# IC² UPDATE

## e-Newsletter from IC² Institute

### THE UNIVERSITY OF TEXAS AT AUSTIN

Premier Issue, December 2003

## *From the Director*

As IC² Institute enters its second quarter century of research at The University of Texas at Austin, the emphasis on original research surrounding market economies is paramount. In the spirit of our founder George Kozmetsky, wrapped around this research is the search for "best practices" in science and technology commercialization, and how these practices create wealth and prosperity at home and around the globe.

*photo by M. Cotrofeld*

IC²'s Director John Sibley Butler and Juan Sanchez, UT's VP of Research, present awards to Polish technologists upon completion of incubator management training. This program is part of a Polish initiative involving IC² Institute and Lockheed Martin.

Professor Robert A. Peterson is revisiting his early research that was originally done at IC² in 1980. Professors Jeffrey Martin and Pam Haunschild are using data from the Austin Technology Incubator and Silicon Valley to examine serial entrepreneurs, and Professor Edward Anderson and Mary Anderson are doing simulation modeling of the entrepreneurial start-up process.

The Institute has initiated a colloquium series by faculty members who are starting an enterprise, entitled "My Research as Commercialization." Presentations by Professors James McGinity (Pharmacy) and Theodore Rappaport (Engineering) are reviewed in this issue. We are also excited about the Institute's research collaboration with Stanford that, as part of the Kozmetsky Global Collaboratory, brings together two great public and private universities. Applied research moves forward with cutting-edge wireless and nano technologies, while IC² regional development stretches around the globe.

The Institute entered into a multi-million-dollar contract with the University in Lødz, emphasizing the transfer of knowledge and know-how that has been developed over the last twenty-five years. This signals the movement of the Institute into an exciting area of worldwide commercialization of knowledge about creating wealth and prosperity. The Austin Technology Incubator is at the center of our commercialization research. Please also read about the new Digital Media Laboratory, that is creating a new model of wealth creation based on IP at The University of Texas at Austin.

Enjoy this issue of the IC² Newsletter.

*John Sibley Butler*

# Innovation, Creativity & Capital

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# The New Experiments

## IC² Colloquium Series: My Research as Commercialization

**Professor James McGinity:** Professor James W. McGinity of the College of Pharmacy, The University of Texas at Austin, presented the first IC² Colloquium Series *Commercializing University Research* on October 22, 2003. His presentation, *"PharmaForm, L.L.C., from Start-up to Reality,"* reviewed some of the current innovations that meet the technology challenges facing the pharmacy industry, and some of the business challenges involved in this technology-to-market transfer. Full article available upon request...

**Professor Theodore Rappaport:** Professor Theodore Rappaport of the College of Engineering with The University of Texas at Austin presented a colloquium, *"Last Mile High Speed Communications Network"* on November 10, 2003. Prof. Rappaport shared his entrepreneurial experiences and rendered a challenging call for support of university start-up and spin-off companies. Full article available upon request...

**Professor John Sibley Butler:** IC² Institute Director John Butler will present the next colloquium in this series, *"Technology Transfer from Research Laboratories: Yorktown Technologies & GloFish"* on February 10, 2004 at noon in the IC² Institute Global Classroom. Lunch is brownbag. Drinks and cookies will be served.

Innovation, Creativity & Capital

## Capitalism Revisited *Robert A. Peterson*

In the 1980s a team of IC² researchers undertook a large-scale investigation of the American public's understanding of, and attitudes toward, capitalism. The investigation culminated in several academic articles and a book (*Modern American Capitalism*) that reported a variety of research findings based on empirical surveys. One of the publics surveyed consisted of university students, who were characterized as the "future leaders" of the country. A total of 2,856 college students from 28 different universities and colleges located in 23 different states were surveyed about their capitalism attitudes.

A new team of IC² researchers, including Director John Butler, is currently replicating and extending the previous survey of college students. However, the present survey differs from the previous survey in several ways. Whereas the previous survey focused on college students generally, the present survey focuses on college students whose major is business. Consequently, the present focus is on future business leaders, not future leaders *per se*. More that 2,600 business students from 50+ business schools located in some three dozen states will be surveyed in the present investigation. Further, while the previous survey was limited to business students attending an American university or college, the present survey will include business students attending a university or college in approximately 25 additional countries, including Australia, Brazil, China, Norway, Spain, and Vietnam. Finally, in addition to obtaining insights into attitudes toward capitalism, the present survey will obtain insights on attitudes toward business ethics as well.

The present investigation is unique and ground-breaking in that it represents the first attempt to systematically study attitudes about capitalism and business ethics on a truly global basis. Moreover, the present survey will enable the researchers to relate attitudes toward capitalism and attitudes regarding business ethics, something that has not been done to date. Given the increasing attention being given to capitalism and business ethics, the research findings are likely to find a broad and receptive audience.

More New Experiments

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# The New Experiments

## Entrepreneurial Simulator Project Proposal *Ed and Mary Ann Anderson*

Many financial, operational, and organizational factors determine whether a start-up business will succeed or fail. The complex relationships between these factors make it extremely difficult to predict the future of any existing company. This task approaches the impossible when trying to predict the success of a start-up firm in which the market, product, and competition are – at the very least – highly variable and often totally unknown. Because of these complexities, traditional financial and operational methods currently used to evaluate businesses often fall short in assessing the potential value of a new business.

To answer this need, Mary Ann Anderson and Edward Anderson of IC² are using a new tool — the system dynamics modeling methodology (SDM) — to assess potential success of future start-up ventures. Their computer simulation model will identify the driving mutual interactions between financial, operational, and organizational factors that influence the success of a new business. The computer model will also be deployed as a "flight simulator" to train would-be entrepreneurs to succeed in different virtual business environments, so that they can develop robust business strategies.

To build this virtual world, the investigators are conducting extensive interviews of those involved with start-up of both successful and unsuccessful firms to document the factors that influenced their ultimate fate. The investigators are developing casual loop diagrams that represent the interactions of the variables identified during the interviews, will use the resulting diagrams to develop the computer simulation, and then use the simulation to identify high leverage variables determining success or failure. Finally, they will (in conjunction with the Digital Media Collaboratory) create an easy-to-use graphical user interface that will facilitate the above goals of prediction and training, as well as enable further research into students' behavior while managing start-up ventures.

## Serial Entrepreneurship *Jeffrey Martin & Pam Haunschild*

Jeff Martin and Pam Haunschild (McCombs School faculty) are currently engaged in research investigating the processes by which serial entrepreneurs learn from their various entrepreneurial experiences, and the outcomes of those learning processes. We define a serial entrepreneur as an individual involved as a founder (or member of the initial founding team) of two or more different ventures. Our theoretical interests in pursuing this research are driven by the fact that there is growing interest in entrepreneurs involved with multiple ventures (Westhead and Wright, 1998), but very little strategic management or organizational theory work in the area.

The serial entrepreneur context is an ideal place to study issues related to the intersection of organizational learning, organizational design, organizational effectiveness and strategic management. We are currently in the process of doing semi-structured interviews with serial entrepreneurs, investigating multiple questions such as the role of sequencing, timing, and relative success (or failure) of prior ventures on current ventures. Much of our sample to date has come from entrepreneurs at the Austin Technology Incubator, though we plan to expand our sample to the Kozmetsky Global Collaboratory with Stanford University in the near future.

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Commercialization

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## The Poland Project & More

*photos by M. Cotrofeld*

**The Poland Project:** This summer IC² Institute launched its program for Poland, sponsored by Lockheed Martin as part of their offset obligations. The program began with a marketing and matching initiative to team U.S. companies to Polish enterprises for the transfer of technologies. Ten Polish companies came to Austin under an internship at ATI. So far, they have met with over forty U.S. companies and promising business relations have developed. Also, as a second major undertaking of this project, IC²'s MSSTC degree program is being transferred to the University of Lødz in Poland under a licensing agreement. This fall, twenty-four Lødz faculty members spent two weeks in Austin to work with the UT faculty to facilitate an accurate transfer of the course material, objectives, and learning applications.

The program for 2003 will conclude by opening two incubators in Poland before the close of the year: one in Lødz and one in Warsaw. Six incubator managers were trained for 4 weeks at ATI on "best practices" for technology incubators. "We had a dozen experts from the Austin community and our incubator staff participate, and we've hired an incubator expert to provide onsite assistance in the implementation phase to launch the incubators in Poland," says ATI director Joel Wiggins. U.S. Secretary of Commerce, Don Evans is scheduled to participate in a ceremony that recognizes the opening of the accelerator (incubator) in Warsaw on the 19th of December. The University of Texas will be represented by Dr. Steve Nichols, Associate Vice President for Research. The Polish program will continue through December 2006.

**& More:** IC² is currently in negotiations with the Trade and Development Agency (TDA) to complete a business plan to develop a Science and Technology Institute in Aqaba, Jordan. That program should begin in early 2004. Discussions are underway with Lockheed Martin for IC² to develop an offset program in Chile. If successful, this program will center on incubating Chilean companies at ATI and high-tech entrepreneurship training. The program would begin in spring of 2004 and operate for three years. IC² Institute is also pursuing commercialization opportunities in Armenia, Mexico, Korea and Kazahkstan.

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# IC² Laboratories


Announcing the Kozmetsky Global Collaboratory: Alex Cavalli, Michael Wakelin, Juan Sanchez, Larry Faulkner, Sheldon Ekland-Olson, John Sibley Butler, William Cunningham, Clifford Nass, Byron Reeves, and Syed Shariq.

## The Kozmetsky Global Collaboratory (KGC)

The Kozmetsky Global Collaboratory (KGC) was established in April of this year by a $6 million gift from the family of George and Ronya Kozmetsky. This program forms a collaboration between IC² Institute and Stanford University's Department of Communication, School of Humanities and Sciences, and Media X program. The goal is to provide opportunities for students and research faculties from both universities to engage in cutting edge research. The KGC was initiated by Dr. Syed Shariq – an IC² Senior Research Fellow – and at Stanford, the director of the Project on Knowledge, Belief and Institutions.

Dr. George Kozmetsky, who passed away shortly after the announcement of the gift, viewed the KGC as a collaborative enterprise to link – not just two universities, but also two technology centers – Austin and Silicon Valley. "We set up the IC² Institute in Austin 25 years ago to establish links at home and abroad and to accelerate the sharing of knowledge. Today we will extend that collaborative enterprise to include Stanford and link to the Silicon Valley." IC²'s director John Butler agreed, "This initiative continues IC²'s strong engagement in the new experiments of the 21st Century. George Kozmetsky has always been on the forefront of innovative ideas."

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## Digital Media Collaboratory (DMC)

**Nero: Neuro-Evolved Robotic Operatives** With Dr. Risto Mikkulainen and graduate students from The University of Texas at Austin's Department of Computer Science, the DMC is prototyping new forms of artificial intelligence for electronic games and robotics. The scientific goal of this project is to develop learning methods that allow intelligent agents to cope with changing environments in domains such as robot control, resource optimization, and game playing. The concrete goal is to develop an application to on-line gaming where neural networks evolve to respond to the opponents' styles and strategies.

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## Digital Media Collaboratory (DMC) *continued*

**Future Media Institute** In partnership with the Capital Area Training Foundation (CATF), the DMC launched the Future Media Institute (FMI) to equip Central Texas with the skills needed to take advantage of the economic opportunities in the convergence of technology, art and community. The FMI's goals are to empower Central Texas citizens to explore their creativity, to build programs to assist students in investigating careers in technology and to give educators access to experts in the industries of film, digital media, electronic games, software, and networks.

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**EnterTech Project Receives National Recognition** The EnterTech Project, a workforce training program developed by the DMC, was recognized with its program partner the Near Northside Partners Council's Latino Stars of Fort Worth, Texas for effective practices in youth development by the National Youth Employment Coalition with a Promising and Effective Practices Network award. Latino Stars uses EnterTech in a program to encourage the development of youth leadership, motivation, confidence, communication skills and peer-centered group activities among 15- to 18-year-old at-risk children.

## Austin Technology Incubator (ATI)

This fall, as a key component of the Polish Project, Joel Wiggins was overseer of the Incubator Management Training program for Polish incubator managers. See page 4, "Commercialization & Consulting."

Erin Defosse has been hired as Director of the IT and Wireless Division of ATI. He will lead internal operations at ATI and build a new wireless incubator.

### ATI/CEI Member Company News

- **Canyon Semiconductor** receives SBIR award to further develop its GalliumNitride (GaN) semiconductor technology
- **PowerTube** closed $435,000 in funding and received a favorable engineering report from CEM
- **SozoTek** hires Gail Redmond as VP of Sales and Marketing
- **Webify** hires Walt Culbertson as Chief Technology, Security, and Privacy Officer
- **RSET** successfully tests their Rotating Liner Engine at the UT Engineer Research Program facilities

## Clean Energy Incubator (CEI)

**Increasing Local and National Awareness:** The Clean Energy Incubator (CEI) is currently working with six client companies, and continues to evaluate new deal flow in clean and alternative energy technologies. In September, CEI participated in the Texas Renewable Energy Roundup and Green Living Fair in Fredericksburg, Texas. The Roundup is an annual event that features products, services, and information in renewable energy, sustainable building, organic growing and water use and reuse. In November, CEI was host and sponsor to the 16th NREL Industry Growth Forum held in Austin at the Hyatt Regency Town Lake. This international event was attended by emerging clean energy technology companies from across the country including our nation's leading clean energy investors. Three days of networking and company "business case" presentations helped promote and enhance the success of new ventures, emerging businesses, and the growth of entrepreneurship in the clean energy sector. Of the 34 companies that were presenting, CEI was represented by two companies.

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## CBIRD Goes Global

In keeping with the vision of Dr. Kozmetsky, in September 2003 CBIRD-Global was launched at IC² Institute as a program within the Kozmetsky Global Collaboratory (KGC) at Stanford University and at UT-Austin. KGC's mission is to accelerate Kozmetsky's vision of technology-based growth and shared prosperity at home and abroad. CBIRD-Global is currently fostering collaborative research activities between UT-Austin and Stanford that focus initially on US-Mexico Border challenges concerning water, health, and bi-national regional technology-based growth. Emerging areas of research and practice also include border issues in Galicia, Spain and northern Portugal; Poland/Russia and Eastern Europe; and Central America and the Caribbean. Dr. Abdu Megateli and Dr. David Gibson are Co-Directors of CBIRD-Global which includes Mark Gipson of IC², Ramiro Martinez and Sarah Warren from the LBJ School of Public Affairs at UT-Austin, as well as international collaborators.

IC²'s Cross Border Institute for Regional Development (CBIRD) was launched by Dr. George Kozmetsky and Dr. Abdu Megateli in Spring 1999. The first regionally-based CBIRD office was at UT-Brownsville's Young House followed by UT-Pan American which started a UTPA-CBIRD program in 2001. The second office was opened by ITESM at Monterrey, Mexico. Initial projects included communities networking and knowledge-based benchmarking reports focusing on Hidalgo County and Cameron County/Matamoros which were completed by Summer 2003. CBIRD TRAC (Texas Regional Action Committee) was started as a non-profit corporation incorporated by CBIRD founding members in 2001, to focus on the needs of the region's economic development activities. CBIRD-CODERT of Tamaulipas, Mexico, is in the process of being created under the leadership of Universidad Valle del Bravo, Reynosa, Tamaulipas.

## Central Texas: Catching the Next Wave

IC² Institute research and analysis of Central Texas assets in the fields of biotechnology and nanotechnology became the cornerstone of the first annual BioNanoTech Summit earlier this year. Central Texas faces a new age of technology, the Convergence Age. The Convergence Age is being enabled by nanotechnology, and driven by the "convergence" technologies of biotech, informatics, and cognitive sciences. These forces promise not only millions of new jobs and trillions of dollars in new product sales, but also social and economic shifts potentially greater than those brought on by the automobile and the personal computer combined. If the Corridor does not position itself to take part in this shift in technologies, it may face a future as the Rust Belt of the Silicon Era, with only shuttered fabs and lost jobs to show for its one-time prosperity.

The objectives of IC²'s report are to raise the consciousness of the Greater Austin-San Antonio Corridor with regards to convergence of technologies, and to provide recommendations on how to best position the Corridor to reap the benefits of this revolution. By 2015 the nanotechnology industry is projected to generate $1 trillion in product revenues worldwide and employ up to two million new workers. We provide a report card on the present status of two key convergence industries in the Corridor, nanotechnology and biotechnology, through the results of our inventory survey and profiles of select Corridor companies in these spaces. An analysis of survey data assessed the Corridor's strengths and weaknesses in the context of a set of six criteria derived from IC²'s Sustainable Innovation Systems model for technopolis success.

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## Digital Games and Transdisciplinary Learning

IC² recently completed the Digital Games Forecast for Texas State Technical College and expects to publish and distribute the report in the first quarter of 2004. The game industry is not a "future" industry—it is a high-growth US$50B industry that promises important benefits for other science and technology industries. This report catalogs the trends, scenarios, opportunities, and benefits of Texas community and technical colleges' participation in the game industry.

## Moscow - Toward Sustainable Global Security

IC² Staff and Fellows and Expert Advisors from England, Brussels, Portugal, Italy, Korea, Japan, and Russia conducted a yearlong research project (2002-2003) for the International Science and Technology Center, Moscow—and together authored ISTC 2012: Toward Sustainable Global Security. ISTC began operations in Moscow, Russia in 1994: its central mission to redirect Weapons of Mass Destruction (WMD) research to peaceful purposes thereby minimizing if not preventing the threat of proliferation. ISTC's programs and activities have focused on Former Weapons Scientists within the Russian Federation (RF) and Commonwealth of Independent States (CIS) including Belarus, Kazakhstan, Armenia, Georgia and Kyrgyzstan. ISTC is also charged with the preservation of the science and technology (S&T) research potential of the RF/CIS, and with establishing links with international S&T communities and market economies. This report:

- Reviews ISTC programs and activities in meeting established and evolving objectives focused on nonproliferation and sustainability
- Analyzes challenges and reflects on program metrics
- Recommends programmatic initiatives to the Secretariat and suggests opportunities and initiatives for accelerating success

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ISTC is an important experiment on how to organize and implement a multilateral consortia of scientific, political, and business interests that represent developed and developing regions to foster wealth and job creation through the civil use of science and technology. In contrast to military intervention, ISTC provides an alternative model for dealing with rogue nations and the threat of terrorism while at the same time supporting global science and prosperity sharing. ISTC 2012 reinforces the belief that sustainable nonproliferation is most economically and efficiently achieved through balanced partnerships leading to self-sustainable S&T and innovation systems.

## The Wireless Future

IC² Research will launch its latest in a series of reports on the future of the Central Texas technology-based economy in January 2004. Austin's Wireless Future will identify Central Texas' assets and opportunities in developing wireless products and services, and provide an economic development roadmap for the region. The report details the market trends and challenges, Austin's positioning relative to these trends, a detailed assessment of Austin's nascent wireless cluster, and the role of wireless in bringing the benefits of economic developments to all communities.

Prior to Wireless Future, there was little appreciation of the size and importance of the wireless sector in Central Texas and little communication among economic development interests. In the course of developing this research, IC² identified 90 wireless companies, created a Wireless Future Stakeholder Group comprised of these companies and other community change agents, co-founded the Austin Wireless Alliance, and will host a major national conference in March 2004.

**View IC² research reports at www.ic2.org**

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# Fellows & Scholars

## Welcoming New IC² Fellows

IC² welcomed the following new Fellows during Spring 2003: Betty Sue Flowers, Director, LBJ School, The University of Texas at Austin; Pat Greene, Babson College; Keenan Grenell, Auburn University; Michael Korpi, Baylor University; Stephen Nichols, The University of Texas at Austin; Ted Rappaport, The University of Texas at Austin; Bill Segura, Texas State Technical College; Chandler Stolp, The University of Texas at Austin.

## New IC² Fellow: Keenan Grenell, Ph.D.

**Dr. Keenan Grenell** is one of the leading speakers who raises the consciousness for strong and visible entrepreneurship, self-determination, free enterprise, and education success. Dr. Grenell is the Director and Founder of the African American Entrepreneurship Summit, the Interim Assistant Provost for the Office of Diversity and Multicultural Affairs at Auburn University, President of the Grenell Development Group, and Vice Chair of the National Board of REAL Enterprises, Inc. In July 2003, he was appointed as a Senior Research Fellow with the IC² Institute at The University of Texas at Austin, and served as visiting Associate Professor at the University of Wisconsin, Milwaukee. Before his present appointment, he was the Director of the Masters of Public Administration Program at Auburn University. Grenell has lectured and made keynotes on numerous topics such as entrepreneurship, diversity, leadership, commitment to excellence, public management, the role of the Black American church in community economic development, grass-roots economic development, public-private partnerships, and political thought and politics.

## IC² Fellows Meetings: Monterrey & Austin

An IC² Fellows meeting was held in Monterrey, Mexico on June 13, 2003, following the 7th International Conference on Technology Policy and Innovation: *Connecting People, Ideas and Resources Across Communities.* Facilitated by David Gibson, other fellows present were: Debra Amidon, Manuel Heitor, Abdu Megateli, Fred Phillips, Carlos Scheel, Ramiro Wahrhaftig, and Michael Wakelin.

Another Fellows meeting is to be held at the Austin Marriot at the Capitol on December 6 in conjunction with the 7th annual IDPT Conference.

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## Visiting Scholars & Researchers

During 2002-2003, IC² has hosted eight visiting scholars from Korea Telecom. The executives from Korea Telecom who have completed this program have returned to high-level positions in Korea. There are currently three Korea Telecom scholars at IC², and another is expected to arrive in January. In addition, during summer and fall 2003, the Institute has welcomed scholars and researchers from Hawaii, China, Taiwan, Spain, and Norway. Applications to this program from The Netherlands, Russia, Chile, Norway, and China, are being reviewed.

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Publications

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## Establishing George Kozmetsky Memorial Library

Pattie Roe is coordinating the library space at IC² Institute as a memorial library to our founder. The collection will include Dr. Kozmetsky's publications and his personal reading interests, including IC² publications. Once the library's holdings are cataloged, a date for the introduction of the collection is expected to be announced. Assisting Pattie in this project is Amanda Price, a graduate student in information studies and library science at the School of Information, The University of Texas at Austin.

## Journal Articles Recently Published

"Characteristics of Technology Transfer in Business Ventures: The Case of Daejon, Korea," Tae Sung, David Gibson, and Byung-Su Kang. *Technological Forecasting and Social Change,* Vol. 70, 2003.

"Overview of U.S. Incubators and the Case of the Austin Technology Incubator," Joel Wiggins and David Gibson, *International Journal of Entrepreneurship and Innovation Management,* Vol. 3, 2003.

## Book Chapters Recently Published

"Ethnicity and Entrepreneurship in America: Toward an Explanation of Racial and Ethnic Group Variations in Self-employment," John Sibley Butler, published as a classic article in entrepreneurial studies, *Entrepreneurship: Critical Perspectives on Business and Management,* Norris Elsevier: Routledge, December 2002.

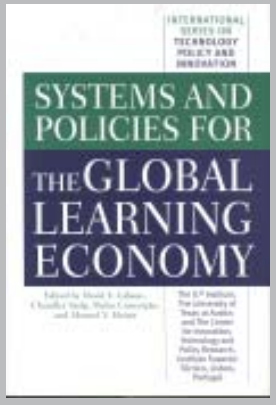
"Incubating and Networking Technology Commercialization Centers among Emerging, Developing and Mature Technopoleis Worldwide," by David Gibson and Pedro Conceição, *International Handbook on Innovation,* Elsevier Science, Ltd., 2003.

"The Science and Process of Entrepreneurship," John Sibley Butler, *The ABCs of Entrepreneurship,* Aspatore Books, 2003.

*New Book Release:*

## "Systems & Policies for the Global Learning Economy"

*Systems and Policies for the Global Learning Economy* (Eds.) Gibson, Stolp, Conceição, Heitor; last book from Quorum series, July 2003. The 21st Century is widely considered a time when value will be based on knowledge and human capital. This book explores the "new economy" in essays by scholars and researchers from around the world who look at local, regional, national, and transnational patterns that might be successfully employed elsewhere. The volume begins with a section devoted to regional economic development, learning networks, and system of innovations. Trends and opportunities for science, technology, and innovation policies are examined. The book concludes with an analysis of corporate strategies for the knowledge-based economy.



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# Funded Projects

## Funded Projects

**EnterTech Project:** Beyond impressive sales figures, the EnterTech Project is currently being supported by three grants from SBC Excelerator Grants Program, Microsoft Community Affairs Grants Program, and the RGK Foundation. The SBC Foundation grant pairs the EnterTech instruction with Information Technology career pathway curriculum and joint-credit courses offered through the Capital Area Training Foundation and the Austin Community College. The Microsoft and RGK Foundation grants enable utilization of EnterTech to disadvantaged, at-risk, incarcerated and adjudicated youth in Texas. (A Digital Media Collaboratory project.)

**Career Connect Project:** The State Farm Foundation is funding basic research on factors influencing career choice among vulnerable youth. Research will inform the creation of an interactive career education program. Career Connect will use interactive digital media to allow students to experience workplaces and college campuses from their computers, with information about skills, education, and career pathways presented in context. (A Digital Media Collaboratory project.)

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**Mission: Planet Y – a game-based tool for middle school science learning:** Through a National Science Foundation Small Business Innovation Research grant, the DMC is partnering with the Austin-based company Resources for Learning in conducting foundational research aimed to gauge the technical, commercial, educational and scientific merit of a curriculum resource for teaching middle school students advanced science research skills through video game technology. (A Digital Media Collaboratory project.)

**Online Learning Communities for Micro Entrepreneurs:** In partnership with SEBRAE, an economic development branch of the Brazilian federal government, and the Institute for Creativity in Porto Alegre, Brazil, participate in the initial design document for the creation of an online learning portal to serve micro-enterprise entrepreneurs through education and training, mentoring, and resource sharing. (A Digital Media Collaboratory project.)

**US-Brazil Sustainability Consortium:** David V. Gibson is UT-Austin Faculty coordinator; with Ball State University, IN; Center for Maximum Potential Building Systems, Austin; Federal Center of Technological Education, PR; Pontifica Universidade Catolica do Rio Grande do Sul, RS; Technology Institute of Parana, PR.

A major challenge exists to produce (cities, communities, buildings, food, products) in ways that are sustainable (environmentally responsible, socially equitable, and economically viable). As societies embrace sustainability, those in developed regions focus most on environmental responsibility, while those in developing regions focus more on social and economic aspects. Sustainability requires that all three be addressed; and addressing all three becomes more challenging as physical planners and designers increasingly produce solutions for environments, people, and economies (within their country and globally) that are profoundly different than those in which they live.
**http://www.bsu.edu/ldi/projects/us_brazil_consortium.html**

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Education

## MSSTC

**Scholarships Provided:** Five members of Team B will be receiving a scholarship from the Momentum Equity Group (MEG) - an investment banking firm in Dallas. MEG has offered to pay a total of $12,000 toward the tuition of the following five students: **Doug Perkins, Doug Voorhis, Derek Eckert, Gary Cowsert, Charlie Lin.**

**Firsts:** The current class has experienced two "firsts" with their technology projects. Members of one team received equity participation from the company they are doing the study for. Another team is exploring the feasibility of a Russian technology in the US, and is being paid to do so. Both are indications of the value that marketplace places on the MSSTC studies.

**Recruiting for 2004:** The Masters of Science in Science and Technology Commercialization Program has launched recruiting for the 2004 cohort with information sessions in Austin, Dallas, and San Antonio. In addition, a direct mail campaign has been targeted to individuals working in high-tech companies in the Austin area.

## Conferences & More

**Recently sponsored by IC² Institute:**

- **Uncertainty and Surprise:** Questions on Working with the Unexpected and Unknowable **--** *Austin, Texas, April 10 - 13, 2003*
- **7th International Conference on Technology Policy and Innovation:** Connecting People, Ideas, and Resources Across Communities -- *Monterrey, Mexico, June 10-13, 2003*
- **Artificial Intelligence in Games** -- *IC² Institute, Austin, Texas, August 21-23, 2003*
- **National Renewable Energy Laboratory** -- *Austin, Texas, November 17-19, 2003*
- **Cinematexas Machina Reception** -- *Austin, Texas, September 20, 2003*
- **E-Learning Mixer Series** -- *Austin, Texas, October 21, 2003*

**Upcoming:**

- **International Conference on Integrated Design & Process Technology** -- *Austin, Texas, December 3-5, 2003*
- **The Wireless Future** -- *Austin Texas, March 13-16*
- **Complexity Science and the Exploration of the Emerging World** -- *Thompson Conference Center, The University of Texas at Austin, April 17, 2004: In honor of Ilya Prigogine, one of the founders of complexity science.*

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