11th Edition English

Technology Innovation and Incubation

LOCAL EVENTS

International Conference of Chemistry

November 22-23, 2011

Baghdad, Iraq

The 1st International Conference of Genetic Engineering

November 22-23, 2011

Baghdad, Iraq

Iraq Agrofood

Erbil International Fairgrounds

November 21-24, 2011

Erbil, Iraq

Welcome to the latest edition of **Iraq Science & Technology Today**. This issue of the newsletter focuses on the significance of innovation and technology incubators in promoting economic development. You'll read journal articles describing how various countries have built science parks, incorporated intellectual property law as part of national science policy, and created mechanisms for technology transfer. Innovative technological solutions can also be used to confront issues of public concern such as water and electricity shortages, and the articles in this newsletter offer case studies for tackling these issues through research and development. We hope that you find the topics highlighted in this edition applicable to your daily work here in Iraq.

1st Basra International Oil & Gas Conference and Exhibition

Basra International Fair Ground

November 25-28, 2011

Basra, Iraq

Erbil International Oil & Gas Exhibition

Erbil International Fair Ground

December 15-19, 2011

Erbil, Iraq

Lasers and Advanced Materials Engineering: Technology and Applications

University of Technology

March 7-8, 2012

Baghdad, Iraq

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IRAQ VIRTUAL SCIENCE LIBRARY

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REGIONAL EVENTS

GIWEH-Water and Environment in a Changing World-Global Innovation Outlook.

The Conference Center

November 20-24, 2011

Marrakesh, Morocco

Smart Electricity World MENA 2011

The Address Dubai Marina

November 21-23, 2011

Dubai, United Arab Emirates

The CFO Show Middle East 2011

The One and Only Royal Mirage

November 21-23, 2011

Dubai, United Arab Emirates

Environmental Management & Technologies

Le Meridian Hotel

November 21-24, 2011

Amman, Jordan

IPark in Jordan

Q& A with Jordan IPARK Executive Director

CRDF Global met with Dr. Wissam Rabadi, the Executive Director of Jordan's IPARK. His mission is simple: to create a culture of entrepreneurship. The IPARK makes sure this objective happens by facilitating every step to create the perfect environment for science & technology (S&T) start-ups to be nurtured and grow.

CRDF Global: What is the IPARK and how was it established?

Mr. Rabadi: Before I answer your question let me give you some background information. El Hassan Business Park has three major components: the Royal Scientific Society (RSS), Princess Sumayah University of Technology (PSUT) and the Higher Council for Science & Technology (HCST). Within each of the three components is at least one program that has to do with innovation, entrepreneurship and S&T commercialization.

PSUT created the Queen Rania Centre for Entrepreneurship that was established as a center for university students with the aim of creating entrepreneurship awareness through capacity building and grant competitions. The RSS holds the intellectual property (IP) commercialization office

Sustainability Through Biomimicry: Discovering a World of Solutions Inspired by Nature
University of Dammam
November 26-28, 2011
Dammam, Saudi Arabia

Dubai Drink Technology Expo 2011
Dubai International Conventions & Exhibitions Centre
November 29-December 1, 2011
Dubai, United Arab Emirates

The Revenue Show Middle East 2011
The Address Dubai Marina
November 29 - December 1, 2011
Dubai, United Arab Emirates

which targets professors and researchers with the aim of finding new ideas or discoveries that can be patented and registered. In addition, the IP commercialization office helps these professors and researchers commercialize their research & development (R&D) regionally and globally. The IPARK was established in 2003 with the support of the HCST. Its goal is to incubate innovation companies and help their growth.

Although all the organizations mentioned above are separate entities, they complete each other in the process of growth. El Hassan Business Park was created in 2010 to be the umbrella that links all of these programs together.

CRDF GLOBAL: What is the objective behind the IPARK?

Mr. Rabadi: The objective of the IPARK is mainly job creation. When the IPARK started, the main idea was to create an environment to support entrepreneurship, mainly in the fields of science & technology. However, there was sudden boom in the IT industry and the privatization of the telecommunications market which meant we either had to ride the wave or fall behind. We didn't just want to encourage entrepreneurship; we wanted to make sure it happens. Personally, I think it is the only cure for unemployment.

Dubai International Character and Licensing Fair 2011

Dubai International Conventions & Exhibitions Centre

November 30-December 3, 2011

Dubai, United Arab Emirates

Gulf Maritime

Expo Centre Sharjah

December 12-14, 2011

Sharjah, United Arab Emirates

Future Concrete 2011

Ritz Carlton DIFC

December 12-14, 2011

Dubai, United Arab Emirates

ICCBE 2012: International Conference on Chemical and Biological Engineering

Holiday Inn Hotel

January 29-31, 2012

CRDF GLOBAL: How is that?

Mr. Rabadi: The government cannot create more jobs; it can only ease the process. Governments cannot hire more people; in fact, they should be reducing their size. Already established companies can only hire based on need. It is proven that almost 80% of new jobs are created by small and medium enterprises (SMEs). Look at it this way, say 100 people started forty companies, and in return the success of those forty companies created 1,500 direct jobs, keeping in mind that in information communication technology (ICT) every direct job creates four indirect jobs. Now imagine if 100 entrepreneurs decided to seek employment rather than create their own companies, we would have 'masked employment' where one person is in need of a job but the government hires five people. This scenario merely creates layers and layers of bureaucracy where a simple task takes fifty underpaid and poorly utilized people versus creating 1,500-plus different and valuable jobs.

CRDF GLOBAL: How does the IPARK work?

Mr. Rabadi: First, start-ups apply to become one of the incubated companies at IPARK. The applications are considered and a decision is made on which start-ups to select. We provide the selected start-ups an office space, infrastructure, equipment, furniture and administrative support. We also give them value-

Dubai, United Arab Emirates

Plant Maintenance and HSE Middle East, 5th Annual Meeting

The World Refining Association

January 29-February 1, 2012

Abu Dhabi, United Arab Emirates

4th eHealth and Environment Conference

Hamdan Bin Mohammed University

January 30-February 2, 2012

Dubai, United Arab Emirates

First International Conference on Environmental Challenges in Arid Regions

King Faisal Conference Center

February 6-8, 2012

Jeddah, Saudi Arabia

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added services such as consulting and strategic advice, and we connect them with investors or potential clients to enable them to graduate from the incubator into an independent company. We do not only provide start-ups with services, but also value in the environment we provide. Start-ups are located on a campus with other start-ups, entrepreneurs, and researchers that creates a kind of synergy, a mixture of collaborations and competitions.

CRDF Global: Do incubated start-ups receive salaries?

Mr. Rabadi: No, not at all. In fact, we make them pay reasonable rent. We view this as a sign of commitment to their business, but if they need financial support we do help them gain access to money. For example, we constantly disseminate announcements for grants or funds they can access. We take it further by reviewing their proposals, or providing them with training on how to write proposals. We basically help them through the application process.

CRDF GLOBAL: Dr. Rabadi, you mentioned that one of your services is connecting start-ups with investors. Can you explain how this works?

Mr. Rabadi: We have something called the Bedaya Angel Network. Every couple of months, we hold a matchmaking event where four or five start-ups have the opportunity to give presentations to around 20

Middle East Investment Summit 2012
Jumeirah Emirates Towers
March 5-8, 2012
Dubai, United Arab Emirates

Gulf Rail 2012
Dubai International Convention & Exhibition Centre
April 17-19, 2012
Dubai, United Arab Emirates

Planet of the Apps Arabia 2012
Madinat Arena
April 17-18, 2012
Dubai, United Arab Emirates

The Mobile Show
Madinat Arena
April 17-18, 2012
Dubai, United Arab Emirates

Jordanian investors. We call them angels because they are successful business people who have the money and the willingness to invest in new ideas. This event gives incubated companies the opportunity to present their ideas and start-ups to twenty different investors at the same time. Imagine if start-ups had to track those investors down—it would take them forever to find them, if they even could. Of course, before the event starts, we help them with their presentations to make sure they are tweaked to perfection and attractive to investors.

CRDF Global: If an Investor shows interest, then what?

Mr. Rabadi: We make sure to follow up with investors by getting feedback, whether it is negative or positive. If investors show slight interest, we facilitate a one-on-one meeting between the start-up and the investor where more details can be discussed. We keep facilitating the whole process between both parties until a transaction is made between them.

CRDF Global: How do you measure your success?

Mr. Rabadi: We measure our success by the number of jobs created from the companies incubated at IPARK. We don't look at just any job but at the high value jobs. For example, [we look at] how many patents were filed, how many registered trademarks, and how much intellectual and financial capital was

INTERNATIONAL EVENTS

World Congress for Man and Nature Global Climate Change & Biodiversity Conservation

Department of Zoology & Environmental Science

November 11-13, 2011

Haridwar, Uttrakhand, India

Coastal Management 2011: Innovative Coastal Zone Management: Sustainable Engineering for a Dynamic Coast

Europa Hotel

November 15-16, 2011

Belfast, United Kingdom

International Symposium on Environment and Natural Resources

Hotel Equatorial Bangi

November 15-17, 2011

Selangor, Malaysia

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earned. All of these measures were further proven [to work] when the World Bank decided to study incubators in developing countries with the hopes of using the best three as case studies for the sake of duplicating their systems in other developing countries; Jordan's IPARK was one of the top three that they chose.

CRDF Global: What advice would you give to other countries in the MENA region who wish to establish their own Iparks?

Mr. Rabadi: I encourage countries in the Middle East and North Africa (MENA) to establish IPARKS quickly but carefully; our region needs it. King Abdullah said that in the past sixty years, the MENA region was responsible for creating 20 million jobs. However, in the next twenty years the region will need 60 million jobs—where are they going to come from?

The region is known for its high youth population; failing to create job opportunities will result in a 'youth bulge.' New graduates will not be able to find employment, which will create a sense of frustration that could turn into national anger and translate into violence. The only way a huge number of jobs can be created is by encouraging entrepreneurship and facilitating it. From my point of view, I see no other way. Governments should also facilitate growth by easing the entrepreneurial process such as registration and legal fees and by creating funds and

reducing risks for both investors and entrepreneurs. All elements together will begin to end unemployment, which we all know is the root of all other ails.

To read further, click here.

ARTICLES
Venture Capital 101

Venture capital is money provided by an outside investor to finance a new, growing, or troubled business. Venture capitalists provide this funding with the understanding that they are accepting a certain amount of risk in such an investment. Capital is typically invested in exchange for a stake in the business, and with the hope that the investor will receive a profitable return. This article provides an overview of venture capital, how it operates, and how businesses can seek out venture capitalists. To read further, click here.

Business Incubators

Business incubators are established to create a favorable environment for the start-up and growth of small businesses, particularly to overcome socioeconomic challenges. Incubators are often

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3rd International Conference on Fuel Cell and Hydrogen Technology (ICFCHT 2011)

InterContinental Kuala Lumpur

November 22-23, 2011

Kuala Lumpur, Malaysia

Third International Conference on Management of Natural Resources, Sustainable Development and Ecological Hazards

Universiti Teknologi Mara in Shah Alam

December 13-15, 2011

Shah Alam, Malaysia

Climate Change and Social Issues

Grand Oriental Hotel

Colombo

December 14-15, 2011

Colombo, Sri Lanka

International Conference on Wireless Technologies for Humanitarian Relief

Amrita University

December 18-21, 2011

Amritapuri, Kerala, India

Twenty Seventh National Convention of Environmental Engineers

Mangalore Local Center

January 24-25, 2012

Mangalore, Karnataka, India

International Exhibition and Conference on Water and Wastewater Management

India Expo Center & Mart, Greater Noida

February 9-11, 2012

Delhi, India

The Annual Waste Management (WM) Conference

Phoenix Convention Center

February 26-March 1, 2012

Phoenix, Arizona, USA

(and with a record of success) established to foster scientific and technological innovation. This report discusses the various ways business incubators are established in both developed and developing and countries and how they can be used to create sustainable models of success. To read further, click here.

Cambridge Technopole Report

The 'Cambridge Technopole' is a geographic area of intense high-technology innovation activity centered in the city of Cambridge, Massachusetts. This report contains detailed information of how the Technopole operates and how it has achieved success. The Technopole is frequently compared to an 'ecosystem,' composed of a variety of companies, university, initiatives, and institutions, all of which collaborate organically to generate knowledge and efficiency in productivity. While obviously the product of substantial time and investment, the model for such an ecosystem can be used to guide the creation of similar Technopoles worldwide. To read further, click here.

Bio-Europe Spring 2012

Amsterdam RAI Convention Center

March 19-21, 2012

Amsterdam, the Netherlands

Water & Environment 2012: CIWEM's Annual Conference

Olympia Conference Center

March 20-21, 2012

London, United Kingdom

ACM-SAC 2012 Conference Track on Bioinformatics and Computational Systems Biology (BIO)

The Congress Centre of Riva Del Garda

March 25-29, 2012

Riva del Garda, Italy

8th South-East European Congress & Exhibition on Energy Efficiency and

Role of Business Incubation Systems to Facilitate Technology Transfer and Development

This paper provides a suggested framework for the use of business incubators to provide "technology transfer" to support start-ups and small and medium enterprises (SMEs). The model proposed applies specifically to developing nations and proposes a "South to South" means of cooperation. While the author writes from the specific perspective of India, he also argues that his study can apply to most developing nations because the framework he proposes takes into account the relatively limited resources of many countries. To read further, click here.

Research on the Role of the Incubation Policy in Helping the Growth of New Technology-Based Firms

Recognizing the importance of new technology-based firms to developing economies, the author provides a detailed overview of how technology business incubators (TBIs) operate and how their effectiveness can be evaluated. The paper's literature review on TBIs is an especially valuable resource, as it provides a summary of academic

Renewable Energy

Inter Expo Center

March 28-30, 2012

Sofia, Bulgaria

Global Health & Innovation Conference 2012

Yale University

April 21-22, 2012

New Haven, Connecticut, USA

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2nd Annual International Conference on Advances in Biotechnology BIOTECH 2012

March 12-13, 2012

Bangkok, Thailand

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research on the topic conducted to date. The author synthesizes this existing research and provides a model of a well-functioning and empirical TBI and identifies key support mechanisms that have traditionally enabled TBIs to be successful. To read further, click here.

How Valuable Are Business Incubators? A Case Illustration of Their Performance Indicators

This paper discusses the value of business incubators in revitalizing a national economy and focuses on performance indicators that can measure the value of an incubator. Presented as a case study of ten existing incubators in Europe, this paper argues that developing and understanding performance indicators is important to ensure an incubator's success. A significant caveat is that while researchers and investors understand the importance of measuring factors that contribute to an incubator's success, these performance indicators need more development. To read further, click here.

Technology Transfer and Small &

ICMIME 2012: International Conference on Mechanical, Industrial, and Manufacturing Engineering

July 31, 2012

Istanbul, Turkey

ICECECE 2012: International Conference on Electrical, Computer, Electronics and Communication Engineering

May 31, 2012

Istanbul, Turkey

Waste Management 2012

July 4-6, 2012

New Forest, United Kingdom

International Conference: Innovative Research in a Changing and Challenging World

March 5, 2012

Phuket, Thailand

Medium Enterprises in Developing Countries

This article argues that small and medium enterprises (SMEs) are one of the most vital components of a nation that significantly contribute to the gross domestic product and mobilize scarce resources to meet the needs of domestic markets. Promoting and supporting SMEs is a prominent approach to sustainable development, alleviating poverty, increasing employment, and raising the standard of living in developing countries. The authors argue that technology transfer, the sharing of technology among SMEs with limited resources of their own is crucial for their success. This article provides a wealth of information and research generated in the wake of an international conference, "South-South Cooperation for Technology Transfer and Development of Small and Medium Enterprises," which took place in 2008. To read further, click here.

Microsoft Learning Center in Baghdad

In October 2010, Microsoft inaugurated the first Microsoft Certified Professional Learning Center in Baghdad. The Microsoft Center in Baghdad, located in the commercial area of Al-Masbah, is

Share Your Ideas

Do you have any topics you would like us to write about in future editions? Do you have ideas or success stories you would like to share? Do you know of any local events taking place in 2012 that you would like to advertise? Please send us an email with your thoughts at newsletter@iraqscience.com

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equipped with four classrooms that hold more than eight computers and can train up to 100 people at a time. The center also has a Prometric testing center where attendees can affordably access the latest Microsoft technologies and innovative learning solutions.

The Microsoft Center seeks to make technology available to Iraqis and to integrate technology within local Iraqi communities. The center offers Iraqis the opportunity to earn Microsoft certification, giving them necessary technical credentials to train others in information technology (IT). Before the Microsoft Center was established, Iraqis had to travel to Jordan or Lebanon to earn a Microsoft certification. Now, they have the opportunity to get professional IT training without having to leave or travel outside Iraq.

Iraqis throughout the country have visited the Microsoft Center, which plans to promote a nation-wide campaign to promote technical learning in Iraq's business and government sectors.

Read more about the Microsoft Certified Professional Learning Center in Baghdad here.

TECH TIP
Email Security

Failure to follow proper security practices while using the Internet, both on public and private networks, can result in your personal information being obtained by individuals who might seek to do you harm. This article discusses a number of security practices you can use to protect your personal information, as well as your computer system and the data it contains.

When your e-mail is compromised, others could potentially access information saved in your e-mail account. Bank account and credit card information, passwords for other e-mail addresses, online accounts, medical records, and other sensitive information can be stolen or inappropriately used. Therefore, understanding your email security options and implementing best practices is important!

Antivirus Software

One of the most important steps you can take to protect your personal information and maintain the integrity of your computer system is to install up-to-date antivirus software. Several free, high quality antivirus programs such as AVG, Avira, and Avast exist. Keeping these programs up-to-date is important to combat viruses, malware, and other security threats that could compromise your

privacy. A recent and comprehensive report on antivirus software can be found here.

Web-based E-mail Security

While web-based e-mail services such as those offered by Google and Yahoo have become convenient and widely-used, they also present opportunities for attackers to compromise your personal information. This threat is especially true when using a public computer to access your personal e-mail account. Here are three steps you can take to ensure security:

1. Use more than one e-mail account. Over the course of time, it is easy for an e-mail account to become "contaminated" by junk and spam e-mail. This built-up can happen when you join websites, subscribe to newsletters, and contests. Often times, your e-mail is shared with other entities on the website who send you unsolicited e-mail. The best way to prevent this built-up of junk emails is to use a separate e-mail address for your personal and professional correspondence.
2. When done using your web-based e-mail account, make sure to sign out of your account and close the web browser.
3. If you are using a public terminal, delete the browser's cache, history, and passwords. Often times, this information can be used to compromise your e-mail account's security.

Identifying Fraudulent E-mail

Since e-mail has become a widely popular means of communication; a vast number of entities who seek to exploit its vulnerabilities to obtain someone's personal or private information is on the rise. The most common means of achieving this invasion of privacy is *phishing* or using "e-mails or malicious websites to solicit personal information by posing as a trustworthy organization."

The best way to avoid becoming a victim of phishing is to be suspicious of unsolicited e-mails asking for sensitive information. Most legitimate organizations will never ask for sensitive personal or account information over e-mail; it is extremely rare for such information to be sent via e-mail due to its relative insecure nature.

A great resource center for information related to phishing and other Internet fraud practices can be found here.

Online Account Security

As more and more services (e-commerce, social networking, blogs, financial services, e-mail, file storage, etc.) have become available on the Internet, it is not uncommon for a person to have ten or more online accounts. Ensuring each of these accounts is secure is vital to prevent

attackers from obtaining personal or financial information. Here are a few steps you can take to ensure the security of these accounts:

1. While using Internet services, ensure that the "Always use HTTPS" setting is enabled; this step is especially important if you are accessing these accounts on a wireless or public network.
2. Use robust passwords. The shorter or less "complex" a password is, the easier it will be for an attacker to compromise. The most secure and robust passwords contain at least twelve characters, using both upper-case and lower-case, symbols, and numbers. More guidance on how to create secure passwords can be found here.
3. Do not use the same password for a large number of online accounts. If an attacker is able to compromise one of these accounts, it is possible that all of your online accounts will be compromised. Make sure to change your passwords often (about every 90 days).
4. Use multiple e-mail addresses to manage these accounts. For example, you might use the e-mail address you share with others to manage online accounts (such as social networking services) that are public. Use your private e-mail account to manage financial transactions, or other online services where you store sensitive information.

More tips on using public wireless networks can be found here.

Wireless Network Security

Wireless computer networks, public and private, offer a convenient way to connect to and use the Internet. Wireless networks, however convenient, pose a number of security challenges because they can be compromised by an attacker more easily than wired networks. Below are some steps you can take to ensure your computer and the sensitive information it might contain are not compromised while using a public wireless network:

1. Make sure a firewall is installed and operating on your computer. If you are using Microsoft Windows XP Service Pack 2 or later, one will already be installed; make sure it is up-to-date. High quality third party firewall programs such as Zone Alarm are also available;
2. Ensure that you are not sharing any files contained on your computer. Sharing files allows potential attackers easier access to your computer;
3. Avoid typing sensitive information. If you must do so, ensure that your web browser is in a secure mode. You will see an “https://” as opposed to “http://” when you are using a website securely;

4. Turn off your wireless network adapter when you are not using the wireless network. The more time you are connected to a public wireless network, the more chances an attacker has to compromise your personal information;

More information about online account security can be found here.

To sign up for an IVSL account, or if you already have an IVSL account, please visit www.ivsl.org.

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- Innovation Framework Technology
- Start an Incubator
- Michigan Life Science and Innovation Center

- Committee on Scientific & Technological Cooperation
- Virtual Incubator for Science-based Business (VISB)
- Innovation Daily
- Enterprise, Science and Innovation Priority
- The High Technology small Business Incubator
- Enterprise Works Technology Business Incubator
- Resource Library-National Business Incubation Association
- Venture Capital Tools
- 10 Laws Every Entrepreneur Should Know

RESOURCES

- Scialog: Solar Energy Conversion
- Trade Shows 2011-2012
- ACS Publications
- Renewable Energy Resources
- Engineering Central's Resources and Links for Engineers
- Guide For Writing A Funding Proposal
- 20 Free Grant Writing Resources for Non-Profits

ABOUT US

Promoting Good Science, Best Practices, and Safety & Security

The United States Department of State (DOS) supports the redevelopment of Iraq's science and technology infrastructure. DOS's programs on scientific outreach sponsor scientific conferences, technical trainings, and research grant competitions to advance Iraqi science and to connect Iraqi scientists and engineers to the international scientific community. DOS activities simultaneously seek to promote research and improve laboratory practices. For instance, we work in the public health field to strengthen Iraqi epidemiological capabilities which contribute to combating chronic disease, emerging infectious diseases, and preventing the misuse of bio-related technology. Likewise, our programs promote best practices in chemical safety and security by assisting Iraqi chemical facilities to develop efficient industrial processes, prevent chemical accidents, and produce safe products.

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