Center of Excellence

WIRELESS AND INFORMATION TECHNOLOGY

AT STONY BROOK UNIVERSITY

NEWSLETTER

NOVEMBER 2015

CEWIT is an unparalleled resource, advancing the science and technology underlying the next epoch of the information revolution.

1500 STONY BROOK ROAD
STONY BROOK, NY 11794
+1 631-216-7000
INFO@CEWIT.ORG
WWW.CEWIT.ORG

FALL COVERAGE: CEWIT2015 In Review · The Global Economy and the Innovation Machine · Research News & Business Development

With the start of the new season, the impact of the CEWIT2015 Conference has resonated regionally and internationally as a valuable mechanism leveraging the power of innovation to drive a smarter, more technologically deterministic, global environment. The combined efforts of academia and industry at the event together proved to pursue CEWIT's mission of fostering international collaboration and new enterprise development, disseminating cutting edge ideas in information technology, and working to drive our innovation economy through the university medium.

Echoed in that of our CEWIT2015 keynotes, guest speakers, and industry sponsors, is the unified idea of the significance of the university lifeline and its output of ingenunity providing the core momentum that propels our shared global economy.

Media coverage from The Corridor and Innovate Long Island help to publicize the words of CEWIT Executive Director, Dr. Satya Sharma, Director of Medical Technologies and Conference General Chair, Dr. Shmuel Einav, and Business Development Manager, Dr. Lawrence Weber, and their thoughts on the university innovation machine and CEWIT's role in creating these global economic connections.

Continuing to build, we welcome Stony Brook University's new Center for Advanced Technology, a year in success from the National Security Institute, and further advancements on the homefront with CEWIT-based companies celebrating benchmark accomplishments with their technologies, solutions, and business models.

Our thanks to CEWIT2015 Co-Hosts, Sponsors and Exhibitors, and to our over 475 attendees for their contibutions to this year's conference and to their support in sustaining CEWIT's mission and annually strengthening its impact.

CONTENTS:

A LOOK AT CEWIT2015

The 12th International Conference & Expo on Emerging Technologies for a Smarter World (CEWIT2015)
October 19 & 20, 2015 · Melville, NY

The 2015 program featured keynotes Dr. Harry Leider, Chief Medical Officer and Group Vice President of the Walgreen Company; Girish Rishi, Executive Vice President of North America Installation & Services and Tyco Retail Solutions at Tyco International; and State University of New York Chancellor, Dr. Nancy Zimpher, delivering powerfully intuitive presentations respectively on the future of value creation in the sphere of mHealth, the vision of operational interconnectivity in infrastructure, and the evolution of interdisciplinary networks in leveraging academic excellence; together offering a unique commentary on the leading ideas in harnessing the power of innovation to drive a smarter, more technologically deterministic, global environment. Another prominent visitor, Dr. Itzhak Peterburg, Chairman of the Board of Teva Pharmaceuticals, gave an overview of the future of pharma and medical and health technologies.

Over 65 presenters took the podium in 9 breakout sessions on Big Data Analytics and Visualization, Cybersecurity, the Internet of Things, Smart Energy and Smart Urban Systems, Health Technologies and Medical Devices, Information Technology and Society, and Emerging Technologies, with special speaker forums on pivotal topics in cybersecurity hosted by the National Security Institute and in healthcare challenges, specifically addressing IT and communication access for the ventilator-dependent populations by VENTure Think Tank; both Stony Brook University derived multidisciplinary organizations developing solutions for two diverse, but extremely relevant, unmet socio-technological needs.

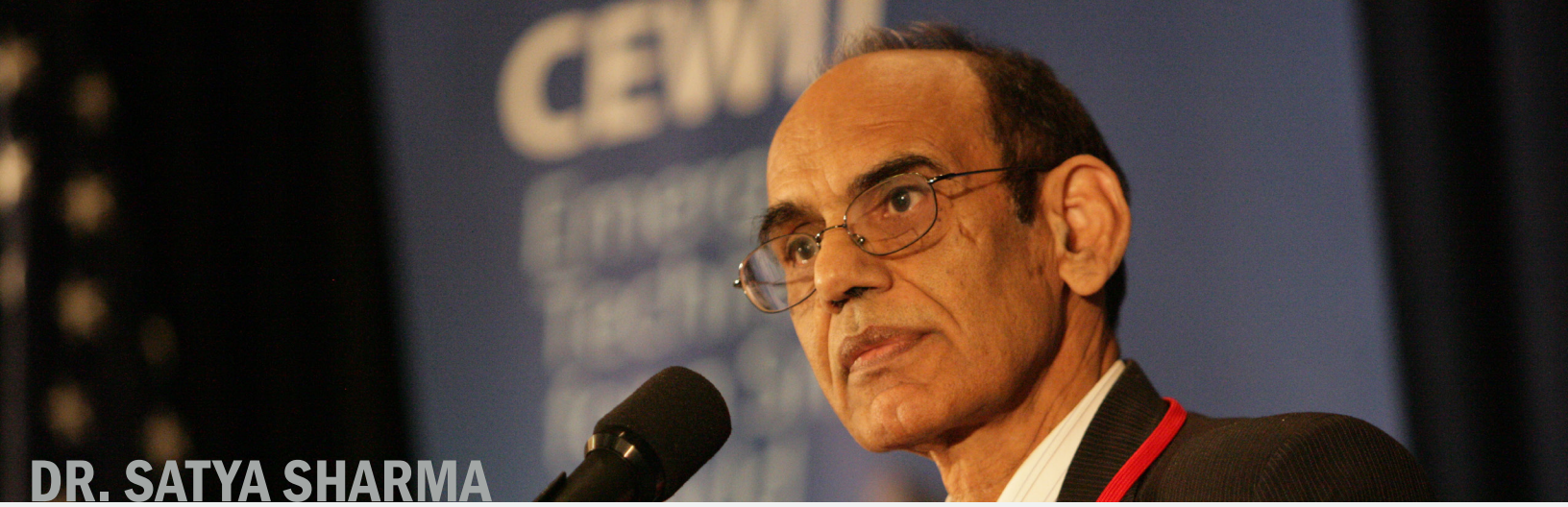
An additional 18 distinguished intellectual property lawyers, venture capital professionals, and executive entrepreneurs led a two-day business track featuring dual Entrepreneur's Toolkit sessions, discussions on Funding 101, License Negotiation, Trends in Venture Capital and Alternative Routes to Success, the Investor Thought Process and the Importance of Communicating Technology to the Business Community, closing with leading government officials on New York State Funded Resources for Entrepreneurs. Parallel Big Data and Data Science Tutorials hosted a full house of attendees learning the fundamentals of programming languages R and Python.

The atrium show floor was the focal point of the conference hosting over 45 high-profile regional and international exhibitors across IT, Engineering, Health, Law, Education, and Media sectors, accompanied by the 40+ Research Poster Session showcasing a wealth of current technical research at Stony Brook University and beyond. Over 175 national and international companies and universities were represented at the event, co-hosted by SUNY Korea and supported by major contributions from CA Technologies, CEWIT Korea, Softheon, and Zebra Technologies with Henry Schein, Inc., Hoffmann & Baron, LLP, Northrop Grumman Corporation, MATIMOP - The Israeli Industry Center for R&D, The Israeli Government Office of the Chief Scientist, SVAM International, Inc, Stony Brook University, FlexTrade Systems, Inc., F. Chau & Associates, and with technical co-sponsorship by IEEE Region 1 and its Long Island Section.

International partners further teamed to host 50 company delegations from Israel and Korea, that along with CEWIT's prominent industry network, anchored the Conference's international business-to-business sessions creating valuable, cross-boarder networking opportunities and fostering global collaboration and new enterprise development. More than 150 privately held meetings between the visiting and US companies were conducted with senior officers in IT's top industries. *(Continued on Page 10)*

NUMBERS

475 Attendees
12 Countries
40% CEO-Director Level
3 Keynotes
83 Presenters
13 Sessions
45 Exhibitors
40+ Student Research Posters
175 Participating Organizations
50 Co. Delegation from Israel & Korea
150 B2B Meetings



DR. SATYA SHARMA

The Global Economy and the Innovation Machine

THE CORRIDOR LONG ISLAND · OCT 2015

In 2012, America's intelligence forecasted that by the year 2030, Asia's GDP will surpass North America's and Europe's combined GDP. While this assessment may not be realistic, Asian countries are moving at a rapid rate to close the economic disparity between them and the developed world. Some 41% of the world's patents filed in 2012 originated in Asia and Asia accounted for 29% of global R&D spending that year. Narrowing the income gap between the citizens of emerging economies and the developed world is natural. Economists divide growth patterns into extensive and intensive. Extensive growth originates from adding more labor and resources. Developed nations have diversified the modes of their production by moving labor based industries to lesser developed nations accelerating their growth by utilizing low cost labor and lesser regulations. The developed economies depend upon intensive growth that relies on innovation and, without innovation, it is difficult to fuel the high technology based growth that increases the standard of living and high income of their citizens.

Innovation has fueled the economic growth throughout the history of mankind. Probably the most revolutionary change in the early history of mankind occurred when man discovered fire and invented the wheel. The birth of some of the world's greatest civilizations of India, China, Egypt, Greece, and Rome were the results of innovative minds that spanned the art and technology of those days. This revolution has continued since then, from the development of the alphabet to the invention of the printing press, from telephone and radio to wireless and cybernetics, from computer to internet, and gene research to bioinformatics. The revolution brought about by the breakthrough innovations of those times has reshaped economic, social, cultural, and political boundaries.

Innovation is a valuable lens through which to examine a nation's history and national character. During World War II, US Government sponsored research led to the atomic bomb, microwave radar, electronic computers, jet aircraft, and antibiotics. Government sponsored research also led to biotechnology, personal computers, and information economy.

Perhaps the biggest innovations in our time have come from the information technology and the associated industry. Major thrust to the IT revolution was provided around 1975 with Intel's announcement of its microprocessor. In the 1980's, a little company called Microsoft pioneered the age of personal computing moving the productivity resource to the desktop. In the 90's , the age of networked computing was pioneered by Cisco so that productivity could be shared and multiplied by the number of users on a network leading to the ultimate resource: the World Wide Web. Now as we lay the foundation for the 21st century, we enter the age of mobility. The age of mobility is where all the productivity resources docked at our desks, and information locked in our network closets, will be unleashed in to the palm of every individual's hand. Some have now argued that information technology is no longer a transformational technology providing a strategic advantage to any company.

Nicholas Carr of Harvard Business Review wrote more than a decade ago that Information Technology doesn't matter by pointing out that IT has become ubiquitous and therefore its strategic importance has gone away. His theme was that just as all former transformational technologies like telephone, electricity, etc. became common and their advantages became available to all industries, so too, as IT has become ubiquitous no company can gain a competitive advantage from its use. He argues that while IT has become necessary infrastructural technology, it is not a strategic competitive advantage. However, IT is still not a mature

technology and we expect the rapid advances of the last several decades to continue and increase thousand folds in many fields.

Back in 1903, Nobel Laureate Albert Michelson made the following observation, "The more important fundamental laws and facts of physical science have all been discovered and these are so firmly established that the possibility of their ever being supplanted in consequence of new discoveries is exceedingly remote."

In 1932, Albert Einstein observed, "There is not the slightest indication that nuclear energy will ever be obtainable. It would mean that the atom would have to shatter at will." And as late as 2007, Steve Balmer, CEO of Microsoft observed, "There's no chance that the iPhone is going to get any significant market share. No chance." Robert Metcalfe, inventor of Ethernet, observed in Info World magazine in 1995, "I predict the internet will soon go spectacularly supernova and in 1996 catastrophically collapse." The sci-fi writer Bruce Sterling wrote in the New York Times in 2007 that, "Using Twitter for literate communication is about as likely as firing up a CB radio and hearing some guy recite The Iliad."

Thus it is wrong to conclude that all the IT spurred business transformations that are going to happen have already happened and that IT is no longer a competitive advantage. We are only at the beginning of the IT revolution.

Transformation to an internet based economy will continue. IT will continue to create new and highly profitable businesses that we have not even imagined. Computational chemistry and biology, grid computing tying far flung supply chains, and even e-commerce, etc. are at the beginning of their creation.

According to the UN's ITU, the estimated number of internet users worldwide reached 3.17 billion in the year 2015, an eight fold increase since the year 2000. The estimated number of cellphone subscriptions worldwide reached 7.2 billion. Given that the world population is at 7 billion, there are more mobile gadgets in the world than people and they are increasing seven times faster than people. New markets will continue to be created by IT. Smart Grid will create a new market to reach $21 billion in the next few years. And with all this newly created information, people need a place to store it. Some research and consulting companies claim that data is growing in enterprise storage at 50% per year.

In recent years, internet usage in online social networking and entertainment has become the norm of American lives. The social networking site, Facebook, has now passed web giants such as Google, Yahoo, and Microsoft in user engagement. The trend is even more apparent for teenagers and young adults in college. In a report by the Pew Research Center, nearly three quarters (73%) of online teens and an equal number (72%) of young adults use social network sites.

Data is everywhere in our lives and in every area of the global economy. Companies these days generate tremendous amounts of transactional data to support businesses with their customers and suppliers and to optimize their operations. In a 2001 article published by The New York Times, author Steve Lohr commented that "Data is a vital raw material for the information economy, much as coal and iron ore were in the Industrial Revolution." Within the so-called "Internet of Things," sensors are being embedded in devices ranging from smartphones, automobiles, and utility meters to assembly lines, warehouses, and hospitals to capture data in real time. Hundreds of millions of users around the globe now contribute new data, generating new knowledge and collaboration on new innovations using the Internet. 15 out of 17 industry sectors in the US have more data stored per company than the Library of Congress.

We are indeed in the age of 'big data' which refers to datasets whose size is beyond the ability of typical database software tools to capture, store, manage, and analyze. Big data can be used to create value across sectors of the global economy. According to a recent study by McKinsey Global Institute, "We are on the cusp of a tremendous wave of innovation, productivity, and growth, as well as new modes of competition and value capture – all driven by big data as consumers, companies, and economic sectors exploit its potential." There are numerous new companies being created all over the globe in the data analytics sphere. Some of these companies will provide user behavioral information to companies in order to create new solutions and products providing competitive advantages that cannot be achieved any other way.

The only way to usher economic prosperity is to reignite the basic research that has always been the economic engine for the world wide prosperity. The Center of Excellence in Wireless and Information Technology (CEWIT) at Stony Brook University is a leading US research institution focusing on cutting edge research in wireless and IT (visit CEWIT.org for details). Our focus is to conduct basic research and the commercialization of the resulting technologies. The

US and international economic priorities require that we bring together businesses, academia and the government to create the next generation technologies and solutions to solve the economic problems that we face today. Collaboration with industry makes a great deal of sense. Federal and many state laws now encourage research universities to cooperate. In the past 20 years, there has been a rapid rise in partnerships between academia and industry. Industry spending for academic research dollars continues to climb while the federal spending has stagnated. Commercialization of technologies for universities is becoming a means not only to provide money for research but also a tool for economic development. Universities are no longer the ivory towers of the past but are becoming a valuable instrument in creating the future of tomorrow.

Of course, there is always a time lag between the basic research and the ensuing commercial benefits arising out of the research. For example, in 2004 DARPA announced a $1 million challenge for driverless cars that can finish a 150 mile route. No one was able to win that challenge, but it led other minds to start thinking about the driverless cars leading Google to start testing driverless cars in 2012. The governments in various states are now starting to frame regulations for such cars and it is conceivable that by the year 2020 driverless cars using the latest information technology may be on roads everywhere creating a brand new industry.

Information Technology induced innovations will continue to create more and more new enterprises and imaginative products and solutions. The governments also now realize that knowledge industry creates the jobs of the future and that there is no better source of knowledge than the universities. The discipline of entrepreneurship is now becoming a part of engineering education at many universities.

CEWIT is the next generation research facility that is focusing on both the basic and applied research and works closely with industry in commercialization. The Center offers space to companies large, medium, and startup, to further close cooperation between the companies and the University.

Our 12th annual international CEWIT2015 Conference was held this year at the Melville Marriott Long Island in Melville, New York and featured a diversified program including distinguished keynotes, high profile presenters, business-centric panels, parallel big data analytics tutorials, student research poster plenaries, a 40+ exhibitor show floor and specialized B2B forums involving more than 70 companies from the US, Korea, and Israel. The conference capitalizes on interaction between the entire scope of the audience, which includes business executives, researchers, government officials, and educational professionals, in order to integrate innovation driven new technologies to enhance the US and global economies to benefit citizens everywhere. *-Dr. Satya Sharma, Executive Director, CEWIT*

INNOVATE LONG ISLAND TALKS CEWIT

Innovate LI covers *The Debrief: Lawrence Weber, Innovation Psychotherapist* and Business Development Manager of CEWIT and Sensor CAT. Dr. Weber (Pictured Above) is Stony Brook University's first-ever entrepreneur-in-residence, and holds or co-holds half-a-dozen patents, guiding other scientists into Long Island's innovation economy. (Read More)

Following CEWIT2015's successful International Business to Business Programming and Networking Sessions, Innovate LI, speaks with Dr. Shmuel Einav, Conference General Chair and CEWIT's Director of Medical Technologies, on *Making the Global Innovation Connection* (Read More)

CONTINUING TO BUILD

STONY BROOK UNIVERSITY SECURES NYSTAR CAT AWARDS

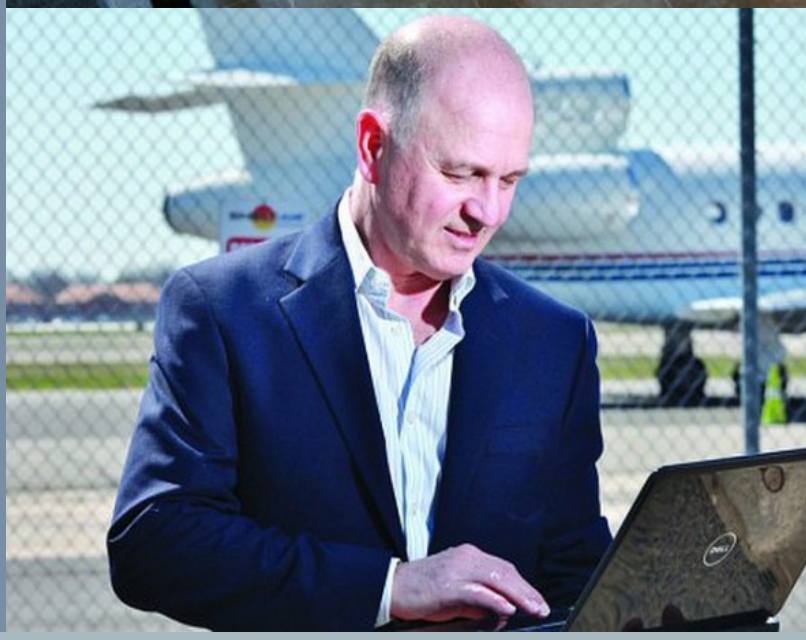
Stony Brook University received two Center for Advanced Technology (CAT) awards from NYSTAR, Empire State Development's (ESD's) Division of Science, Technology and Innovation, including a new grant for the Center for Advanced Technology in Integrated Electric Energy Systems (CIEES), and a renewal grant for Stony Brook's existing Center for Biotechnology.

The award to establish the CIEES CAT is a $10 million award over 10 years, designed to enhance the development and integration of advanced technologies into electrical systems to accelerate the progress of renewable energy. The second award supports the renewal of Stony Brook's existing Bio CAT with a 10-year, $10 million award to further develop biomedical innovations leading to new therapeutics, diagnostics and biomedical devices.

New York State CAT programs support university-industry collaborative research and facilitate the translation of innovations emerging from New York's top research universities into viable products produced in the private sector. The University is the only higher education institution in New York State to have received three Centers for Advanced Technology through NYSTAR's competitive award process. (Read More)

THE NATIONAL SECURITY INSTITUTE: A YEAR IN SUCCESS

National Security Institute faculty receive the largest number of awards from the National Science Foundation's secure and trustworthy cyberspace, with over $8.1 million in funding and grants in its first year from additional groups such as DARPA, Comcast, and the United States Navy. (NationalSecurityInstitute.org)



BUSINESS DEVELOPMENT AT CEWIT

FLIGHTPARTNER: BUSINESS IS ALWASY LOOKING UP

With customer satisfaction locked in the upright position and with a little lift from Start-Up NY, a B2B tech firm connecting charter-flight operators with flight brokers is ready to soar.

It's actually been wheels-up at FlightPartner Technologies (FlightPartner.com) since January, when the startup incorporated and moved into the Center of Excellence in Wireless and Information Technology on the Stony Brook University campus. Since then, it's been running a beta version of its online platform, offering free services, building a global database of charter planes and piling up customer feedback to help refine the process.

Before CEWIT, Soundfront Internet Media – dba FlightPartner – launched as a yearlong resident of LaunchPad Huntington. The startup was required to incorporate after a friends-and-family investment round, according to founder and CEO Doug Schmohl (Pictured Above), and he's not complaining: With $250,000 in hand, including his own personal stake, plus that goldmine of customer input, FlightPartner is now reaching a comfortable cruising altitude. (Read More)

SOFTHEON EFFECTUATES RECORD NUMBER OF 2016 ACA PASSIVE RENEWALS AND INTRODUCES A NEW PRIVATE EXCHANGE FOR BROKERS, MEMBERS, AND EMPLOYERS LOOKING FOR SUBSIDIZED COVERAGE

Softheon, Inc., a proven leader in health insurance marketplace integration and a certified Web Broker Entity, has announced that it has remediated and achieved a 94% effectuation rate for 2016 ACA Passive Renewals for insurers running on Softheon Marketplace Cloud Connector (MC2). Open Enrollment began on November 1st, 2015, and will run through January 31st, 2016 for all marketplace consumers. HHS recently estimated that there will be 9.4-11.4M exchange enrollments for 2016 which is below the Congressional Budget Office's (CBO's) March estimate of 21M. Softheon forecasts that the real number will be around 15M in 2016. ACA membership - along with fully integrated enrollment and premium billing payment platforms, and comprehensive BPO support for insurers - will remain a critical success factor in 2016.

"Having been recognized as the pioneer of a cloud-based remediation platform to manage exceptions and the removal of bad data in ACA enrollment and billing transactions, we are privileged to be working with over 50 innovator health plans. We pride ourselves on delivering flexible enrollment, premium billing, and payment workflows, as well as greater integration between core administration processes, insurance exchanges, and consumer-facing solutions such as VISA, MasterCard, AMEX, or PayPal," stated Eugene Sayan, Softheon CEO & Founder.

To date, Softheon has been trusted by over 50 Carriers for everyday management of over 1,000,000 lives on the ACA, plus Individual & Family, Small Group, and Large Group markets for On & Off Exchange.

Softheon also announced the availability of its Welltheos private exchange platform for Brokers, Employers, and Individuals seeking subsidized insurance without the hassle of healthcare.gov. Licensed brokers and agents are encouraged to register with Welltheos at no cost in order to streamline their enrollment activities and grow their exchange business. Welltheos' expertise in enhancing the consumer shopping experience combined with Softheon's proven technology equals an unmatched user experience (UX).

Welltheos is an easy-to-use, private exchange platform to enhance the consumer experience, while offering brokers and agents the tools needed to power their enrollment activities and grow their business. Welltheos is the single largest health insurance portal with 28,700 qualified health plans from 239 issuers.

"Over 10,000 brokers have registered and we activated 2,500 brokers on the Welltheos portal within the first 30 days. We strongly believe the broker community, which has been neglected by the ACA, is an integral part of the landscape and we want to give them every opportunity to enroll their subsidy eligible population." added Daniel Hughes, Business Development Manager Broker Solutions. (Softheon.com)

STS GLOBAL HOSTS GOLF & LEARN FOR GROWING CLIENT BASE

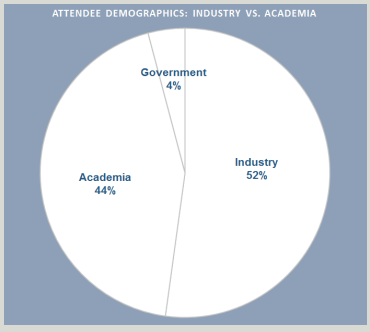
STS Global's first Golf & Learn event took place August 17-18, 2015 on Long Island, NY. Our program started on Monday afternoon with a round of golf followed by a networking dinner gathering over 70 attendees. On Tuesday morning it was time to sit and learn (Pictured Right). Our well attended conference discussed the latest developments in Satellite Technology including: Network Optimization, Cyber Security, 3G/4G backhaul - 4K broadcast. (STSGlobal.com)

A LOOK AT CEWIT2015

The Conference additionally welcomed an ideal blend of 475 industry and academia participants across 12 countries, in 15 unique sectors including Information Technology, Higher Education, Law, Energy, Health, Government, General Media, Manufacturing, FinTech, Communications, Defense, and Biotechnology. CEO, President, Vice President, and Director level executives accounted for 40% of the audience base, followed by a generous mix of Engineers, Business Managers, Professors, Graduate Students, Attorneys, Program Developers, Data Analysts, Healthcare Professionals, Researchers, Technical Staff, and Consultants.

With the increasingly successful outcomes and highly regarded experiences, we look forward to maintaining the annual CEWIT Conference as a destination for disseminating cutting edge ideas in information technology and for driving the local, regional, and global innovation economy through the university medium.

VIEW FULL PICTURE GALLERY



SURVEY

CEWIT2015 Attendees: We want your feedback!

Your feedback provides us our most valuable data and comprehensive insight on the Conference's pros, cons, and areas of improvement. Please take a few minutes to complete the CEWIT2015 Survey and help us to build more constructive CEWIT Conferences and Events.

SAVE THE DATE

CEWIT2016: OCTOBER, 2016

UPCOMING EVENTS:

November 10, 2015 · Long Island Tech Day

November 12, 2015 · Stony Brook University Innovation Lab, Expert Workshops: Paul Trapani, Founder of PJT Consulting, LLC and Vice President of LISTnet

December 1 & 2, 2015 · Life Sciences Summit

April 21 & 22, 2016 · Advanced Energy Conference (AEC2016)

OUR COMMUNITY:

The Advanced Energy Center

Center for Advanced Technology in Diagnostic Tools and Sensor Systems (Sensor CAT)

The Center for Biotechnology

The Center for Corporate Education and Training at Stony Brook University

The Center for Dynamic Data Analytics (CDDA)

The College of Business at Stony Brook University

The College of Engineering and Applied Sciences at Stony Brook University

Empire State Development: NYSTAR

IEEE Long Island Section

Long Island Forum for Technology (LIFT)

Long Island High Technology Incubator

Long Island Software and Technology Network (LISTnet)

Small Business Development Center at Stony Brook University

SPECIAL THANKS TO OUR CEWIT2015 SPONSORS

SUNY Korea
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ca technologies

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Center Of Excellence Wireless And Infomation Technology

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