

# ic<sup>2</sup> INSTITUTE UPDATE

INNOVATION, CREATIVITY & CAPITAL AT  
THE UNIVERSITY OF TEXAS AT AUSTIN • Fall 2012

“The University is making the effort to serve students so that they don’t need to choose between seizing a time critical business opportunity, and continuing on to graduation (which is what Michael Dell had to do.)”

— John Sibley Butler

## IC<sup>2</sup> Institute Director Addresses 2012 Clinton Global Initiative America

Economic ecosystems are the key to place-based innovation, according to John Sibley Butler. “It’s really very simple. If you want to sing opera, where do you go? New York. If you want to succeed in the film industry, where do you go? Hollywood. If you want to succeed in country music, where do you go? Nashville. If you want to start a business, where do you go? Austin. Why? Because that’s where the ecosystems are in place.”

2012 Clinton Global Initiative America Meeting held in Chicago, June 7-8, was dedicated to establishing collaborative solutions to address the most pressing economic challenges in the United States today. Dr. John Sibley Butler participated in the panel, *Place-Based Innovation*, moderated by Maria Bartiromo, Anchor, CNBC; Panel members included Ann Miura-Ko, Managing Partner, Floodgate; (See Butler Addresses CGI America, pg. 12)



John Sibley Butler, Sam Barshop Endowed Fellow and Director of the IC<sup>2</sup> Institute was one of 42 plenary speakers invited to address the audience at CGI America 2012.

## ATI Trains Summer SEAL Teams to Address the Decision Point

What does a Longhorn Entrepreneur do in the intense heat of an Austin summer? They become a SEAL (and it’s no joke). During the summer school session, Longhorn Entrepreneurs engage in the Student Entrepreneur Acceleration Launchpad (SEAL), an eight week accelerator for UT Austin student-run startups. “This program partners with the outstanding academic entrepreneurship programs at UT, identifies the most promising teams, and deploys the capabilities of the Austin Technology Incubator to give the student teams ‘real world’ vetting and to pressure them to a strong ‘go/no-go’ decision,” describes ATI Director, Isaac Barchas.

The program has grown from an enrollment of five SEAL teams in 2009 to twelve entrepreneur teams in 2012. Overseen by Kyle Cox and assisted by Andrew Levy, the SEAL program is a partnered effort of the Austin Technology Incubator with 3-Day Startup and the Hatchery Class. Andrew explains, “The SEAL Program leverages the extended ATI family to help first-time entrepreneurs decide if, and how, to efficiently and effectively take their businesses to the next level.”

Across many academic disciplines, The University of Texas at Austin provides a variety of entrepreneurial courses, competitions, student organizations, and UT departments to serve students as they progress

(See ATI Trains Seal Teams, pg. 17)

## New IC<sup>2</sup> Online Education Program: Innovation Readiness Series™

*The first 10 steps to moving your idea to market*

If you have an innovation that is worth perhaps millions, how do you describe your service or product for potential investors, and still protect your IP? If unaddressed, this is a quandary that halts many first time entrepreneurs before the commercialization process has begun. Donna Kidwell, a GCG Program Manager, has worked with many entrepreneurs in exactly this situation. “Yes,” she admits, “it is

possible for an innovator to say too much about a technology, and perhaps compromise the innovation. But what is actually more common and more problematic is for an inventor to be afraid to tell anyone anything about the technology. That means they won’t be able to commercialize that innovation, and that technology goes nowhere.”

(See IR Series, pg. 3)

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## From the Director

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Dear Reader,

Welcome to the Fall 2012 IC<sup>2</sup> Institute *Update*. Inside you will find information on a few of the things that are happening at the Institute through the tremendous efforts of our stellar staff, colleagues, and peers.

This issue presents information on our efforts *Around the Globe, in The State and the Nation, Across the University*, and provides you news on our publications. Yet I must emphasize that, just as each article can only

present part of a larger story, in the same way, this collection of articles represents but a small part of the many projects and activities that are happening as part of the research at the IC<sup>2</sup> Institute. It is amazing to watch our organization grow from one dynamic level to another, as we continue to engage an extraordinary talent base with new international partners, and take on new projects. The Institute's talent and technology networks continue to grow in depth and breadth as we continue to pursue our mission to increase the quality of human

life through research to promote new technology applications, entrepreneurial growth, and regional economic acceleration.

I hope you enjoy this issue of the IC<sup>2</sup> Update, and that you become "drawn into" our story and explore more about our organization online at [www.ic2.utexas.edu](http://www.ic2.utexas.edu).

Sincerely,

**John Sibley Butler**  
Director, IC<sup>2</sup> Institute

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## ic<sup>2</sup> INSTITUTE UPDATE

*The Update showcases only a few highlights of our current activities. For more information about the programs, activities, and history of the IC<sup>2</sup> Institute, please see our Web Site: [www.ic2.utexas.edu](http://www.ic2.utexas.edu).*

*The Update is the newsletter of the IC<sup>2</sup> Institute, a non-profit interdisciplinary research unit at The University of Texas at Austin which works to increase quality of human life through new technology applications, entrepreneurial growth, and regional economic acceleration. The Austin Technology Incubator, the Bureau of Business Research, and the Global Commercialization Group are programs of the IC<sup>2</sup> Institute.*

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### IR Series™

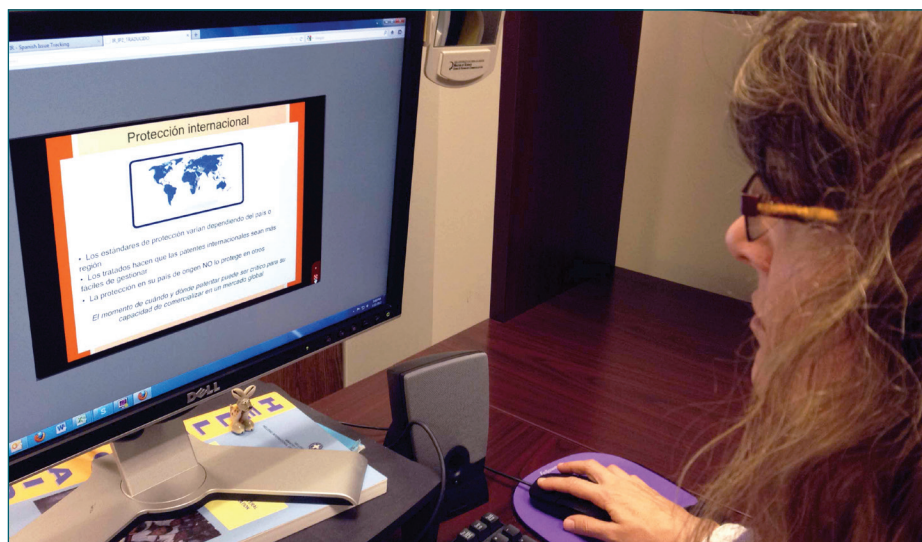
(Cont'd from pg. 1)

To address this problem, Dr. Kidwell has developed a new online learning program to help inventors and entrepreneurs execute a “safe entry” to the volatile atmosphere of the global market. The Innovation Readiness Series™ (IR) engages a pragmatic coaching style to pace students through core concepts in technology transfer and help participants develop the basic concepts and vocabulary needed for the Institute’s Quicklook™ assessment and the commercialization process.

As the IC<sup>2</sup> Institute works with groups from around the world to help move technologies from lab to market, it is not uncommon for IC<sup>2</sup> project managers to process as many as 1,500 technology applications per year. The IR program helps bring this front-end process into focus, so that applicants are able to provide an accurate technology profile, and more.

Dr. Kidwell created the online program to help streamline this particular phase of the IC<sup>2</sup> educational process, so that innovators can quickly understand what they need to know about the commercialization process and international intellectual property protection. The IR Series helps entrepreneurs understand which “next steps” are needed to effectively approach the international market.

GCG Director Sid Burback said, “What we have done, in creating the online modules, is make basic training and concepts available in a format that is accessible to thousands of innovators within an organization or region at a time. In the past—through in-person workshops—we have only been able to reach a fraction of that number. When a large number of innovators have the skills and information to begin the commercialization process, we expect to see not only increased commercialization but also increased communication within an organization or region about the need to bring products to market.”



The new Innovation Readiness Series presents ten modules to help innovators move a technology from the laboratory to the international market.

The IR Series is organized into ten modules that take an hour or less to navigate online, is designed for a hands-on learning process, and can be delivered in conjunction with classroom mentoring activities. Adhering to GCG’s “train the trainer” method, local mentors (experienced entrepreneurs, incubator managers, etc.) are certified for IR course delivery and entrepreneurial coaching. These mentors help students cross any cultural gaps in the streamlined curriculum and assist in applying the concepts to specific technology projects. Mentors are also able to provide particulars regarding the regional and national commercialization landscape.

The curriculum was developed from some of the basic tenets of IC<sup>2</sup>’s MSTC program, framed against a review of thousands of technology descriptions, applications, and disclosures provided over recent years to the GCG in their international projects. An effort was made to address “what was missing” and provide undergirding concepts for common weak areas in these international technology applications.

Since each application is usually represented by a team of several people, the potential audience for the IR program is huge, with IC<sup>2</sup> Institute projects alone. In addition, the IR Series has been embraced by

the MSTC program (which is now available through the McCombs School of Business) as an orientation requisite. “This is a great vehicle for introducing graduate students to the core topics of innovation,” explains Dr. Gary Cadenhead, director of the MSTC program.

At least 1,100 people have completed the program to date, and about 6,000 people are expected to complete the program by April 2013, against current GCG agreements. Dr. Jamil Haddad, a researcher at the Royal Scientific Society in Jordan said, “Participating in the program provided by IC<sup>2</sup> helped me to understand my own invention in a better a way.”

Pilot programs have been extremely successful, and international internet infrastructure has not yet proven to be problematic. With a wry smile, Dr. Kidwell describes a recent pilot group: Initial sessions were held in Austin, but over spring holidays, the group dispersed around the world. “Students in Costa Rica and China had better connectivity than I did in an urban area near Cincinnati, Ohio.”

*Written by Margaret Cotrofeld with contributions by Donna Kidwell, Barbara Springer, Jamie Harkrider, Emily Coleman, and Claire Closmann. Photo by Aileen Simmons Bantau.*



# The IC<sup>2</sup> Institute's MSTC Program Continues to Provide Global Leadership in Venture Creation Education: Featured at ELF

The Master of Science in Technology Commercialization (MSTC) degree program continues to be a global leader in terms of education in venture creation. Launched in 1996 as an experiment at the IC<sup>2</sup> Institute, the degree program is the brainchild of the Institute's founder, George Kozmetsky. IC<sup>2</sup> Institute research, from the beginning, reflected Dr. Kozmetsky's interest in creative management (or managing creativity), and in transferring technology from the lab to the market. While the program moved to the McCombs school in 2010, the core knowledge that is presented through that program remains the product of the IC<sup>2</sup> Institute.

The 2012 *Entrepreneurial Learning Forum (ELF)* hosted at Chalmers University of Technology in Gothenburg, Sweden, June 12-13, brought together fourteen venture education

programs to help establish a community among programs in which students create a business venture as part of their education process. Dr. David Gibson taught in the MSTC program from 1996 to 2010 and represented the program at ELF.

Fourteen venture creation education programs from around the world were profiled at ELF profiles examined several parameters of venture education programs:

- Aims and methods
- Background (historical beginnings)
- Key partners
- Achievements
- Key challenges
- Funding models

These profiles invite comparison across programs. Challenges faced by the ELF education models are particularly interesting, and include:

- General marketing and funding challenges
- Difficulty in retaining a small program within a large university that is facing cutbacks
- Sourcing quality IP for venture development
- Constant reinvention of the coursework to meet changing innovation needs
- Recruiting an appropriate number of qualified students on a yearly basis
- Securing corporate involvement to sponsor intrapreneurial teams
- Finding seasoned faculty with entrepreneurial experience
- Providing career support to alumni.

The Entrepreneurial Forum also presented four focus questions for discussion among participants. *Entrepreneurial Learning* focused on cognitive and non-cognitive development of students in a venture creation program. *Entrepreneurial Teaching* examined format, method, and means through which educators impact student's knowledge, skill set and values. *Entrepreneurial Context*

facilitated discussion on the academic institutional resources surrounding a venture creation program. The session *Implications for Research and Handbook Project* reflected on framing ELF experiences into a *Handbook of Research on Entrepreneurial Learning*, commissioned by Edward Elgar publishing.

Participation in global academic platforms such as the Entrepreneurial Learning Forum are important to help promote entrepreneurial learning worldwide, and helping to expand research in this arena.

The IC<sup>2</sup> Institute continues to leverage the knowledge base and methodologies created for the MSTC degree program, and is involved with delivery of the Maestría en Ciencias en Comercialización de la Ciencia y la Tecnología (MCCT) degree in Monterrey, Mexico, that is provided by Center for Research in Advanced Materials (CIMAV) with the Center for Global Innovation and Entrepreneurship (CGIE).

Dr. Gibson adds, "I found it interesting that these programs from considerably different backgrounds, cultures, and regional contexts were basically concerned with similar challenges, metrics, and opportunities."

Written by Margaret Cotrofeld. For more information on MSTC: <http://www.mcombs.utexas.edu/mstc>; for the MCCT <http://cgie.org.mx/ms/>; for the Entrepreneurial Learning Forum, [www.entrepreneur.chalmers.se/elf-7011081](http://www.entrepreneur.chalmers.se/elf-7011081).

## Venture Capital Education Around the Globe

Fourteen venture creation education programs from around the world were profiled at the Entrepreneurial Learning Forum:

### United States

Babson College  
Colorado State University  
North Carolina State University,  
University of Oregon  
The University of Texas at Austin

### United Kingdom

Coventry University  
University of Buckingham  
University of Huddersfield

### Central Europe

Université Catholique de Louvain

### Nordic universities

Aalto University  
Chalmers University of Technology  
Lund University  
University of Gothenburg  
University of Tromsø



# Portugal: Programs for National Growth

## CoLab and the University Technology Enterprise Network (UTEN)

*The IC<sup>2</sup> Institute is at the center of a plan to help Portugal's university technology transfer officers commercialize university research more effectively, and the fruition of CoLab and the UTEN project continues to grow over time.*

Over the past five years, IC<sup>2</sup> Institute has helped strengthen and consolidate an emerging network of technology transfer offices (TTOs) at 14 Portuguese universities. The University Technology Network (UTEN) is a capacity building program for Portugal's university-based Technology Transfer Officers (TTOs) and science and technology entrepreneurs to improve knowledge transfer and technology commercialization toward international markets. A key objective of UTEN has been to improve knowledge transfer and technology commercialization within Portugal's national scientific and technological system, to help transform the scientific research results into new commercial products that realize both social and economic benefits. Objective observations and assessments of UTEN's programs and activities have uniformly shown significant progress toward fulfilling UTEN's stated mission.

### UTEN Programs and Activities

Since its inception, UTEN programs and activities have catalyzed sustainable, value-added partnerships and networks with key international partners while continually increasing its network reach within Portugal by:

- Adding new Portuguese institutional partners
- Expanding its programs to new audiences within these institutions
- Increasing TTO training.

Established, creative learning mechanisms have focused on capacity building through innovative technology transfer practices, related know-how, commercialization skills, and the development of both formal and informal international networks.

*Internships & On-the-Job Training.* UTEN has organized FCT-sponsored international internships (both short- and medium-term) to mentor Portuguese professionals and research-



At a press conference, Lisbon, 2007: Robert Peterson (right front), Principal Investigator for the UT Austin | Portugal CoLab and UTEN programs in Austin, with David Gibson (left front), who has directed the programs.

ers as they simultaneously work on Portuguese technology portfolios for licensing and on-shoring in international markets. Key objectives include securing successful licensing deals and “soft landing” S&T spin offs (enabling technology bundling, cross licensing, and other international partnering activities).

UTEN also welcomes UT Austin TTOs to intern at Portuguese institutions. UTEN initially hosted interns throughout the state of Texas and has added U.S. internship opportunities at Carnegie Mellon University, Massachusetts Institute of Technology, Boston University, and the University of Southern California. In Europe, interns were placed with the Fraunhofer Institute, the European Space Agency (ESA) and Cambridge Enterprise. Other subprograms of the UTEN International Program include:

*Specialized Training and Networking.* Professional networking is an important value add of international workshops, training weeks, in-situation (in-situ) training, leaders round-tables, and initiation brainstorming for students, implemented in close collaboration with universities, research centers,

In March 2007, The University of Texas at Austin launched a five year program with Portugal's Ministry of Science Technology and Higher Education and the Foundation of Science and Technology (FCT), and more recently, in close collaboration with the Portuguese Institute of Industrial Property (INPI) and the Council of Rectors of Portuguese Universities (CRUP). The program has two main components: (1) the *International Collaboratory for Emerging Technologies (CoLab)* to focus on research and education programs and activities with UT Austin's College of Communication and the Mathematics and Computer Science departments in the College of Natural Sciences and (2) the *University Technology Enterprise Network (UTEN)*. All CoLab programs were under the oversight of the IC<sup>2</sup> Institute, but UTEN was unique inasmuch as it was ideated and directly delivered by the Institute.

During the past five years, both of these programs have grown and evolved with customized education and research activities while benefiting from enhanced international partnerships promoted through the FCT, including those with Carnegie Mellon University, the Massachusetts Institute of Technology, and the Fraunhofer Society, Germany.

associated laboratories, and companies across Portugal.

*Training weeks* emphasize case studies and industrial liaison (ILO) programs and the development of procedures to improve Portuguese university and industry research collaborations that lead to S&T commercialization and on-shoring of Portuguese S&T in international markets. Training weeks typically consist of an intense two-day workshop followed by face-to-face meetings with invited experts.

*In-situation (in-situ) training:* Applicant TTOs present a specific strategic or operational need; a UTEN program manager then provides onsite training for an extended stay (usually about one week) to incorporate S&T transfer and commercialization training to meet the particular needs of the TTO. UTEN mentors help transfer deep know-how, tacit knowledge, and hands-on experience across the entire

office. Topics include internal TTO organization, best practices, and ILO strategies.

*US Connect* for International Business: In close collaboration with Portuguese TTOs and other international UTEN partners, this pilot program identified university-based startups and technology ventures that possessed high capability for international business success and worked with them to establish successful business startups, alliances, and relationships in the U.S. market.

UT MBA alumnus Jim Vance, and MSTC alumni (Cliff Zintgraff, Eli Mercer, Heath Naquin, Marco Bravo, and others) have played key roles in these commercialization efforts which resulted in a 130% increase in academic start-up companies and supported the launch of more than 100 new technology-based companies including mentoring for international market fit and business strategy.

## Dissemination of UTEN Information

The UTEN program webpage, [www.utenportugal.org](http://www.utenportugal.org) provides open (and archived) access as it promotes all UTEN activities and programs. UTEN's Technology Database ([www.techportugal.com](http://www.techportugal.com)) contains a portfolio of Portuguese university-developed technologies and companies that work with UTEN institutions. Information includes technology descriptions, features and benefits, and contact information. CoLab Square newsletter publishes monthly updates of all activities of the UT Austin | Portugal International Collaboratory for Emerging Technologies including UTEN. The newsletter keeps members updated on events and opportunities.

*Written by David Gibson. Photo from UT Austin | Portugal Colab archives.*

## US Connect Success: Bioalvo

BIOALVO S.A. develops marine ingredients for cosmetic and pharmaceutical applications. The marine bacteria, fungi, sponge and corals of the Mid-Atlantic Rift off Portugal's Azores islands and Continental shelf constitute one of the world's richest sources of bioactives. BIOALVO possesses exclusive access to 90,000 natural extracts derived from this diverse array of microorganisms. Screened through their innovative discovery platform, several potent applications have been identified, among them anti-wrinkle, anti-oxidative and collagen production induction activities.

US Connect team members Greg Pogue and Jim Vance worked with BIOALVO CEO Helena Vieira and her team to target data that would leverage BIOALVO's distinctive capabilities to gain U.S. market entry, establish a high profile, and accelerate acquisition of new contracts. The team contacted industry leaders and mapped out the most promising intersections of BIOALVO's capabilities with industry needs.

The US Connect team and BIOALVO created a compelling presentation utilizing empirical evidence from current research to bridge the uncertainty gap of identifying and developing a new bioactivity. Proctor & Gamble's Director of Open Innovation contributed further refinement. Pharmaceutical, cosmetic, skin care and food industry companies were contacted and meetings set with Merck's Global Head of Therapeutic Skin Care R&D, the heads of skin care research at Avon, Revlon, and Mary Kay; the R&D team of Kerry Group, a leader in food ingredients and flavors; as well as remote meetings with Proctor & Gamble's Skin Care group, and EOreal.

One contract has been signed, approval of another proposal is close to completion, another is in waiting and EOreal Europe has begun discussions with BIOALVO. AlphaVektor, a U.S. pharmaceutical and specialty product development company recently acquired from Bioalvo the development and posterior use rights of extracts for pathologic treatment of

a metabolic disease. AlphaVektor's CEO, John Koleng, stated: "We were very impressed with the potential applications of BIOALVO's novel extract library in various types of products and indications. We believe the combination of the material source combined with the unique chemistry afforded by the extracts will provide advanced products to address unmet market needs."

BIOALVO's CEO, Helena Vieira, commented: "This agreement represents a very important milestone in BIOALVO's internationalization strategy, accomplished with our entry into the American market. Without the support of the US Connect team this step would have been much harder."

*Source: CoLab Square, Jul - Sept, 2012. Newsletter of UT Austin | Portugal Collaboratory for Emerging Technologies, Carolina Enes, Editor.*

*While this national investment in Portugal's "higher education" cannot address all of the nation's economic challenges, statistics show that its impact has been significant. The next issue of the IC<sup>2</sup> Institute UPDATE will provide a review of these metrics.*



# Ruta<sup>N</sup> Partners with the IC<sup>2</sup> Institute in Colombia

## Regional Economic Development work in Medellín

Elsie Echeverri-Carroll, IC<sup>2</sup> Senior Research Scientist, is Principal Investigator for the Practical Technology Commercialization Program (PTCP) in Medellín, Colombia. The regional partner in this effort is the Ruta<sup>N</sup> organization.

“The cultural translation of the name Ruta<sup>N</sup> is ‘Route North.’ The organization helps regional businesses move their products into the U.S. and other international markets north of Colombia,” explains Dr. Echeverri-Carroll.

The PTCP incorporated three major components:

- An investigative visit and short workshop (November 28-30, 2011)
- Six weeks of technology commercialization training in Medellín and nine weeks of long-distance assistance training (February to May, 2012)
- A two-week internship at the IC<sup>2</sup> Institute in Austin for the PTCP winning team (June 2012).

The objective of the investigative visit was to identify strengths and challenges in Medellín’s entrepreneur-

ial ecosystem, to help the Institute customize the PTCP to local needs, and to identify additional initiatives that might complement the PTCP.

The PTCP utilized the IC<sup>2</sup> Institute “Think and Do” model wherein instruction and training is based on active participation using “live” examples of technology innovation. The teams were trained to develop a portfolio of information for their technology that would be the deliverables to evaluate the technologies and their teams. These included the Quicklook™ report, QuickPitch, Persuasive Proposal, and a Final PowerPoint Presentation. The training culminated with the teams presenting their technologies to a small jury to determine which team would travel to Austin for the final PTCP phase.

John Rojas, a pharmaceutical PhD, led the winning team as they developed an international marketing plan to use microcrystallized cellulose (his laboratory discovery) across the pharmaceutical, cosmetic, and food industries. While in Austin, the team met daily with various experts

who helped them refine their value proposition, their understanding of the market potential, and more.

The PTCP program was successful at every level, and further IC<sup>2</sup> activities are being planned with Ruta<sup>N</sup> for development in Medellín.

*Written by Margaret Cotrofeld. Photo by Margaret Cotrofeld. For more info on the PTCP project, see: <http://www.ic2.utexas.edu/blog/?p=308>.*

“The cultural translation of the name Ruta<sup>N</sup> is ‘Route North.’ The organization helps regional businesses move their products into the U.S. and other international markets north of Colombia.”

Greg Pogue, Senior Research Scientist at the IC<sup>2</sup> Institute works with the winning PTCP team in Austin.





# Moscow's Higher School of Economics (HSE) Explores Broad Collaborative Possibilities

*Three main areas for collaboration are proposed between the Higher School of Economics, Moscow, Russia, and the IC<sup>2</sup> Institute:*

**Academic Collaboration**

**Internationalization of Start-ups**

**Large Scale Enterprises (LSEs)**

The Higher School of Economics in Moscow – a leading social science academic institution in Russia and is a main academic advisor to the Russian government, and part of Russia's National Research University – is exploring various research and educational opportunities with The University of Texas at Austin and the IC<sup>2</sup> Institute, with three main focuses:

- *Academic collaboration:* education, research, and publishing
- *Internationalization of start-ups:* research and training (Russia to U.S., and U.S. to Russia)
- *Large Scale Enterprise development:* research and executive training

A Memorandum Of Understanding (MOU) has been signed between the two universities to facilitate cooperative efforts over the next five years, to help promote science and technology commercialization, entrepreneurship, and regional economic development on a program-by-program basis. The IC<sup>2</sup> Institute is the principal unit responsible for the MOU agreement, while faculty and students of UT's Center for Russian, East European & Eurasian Studies (CREEES) and the McCombs School are also active in the program.

David Gibson and Eli Mercer (MSTC '09 and Lecturer at the university's Graduate School of Business [GSB]) visited Moscow in December 2011 to explore possible education and research collaborative programs. Eli Mercer made a follow-up visit in January to present lectures in entrepreneurship and economic development.

Ilya Dayter, a CREEES masters student studying with GSB Marketing Professor and IC<sup>2</sup> Institute global

fellow Linda Golden, served as a business strategy consultant and cultural liaison for the Russians on their visit to Austin in March, which was timed for them to participate in the 2012 South by Southwest Interactive festival, to increase their opportunities for international business connections.

An overview of activities against the main focuses of the MOU reveals early wins in Academic collaboration and exploratory activities in economic development.

*Academic collaboration.* Dr. Mary Neuburger (CREEES Director) is developing, with HSE, a 10-week summer program designed for CREEES students to attend HSE. The program will provide students an opportunity to enhance their understanding of Russian language and culture. In September, CREEES received a grant from the Department of Education, Fulbright Projects Abroad that will pay for 20 students to participate in the program per year.

Another early result of the academic collaboration is that Dr. Gibson has been appointed to the Editorial Council of *Foresight*, HSE's academic journal, which features articles in either Russian or English in the field of future-oriented innovation development, and provides a framework for discussions of S&T trends and policies. Dr. Gibson has also been inducted to the International Advisory Board of the Socio-Economic Development Strategy of the City of Moscow.

Additional broad based possibilities are being discussed, including faculty and student exchange, and the development joint research programs.

*Internationalization of start-ups.* Industry sectors targeted for development include creative industries such as digital entertainment, multimedia, gaming, interactive, web-based companies, film and music. Also under consideration is a program for research and training for the development and launch of an HSE Russian Venture Internationalization Corridor (RuVIC) to facilitate on-shoring, and international business development for selected Russian start-ups.

Ilya traveled to Moscow this past August to confer with the HSE Innovation and Enterprise Office (INEO). The focus was on developing a roadmap for inventors to commercialize intellectual property through INEO. When asked about his visit, Ilya replied, "Though there are some challenges ahead, INEO is unrivaled by any Russian institution and only continues to expand their services. The office staff is remarkable. Their services are offered to the university and business community alike. "Companies, that previously were limited in their ability to conduct accurate research within Russia, can now contact INEO and have a dedicated team assigned to their project. I'm excited about the future of HSE and look forward to additional partnership opportunities." Ilya has been invited back by HSE as a member of the judging committee for the Annual HSE Entrepreneurial Competition.

"Our work in Russia goes back to George Kozmetsy's visit there in the early 1990s and the arrival of Professor Nikolay Rogalev as a visiting scholar from the Moscow Power and Engineering Institute," explains David Gibson, IC<sup>2</sup> Institute Associate Director and Senior Research Scientist.

# Secretary of State Praises Results of India Innovation Growth Program



U.S. Secretary of State Hillary Clinton shakes hand of innovator, Dr. Shyam Vasudev, founder and CTO of Forus Health, and developer of 3nethra, a device for early detection of eye diseases.

In May this year, during U.S. Secretary of State Hillary Clinton's visit to India, the IC<sup>2</sup> Institute's India Innovation Growth Program (IIGP) was lauded as a successful example of bilateral cooperation in innovation. Prior to meeting with Vilasrao Deshmukh (India's Minister for Science and Technology), Secretary Clinton viewed presentations of several innovations, including an eye scanner created by 3nethra which helps prevent blindness by early detection of ophthalmic disease. 3nethra is developed by Forus Health, one of the companies that has participated in the offset program that has been delivered by IC<sup>2</sup>'s Global Commercialization Group and supported by Lockheed Martin and India's Department of Science and Technology. Initiated in 2006, the IIGP program has been considered quite successful and has been extended twice, to continue through at least October 2012.

In their meeting, Minister Vilasrao Deshmukh called out the India Innovation Growth Program as second in a five-point cooperative agenda, and described it as a successful BPP model of collaboration between India and the United States. He went on to cite that the program has resulted in more than 200 business agreements being initiated between India and United States enterprises, and that the agreements have facilitated some technologies to enter the global marketplace, with an FICCI impact analysis report showing that revenue from the program has exceeded US \$70 million.

Secretary Clinton also commended the program as she stated that 3nethra's eye scanner is one of the "cutting-age innovations [that] cost a fraction of other medical devices that address these same problems [and]

"These public-private partnerships are really an incredible way to bring the best of government and the best of industries, academia, and not-for-profit organizations together."

make life-saving health care available to people who might otherwise be unable to afford treatment."

Many other examples of binational cooperation were referenced during the meeting, and Secretary Clinton's remarks acknowledged enormous progress in this regard, "Some of the brightest minds of our two societies are already working together. They are seeking solutions for shared problems, and they are building the industries and creating the jobs for tomorrow.... These public-private partnerships are really an incredible way to bring the best of government and the best of industries, academia, and not-for-profit organizations together."

*Written by Margaret Cotrofeld. Photo by Munish Jhingan. More information on GCG's work in India can be found at [www.ic2.utexas.edu/global](http://www.ic2.utexas.edu/global).*

ATI (then under direction of Laura Kilcrease) delivered a series of incubator training courses in six cities throughout Russia. In some cases ATI team members were the first foreigners to be allowed into a restricted region. Funded by USAID, they developed a manual, in Russian, on how to operate a technology incubator. In addition, they provided a one week course on

technology commercialization and incubator startup in Kieve, Ukraine, funded by Soros.

Later, in 2002 and 2003, an IC<sup>2</sup> Institute research team that included David Gibson, Jim Jarrett, Bruce Kellison, and eight IC<sup>2</sup> Global Fellows worked with the International Science and Technology Center, Russia's

national program to reorient scientists from research in weapons of mass destruction into technology transfer and commercialization.

*Written by David Gibson with contributions by Eli Mercer, Ilya Dayter, Laura Kilcrease, and Margaret Cotrofeld.*



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## Publications

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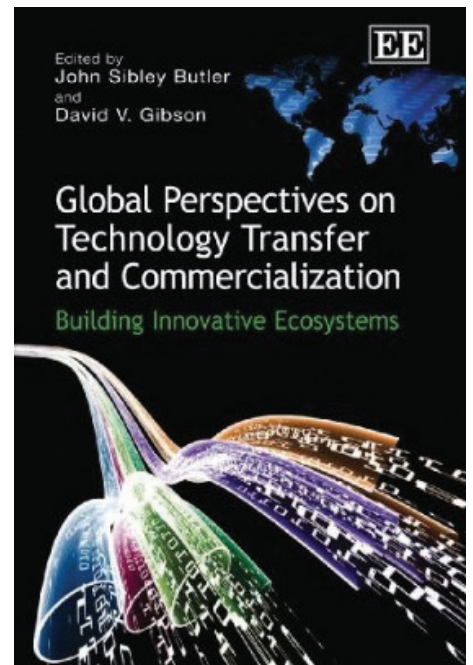
### Latest Edited Work by John Sibley Butler and David V. Gibson: *Global Perspectives on Technology Transfer and Commercialization*

As we move further into the twenty-first century, increasing emphasis is being placed on the importance of technology transfer. Through new research and practices, scholars, practitioners and policymakers have made great strides in broadening our understanding and ability to implement technology transfer and commercialization processes. The fruit of that research is collected in this timely volume.

Technology transfer is a dynamic area of study that examines traditional topics such as intellectual property management, the management of risk, market identification, the role of public and private labs, and the role of universities. This volume reflects on how government, business and academia influence technology transfer in different countries and how the infrastructure of a country enhances technology and contributes to each country's overall economy. Interpreting and adopting the pro-

cesses of technology transfer and commercialization—or, building innovative ecosystems—is critical to seeing success in this digital age. Global in its scope of solving market economy problems, for this volume the Institute has focused its lens on accelerated knowledge-based development. Here, scholars from thirteen countries come together to critique technology transfer from each of their respective nations. The results of their contributions lend innovative insight to exactly how different nations are working to maximize technology transfer and commercialization in uncertain times. Those with an interest in commercialization and technology transfer, from students to scholars, practitioners to policymakers, will find this important collection of great value.

Book profile abridged from <http://www.amazon.com/Global-Perspectives-Technology-Transfer-Commercialization/dp/1849809771>.



*Global Perspectives on Technology Transfer and Commercialization* features thirteen national perspectives: China, Iraq, Israel, Japan, Kenya, Korea, Malta, Mexico, Poland, Portugal, Russia, the United Kingdom, and the United States.

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### Principal investigators as knowledge brokers: A multiple case study of the creative actions of PIs in entrepreneurial science

*This journal article by Donna K. Kidwell is published with Technological Forecasting & Social Change, 31 May 2012, and is available in entirety at [www.sciencedirect.com/science/article/pii/S0040162512001163](http://www.sciencedirect.com/science/article/pii/S0040162512001163). The article is taken from Donna's doctoral dissertation, "From Functional Leader to Knowledge Broker: Case Studies in the Practices of Principal Investigators in Nanotechnology."*

*The IC<sup>2</sup> Institute proudly acknowledges Dr. Kidwell's work in having received her Doctorate in Business Administration on July 13, 2012, from the Grenoble Ecole de Management in France.*

#### Abstract

We examine the role of principal investigators on nanotechnology projects as actors in technology transfer.

We investigate the actions of four principal investigators (PIs) on SBIR and university projects that have been successful in funding scientific projects while fostering commercialization. We contribute to the literature by providing a deeper understanding of the nature of the principal investigator's role as knowledge broker and build a case that PIs are moving from investigators that are occasional inventors to being fully engaged innovators. Using case studies, we found that effective principal investigators purposefully engage in acts of brokering that help them achieve their research and commercialization goals. We described these brokering roles (extrapolating, seeking, aligning and anticipating) and discuss the implications for persons interested in facilitating successful technology transfer.



Dr. Fred Young Phillips, an IC<sup>2</sup> Institute Global Fellow, is editor of *Technological Forecasting & Social Change: An International Journal*. Dr. Phillips served the Institute as Director of Research, 1989-1995.



## Edward G. Anderson Jr., IC<sup>2</sup> Institute Endowed Fellow, Co-authors *The Innovation Butterfly* *Managing Emergent Opportunities and Risks During Distributed Innovation*

Edward G. Anderson, Jr., with Nitin R. Joglekar has authored the latest book in Springer's series, *Understanding Complex Systems* to examine "emergent phenomena" – the seemingly minor business decisions which ultimately affect industry-wide change. The metaphorical title refers

to the proverbial flap of a butterfly's wing that causes a tsunami in distant lands. *The Innovation Butterfly* addresses three aspects of innovation:

- The nature of Innovation Butterfly
- Agile product and portfolio planning
- Agile and distributed leadership.

Anderson and Joglekar open with the words *This book is directed at those who lead the spectacularly risky and complex... challenges of creating product and service innovations.* These words could easily be paraphrased *For those who want to change the world (just a little bit).* *The Innovation Butterfly* is very readable while it explores an important aspect of innovation very effectively. The authors open with four keys to dynamic leadership in today's innovation-directed market:

- Firm leaders should engage in an overall portfolio-driven view; a managerial style that focuses on individual tasks or projects can easily miss large opportunities.
- Innovation leaders need to simultaneously analyze the market against the firm's unique capabilities in order

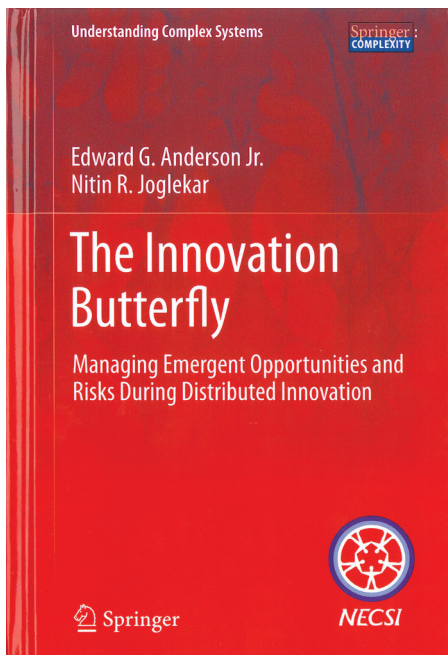
to recognize innovation butterflies that might be within their control. One way in which the firm can leverage its internal capabilities is by developing employee talent (improvisation through delegation).

• Leaders need to plan in agile, adaptive cycles; annual planning exercises are insufficient for innovation. While executing one maneuver, one's next steps should be examined for exploitation of the butterfly effect.

• Innovative organizations foster a decentralized culture and empower individual leaders to execute new innovations.

*The Innovation Butterfly* provides keen insight in developing company-wide ecosystems to facilitate emergent phenomena. The book encourages leaders to embrace the roles of architect, prophet, ship's captain, and coach, to help propel their firms to new success (and perhaps change the world – just a little bit).

Written by Margaret Cotrofeld. The *Innovation Butterfly* can be previewed at [www.amazon.com](http://www.amazon.com).



## IC<sup>2</sup> Institute Global Fellow Vijay Mahajan Releases New Book, *The Arab World Unbound: Tapping into the Power of 350 Million Consumers*

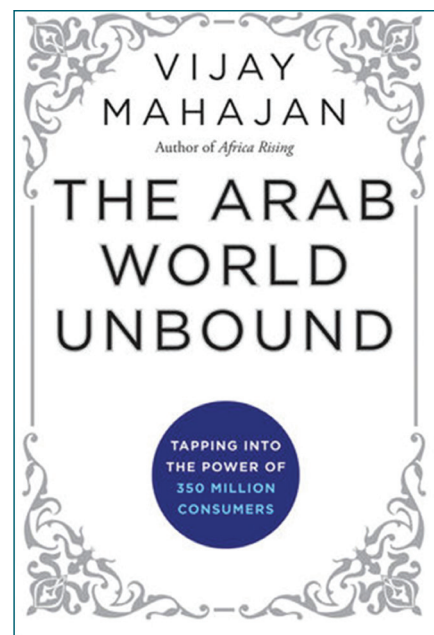
If the Internet places a world of markets within your reach, the work of Professor Vijay Mahajan offers insight on how to make the cultural connections to complete those transactions. His newly released work, *The Arab World Unbound: Tapping into the Power of 350 Million Consumers* (Wiley Jossey-Bass) takes you on a guided tour of the Arab world, with a deft hand to reveal their market needs. Professor Mahajan's narrative begins with a touch of whimsical surprise surrounded by profound respect.

Not exactly a niche market, the Arab world comprises 22 nations and more than 350 million consumers, and collectively represent the ninth-largest global market. Professor Mahajan's tour of the Arab world includes

sensitivity training and a discourse on Islam that begins with "The Difference between Culture and Religion."

This exploration moves forward to provide focus on various aspects of the Arab markets including the *shabab*, or youth market, the women's market, the technology market, Arab's middle class, media and entertainment, and the Arab diaspora. The journey also surveys the commercial path taken by some of the international brandnames that have successfully established a presence in the Arab market.

Written by Margaret Cotrofeld. Preview the first chapter at [http://media.wiley.com/product\\_data/xcerpt/13/11180745/1118074513-152.pdf](http://media.wiley.com/product_data/xcerpt/13/11180745/1118074513-152.pdf).



### IC<sup>2</sup> Institute Director Addresses 2012 CGI America

(Cont'd from pg. 1)

Jerry Sanders, Mayor of San Diego; and Christine Shapard, Executive Director, Colorado Cleantech Industry Association.

CGI America's plenary panels are also considered thought groups in which every participant is a working team member. Dr. Butler's work group addressed the topic, "Entrepreneurship: Building Ecosystems for High-Growth Entrepreneurship." Together, they targeted six initiatives to help communities take focused action:

1. *Build a crowd-funding network* for university alumni to find and invest in businesses developed at their school.
2. *Create an accelerator program* to find inactive IP with commercial application and match these with

experienced entrepreneurs to help launch new companies.

3. *Encourage major companies to partner with startups* in their core areas of operations.
4. *Form a centralized knowledge hub* to coordinate best practices for student and faculty entrepreneurship.
5. *Replicate successful urban entrepreneurship programs* in rural areas working with state governments.
6. *Create cluster-based economic development initiatives* to grow the social enterprise sector.

"This year, CGI America participants have formed creative partnerships and come up with inventive strategies to accelerate employment, start new businesses, and prepare Americans

to take the jobs that are open in the new U.S. economy. From nearly \$176 million of new capital that will go to small or medium enterprises, to the nearly 150,000 students who will gain access to STEM education opportunities, this year's meeting has demonstrated the important advances we can make when working together towards a shared prosperity," said President Bill Clinton as he described the second Annual Clinton Global Initiative America Meeting.

*Written by Coral Franke, with information from PR Newswire, Fri. Jun 8, 2012 and [http://www.cgiamerica.org/public/2012/pdf/takeaway/CGIA12\\_Takeaway\\_Entrepreneurship\\_final.pdf](http://www.cgiamerica.org/public/2012/pdf/takeaway/CGIA12_Takeaway_Entrepreneurship_final.pdf); and Photo courtesy of CGI America.*

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### IC<sup>2</sup> Institute Claims 25% of Austin Business Journal's List, "20 Austinites you simply must know"

"Who you know is just as important as what you know," prefaced Colin Pope, Austin Business Journal Editor, in his blog titled, *20 Austinites you simply must know*.

His list included five Austinites with strong links to the IC<sup>2</sup> Institute:

**Isaac Barchas:** Director of the IC<sup>2</sup> Austin Technology Incubator

**John Sibley Butler:** Director of the IC<sup>2</sup> Institute and Director of the Herb Kelleher Center for Entrepreneurship at the McCombs School of Business

**Gary Farmer:** Winner of this year's Laura J. Kilcrease award presented at the ATI Graduation and Alumni event

**Laura Kilcrease:** IC<sup>2</sup> Institute Global Fellow, founding director of the Austin Technology Incubator, and member of the IC<sup>2</sup> Institute Advisory board

**Jamie Rhodes:** IC<sup>2</sup> Institute Global Fellow, MSTC Alumnus, and member of the IC<sup>2</sup> Institute Advisory board

He went on to say, "These are... decision makers who not only have

an impact on their company or organization, but also their industry and their city. And perhaps the best thing about them... they're approachable."

*Taken from Aug. 30, [www.bizjournals.com/austin/blog/at-the-watercooler/2012/08/20-austinites-you-simply-must-know.html](http://www.bizjournals.com/austin/blog/at-the-watercooler/2012/08/20-austinites-you-simply-must-know.html). Photos appear alphabetically, and are from various sources.*





# Austin Technology Incubator Graduates 21 Companies & Celebrates 23 Years of Incubating Central Texas Companies



Isaac Barchas addresses the company graduates and alumni. Center front row, Laura Kilcrease is seated next to Gary Farmer, recipient of this year's Laura J. Kilcrease Civic Entrepreneurship Award.

The Austin Technology Incubator (ATI) recognized the graduation of 21 companies on January 26, at the university's AT&T Executive Education and Conference Center: companies have moved on from ATI over the past few years.

"It has been overdue to take a moment to recognize the amazing companies who have been part of ATI the past few years, and have graduated our program to pursue bigger and better things," said Isaac Barchas, Director, ATI. "But we deliberately waited to also bring together the extended ATI community and the alumni from years past. We are so excited about the January 26 evening, an opportunity to gather 22 years' worth of extremely impressive Central Texas fire power. Just the idea of the innovation and business success collectively in one room humbles me."

Beyond recognizing these companies and their amazing successes, the evening also announced the winner of the Laura J. Kilcrease Civic Entrepreneurship Award, an award given in the past to Austin area influencers such as Pike Powers, Lee Walker and Governor Rick Perry. The honor went to Gary Farmer, President of Heritage Title Company of Austin.

Also, for the first time in several years, ATI brought together more

than 300 technology influencers who have been part of the ATI family as executives of portfolio companies, advisors, investors, business partners, UT student interns, and ATI staff.

This alumni gathering celebrated the community that ATI has created since its inception in 1989 – begun by founder Dr. George Kozmetsky and first directed by Laura Kilcrease. The premier sponsor of this year's ATI graduation event was ChooseWhat.com, guiding entrepreneurs through the process of starting a business.

ATI has worked with more than 200 start-up companies, helping them raise close to \$1 billion in capital. In the past three years alone (the period in which the graduating companies were part of ATI) 50 member companies received over \$75 million in funding, while ATI alumni companies secured over \$300 million in positive exits through acquisitions by large technology interests such as IBM and BMC.

In this era of for-profit incubators, often created and profited by venture capital firms, ATI as a non-profit and part of the University of Texas, is unique. It also serves as the godfather of today's incubators, having "been there, done that" – very successfully – for years longer than more recent incubators.

On behalf of the IC<sup>2</sup> Institute, ATI, and the Central Texas entrepreneurial community, we congratulate new ATI graduates:

- Agile Planet
- Atonometrics
- Axelo
- Calxeda
- Dorsan Biofuels
- Famigo
- Firefly LED Lighting
- GameSalad
- Ideal Power Converters
- itzbig
- Nitero
- Notice Technologies
- OpenAlgae
- Qcue
- RFMicron
- RRE Solar
- Savara Pharmaceuticals
- Spredfast
- Terapia
- Unwired Nation
- WiMax.com

*Written by Robin Murphy. Photo by Brian Hurdle. To contact ATI executives or affiliated companies, contact Laura Beck at 512/786-1098, laurabeckcahoon@gmail.com.*



# TechBA Expo Creates International Networking Opportunities

## Hundreds Attend GCG's Annual Event for Mexico's Accelerator Program

*"We're bringing the best and brightest companies from Mexico, and this is a great opportunity to meet them."*

Hundreds of business community leaders from Austin and Mexico met at this year's TechBA Expo to share ideas about bringing new products and services to the international market. The first floor of UT's West Pickle Research building was filled as more than 400 people attended this event that grows larger each year—the annual exposition of innovative Mexican businesses enrolled in the TechBA program at The University of Texas at Austin, run by the IC<sup>2</sup> Institute's Global Commercialization Group (GCG), in partnership with the US-Mexico Foundation for Science (FUMEC).

The program is TechBA, technology business accelerator, and its goal is to provide Mexican technology enterprises with the training, coaching, support, and forum to expand to international markets. Selected companies either come to Austin to set up U.S. offices at the GCG facilities or receive assistance from the program through distance coaching with occasional visits to Austin. The Expo is only one of the ways in which TechBA companies can make contact with potential partners or customers, but it's an avenue that generates significant excitement each year.

Barbara Springer, GCG business development manager—and organizer of the event—noted how the Expo augments the opportunities companies receive throughout the year: "Some of the companies make great contacts [at the Expo events] that result in business deals... it's all about making that connection, getting to know people, having a conversation."

Glenn Robinson, TechBA program manager added, "This Expo is the culmination of many months of training, education, and know-how transfer [and] ends up being an opportunity to practice in live business situations." Twenty-four TechBA companies had booths at this year's expo. Companies meet a strict set

of criteria to qualify as an exhibitor. Selected companies are eager to take advantage of the chance to network. As Alberto Garcia, CEO of iCorp, a TechBA company, put it, "Being with TechBA is like being two to three steps ahead of where I would be on my own."

The fact that exhibiting companies are carefully screened and have gone through a year of training and coaching benefits the companies while it also provides the Austin business community with what Springer calls the trust factor, "We're bringing the best and brightest companies from Mexico, and this is a great opportunity to meet them."

Sid Burback, Director of GCG, who started the program at UT over seven years ago, agrees, "One of the important things the program does is reduce the uncertainty for potential partners and customers of the Mexican companies."

The TechBA program has worked with the GCG at The University of Texas at Austin since 2005. While the US-Mexico Foundation for Science (FUMEC) operates seven additional TechBA programs (in Arizona, Madrid, Michigan, Montreal, Seattle, Silicon Valley, and Vancouver) only TechBA

Austin features a large exposition which draws hundreds of attendees from both the United States and Mexico.

Currently seven Mexican companies have full-time operations at the GCG TechBA facilities. "A lot of networking contacts were established this year in a very short time at the Expo," said Dr. Louis Medina, Director of TechBA Austin, "I'm confident that business deals will result from those contacts."

Increasing interest from the Austin community helps secure the TechBA Expo as an annual event, and plans are underway for 2013. That's good news for Mexican innovators struggling to compete in international markets. Jorge Euran, of Alveni, a business that creates interactive kiosks, added, "It sounds easy to come to the United States and open a business. It's not. TechBA brings a lot of value to that process. They give you a vision and introduce you to other entrepreneurs to help you succeed."

*Written by Debra Dzwonczyk with contributions by Margaret Cotrofeld and Coral Franke. Photo by Ruben Cantu, Core Media. For more information on TechBA please see: <http://www.ic2.utexas.edu/global/programs/techba/>.*

TechBA entrepreneur, Miguel Rodriguez, VP of Business Development for Dox-Steel at the 2012 Expo.



# BBR Study Reveals Critical Needs of Hispanic Business Owners in Texas

*“Hispanic businesses and the new jobs they create a bright spot in the Texas economy.”*

Hispanic-owned businesses represent an important piece of the Texas economy, but a new study shows those businesses are mostly small, typically employing only a few workers, even after years of operation.

In the just-released Bureau of Business Research Survey of Hispanic Businesses with Paid Employees in Texas, data show that nearly half of Hispanic-owned businesses in the state have between one and four employees.

“Most Hispanic employers have yet to expand beyond small operations,” says Elsie Echeverri-Carroll, a principal investigator on the survey. “The two most critical challenges for such businesses to grow are lack of training in management and communication skills, and better access to markets.”

## Small But Important

In 2007, Hispanic businesses accounted for 20.7 percent of all businesses in the state, based on the most recent U.S. census data.

“Hispanic businesses and the new jobs they create are a bright spot in the Texas economy,” says Echeverri-Carroll. She points to census data indicating Hispanics created 128,249 new businesses and 115,517 new jobs in Texas between 2002 and 2007. Census data also show the number of Hispanic businesses increased by 40.2 percent during those years.

“Hispanics are not only the fastest-growing demographic in Texas, but we’re also the fastest-growing business owners,” says Alex Jimenez, former chairman of the Texas Association of Mexican American Chambers of Commerce (TAMACC).

## Understanding the Potential

To learn more about this key economic sector, researchers for the survey—produced by The University of Texas at Austin’s Bureau of Business Research (BBR) for TAMACC—mailed

a questionnaire to 2,811 Texas-based, Hispanic-owned businesses with paid employees. The university invested \$155,000 in the survey through the Herb Kelleher Center at the McCombs School of Business and through the Office of the President of The University of Texas at Austin. The Ewing Marion Kauffman Foundation also funded the survey.

“We were pleased to help the Texas Association of Mexican American Chambers of Commerce in studying this important economic issue,” said university President Bill Powers. “A better understanding of the challenges faced by Texas’ Hispanic businesses will allow TAMACC to identify strategies to help these businesses grow and create jobs and new opportunity in Texas.”

The BBR survey showed that of the firms polled:

- Eighty-five percent of firms have owners of Mexican origin.
- More than 80 percent of respondents indicated they hire mainly Hispanics or an equal mix of Hispanics and non-Hispanics, supporting prior evidence that minorities tend to hire minorities.
- Forty-seven percent have between one and four employees, and 73 percent have fewer than 25 employees.
- Eighty percent of young firms (five years or less) have fewer than 10 employees, while 66 percent of mature firms (16 years or more) still have fewer than 10 employees.

## Stuck in a Bottleneck

As TAMACC’s Jimenez explains, only a few Hispanic-owned companies grow into large-scale enterprises. Census data show that only 9 percent of these businesses have paid employees.

What is holding back these small businesses? According to the survey, while most Hispanic business owners have high levels of education and many years of business experience, they believe their employees need

additional training. In response to a question about their top three business training needs, business owners identified team management and leadership (24 percent), business/customer relations (16 percent), and written and oral communication (14 percent) as areas in need of improvement.

The survey also revealed that Hispanic business owners feel they have less access to private and public market opportunities, compared with other firms: 34 percent of respondents agree that they do not have equal opportunities in the private sector, while nearly half (49 percent) agree that they do not have equal opportunities in the public sector.

Jimenez says the survey results were surprising, since many people wouldn’t have predicted marketing and communications being among the top concerns for Hispanic business owners. But he says the findings suggest more business owners and their employees need to learn how to use the Internet, including Facebook or other means of communication, to reach their potential customers. “If there is a seminar on management or communication or the Internet, they should partake of that,” Jimenez says.

Barbra Peterson, vice chair of education for TAMACC, says it is helpful to know how business owners use—or don’t use—state agencies. “It gave us a little better way to develop programs that would meet those needs,” she says.

Organizations that are focused on this sector will be “looking at how we can best grow business in Texas,” Peterson says.

*Written by Jeremy Simon, reprint from [www.today.mcombs.utexas.edu/2012/08/university-study-reveals-critical-needs-of-hispanic-owned-small-businesses-in-texas](http://www.today.mcombs.utexas.edu/2012/08/university-study-reveals-critical-needs-of-hispanic-owned-small-businesses-in-texas). The study is available in entirety at [www.ic2.edu/hob](http://www.ic2.edu/hob).*

# Global Commercialization Group to Assist Chilean SMEs

This fall, the IC<sup>2</sup> Institute's Global Commercialization Group (GCG) will begin a new program for Chilean small-to-medium technology enterprises. The "Global Connection" program is sponsored by the Chilean Economic Development Organization (CORFO). Selected enterprises will reside in Austin and work closely with GCG business development managers as they seek to accelerate their businesses to international markets. These enterprises come from a variety of industries including biotech, renewable energy, wireless technologies, gaming, ICT, and mining. Companies are slated to reside in Austin for three months, with the possibility for a six month extension.

"We are pleased and proud that CORFO has chosen the IC<sup>2</sup> Institute as the second site in the United States from which to accelerate enterprises,"

said Sid Burback, Director of GCG. "Previously, they only supported accelerating companies at a site in Silicon Valley, but GCG has a proven success record with CORFO through our 2008-2010 program for Chilean technology incubators."

Juan de Dios Carvajal, Associate Director of Entrepreneurship of InnovaChile at CORFO stated, "This is a call for entrepreneurs to apply to a program that will change their way of viewing their business idea... and gives them the tools necessary to create a business that not only has local impact, but can also be successful in the global economy." GCG expects twenty companies to go through the Austin program this year. Nine companies have already applied to come to Austin, and three are expected to move to Austin in November 2012.

"We offer entrepreneurs our many years of experience in the creation of new business ventures with global reach. We have very robust tools, as well as a wealth of contact networks in various global markets," said Glenn Robinson, Chile Program Business Development Manager at GCG. In addition to assistance from business development managers, GCG will provide formal training opportunities and networking events. Also, while in Austin, the companies will be assigned graduate student interns who will assist with market research and validation as well as commercial development. The interns' focus will be to identify interested partners, customers and/or investors.

*Written by Glen Robinson with contributions by Debra Dzwonczyk.*

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## USAA Promotes Intrapreneurial Culture with UT Certification Program

The United Services Automobile Association (USAA) is a Texas-based institution with a strong "can do" entrepreneurial history. The company was founded in 1922 by 25 Army officers who offered to insure each other's vehicles when no one else would. Today the company serves active duty members of the United States military, military veterans, and their dependents, with a variety of financial services from banking and insurance to assistance in investments, real estate, and more.

In June of 2011, the IC<sup>2</sup> Institute joined hands with USAA to develop an Innovator Certification program to promote an intrapreneurial culture.

Dr. John Sibley Butler champions the program, "This organization which is already known as a leader in bringing forward new financial services technologies, will expand that knowledge and know-how of technology transfer into the creation of new products and services."

The object of the certificate program is to enable employees that will improve the financial security of USAA members. The collaborative education effort is expected to improve innovative thinking, productivity, and increase USAA's value proposition.

Mick Simonelli, USAA's AVP for Enterprise Innovation, says, "The partnership with the IC<sup>2</sup> Institute through the Innovator Certification program has been extremely valuable. It is a real boost to our efforts to spread the culture of innovation across our enterprise. Our employees can't stop talking about how it has helped them quickly and methodically evaluate ideas for viability."

The customized pilot program enrolled 26 USAA employees who applied the Institute's Quicklook methodology to assess the viability of new technology-based financial solutions. Teams of employees "learn by doing" as they practice new skills in marketing and business planning

and evaluate the potential of proposed products and services.

Since the first cohort of 25 students, a total of 181 students have completed the program and received a Certificate of Completion from UT Austin. IC<sup>2</sup> Institute Program Manager Cliff Zintgraff has worked with all 37 teams who have graduated from the program. As he works with the teams, Cliff can "see the lights turn on" as the teams experience the speed and clarity that the Quicklook process brings to opportunity analysis.

In addition to the certification program, researchers and graduate students of The University of Texas at Austin are working in a joint research effort with USAA staff to provide a source for new knowledge that will help drive innovation in key areas for 21st century competitiveness.

*Written by Margaret Cotrofeld with contributions by Cliff Zintgraff and USAA.*





Kyle Cox directed training for 2012 Longhorn Entrepreneur SEAL Teams.

- *eyeQ*: Purchasing intelligence software for retailers to increase in-store sales
- *PowerSmart Labs*: Software for server power conservation
- *Predictable Data*: Database quality management software
- *ReQwip*: Peer-to-peer (P2P) marketplace for buying, selling, and renting sports equipment and outdoor gear
- *clay.io*: A centralized location for all your favorite web games.

In 2011, Kyle paced sixteen students through the program. Fourteen entrepreneurs finished the semester, while one team dropped out at mid-semester. Sid Allen, of the PHeir Healthcare team explains, "...we realized it would take us several years to reach critical mass, several more years to return to our current salary levels and maybe a decade to have a business we were proud of. We knew no investor would consider investing in a company like this and in the end, we felt the same way about our own time and money."

"And that's okay," said Kyle as he addressed a room full of 2012 SEAL students. "We consider their experience as much a success as the other fourteen students. Because, as an entrepreneur, your most valuable asset is your time, and therefore you want to invest your time as wisely as possible. Sometimes that means moving on to the next project. In that sense, it's better to fail quickly, than to discover a fatal flaw after you have already poured a great deal of time, money, and energy into a project."

This summer the SEAL program was in its fourth year. The number of entrepreneurial teams has more than doubled since the program's inception, from five to twelve. Some participants have taken the "From Innovation to Entrepreneurship" class or the "Hatchery Class," and these courses will carry the mentoring torch for the Longhorn Entrepreneurs through the fall and winter semesters.

IC<sup>2</sup> Director, John Butler explains, "The University is making the effort to serve students so that entrepreneurs

## ATI Trains Summer SEAL Teams

(Cont'd from pg. 1)

through the first three stages of a business startup: innovation development, light-touch market validation, and business validation. The SEAL program incorporates all of this and more, ultimately helping student entrepreneurs address one key question: "Is this a business opportunity that justifies turning down job offers to go all in?"

To support this critical decision, SEAL teams engage in multiple strategy sessions with ATI staff and industry experts, where they examine potential "deal killers," interview prospective customers and partners, create financial models, write a high-level pitch, and develop leadership and organizational skills.

The program culminates with "Decision Day," where each team delivers their pitch to an audience of potential angel investors, venture capitalists, UT Austin faculty, and members of the Austin start-up community. Previous SEAL team

achievements include: recording millions of dollars in revenue, placing first in the MOOT Corp venture competition, establishing partnerships with VC firms, and successfully spinning out UT Austin intellectual property. This summer's SEAL teams include:

- *QuorumBuy*: Group buying website to enable users to receive volume discounts on physical goods
- *Zingpoints*: Hyperlocal retail rewards that monetize the consumer social network
- *Ideation Systems*: Educational tools to make learning accessible and affordable
- *Escapaide*: Provides customized itineraries for international business travelers
- *ROx*: Cleaner samples for surface analysis
- *Solspot Systems*: Solar-powered electric vehicle charging stations
- *Lynx Labs*: Rapid 3D modeling with single lens

## KNOW YOUR MARKET (from presentation by C. Gumbert)

- A **defined B2B market** is based on addressing a defined problem with a budget behind it. These customers will buy something to meet that need, so your value proposition needs to focus on how you meet that need better than anyone else.
- An **undefined B2B market** is one in which the company must first convince customers of the critical nature of the need, and specifically address the question: why now?
- For **both B2B markets**, it is important to identify the end user, as well as who is paying for the product. If these are not “one and the same” then you need to address these separate thought processes and meet the needs of both.
- The **consumer market** is most often based on recommendations, and the ability to create a social buzz is preeminent. Social media can be highly effective with coupon offers, Tweets, Facebook likes, etc.

program provides an extremely high value proposition to its participants.

On 2012 SEAL team Decision Day (August 7), teams presented their financing bid to angel investors and more. “Access to ATI resources, such as experts and mentors, has enabled us to position eyeQ to begin raising the necessary funds to bring our innovative retail intelligence solution to the mass market,” said Michael Garel, winner of the 2012 Texas Venture Labs Investment Competition (VLIC).

*Written by Margaret Cotrofeld. Photo by Margaret Cotrofeld. For more information on ATI and the summer SEAL program, see <http://ati.utexas.edu/>.*

don’t have to choose between seizing a time critical business opportunity, and continuing to graduation – which is what Michael Dell had to do.”

### Refining the Value Proposition

In addition to the (uncountable) hours that each team invests to hammer out their venture plans, the entire SEAL group meets every two weeks for an open session in which a mentor provides specialized instruction. In one of these 2012 sessions, mentor Cynthia Gumbert, Global Customer Relationship Management Director for Dell, offered the following market validation advice to SEAL entrepreneurs as they refine their value proposition:

- *Set a pricing model that reflects the customer’s needs and desires.* Consider it a warning sign if your sales team insists that your company’s path to success is simply a matter of finding “the right customers” who are willing to pay a higher price than the average customer.
- *Before you hire a sales team, hire marketers to help identify and develop a customer base.* Hire your sales staff when customers begin to appear. In all cases, your marketing approach needs to address “the customer need,” rather than “what you do.”
- *Know your competitors:* not simply those who solve the market pain with a

similar approach, but those who solve the market pain with a completely different approach. Ask yourself: how else can we solve the same problem?

- *Be willing to make massive course corrections,* as the vision begins to change to meet reality. Growth should be market driven.
- *Know when to give up control of your company.* Plan an exit and take it, so that you can start something new.

Ms. Gumbert also described the basic differences and similarities in how to approach *defined* B2B markets, *undefined* B2B markets, and the *consumer* market (see sidebar).

Finally, Cynthia recommended that a new venture should make a large attempt to capture their first customer base as a focus group, and interview these key customers for validation on product changes and improvements. “Your first customers can be some of your most valuable customers. They often prove to be the most loyal customers, since your product addressed their pain.”

In addition to offering valuable advice in group sessions, SEAL mentors such as Cynthia are available for extensive private sessions to provide these teams with specific advice to help address their current challenges. With a group of hands-on mentors to assist in a variety of subjects, the SEAL

“...as an entrepreneur,  
your most valuable  
asset is your time, and  
therefore you want  
to invest your time  
as wisely as possible.  
...In that sense, it’s  
better to fail quickly,  
than to discover a  
fatal flaw after you  
have already poured  
a great deal of time,  
money, and energy  
into a project.”





## Open Innovation: The Journey from Ideation to Innovation

November 7-9, 2012

Hilton Austin Hotel 500 E. Fourth Street Austin, Texas 78701

Register to attend: <http://oiaustin.eventbrite.com/>

The primary objective of the conference Open Innovation is to explore the many methods which may be utilized to bring an idea through the early stage of the innovation process. Topic areas of interest include the various forms of innovation actors in the ecosystem including the roles of industry, government labs, private industry and university and their impact on the transition of an idea into an appealing market innovation.

It is expected that this open forum will help expose and develop novel models of innovation development in an academic setting, that will result in the development of a new volume dedicated to the concept of Open Innovation and the transition of Idea to Market through innovative processes.

The Concept of Open Innovation has been an emerging trend in business

and research in recent years. The work of Chesbrough and others in the Academic community galvanized the concept that innovation is a fluid rather than formulaic process. As a result of popular writing, the topic of Open Innovation has seen a marked increase in research on the application of this popular theory.

Yet the idea of open innovation is still under development in a practical sense, despite extensive literature on the topic and market interest on the parts of the academic and business community. The IC<sup>2</sup> Institute at The University of Texas at Austin has organized a conference of practitioners and academicians to explore both the reality of open innovation initiatives in practice along with emerging academic models of innovation which could prove to be the next engine for innovation practice.

One of the areas of innovation often ignored in research is the journey of a basic idea (whether business model, technology or general notion) from the mind of an innovator into reality. This conference will focus on the Journey from Ideation to Innovation and will consist of presentations by practitioners and researchers in the field discussing best practices, experience and emerging concepts.

Inventors, technology development managers, entrepreneurs and business owners of all types will benefit from the open exchange of ideas related to the transformation of ideas into reality through the careful application of Open Innovation Concepts. Networking opportunities will be present throughout the conference for participants to mix with practitioners, researchers and new collaborators in this emerging field.



# Endowed IC<sup>2</sup> Fellow Steve Nichols Heads a New Master's Program that Calls the Global Classroom "Home"

The UT Engineering Management Master's program (ENM) is designed to educate the next generation of managers at technology-based companies, and to support the University's theme, "What starts here changes the world." Under the guidance of IC<sup>2</sup> Endowed Fellow, Dr. Steve Nichols, Director, the ENM program provides the executive level skills engineering and technical professionals require in order to advance to leadership positions across technical industries. The program offers a cutting edge curriculum in a condensed program format. By attending class one weekend a month students are able to earn their master's degree in two years while working full time.

Established in 1999, the interdisciplinary program is offered by the Cockrell School of Engineering. Instruction is provided by internationally-recognized faculty from

the Cockrell School and the McCombs School of Business. The 26<sup>th</sup> cohort started this fall. The ENM program will also be offering a synchronous online option for the first time starting in the fall of 2012, and will be partnering with IC<sup>2</sup> Institute for the use of the Institute's Global Classroom.

Students acquire core business skills in economics, negotiations and marketing, deep understanding of technology and market risks, and expertise in technology innovation and management. Graduates will not only have developed a lasting peer network of motivated and success-driven professionals, they will have acquired the tools necessary to lead and manage organizational change.

*Written by Murray Altman-Kaough. For more information on the ENM program see <http://lifelong.engr.utexas.edu/pme/index.cfm>.*



## ATI Intern Wins \$10,000 Granof Outstanding Graduate Student Award

In May of this year, William B. Liechty, an ATI Intern and a doctoral candidate at the Cockrell School of Engineering, has won the \$10,000 Michael H. Granof Outstanding Graduate Student Award at the Graduate School/University Co-op Awards for Excellence in Graduate Education.

The Excellence in Graduate Education Awards recognize and reward outstanding graduate students for distinguished scholarship, research, writing, service and teaching.

Liechty, a National Science Foundation Graduate Research Fellow, is completing his dissertation, which involves the development of dual-

responsive nanoscale hydrogels for the oral delivery of small interfering RNA. According to his dissertation advisor, Professor Nicholas Peppas, his dissertation project is one of major importance to the biomaterials world. He has been recognized with numerous awards, including travel grants to conferences, a presentation award from the Society for Biomaterials, and notably the 2011 Excellence in Graduate Research Award from the Graduate School.

Liechty represented The University of Texas at Austin at the 61st meeting of Nobel Laureates at Lindau (one of 70 delegates from the U.S.), and he has also been instrumental in the development and growth of Texas Venture Labs, where he led several cross-functional deal teams, and helped partner companies raise nearly \$8 million. He has served as department representative to the Graduate Student Assembly, as President of the Graduate Chemical Engineering Society, and also as a member of the President's Student

Advisory Committee. In summer 2011, Liechty cofounded a summer program that provides high school students, most of whom would be first generation college students, an internship focused on drug delivery and biomaterials research. All of the participants expressed serious intent to pursue degrees in STEM fields after completing the internship. Outreach initiatives like these are critical to improving the diversity of future researchers in science and engineering.

Prior to UT, William earned a B.S.E. in Chemical Engineering from the University of Iowa, and as a Gates Cambridge Scholar, received a M.Phil in Chemical Engineering from The University of Cambridge. Liechty plans to graduate in May 2013.

*Article source:* <http://ati.utexas.edu/node/176>.

## What's Happening at the IC<sup>2</sup> Institute

### Art Markman Increases the Spectrum of IC<sup>2</sup> Institute Research

*Yet another reply to the question, “Yes, but what does an IC<sup>2</sup> Institute Endowed Fellow actually ‘do’?”*

Dr. Arthur Markman, the Annabel Iron Worsham Centennial Professor of Psychology and Marketing at the University of Texas Department of Psychology, is an IC<sup>2</sup> Institute Endowed Fellow “on the move.” He is currently helping to increase the spectrum of research at the Institute as he coordinates new projects and talent against the current activities and research of the IC<sup>2</sup> Institute. This infusion of talent and ideas poses significant value add to the Institute’s current level of “research as usual.”

As the number and scope of IC<sup>2</sup> Institute research projects continues to increase, so do the resources for potential academic research “on the research,” if you will. Both literally and metaphorically, Dr. Markman will help facilitate “data mining” the Institute’s ongoing activities and talent base for opportunities that would otherwise remain unrealized.

Senior Research Scientist Greg Pogue explains, “Art has already begun forging links with new University faculty providing a broader range of research topics to be investigated. Our initial focus has been to characterize the ‘network’ that is connected with the Austin Technology Incubator and its Directors as well as the impact of enmeshment into this network on new company success.”

Prof. Markman has held the W.W. Heath Centennial Fellowship with the IC<sup>2</sup> Institute since 2005. His research expertise includes *learning, performance under pressure, effects of incentives on performance and learning, decision making, and analyzing similarity*. Markman’s research has produced prolific academic results. He is executive editor of the journal *Cognitive Science*, which is published by the Cognitive Science Society. He

directs The Similarity and Cognition Lab, with research focused on decision making and categorization. He is founding director for the new degree program in the College of Liberal Arts, the Master of Arts in Human Dimensions of Organizations. In January this year he released a new book, *Smart Thinking; Three Essential Keys to Solve Problems, Innovate, and Get Things Done*. In addition he writes three blog columns; one titled *Ulterior Motives*, for *Psychology Today* [[www.psychologytoday.com/experts/art-markman-phd/](http://www.psychologytoday.com/experts/art-markman-phd/)]; another for the *Huffington Post* [[www.huffingtonpost.com/art-markman-phd/](http://www.huffingtonpost.com/art-markman-phd/)]; and another for *YouBeauty.com* [[www.youbeauty.com/authors/art-markman-phd/](http://www.youbeauty.com/authors/art-markman-phd/)].

Dr. Markman will present the keynote address in the upcoming IC<sup>2</sup> Institute conference, *Open Innovation: The Journey from Ideation to Innovation*. The conference will take place at the Hilton Austin Hotel November 8-9.



Professor Art Markman, IC<sup>2</sup> Institute Endowed Fellow since 2005, plays a mean tenor sax in the blues band, *The Pleasure Cats*, house band for Jax Neighborhood Cafe at 2828 Rio Grande.

Written by Coral Franke and Margaret Cotrofeld. Photo provided by Art Markman. Mission of HDO taken from <http://sites.la.utexas.edu/hdo/>. More info on the Open Innovation conference is at [/www.ic2.utexas.edu/blog/?p=325](http://www.ic2.utexas.edu/blog/?p=325).

#### HDO: The Future of Leadership

Since 1999, IC<sup>2</sup>’s current director, John Butler, had the vision for a new education program that would bring together the core disciplines of the Liberal Arts to help businesses make more effective use of employee talent.

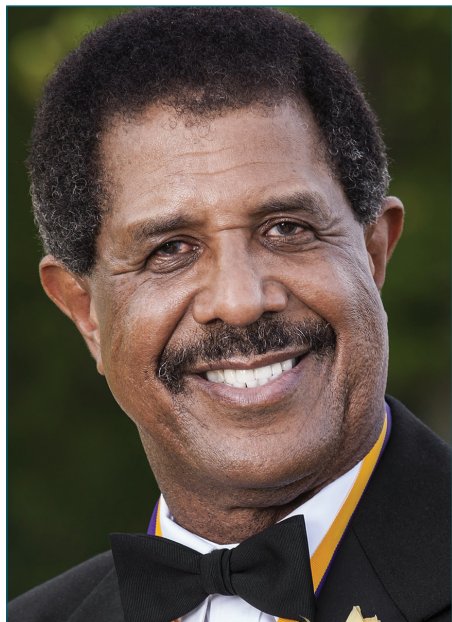
Dr. Markman has worked with Dr. Butler to help that vision become a reality. Beginning Fall 2013, UT’s College of Liberal arts will begin offering a Master of Arts degree in Human Dimensions of Organizations (HDO). HDO’s mission is to help professionals:

- **Identify** and manage organizational change
- **Analyze** how businesses are influenced by tradition, history, psychology, language, new media, and more

- **Bridge** their creative and professional lives and foster creativity in those around them
- **Build** strong organizations by providing leaders with a comprehensive understanding of the global workplace
- **Open** doors of opportunity for personal and professional growth and leadership
- **Generate** real-world skills that will improve the structure and function of organizations.

In addition to the degree program, HDO provides one-day Professional Seminars to help people to better understand the modern workplace in terms of global enterprise, culture, marketing psychology, leadership skills, communication effectiveness, and more.





## John Sibley Butler Honored as LSU Alumnus of the Year

African-American member of the LSU Tiger Band and a Vietnam War Bronze Star winner. A distinguished scholar, lecturer, author, international business consultant, and presidential adviser, he is also a professor of management and sociology at The University of Texas at Austin. Today he holds the Herb Kelleher Chair in Entrepreneurship and the J. Marion West Chair for Constructive Capitalism.

Among his many awards and honors are the Austin Business Journal Tech Innovation Legacy Award, the National Coalition for Capital Champion of Small Business Award, the Booker T. Washington Legacy Award, the People's Health Illustrous Alumnus Award, and presidential appointment to the J. William Fulbright Foreign Scholar Board.

Dr. Butler has a love for music that spans many decades dating back to his days at LSU, where he was the first

African American student to march in the Tiger Band. A trombone player in his college days, today he enjoys singing and is a guitar and piano enthusiast.

A former member of the LSU Alumni Association National Board of Directors, Dr. Butler was instrumental in the development and continued success of the Austin Alumni Chapter and is a major donor to The Cook Hotel and the LSU Alumni Association. And while he does root for the Texas Longhorns, Butler is a diehard LSU football fan attending as many LSU games as possible. Dr. Butler and his wife, Rosemary, have one son, John, and are the proud grandparents of one grandson, Devynn.

*Abridged from, Butler, James Highlight 47th Hall of Distinction Gala, by Matt DeVille at [www.lsualumni.org](http://www.lsualumni.org). Photo by Jim Zietz.*

In March, the Louisiana State University Alumni Association inducted Professor John Sibley Butler into the 47th Hall of Distinction, as 2012 Alumnus of the year. In a gala celebration, T. J. Butler, city councilman for Franklinton, Louisiana, presented his brother with the key to the city. John Sibley Butler is the first

## Current Visiting Scholars: Korea, Portugal, Romania

This fall, the IC<sup>2</sup> Institute is pleased to host seven visiting scholars from abroad. These include Cristina Galalae (a Fulbright scholar from Romania), Francisca Aroso (from Portugal) Dr. Chisoo Ahn (a researcher with the Korea Basic Science Institute), and four gentlemen with Korea's LS Industrial Systems.

*Cristina Galalae* is a Romanian Fulbright scholar and PhD candidate from the Bucharest Academy of Economic Studies in residence at IC<sup>2</sup> for the 2012-2013 academic year. She will be working with IC<sup>2</sup> Fellow and Marketing professor Linda Golden on her PhD thesis related to consumption patterns among international exchange students. She is also interested in international relations and has studied in Belgium and Manchester, England.

*Francisca Aroso* is a visiting scholar at the IC<sup>2</sup> Institute. She is a registered architect in Portugal. Miss Aroso is a Ph.D. candidate at the Architecture Association School of Architecture in

London, at the Emergent Technologies and Design Group. She is conducting research on fabrication-based design of transitional spaces, exploring the boundaries of innovative bio-inspired design and production solutions of timber facades by using information extracted from biological models (biomimetics) in combination with parametric design tools and digital fabrication technologies.

*Dr. Chisoo Ahn* is spending the 2012-2013 academic year at the IC<sup>2</sup> Institute pursuing his work on Open Innovation. Dr. Ahn, a researcher with the Korea Basic Science Institute, is studying open innovation strategies among small manufacturing firms and is interested in adding data from American companies to his survey results from a study he did among small- to medium-sized Korean firms.

In a continuing collaborative program, LS Industrial Systems in Korea (LSIS) currently has four scholars at the Institute:

- *Eun Kwang Hwang* is pursuing the research topic, What makes LSIS conduct international outsourcing
- *Jung Kyu Park*, A study on the improvement of the development process efficiency in Power electronics for LSIS
- *Jaeil Kwon*, A study on vision controls for embedded systems in factory automation
- *Jungwoo Yun*, A study on the analysis and improvement of marketing and management in industrial electric equipment

While in residence at the Institute, the scholars will audit courses in Computer Science, Engineering and Business, study English, and meet with business leaders from around the state.

*Written by Bruce Kellison, with contributions by Diane Skubal.*



## Associate Director David Gibson Appointed Professor II at Tromsø University, Norway

companies become more innovative—an orientation that is similar to the Master of Science in Technology Commercialization program created by the IC² Institute, now available at the McCombs School of Business.

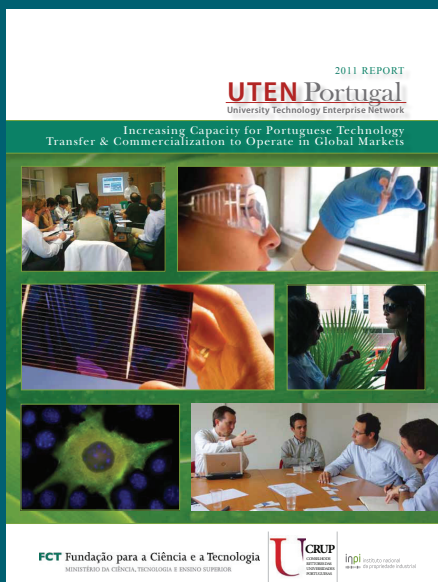
Dr. Gibson is also engaged with his Norwegian and other international colleagues in a research project on the role of research universities in the development and sustainability of regional innovation ecosystems. Research team members represent established and emerging technology regions including large cities and smaller locations that represent the United States with The Stern School of Business, New York University and The University of Texas at Austin; the United Kingdom with Cambridge University and Kingston University; Norway with the universities of Stavanger and Tromsø; Lund and Chalmers Universities, Sweden, and Aalto University and Kymenlaakso University, Finland. This research

and resulting publications have the objective of contributing to:

- Comparative research on universities as they impact innovation ecosystems in different social, cultural and institutional contexts
- Narrative stories and descriptive processes of how universities are most effective in accomplishing their third mission with regard to science and technology (S&T) commercialization and economic development
- A theoretical framework to study ecosystem development combining knowledge from sociology, political science, entrepreneurship, and innovation
- The development of useful policy and action initiatives.

For information on Tromsø University's BCE MA program see [http://en.uit.no/ansatte/organisasjon/artikkel?p\\_document\\_id=286768&p\\_dimension\\_id=88167&p\\_menu=42374](http://en.uit.no/ansatte/organisasjon/artikkel?p_document_id=286768&p_dimension_id=88167&p_menu=42374).

## Printing & Imaging Association of Mid-America Awards 2011 UTEN Annual Report "Best in Category" for Graphics



The Printing & Imaging Association of Mid-America awarded the 2011 UTEN Annual Report as "Graphex" Best in Category for Paper-covered Books. The report was submitted by the printers, 360 graphics as representative of some of the company's best work during the year 2011.

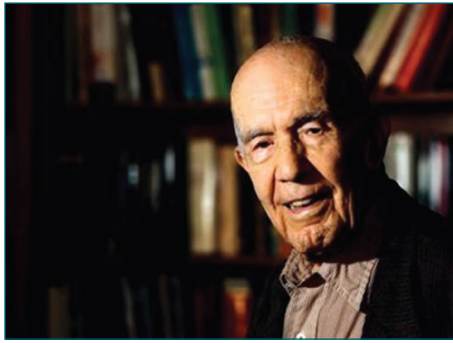
Accolades fall to Margaret Cotrofeld for the graphic design and layout. She says, "I'm proud of the report, but more than the publication, I am proud of the work performed by UTEN, in the delivery of workshops and in advancing technology transfer across the nation of Portugal. Hopefully the award will cause people to take another look—to open that cover and read what's inside." The 2011 UTEN Annual Report is available at <http://utenportugalorg/wp-content/uploads/uten-annual-report-2011.pdf>.

## IC² Institute Online Publications Project

Since 1977, the IC² Institute has developed an extensive record of publications by IC² researchers, Fellows, visiting scholars, and UT faculty and students. Their work is transdisciplinary and covers a wide range of interests: new technologies, technology transfer, entrepreneurship, economic development and more.

IC² staff, with graduate students from the UT Austin School of Information, are preparing IC² Institute publications to make them available online in the University of Texas Digital Repository. So far over 200 IC² Working Papers have been scanned and are being prepared for online publication. The Digital Repository guarantees a permanent online home for IC² documents and will help make them more available to researchers through services such as Google and Google Scholar. See: <http://ic2.utexas.edu/pubs>.





## W.W. Cooper Leaves Rich Legacy as IC<sup>2</sup> Institute Endowed Fellow

Professor Emeritus [and endowed IC<sup>2</sup> Institute Fellow] William W. Cooper, an academic giant widely considered to be a father of management science, died Wednesday, June 20, at the age of 97. A high school dropout and former boxing champ, he went on to revolutionize business education and research.

In a career that spanned nearly seven decades and included stints at the University of Chicago, Carnegie Mellon, and Harvard Business School, Cooper was a prolific researcher who was at the forefront of a new way of studying business, emphasizing scientific rigor and integrating disciplines. In the words of one of his star doctoral students, Andrew Whinston, professor at McCombs [and IC<sup>2</sup> Institute Global Fellow]: “The models Bill pioneered fostered a huge transformation of worldwide company operations. He has, as they say in today’s jargon, a big footprint.”

He was also a fixture on campus, coming to work nearly every day until just a few weeks before his death. “William W. Cooper came to Texas in 1980 at age 66, already a giant in his field and at a time when many would be preparing for retirement. But as a man who began his work career as a prize fighter from Chicago, he had no intention of slowing down,” said Thomas Gilligan, dean of the McCombs School. “I speak for generations of Texas business students, and many

grateful colleagues, when I say that Bill was a cherished friend, a steady mentor and an inspiration to everyone who knew him.”

### A Rough Start with a Lucky Break

Born in 1914 in Birmingham, Alabama, Cooper grew up in a rough neighborhood on Division Street in Chicago. Think Al Capone, Prohibition and street gangs. His father, who owned a string of gasoline stations, fell ill and couldn’t work anymore. His mother, needing her son to help with the family of five during the Great Depression, pulled him out of high school in his sophomore year. He never graduated.

Cooper did whatever he could to make money. He set up pins in bowling alleys. He caddied on golf courses. Then he found boxing. Professional boxing could earn you \$35 for only nine grueling minutes: three rounds, three minutes each. Cooper was a natural. His record: 58 wins, three losses and two draws.

Professional boxing might have become his career had not fate intervened. One day while hitching a ride to his caddying job, he was picked up by Northwestern University professor Eric Kohler. Kohler, who was also a partner at Arthur Andersen, saw something impressive in Cooper and became a kind of father figure, guide and mentor to the lad, persuading him to attend college and extending him the money to get started.

### When You’re Too Advanced for a Ph.D.

“I was just amazed at what I found,” Cooper said of his first days at the University of Chicago in a 2010 interview. “I had never seen anything like that kind of intellectual life where I grew up.”

He initially studied physical chemistry but switched to economics after working on a patent infringement case with Kohler and discovering a significant error in a math equation. It was a windfall for the case, and Kohler hired Cooper part time for math and accounting work. That led to a job after graduation as Kohler’s research assistant at the Tennessee Valley

Authority (TVA), where he was put in charge of the internal audits.

After the TVA, Cooper completed the coursework for a Ph.D. in economics at Columbia in 1942. But the research in his dissertation was so advanced for its day that the committee did not fully understand it. They refused to accept or reject the work despite his careful explications and several changes. And so a man who would go on to win three honorary doctorates for his pioneering work didn’t actually receive his own doctorate.

But it wouldn’t matter a whit. World War II was on and Cooper headed to the White House, to the U.S. Bureau of the Budget (now the Office of Management and Budget), where he was in charge of all accounting statistics for the federal government, specifically those relating to war procurement programs, price control, production allocations and related economic studies.

Cooper wrote about coordinating these wartime accounting stats in an article for *The Accounting Review* in July 1945. The American Institute of Accountants was so impressed with his findings that they created an annual award to honor the most significant accounting article of the year and then named Bill Cooper and co-author Eric Kohler the award’s first recipients.

### The Birth of a New Field: Bringing Science to the Art of Management

In 1946, Cooper joined the faculty of the newly formed Graduate School of Industrial Administration (GSIA) at the Carnegie Institute of Technology (now, Carnegie Mellon University). There he became part of a radical shift in business education that emphasized scientific and mathematical rigor over trade school, hand-me-down instruction and professors teaching in departmental silos.

Cooper was not only a leader in these changes, but his own academic career thrived in this environment. He teamed up with Abe Charnes, a mathematics professor at Carnegie, and together they developed mathematical models that would radically change how we look at problems.

In essence, a new field was being born. Called management science, it was an interdisciplinary branch of applied mathematics whose aim was to optimize decision planning. It used rational, scientific techniques to improve management decisions.

Charnes and Cooper shared a legendary joint publishing record of more than 35 years. In 1982 they shared the John Von Neumann Theory Prize, an award given to individuals who have made fundamental and sustained contributions to theory in operations research and management science. In 2010, Cooper was inducted into the inaugural Wall of Fame at the Tepper School of Business at Carnegie Mellon.

The contributions Cooper made to this field, now called operations research, are legion. Linear and nonlinear programming, goal programming, chance-constrained programming, manpower planning and multiobjective optimization are just some of the many lines of study that he created or strongly influenced. He is best known as the co-creator of data envelopment analysis, a method used worldwide to measure, evaluate and improve the performance of manufacturing and service operations.

### The Business of Public Policy

In 1968, Cooper became the first dean of Carnegie Mellon's School of Urban and Public Affairs (now known as the Heinz College at CMU). Pittsburgh was being hit hard by urban decay and the erosion of the steel industry. At the time, no one considered that engineering, operations research, the burgeoning computing world or even accounting had anything to do with public policy.

He helped to revolutionize public affairs education as he had done with business, using analytical models to solve broad, interconnected problems in the public interest. Under his leadership, the school brought on a sea change in how public policy was taught in the U.S.

His next appointment, from 1975 to 1980, brought him to Harvard Business School, where he was named

the Arthur Lowes Dickinson Professor of Accounting.

### What Retirement?

At age 66 most people are thinking of retirement. At that age in 1980 Cooper started on a whole new leg of his career.

George Kozmetsky, then dean of UT's College and Graduate School of Business, hired Cooper as the Foster Parker Professor of Management, Finance and Accounting. With a nod to Cooper's broad research interests, colleagues joked that his title naturally would encompass three departments.

"I decided in favor of the business school at Texas because of the persuasive arguments made by the late Dean George Kozmetsky," Cooper said in a 2008 interview, "Kozmetsky transformed the school from an old-boys club to a modern, high-ranking school—just as he said he would." Cooper authored more than 325 articles while at Texas; and, as the late Professor Tim Ruefli noted in a 2002 Austin American-Statesman profile of the academic legend, Cooper's publication rate increased in the decade from 1992 to 2002, when he was between 78 and 88 years old. His most recent research was published earlier this year.

While Cooper technically retired in 1993, becoming a professor emeritus, in reality nothing changed in his day-to-day life. He led a structured life, exercising each morning, dining at the Campus Club at lunch, going to his office for email and correspondence, and spending his evenings reading, studying and researching. One Thanksgiving Day the McCombs building was closed. He phoned up administrators to see if he could get the door unlocked. After all, there was research to do.

At his side for 55 years, from their 1945 marriage to her death in 2000, was his wife, Ruth Cooper, an attorney and human rights champion who achieved considerable renown in her own right. "She was a great force behind me," Cooper said in 2009. "Without her, I wouldn't have done any of it."

Just weeks before his 96th birthday in 2010, Cooper was asked what kept him working so hard. He replied by recalling the ending of a book he had read recently where a character remarks, "I don't want to die from a cold or pneumonia or anything, I want to die from living." He explained, "That's the way I feel. My life revolves around work. I like solving problems, I like advancing knowledge, and I like helping people."

William Cooper is survived by his brother, Leon, and his sister, Emilie.

*Source: McCombs Today, 6.20.12. [www.today.mcombs.utexas.edu](http://www.today.mcombs.utexas.edu). Written by Cory Leahy, with contributions by Matt Turner, Rob Meyer, and Jamey Smith.*

"I decided in favor of the business school at Texas because of the persuasive arguments made by the late Dean George Kozmetsky," Cooper said in a 2008 interview. "Kozmetsky transformed the school... just as he said he would."



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## Take Note

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# Global Fellows Meeting: Spring 2013

From: IC<sup>2</sup> Institute

To: IC<sup>2</sup> Institute Global Fellows

Re: Fellows Meeting & Conference:

*Digital Age, Wealth Creation, & Regional Competitiveness*

The purpose of this conference is to examine regional competitiveness and wealth creation in the digital age. We seek to put the entire process of regional competitiveness and regional wealth creation under strict scientific investigation and address the question: How do you create wealth using a business accelerator in the digital age? Research topics will examine how to create wealth through entrepreneurial enterprise. The importance of wealth creation and regional competitiveness in the digital age will encompass current issues, challenges and opportunities. If you have a particular interest in these topics and would like to formally present your research, please contact: Coral Franke (coral@ic2.utexas.edu).

April 25-26, 2013

AT&T Executive Education Conference Center

1900 University Avenue, Austin, TX 78705

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IC<sup>2</sup> Fellows  
Save the Date!  
APRIL 25-26,  
2013

## IC<sup>2</sup> Capital Campaign

The IC<sup>2</sup> Institute is initiating a Capital Campaign to raise \$50 million in endowment funding over the next five years, in order to pursue a more autonomous research path and engage in compelling research questions that have remained unsponsored by project-based grant funding. We invite you to join our efforts to promote regional wealth creation, both at home and abroad.

Contact Marco Munoz, 512/475-6711, mmunoz@ic2.utexas.edu, or "Donate Now" at [www.ic2.utexas.edu](http://www.ic2.utexas.edu).

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## Austin Technology Clean Energy Incubator & Austin Energy Present the SXSW Eco Startup Showcase

October 4, 2012

Start-up Showcase Semifinalists: 9 a.m. - 12:45 p.m., Salon A/B

Start-up Showcase Finals: 4:45 - 5:45 p.m., Salon A/B

Awards Reception (presented by Autodesk): 6:00 - 7:30 p.m. Grand Ballroom

Meet the entrepreneurs leading the way to a sustainable future. Attend this one day venture capital pitch competition that spotlights innovation and entrepreneurship as it exhibits the best cleantech startups from around the world. Join us as we explore the next opportunities in cleantech investing. *To attend, register for SXSW Eco today: <http://sxsweco.com/attend>*

**Semifinalists:** We are proud to introduce our Startup Showcase Semifinalists. These companies are pioneers of innovation across a wide range of cleantech sectors, including agriculture, air, energy, green building, recycling, transportation and water.

- |                                |                            |                    |
|--------------------------------|----------------------------|--------------------|
| • Actual Sun                   | • Nexus eWateris           | • Pvilion          |
| • CEFCO Global Clean Energy    | • NuMat Technologies, Inc. | • Radiator Labs    |
| • iLumi Solutions              | • Omni Water Solutions     | • Staxxon LLC      |
| • Kiverdi, Inc.                | • PlanetReuse              | • Zeta Communities |
| • KleenSpeed Technologies Inc. | • Plovgh                   |                    |

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