by the persisting invariant tori. The theory of integrable Hamiltonian systems and their perturbations (KAM theory) is extremely well developed when the phase space is a symplectic manifold. However, for more general phase spaces (Poisson manifolds) this is not the case. Hassan's PhD research seeks to fill this gap in understanding.



R&D PROJECT HIGHLIGHT

Project: Kinetic Controller Driven Adaptive and Dynamic Music Composition Systems

Principal Investigators: Carlos Guedes and Bruce Pennycook

Research team: Russell Pinkston, Tomás Henriques, Gilberto Bernardes, Rui Dias, André Baltazar, Tanvi Joshi, Hugh Lobel, George Sioros

Corporate partners: YDreams and Casa da Música

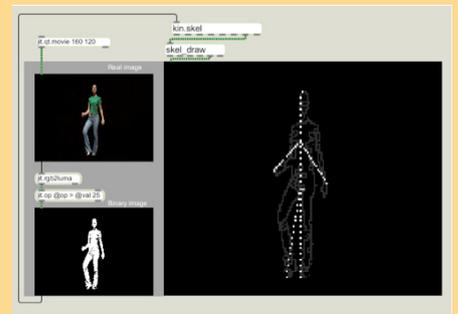
This joint research project is developing new techniques and strategies for computer-assisted composition in the context of real-time user control with non-standard human interface devices for applications in electronic art and digital entertainment systems. The research team is designing and implementing real-time software, hardware and specialized human-interfaces that will provide tools and resources for music, dance, theatre, installation artists, interactive kiosks, computer games, internet/web information systems.



The outcome of the project will be the creation of a modular toolbox for real-time dynamic music generation that will allow for easy creation of software applications for the purposes described above.

The toolbox will be highly flexible allowing its use both by trained musicians and the general public. Simply by patching together the desired modules for music generation, musical parameters can be seamlessly operated and controlled by gesture driven interface/kinetic controllers, thereby granting the user of the system a very intuitive way of music control and interaction.

Several prototypes have been developed so far. These include: an algorithm for real-time human-body skeletonization, which will enable more accurate control of musical events with the human body; algorithms for automatic generation of rhythm; algorithms of musical segmentation of monophonic pitch sequences enabling the composition of several variants of a melody in real time; and the prototype for an iPhone application that generates Jazz-style Blues in real-time.



■ COLAB'S 1st Annual Research Conference

UT Austin | Portugal Program helping to build Portugal's national and international research and education excellence



CoLab held its first Annual Research Conference from September 21-22, 2010 at the Gulbenkian Foundation in Lisbon. Representatives from Portuguese universities and UT Austin presented updates on each of the three research areas: Advanced Digital Media, Mathematics, and Advanced Computing. Many of the presentations stressed the linkages among the three areas. The conference opened with a talk by Mariano Gago, Minister for Science, Technology and Higher Education. In his talk, Minister Gago stressed the importance for Portugal to establish research programs that can compete on a global scale. Robert Peterson, Associate Vice President for Research at The University of Texas at Austin, gave the audience an overview of the program's progress and highlighted the unique opportunities for Portugal through the program.

In addition to academic research programs, CoLab also works to establish links with Portuguese industry. Presentations described cooperative programs with ZON Multimédia as well as YDreams and Hospital de Santa Maria. Students from the different areas of the UT Austin | Portugal program shared their work through poster sessions of their research projects, and the winners of the ZON Prize for Creativity in Multimedia screened their projects. Nuno Cintra Torres, Director of Strategy at ZON Content, introduced some of the films including "3x3" by Nuno Rocha and "Romeu e Julieta, o Musical" by Zara Pinto.

António Câmara, CoLab Portugal Director, noted that "the CoLab program enables the creation of research communities at the national level with international quality standards. In these communities, new values are emerging throughout research projects, doctoral programs, internships in Austin, and especially through the events associated with the program including summer schools, workshops, seminars and events like the Future Places."

A parallel program highlighted several Portuguese "creative cities" initiatives that nurture creative programs within their regions. These presentations included presentations by representatives of the city councils of Cascais, Óbidos, Paredes, Montemor-o-Velho, Guimarães, and Porto as well as ADDICT, the Agency for the Development of Creative Industries in Portugal.

CoLab Director David Gibson observed that "it's very encouraging to see the number of students and universities involved in CoLab program. In 2009, we launched eleven research projects which currently involve over 200 academic researchers, including students and teachers. It is important to highlight this critical mass that has been fostered through collaboration between Portuguese universities and UT Austin based on the critical support of FCT and the Ministry of Science, Technology and Higher Education."



COLAB'S 1st Annual Research Conference in Portuguese Media

"O PROGRAMA TEM ATRAÍDO ALGUNS DOS PRINCIPAIS TALENTOS PORTUGUESES"

O UT Austin-Portugal (CoLab) envolveu, em três anos, cerca de 100 estudantes de pós-graduação e mais de mil participantes em outras ações de formação e eventos, revelou a Almerinda Romeira o diretor do programa, António Câmara. O balanço é feito hoje e amanhã na Conferência anual CoLab 2010, na Fundação Calouste Gulbenkian.

O PROGRAMA UT Austin-Portugal (CoLab) visa alargar a investigação e o ensino pós-graduação em tecnologias emergentes, sobretudo nas áreas dos media e conteúdos digitais, formas de computação e matemática. Pretende igualmente aumentar a comercialização de ciência e tecnologia entre Portugal e o mercado global. Lançado em Março de 2007, foi criado no âmbito da estratégia do Governo para promover a capacidade científica e tecnológica nacional e reforçar as instituições científicas portuguesas a nível internacional.

Três anos após a sua criação, que resultados apresenta o programa UT Austin-Portugal (CoLab)?
Há dois números que mostram o impacto do programa: cerca de cem estudantes de pós-graduação; e mais de mil participantes em outras ações de formação e eventos.

Qual tem sido a adesão dos alunos? O programa tem atraído alguns dos principais talentos portugueses nestas áreas. A competição pelas melhores tem sido crescentemente mais competitiva.

Qual é a relação das universidades convocadas?
A relação é excelente com todas as principais universidades portuguesas. Neste âmbito gostaria de realçar o novo Programa de Doutoramento em Digital Media que é conferido em simultâneo pelas Universidades Nova de Lisboa e Universidade do Porto.

Qual tem sido a receptividade das empresas ao projecto? Quantas estão envolvidas nele?
A receptividade ao projecto no âmbito da frequência de workshops e outros eventos tem sido grande, havendo mais de duas dezenas de "industrial affiliates".

No âmbito deste programa foi criada a Rede UTEN. O que visa? Que balanço faz da sua actividade?

A rede UTEN visa formar os agentes de transferência de tecnologia de instituições universitárias e de investigação em Portugal. A rede organizou ações de formação em todo o País e visitas a Austin. Tem também procurado ajudar startups saídas das instituições universitárias portuguesas.

Que projectos vão ser apresentados hoje e amanhã no âmbito desta Conferência?

Em foco estarão os projectos de investigação e desenvolvimento do programa que envolvem equipas de investigação de instituições portuguesas (universidades e laboratórios de investigação) e da UT Austin, em colaboração com empresas parceiras da indústria. Alguns destes parceiros estarão presentes na conferência.



António Câmara, director do programa UT Austin Portugal e CEO da YDreams

Sistema robótico foca Camélio
Na fundação Calouste Gulbenkian, este instrumento indonésio - Camélio - vai hoje ser tocado por um sistema robótico, no âmbito do projecto de investigação Kinetic controller driven music systems. O projecto tem como investigadores principais Carlos Guedes, da Universidade do Porto, e Bruce Penoyook, da Universidade do Texas, e vai desenvolver novas técnicas e estratégias de composição assistida por computador. A equipa de investigação vai projectar e implementar software em tempo real, hardware e interfaces humanas especializadas, que irão fornecer ferramentas e recursos para áreas como a música, dança, teatro, artistas plásticos, quinquês interactivos, jogos de computadores, Internet, sistemas de informação na web. O resultado do projecto será a criação de uma caixa de ferramentas modular para a produção de música em tempo real que permita a fácil criação de aplicações de software para os fins descritos acima. A caixa de ferramentas vai ser altamente flexível, o que permitirá a sua utilização tanto por músicos com experiência como pelo público em geral. Este projecto envolve o INESC-Porto, Universidade Nova de Lisboa, Universidade do Texas, Casa da Música e a empresa YDreams.

Como classifica a oferta das universidades portuguesas nas três áreas de actuação do programa?
Já existe oferta nas áreas de matemática e computação avançada, mas o CoLab criou de raiz um programa de doutoramento em digital media pioneiro em Portugal.

Terá o tecido económico português capacidade para absorver jovens tão altamente qualificados?
Julgamos que sim, sobretudo porque em alguns casos estes jovens criaram as suas próprias empresas.

Jornal Oje



Fundação recebe conferência internacional sobre tecnologias emergentes

Génios "CoLab" na Gulbenkian

Conferência reúne mais de 20 trabalhos "Media", computação avançada e matemática são as áreas

Mais de 20 trabalhos nas áreas de "Media" e Conteúdos Digitais, Computação Avançada e Matemática estão expostos hoje e amanhã em mais uma Conferência Anual CoLab, desta vez na Fundação Calouste Gulbenkian, em Lisboa.



O programa foi lançado em 2007 e visa estimular a comercialização de ciência e tecnologia

O programa de colaboração internacional para as tecnologias emergentes da Universidade do Texas em Austin nasceu em Março de 2007 em colaboração com a Faculdade de Ciências e Tecnologia da Universidade Nova de Lisboa, em Almada.

O encontro vai contar com a presença do ministro da Ciência, Tecnologia e Ensino Superior, Maria do Gago e de mais de 40 oradores entre investigadores, professores e parceiros institucionais.

A conferência pretende fazer um balanço global do que foi alcançado através do programa, trabalhos centrados na investigação e desenvolvimento. Este é um programa que se foca em "media" digitais avançados, tecnologias gráficas e interactivas, desenvolvimento avançado de conteúdos, em cinema e vídeos, por exemplo.

Amanhã o dia será dedicado à iniciativa "Cidades Criativas 2010". Durante o encontro, haverá intervenções de presidentes de várias câmaras municipais, moderadas por um painel de representantes de projectos portugueses e de Austin. Em foco estarão também os projectos de equipas de investigação portuguesas e colaborações com grandes parceiros, como por exemplo a ZON, YDreams, Instituto das Telecomunicações e Hospital de Santa Maria. Paralelamente decorre ainda uma exibição de projectos de investigação de estudantes das diversas áreas do programa e de Projectos Vencedores dos Prémios ZON Criatividade em Multimédia. **rr.**

Jornal Metro



ANTÓNIO CÂMARA
Responsável Programa em Portugal

PAIS

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JORNAL DO TERÇO

RTP 1

FUTURE PLACES

FUTURE PLACES returns to Porto

FUTURE PLACES is almost here! The third annual digital media festival will kick off on October 12 in Porto and will feature speakers, panels, concerts, workshops, and an exhibition of the top projects submitted to the festival competition. Most of the 2010 program takes place at Maus Hábitos, a space that is a prominent institution in the Porto arts community, regularly hosting performances, exhibitions, classes, and other events. Passos Manuel theatre, just across the street from Maus Hábitos, will also serve as one of the festival's primary sites.

The festival is proud to feature three prominent keynote speakers: Bruce Pennycook, a faculty member of the University of Texas Butler School of Music, will speak on new media's impact on musical creativity; Siva Vaidhyanathan, faculty at the University of Virginia and a renowned expert on intellectual property will address the relationships between digital media and local cultures; and acclaimed musician Blaine L. Reininger, founder of Tuxedomoon, will speak on new media and music composition using random input. Other principal speakers and performers include Mike Harding of Touch, Jana Winderen, and Marc Behrens.

Four workshops will precede the main program of the festival, and registration is now open. They address topics including mobile technologies and narrative, the use of digital media to expand the possibilities offered by radio, emerging forms of civic participation, and developing applications for Android devices. For more information on the festival, including workshop applications, please see www.futureplaces.org.

ZON Multimédia

ZON Multimédia announces the 2010 Prémio ZON competition



Submissions are being accepted through 5 November in the categories of:

- Multimedia Content and Applications
- Digital Animation
- Short Films

The Prémio ZON Criatividade em Multimédia is the largest monetary prize awarded in Portugal in a multidisciplinary competition, with prizes totaling 200.000 euros and a single grand prize of 50.000 euros.

In addition to monetary awards, the first prize winner in each category is eligible to receive a scholarship from the FCT to conduct research at the University of Texas at Austin as part of the UT Austin | Portugal Program.

This is the third year of Prémio ZON. Previous winners include Nuno Rocha for his short film 3x3 and Zara Pinto and Marta Hipólito of the Universidade Lusófona for their short film Romeu & Julieta, o Musical.

A new feature of the 2010 competition is the category Digital Animation.

For full details, please see: <http://zon.pt/premio>.

1st Annual Creative Industries Workshop took place in Porto

The University of Porto together with the Catholic University of Porto, under the umbrella of ADDICT, the Agency for the Development of the Creative Industries in the Northern Region of Portugal, and in collaboration with the University of Texas at Austin, hosted the 1st Annual Creative Industries Workshop (CIW2010) which took place in Porto, on September 16-18.

Representatives of creative industries from seven countries met at the Casa da Música and the Serralves Foundation to discuss the opportunities and challenges facing creative industries in mid-sized cities and regions.



CIW2010 brought together cities with relevant work in the audiovisual and new media sector to participate: Bristol and Southampton in the UK; Kristiansand, Norway; Lodz, Poland; Pécs, Hungary; Rotterdam, the Netherlands; Porto and other cities in the north of Portugal; and Austin, Texas. In closed work sessions, the representatives of the participant cities were asked to think of actionable business opportunities and focused on emerg-



ing and revolutionary new and creative media production technologies, co-production possibilities, and innovative film distribution capabilities.

One key objective at the CIW2010 was to lay the groundwork for a Creative Industries Global Network. This Creative Industries Network is to be action oriented to develop "business-to-business" strategic alliances across creative industries located in mid-sized cities worldwide.

While the Creative Industries Network will be most concerned with fostering business-industry collaborations, it will also be concerned with searching for and fostering creative activities and talent across the network. It is envisioned that the Creative Industries Network will be open and largely self-organizing with the goal of sharing and leveraging creative talent, technology, and other assets for action-oriented business initiatives.

The Creative Industries Workshop is to be held annually at different locations of network members. CIW 2011 is being planned to occur two days before the South By Southwest conference and festival in March 2011, in Austin, Texas - <http://sxsw.com/> - and to be the larger rollout and announcement of the Creative Industries Global Network.

UNL Students visit Austin

Ten digital media doctoral students from the New University of Lisbon arrived in Austin September 26 to spend ten days exploring scholarly opportunities at UT as well as Austin's diverse cultural offerings. During their visit, they met with faculty members from across the UT campus including the School of Information, the School of Journalism, the College of Fine Arts, and the departments of Advertising and Radio-TV-Film. Their visit also included tours of Radio-TV-Film's production facilities and the newly opened Visual Arts Center in the College of Fine Arts. The students took part in some UT student activities, including sitting in on a class on Visual Effects, meeting with advanced design students,

and attending the media and culture conference Flow, which took place at UT Austin from September 30 to October 2. The conference, organized by UT graduate students, featured roundtables on topics including Virtual World-Building, Global Television Flows, Race and Representation, and Online Publishing and Criticism, and attracts speakers from around the country.

The visiting students are Vitor Badalinho, Marta Ferraz, Luís Frias, Luís Gomes, António Maneira, Ana Cabral Martins, Afonso O'Neill, Paulo Rosa, Paulo Nuno Vicente, and Tiago Videira. They joined long-term Austin visitors Gilberto Bernardes de Almeida and Edgar Teixeira of the University of Porto, Ana Barreto of the New University of Lisbon, and João Beira of U. Porto, who has just joined the RTF doctoral program.

Uframe International Academic Video Festival in Galiza

The Uframe International Academic Video Festival was in Coruña, Spain this year, from September 29 through October 2, 2010. The juried festival included experimental, animation, narrative, and documentary work. This is the third Uframe Festival, an event open to students working in the audiovisual field. The Digital Media program was pleased to cosponsor the film festival, along with the University of Porto, the University of Coruña, and Nanyang Technological

University of Singapore. UT students Angela Chen and Angela Torres attended the festival and screened their films. Professor Stuart Kelban from the Radio-TV-Film Department at the University gave a Master Class titled "The Art of the Short Film." Professor Kelban also was a core instructor and leader in the recent ZON Screenwriting Laboratory held in Austin, Texas.

See in our next newsletter more information about this event.

THE UTEN CORNER

2nd UTEN International Workshop 2010
Research Collaboration & Network Building
for Commercialization in Marine and Bio-Sciences

UTEN Portugal
University Technology Enterprise Network



Chairs and university administrators open the Marine Science Workshop



Participants gather after the workshop

The 2nd UTEN Workshop 2010 - Research Collaboration & Network Building for Commercialization in Marine and Bio-Sciences was held on September 27 and 28 at the University of Algarve, hosted by the Center of Marine Sciences (CCMAR) at the University of Algarve, organized by UTEN Portugal with the collaboration of UT Austin and Fraunhofer Portugal, and sponsored by the Portuguese Ministry of Science, Technology and Higher Education's Foundation for Science and Technology (FCT), and the Portuguese National Institute for Intellectual Property (INPI). The workshop Chair was Prof. Adelino Canário, director of CCMAR, from the

University of Algarve and the co-chair was João Tasso Borges de Sousa from the University of Porto. Speakers from Portugal, the United States and Germany presented on topics related to marine and biosciences, and their efforts regarding S&T commercialization, access to global markets and impacts on regional economies. A special hands-on training session on research contracts was designed and delivered by Lorenz Kaiser, Division Director of Legal Affairs & Contracts, from Fraunhofer (Germany).

In the Monday morning sessions, administrators and leaders

from host and sponsoring institutions presented on Trends in Marine and Bio-Sciences: Challenges from Industry and How Universities and Research Institutes Are Meeting Those Needs.

On Monday afternoon, presentations were made on Building Strategic Relationships between Industry and Universities – the Rationale for Research Collaboration; and Uncovering New Marine Commercialization and Partnership Opportunities.

■ **Frank Pezold**, Dean, College of Science and Technology - Texas A&M University, Corpus Christi
The Strategy and Economic Impact of Building a World Class Marine Science Institution

■ **Adelino Canário** – Director of Centre of Marine Sciences (CCMAR), Algarve University
Networking and commercialization in marine biotechnology - How the market has and can profit from Marine Genomics

■ **João Tasso F. Borges de Sousa**, Department of Electrical and Computer Engineering, Faculty of Engineering, Porto University
The Importance of Networks and Understanding End-Users: A Commercialization Perspective on Marine Science Systems, Technologies and R&D

■ **Joan Holt**, Associate Director, UT-Marine Science Institute,
Marine Aquaculture in the United States: Current and Future Challenges to Commercialization

■ **Maria de Lurdes Cristiano**, CCMAR, Algarve University
Applications of anti-malarial endoperoxide drugs in aquaculture

■ **Sérgio Jesus**, Vice-Rector for Research, CCMAR, Algarve University
Underwater acoustics: applications and commercialization opportunities

■ **Helena Santos**, ITQB - Universidade Nova Lisboa
Patenting and commercializing microorganisms from marine, hot environments as sources of new protein stabilizers

■ **Alfredo Damasceno-Oliveira**, Centre for Marine and Environmental Research (CIMAR-Associate Laboratory) - University of Porto
Collaborative research on hyperbaric equipment for the study of aquatic organisms

After a networking dinner on Monday evening, the program shifted Tuesday to a focus on case studies and training related to contract negotiation. Numerous cases and contract instruments were studied and lessons surfaced regarding the commercialization of marine and bio-science technology.

A concluding topic of the workshop was the desire to continue next year with a 2nd Annual Marine and Bio-Science Workshop.

■ **Sabine Krieg**, Business Development, IGB, Fraunhofer
The promise of algae as a source of transport fuel and the bumps-in-the-road of research consortia and commercialization of end-results

■ **Gary Jeffress**, Professor, Geographic Information Science Coordinator and Director, Conrad Blucher Institute, Texas A&M - Corpus Christi
The Financial Value of Marine Observation Networks for Governments and Industry

■ **Jorge Dias**, CCMAR and CEO Sparus,
The SPAROS experience in the area of aquafeed technology

■ **Anibal Matos** – INESC-Porto

■ **Lorenz Kaiser**, Fraunhofer - Division Director Legal Affairs & Contracts,
Negotiation of Research Contracts

■ **Glenn Robinson**, Global Commercialization Group, IC2 Institute
Fish Bone Picker for Salmon – On-Shoring from Chile to the U.S.

■ **Dr. Christine Burke**, South Texas Technology Management (STTM)
How U.S. Universities Can Help International Companies On-Shore

■ **William C. Strieber**, President and CEO of ExiBio, LLC; Commercialization Consultant, UT-System
Be Creative and Resourceful: Case Studies in Resource Acquisition

■ **Cliff Zintgraff**, Program Manager, UTEN@Austin, IC2 Institute, University of Texas at Austin
An Overview of Marine Science Commercialization in Texas

■ 2010 - UTEN Training Week #4

Best Practices in University-Industry Relations: Setting Up and Managing an Industrial Liaison Office (ILO)

Days 1 and 2: July 19-20, 2010

Speakers:

Bill Catlett

Associate Director - Industrial Relations, Office of Sponsored Projects
Acting Director – Center for Emerging Technology Commercialization
The University of Texas at Austin

Anthony Boccanfuso

Executive Director- University Industry Demonstration Partnership (UIDP: www.uidp.org)
US National Academies of Science

The purpose of UIDP is to enhance the value of collaborative partnerships between university and industry.

This workshop was centered on practical steps to set up and manage an Industry Liaison Office within a university.

Technology commercialization ecosystems rely on the alignment and exchange of knowledge and resources between a broad range of partners including government, universities, and industry to be successful. To address this area, Bill presented a white paper based on his extensive experience setting up and running ILO's. Portuguese guests in attendance then led the group in discussion regarding major areas of need as well as ideas for potential solutions. Tony then led an afternoon session on how to interface with university stakeholders to garner support for an ILO office. And led a discussion on the current Portuguese reality, and how ILO offices and supporting structures are being established and resources are being dedicated to foster these crucial relationships, and to align universities and industrial partners to increase research, joint development, and commercialization. Combined, these factors lead to a more sustained level of economic and educational growth.



Utilizing role-play exercises and group discussion, Bill and Tony provided participants with a number of real-world examples of how ILO's have been established to date as well as opportunities to share lessons learned, to consider the future and leading-edge practices in the space, and offered a proven framework for the establishment of such offices and programs in UTEN member universities with the goal of helping to help meet specific research and commercialization objectives as well as create greater regional and international partnerships for economic growth.

Primary Areas Addressed:

1. Developing a Strategy

How can the development of a strategic plan for your ILO, in conjunction with industrial members, help identify areas for joint projects and experimental test beds for validating research results in practical applications?

2. Structure and Programs

How do R&D organizations and industrial sponsors decide how to structure and operate an ILO for best results? What programs should be developed?

3. Talent and Relationships

How does an R&D organization select, engage, and develop talent (internal and external) to effectively fill the roles of an ILO as well as develop meaningful relationships between university and industry that support the long-term mission of the ILO?

UTEN would like to thank the Polytechnic Institute of Porto University for hosting this event and convey our sincere appreciation to all who attended, most especially to those who supported the operations and helped to make this event a success!

DAY 3-5: Wednesday-Friday, July 21-23, 2010

Meetings with speakers

UTEN speakers and staff met with workshop participants as well as UTEN stakeholders to dive deeper into specific initiatives as well as discuss ways to collaborate across portfolios to accomplish common objectives. Participants took this opportunity to present ideas and plans for ILO development as well as discuss on-going opportunities for collaboration with our guest speakers. A full schedule of meetings yielded several actionable opportunities and action plans were drafted for follow-up.

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