



第十三届中国国际人才交流大会系列分会
 Joint Meeting of the 13th Conference on International Exchange of Professionals



2015 第二届国际新兴产业创新大会
 BIT's 2nd Annual International Conference of Emerging Industry-2015

InfoTech

2015 第四届新兴信息及通讯技术产业大会
 BIT's 4th Annual World Congress of Emerging InfoTech-2015

时间: 2015年4月18-20日

Time: April 18-20, 2015

地点: 中国·深圳会展中心

Venue: Shenzhen Convention & Exhibition Center, China

BIT's 2nd Annual International Conference of Emerging Industry-2015
 BIT's 4th Annual World Congress of Emerging InfoTech-2015

BIT Congress Inc.
 Address: 11F, No. 1 Hui Xian Yuan, Hi-tech
 Industrial Zone, Dalian
 Phone: 0086-411-84799624
 Fax: 0086-411-84799629
 Email: kelly@bitcongress.com
 Website: <http://www.bitcongress.com>

BIT
BIT Congress

BIT Conference
 Abstract Book

InfoTech

BIT's 5th Annual World Congress of

Emerging InfoTech-2016

Time: June, 2016 Place: Dalian

Introduction

InfoTech-2016 is aiming to strengthen the technical and business ties in information technology industries, to bring together experts and industry leaders to share technological advancements and business experiences, and to jointly explore opportunities in emerging information technologies. This congress will provide an ideal platform for industrial practitioners and academia to keep up to date with current technology trends, interact with industry experts and network with peers.

Highlights of the Conference

- InfoTech-2016 is Co-organized with GISIS-2016. Which is the Largest and Most Effective Events in China
- 200+ International Experts Contributing on Hot Topics of Information Technology
- 500+ Exhibitions Showcasing the Emerging New Products and Technologies to an Audience of over 10000 People
- Cutting-edge Keynote Addresses by Top Leaders and Professionals from China and Abroad
- Provide Huge Opportunities and Markets for Your Business over the World
- Hot Spots of Tourism in Coastal City Dalian

Conference Topics

- Artificial Intelligence
- Internet of Things
- Cloud Computing
- Big Data
- Optical Fiber Communications and Mobile Communication
- Next Generation Network
- Online Learning
- Smart City
- High-end Electronic Manufacturing
- The Innovation Frontiers of E-commerce

Call for

- Co-Organizers
- Sponsors
- Exhibitors & Posters
- Media Partners
- Speakers & Attendees

Contact Us:

Ms. Selina Yu
Organizing Commission of InfoTech-2016
East Wing, 11F, Dalian Ascendas IT Park, No. 1 Hui Xian Yuan,
Dalian Hi-tech Industrial Zone, LN 116025, P. R. China
Tel: 0086-411-84799609 Ext. 804 Email: selina@bitcongress.com



主办单位

Hosting Organizations

国家外国专家局
State Administration of Foreign Experts Affairs
深圳市人民政府
Shenzhen Municipal People's Government

协办单位

Co-Organization

深圳市坪山新区管理委员会
Shenzhen Pingshan New District Management Committee

承办单位

Operating Organizations

国家外国专家局信息中心
Information Research Center of International Talents, SAFEA
深圳市外国专家局
Shenzhen Administration of Foreign Experts Affairs
深圳市坪山新区组织人事局
Shenzhen Pingshan New District Organization and Human Resources Bureau
深圳市坪山新区经济促进局
Shenzhen Pingshan New District Economic Promotion Bureau
国家外国专家局国外人才资源总库大连分库
Foreign Experts Databank of SAFEA-Dalian Experts Subdivision

执行单位

Executive Organizations

深圳市商业联合会
Shenzhen General Chamber of Commerce
百奥泰国际会议(大连)有限公司
BIT Congress Inc.



组织结构 Organization Structure

大会主席 Chairman

Mr. Huabei Chen, Director, State Administration of Foreign Experts Affairs, China

大会执行主席

Executive Chairman

Dr. Xiaodan Mei, President of BIT Congress Inc.

学术委员会及专场主席

Scientific Advisory Board Members & Session Chairs

ICEI-2015

Dr. David M Howard, Professor and Head, The University of York, UK

Dr. Eric English, Principal, Bear Peak Economics, USA

Mr. Frank Miele, Professor, York University, Canada

Dr. Gayane Badalian Very, CEO, GMDI, USA

Dr. James Gao, Medway Chair of Manufacturing Engineering, University of Greenwich, UK

Mr. Jean-Luc Sallaberry, Digital Department Head, FNCCR, France

Dr. Jean-Pierre Leburton, G. Stillman Professor of Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, USA

Mr. Martin P. J. Kratz, Head, Intellectual Property Practice Group, Bennett Jones LLP, Canada

Dr. Paul A. Checchia, Professor, Texas Children's Hospital, USA

Mr. Rich Byczek, Global Technical Lead, Electric Vehicle and Energy Storage, Intertek, USA

Info Tech-2015

Mrs. Agneta Granstrom, County Council Commissioner, Norrbotten County Council, Sweden

Mr. Albert Yuen, Business Development Director (APAC), Calnex Solutions, UK

Dr. Alessandro De Gloria, President of the Serious Games Society, University of Genoa, Italy

Dr. Alexander Trousov, Director, Russian Presidential Academy of National Economy and Public Administration, Russia

Dr. Chinfen Chen, Dean and Professor, College of Foreign Languages, Providence University, Taiwan

Mr. David J Wortley, CEO and Founder, Gamification and Enabling Technologies Strategic Solutions, UK

Dr. David M. Howard, Professor, York University, UK

Dr. Ekaterina Pshhotskaya, Director of Technology Department, Info Watch, Russia

Mr. Gabriel E Ozique, Senior Fellow of Telecommunications Engineering, Fluor Corporation, UK

Dr. Hadj Hama Tadjine, Senior Project Manager, IAV GmbH, Germany

Dr. Ho-jin Choi, Associate Professor, Korea Advanced Institute of Science and Technology (KAIST), South Korea

Dr. Hongwen Zhang, Security Chair, OCC; CEO, Wedge Networks Inc., Canada

Dr. James L Clark, Fellow & Senior Advisor, Orion Systems Co., Ltd., Japan; Professor, University of Maryland, USA



Mr. Jorge A Lastra, Chairman of the Board & President, Latcomm, USA

Mr. Lucas Cardholm, Vice President, Coromatic Group, Sweden

Mr. Mahalingam Mani, Distinguished Engineer & Senior Director, Polycorn Inc., USA

Dr. Min Luo, Head and Chief Architect, Advanced Networking, Shannon Lab, Huawei Technologies Co., Ltd., USA

Dr. Mostafa Emam, Founder and CEO, Incize, Belgium

Dr. Pamela M Parker, Associate Director and Reader in Educational Development, City University London, UK

Mr. Thomas Jakob, Regional President Asia Pacific, Bosch Software Innovations, Germany

Mr. Tong Liu, Director, Mellanox Technologies, China

Local Committee Members

Ms. Kelly Wang, Ms. Yolanda Wang, Ms. Xiaoli Han, Ms. Kim Ding, Ms. Wei Wang, Mr. Fanming Kong, Ms. Emma Yu, Ms. Selina Yu, Mr. Yutao Sun, Ms. Sherry Si, Mr. Teddy Wang



Welcome Remark

Dear Friends and Colleagues,

On behalf of the organizing committee, we would like to welcome all of you to join BIT's 2nd Annual International Conference of Emerging Industry-2015 (ICEI-2015) and BIT's 4th Annual World Congress of Emerging InfoTech-2015 (InfoTech-2015), which are being held during April 18-20, 2015 in Shenzhen Convention & Exhibition Center, China. Our meetings are being co-organized with the 13th Conference on International Exchange of Professionals, which is the largest overseas Human Resource Event in China.

Following the success of organizing ICEI-2013 and InfoTech-2014, we are providing a platform for participants to strengthen the technical and business ties in emerging and information technology industries, to bring together experts and industry leaders to share technological advancements and business experiences, and to jointly explore opportunities. The organizing committee devotes itself to propose an ambitious and unique program covering hot topics of Smart City and Public Infrastructure Innovation, New Energy and New Energy Vehicle, New Materials, 3D Printing, Mobile Communication, Cloud Computing, Big Data and Smart Education etc.

As for the congress venue, Shenzhen, situated just across the border from Hong Kong, is a beautiful coastal garden city in South China. It is also a pioneering and innovative city. It is in the vanguard of China's reforms and opening up to the rest of the world. In its short history of 27 years, Shenzhen has developed itself from a small fishing village into a modern city with a gross domestic product (GDP) per capita which gives it premier ranking in China.

Finally we sincerely appreciate to all our scientific advisors, session organizers, supporters, and hardworking, enthusiastic and creative organizing committee members for their enormous efforts to the meetings. And we wish everyone have an unforgettable stay in Shenzhen.

Sincerely Yours,

Xiaodan Mei, Ph.D.

Executive Chairman of ICEI-2015 & InfoTech-2015

President of BIT Congress Inc.



Table of Content

Introduction to Program

List of Organizations and Event Organizers

Welcome Remark

Table of Content

Event Schedule

001
005

ICEI-2015

Program

009

Keynote Forum

Speakers' Profiles

019

Mr. Amr Awadallah, Mr. Allen Lee, Dr. Vida Ilderem, Mr. Nimesh Dave,

Dr. Jean-Pierre-Leburton, Dr. El-Hang Lee

Session 1: Smart City and Public Infrastructure Innovation (I)

Speakers' Profiles

027

Mr. Frank Miele, Mr. Sébastien Ziegler, Mr. Terk Rejenga, Dr. Alessandra De Masi,

Mr. Gerhard Schmitt, Dr. Anpeng Huang, Dr. Shih-Chia Huang, Dr. Martin Tomitsch,

Dr. Shayong Chen

Session 2: Green Economy, Eco-Civilization and Marine High-tech

Speakers' Profiles

039

Dr. Eric English, Dr. Daisuke Numata, Dr. Frank F. Gao, Mr. Niclas Karlsson,

Dr. Nyan Taw

Session 3: Clean Tech

Speakers' Profiles

047

Mr. Martin P. J. Kratz, Dr. Fimm Ma, Dr. Verónica Gutman, Mr. Mark D Broomer

Session 4: New Energy and New Energy Vehicle

Speakers' Profiles

053

Mr. Rich Byczek, Mr. Randall Bohman, Dr. Dilawar Singh, Mr. Rich Byczek,

Mr. John Garner, Mr. Michel Cotsaftis, Dr. Qiang Han,

Mr. Vishwapathi Rao Tadimada, Dr. Shu Hu

Session 5: Advanced Manufacturing

Speakers' Profiles

065

Dr. James Gao, Mr. Richard van de Vrie, Mr. Gary Ding, Dr. Mingwang Fu,

Dr. Karin Gong



Session 6: Translational Science

Speakers' Profiles
Dr. Pietro Marano, Dr. Gayane Badalian Very, Ms. Pamela Ajuyah

073

Session 7: Smart City and Public Infrastructure Innovation (II)

Speakers' Profiles
Mr. Jean-Luc Sallaberry, Mr. Michel Cotsafitis, Dr. Massimo Marciani,
Dr. Pascal Bernuet, Mr. Timothy Edwards, Ms. Christl H. Lauterbach,
Mr. Mark Richardson, Mr. Patrick Mangan, Dr. M. Hank Haeusler, Dr. Adem Kula

079

Session 8: New Materials

Speakers' Profiles
Dr. Chain Tsuan Liu, Dr. Jean-Pierre Leburton, Dr. Pierre Ruterana,
Dr. Vladimir Levchenko, Dr. Meicheng Li, Dr. Tseung-Yuen Tseng,
Dr. Marina Yu. Zubkova, Dr. Katarzyna Grabowska, Dr. Raymond Chien-Chao Tsiang,
Dr. Abdelmoumen Darcherif, Dr. Eugeniusz Zych

091

Session 9: 3D Printing

Speakers' Profiles
Dr. David M Howard, Dr. Robert W. Esmond, Mr. Justin L. Courtney,
Dr. Michael Golubev, Dr. Shaobin Zhu, Mr. Koen Christiaan Mumméke,
Dr. Yusheng Shi, Ms. Areti Markopoulou, Mr. Richard van de Vrie, Dr. Adrian Bowyer,
Dr. Weimin Huang, Dr. Yang Yang

105

Info Tech-2015

Program

119

Keynote Forum

Speakers' Profiles

131

Mr. Amr Awadallah, Mr. Allen Lee, Dr. Vida Ilderem, Mr. Nimesh Dave,
Dr. Jean-Pierre Leburton, Dr. El-Hang Lee

Module 1: Mobile Communication (I)

Speakers' Profiles
Dr. Mohamed Yassine Elrefai, Mr. Jorge A Lastra, Dr. Greg J Shepard,
Mr. Benoit Guy Schillings, Dr. Wei-Cheng Liu, Mr. Shogo Arai

139

Module 1: Mobile Communication (II)

Speakers' Profiles
Mr. Kevin Outcall, Mr. Albert Yuen, Dr. Vladimir V. Shakhov, Mr. Abheek Saha,
Dr. Hui Yang, Dr. Darshana Sadera

147



Module 2: Cloud Computing (I)

Speakers' Profiles
Dr. Hongwen Zhang, Drs. Craig F. R. Read, Dr. Niels Bjorn-Andersen,
Mr. Mahalingam Mani, Dr. Katarzyna Nowicka, Mr. Masoud Charkhabi

155

Module 2: Cloud Computing (II)

Speakers' Profiles
Mr. Rob Bratby, Dr. James L Clark, Ms. Tna Tsou, Dr. Ekaterina Yurova Axelsson

163

Module 3: IoT & Smart City (I)

Speakers' Profiles
Mr. Thomas Jakob, Mr. Steve John Lewis, Mr. Sebastian Ziegler,
Dr. Rodolphe el-Khoury, Dr. Arpan Pal

169

Module 3: IoT & Smart City (II)

Speakers' Profiles
Mr. Rick A Cossen, Mrs. Agneta Granstrom, Mr. Jody Holzman,
Mr. H. Sprague Ackley, Dr. Matteo Nicolini, Dr. Vassilis Seferidis

177

Module 4: Big Data (I)

Speakers' Profiles
Dr. Jamsheed A Vayghan, Mr. Lucas Cardholm, Mr. Peter C. Yu, Dr. Min Luo,
Dr. Yu Cao, Dr. M. Saravanan, Mr. Mian Du

185

Module 4: Big Data (II)

Speakers' Profiles
Dr. Ekaterina Pshelotskaya, Mr. Chang She, Mr. Eric Tschetter, Dr. Antonio Feraco,
Mr. Tong Liu, Dr. Hongbo Zhang

195

Module 5: Smart Education (I)

Speakers' Profiles
Dr. Alessandro De Gloria, Dr. Barry L Vercoe, Dr. Christopher J Keyes,
Dr. Atis Kapanteke, Dr. Chingfen Chen, Dr. Mohd. Najib B. Mohd Salleh,
Dr. Mario Allegra

203

Module 5: Smart Education (II)

Speakers' Profiles
Mr. Michael B Rastici, Mr. David J Wortley, Mr. Pontus Appelqvist,
Dr. Heather Lotherington, Dr. Pamela M Parker, Dr. Amanda L Jefferies,
Dr. Andre Constantino da Silva

213

Module 6: Robot & Artificial Intelligence

Speakers' Profiles
Dr. Dattatraya Vishnu Kodavade, Dr. Ho-Jin Choi, Mr. Bernd K. Papenkort,
Mr. Tim Byrnes

223



Module 7: Web Applications and Next Generation Network

Speakers' Profiles

229

Dr. Alexander Trousov, Dr. Emdad Khan, Dr. Paul Nienwenhuysen, Dr. Patrice Bellot, Dr. Haaj Hama Tajjine, Mr. Mahalingam Mani, Mr. Paulo M Quaresma, Mr. Jinendra K Gugaliya, Dr. Gerard de Melo

Module 8: High Performance Integrate Circuit

Speakers' Profiles

241

Dr. Mostafa Emami, Dr. Yasufumi Enami, Dr. Mutsumi Kimura, Ms. Bich-Yen Ngyen, Dr. Noriyuki Iwamuro, Dr. Khaled N Salama

Module 9: IT Security

Speakers' Profiles

249

Mr. Gabriel E Oziq, Dr. Solahuddin B. Shamsuddin, Dr. Daniyal M. Alghazzawi

Module 10: Cultural & Creative IT Industries

Speakers' Profiles

255

Mr. Peter J McGuinness, Dr. David M. Howard, Dr. Xiushan Nie, Mr. H. Sprague Ackley

Author's Index

259



Event Schedule

Time: April 18-20, 2015

Venue: Shenzhen Convention & Exhibition Center (SZCEC), China

Date	Time	Conference	Program	Place
April 17, 2015	08:30-22:00	ICEI & InfoTech	Registration	Lobby, Ground Floor, Four Points by Sheraton Shenzhen
	09:00-11:40		Keynote Forum	Sweet-scented Osmantuz Hall, 6 th Floor, SZCEC
April 18, 2015	12:00-13:00		Lunch	Four Points by Sheraton Shenzhen
	13:30-16:50	ICEI	Session 1: Smart City and Public Infrastructure Innovation (I)	Lotus Hall No.1, 5 th Floor, SZCEC
	13:30-15:15		Session 2: Green Economy, Eco-Civilization and Miami High-tech	Lotus Hall No.3, 5 th Floor, SZCEC
	15:30-16:55		Session 3: Clean Tech	Lotus Hall No.1, 5 th Floor, SZCEC
	13:30-16:20		Module 1: Mobile Communication (I)	Room 314, 3 rd Floor, SZCEC
	13:30-16:20	InfoTech	Module 2: Cloud Computing (I)	Lotus Hall No.5, 5 th Floor, SZCEC
	13:30-16:45		Module 4: Big Data (I)	Room 316-B, 3 rd Floor, SZCEC
	13:30-16:45		Module 5: Smart Education (I)	Room 316-A, 3 rd Floor, SZCEC
	18:30-20:00		Welcome banquet	Four Points by Sheraton Shenzhen
	April 19, 2015	08:30-11:50	ICEI	Session 4: New Energy and New Energy Vehicle
08:30-10:15		Session 5: Advanced Manufacturing		Lotus Hall No.3, 5 th Floor, SZCEC
10:30-11:35		Session 6: Translational Science		Lotus Hall No.3, 5 th Floor, SZCEC
08:30-12:15			Session 7: Smart City and Public Infrastructure Innovation (I)	Lotus Hall No.1, 5 th Floor, SZCEC
08:30-10:55			Module 3: IoT & Smart City (I)	Lotus Hall No.5, 5 th Floor, SZCEC
08:30-11:20		InfoTech	Module 4: Big Data (II)	Room 316-B, 3 rd Floor, SZCEC
08:30-10:15			Module 6: Robot & Artificial Intelligence	Room 316-A, 3 rd Floor, SZCEC
08:30-12:20			Module 7: Web Applications and Next Generation Network	Room 508-B, 5 th Floor, SZCEC
10:30-12:15			Module 10: Cultural & Creative IT Industries	Room 316-A, 3 rd Floor, SZCEC
12:00-13:00			Lunch	Four Points by Sheraton Shenzhen
13:30-17:30		Session 8: New Materials	Room 508-B, 5 th Floor, SZCEC	
13:30-17:50	ICEI	Session 9: 3D Printing	Rose Hall No.1, 5 th Floor, SZCEC	
13:30-16:20		Module 1: Mobile Communication (II)	Room 314, 3 rd Floor, SZCEC	
13:30-16:20	InfoTech	Module 3: IoT & Smart City (II)	Room 316-B, 3 rd Floor, SZCEC	
13:30-16:45		Module 5: Smart Education (II)	Room 316-A, 3 rd Floor, SZCEC	
08:30-10:15		Module 2: Cloud Computing (II)	Room 316-B, 3 rd Floor, SZCEC	
10:30-11:50		Module 9: IT Security	Beijing Room, 5 th Floor, Four Points by Sheraton Shenzhen	
08:30-11:20		Module 8: High Performance Integrate Circuit	Guangzhou Room, 5 th Floor, Four Points by Sheraton Shenzhen	
12:00-13:00		Lunch	Four Points by Sheraton Shenzhen	

Title: Multi-screen E-Learning Ebig3 and Similar Projects

Dr. Atis Kapenieks

Director
Riga Technical University
Latvia

Abstract

We present our recent progress on multi-screen e-learning development entitled eBig3. It is a new approach to technology supported education encouraging involvement in lifelong learning education. The approach effectively integrates the popular technologies of television, Internet, and mobile phones. Here we present the results of ten course pilots offered in 2013 with the eBig3 media formats, and the teacher training courses 2014 called MII (Modern Education of Interests). The target group for the eBig3 courses was the general public, ebo3/MI courses -- teachers. And the three-pronged approach worked; the response showed a radical increase of registration for eBig3 courses compared to traditional registration for online courses. The course delivery formats were also more successful than blended learning formats. Our results showed that the new approach significantly increased the availability of eCourses and that users felt encouraged to stay the duration of the course. Moreover, the results indicated that the approach helped to close the gap between expectations and actual achievements for life-long-learning in general.

Biography

Dr. Atis Kapenieks (Dr. Phys), education in Physics and Ph.D. from University of Latvia. Director of Riga Technical University Distance Education Study Centre. Experience in IT, Research, e-learning and administration: Director of Department of Higher Education and Research, Latvian Ministry of Education and Science 1991-1997. Contributed to the design of Latvian Law of Higher Education Establishments, and modernisation of Latvian Law of Research Activities 1991-1996. Dr. Atis Kapenieks has participated in more than 80 international e-learning development projects in Europe. Over 60 publications on physics, 6 publications on higher education and research policy, 80 on Internet and Multimedia applications in e-learning. Current scientific interest: virtual learning environments, multimedia applications e-learning and regional development, triple-screen e-learning eBig3.