

The Center of Excellence in Wireless and Information Technology

NEWSLETTER

JULY 2015



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

CEWIT2015 CONFERENCE

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RESEARCH

BALASUBRAMANIAN: ALLEN INSTITUTE FOR ARTIFICIAL INTELLIGENCE TO INVEST IN RESEARCH
STONY BROOK'S GOT THE POWER: FOUR MAJOR ENERGY AWARDS IN LESS THAN A YEAR

NEWS

BIAMONTE, CEWIT: BRINGING BNL DATA TECH TO MARKET ♦ FLIGHTPARTNER INTEGRATES ♦ BUNCREE AWARDED
STONY BROOK UNIVERSITY: OPENS \$40.8 MILLION COMPUTER SCIENCE BUILDING

@CEWITConference

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Center of Excellence
WIRELESS AND INFORMATION TECHNOLOGY

AT STONY BROOK UNIVERSITY



REGISTER NOW
EARLY BIRD REGISTRATION
THROUGH AUGUST 7, 2015

**The 12th International Conference & Expo on Emerging
Technologies for a Smarter World • CEWIT2015**

OCTOBER 19 & 20, 2015 • Melville Marriott Long Island, Melville, New York

FOR MORE INFORMATION & TO REGISTER: WWW.CEWIT.ORG/CONFERENCE2015

CEWIT2015 CONFERENCE

REGISTRATION NOW OPEN

Gaining recognition as one of the most prestigious and highly attended programs, CEWIT2015 is an excellent opportunity to network and listen to industry and academic experts discuss innovative ideas and applications in infrastructure, healthcare, and energy – three of the most critical components of a smarter global environment.

RESERVE YOUR SEAT at New York's premier IT conference and international forum on emerging technologies.

DISCOUNTS FOR IEEE, LIFT, AND LISTnet MEMBERS, and REDUCED RATES THROUGH AUGUST 7, 2015. Registration Now Open for both General Conference and Big Data and Data Science Tutorials: <https://secure2.events-registration.com/cewit2015/>

TECHNICAL SESSIONS

- **BIG DATA ANALYTICS AND VISUALIZATION**
- **HEALTH TECHNOLOGIES AND MEDICAL DEVICES**
- **CYBERSECURITY**
- **SMART URBAN SYSTEMS**
- **INFORMATION TECHNOLOGY AND SOCIETY**
- **SMART ENERGY**
- **INTERNET OF THINGS**

INTERNATIONAL BUSINESS TO BUSINESS NETWORKING SESSION

The CEWIT Conference program has built a significant business culture over the years providing a wide range of entrepreneurial and technological gain for participating organizations. CEWIT2015 will feature an extensive **INTERNATIONAL B2B NETWORKING SESSION** featuring a 40 company delegation from Israel and Korea as well as our regional base of 30+ exhibiting and participating organizations, joined by the Israeli and Korean ambassadors, the Empire State Development Corporation, and key business and financial leaders from in and around the Long Island and New York State regions.

The session will provide optimal visibility for your company, allow for opportunities of accessing international and local markets, and offer a rich environment for technology exchange and ultimately, incorporation into your product portfolio.

Interested companies, complete and submit the **B2B COMPANY PARTICIPATION FORM** to be added to the B2B database and circulated in advance to participating companies. Meetings will be held throughout the Conference with an emphasis during the session on Day 2, Tuesday, October 20, 2015, from 2:00 PM-5:00PM EST as well as an additional closed executive dinner piece on the previous evening hosting all company participants and session representatives.

Conference sponsorship, or exhibition, or individual registration is required to participate in this session. For further information on the session: conference@cewit.org.

KEYNOTE SPEAKERS

Girish Rishi

Executive Vice President

North America Installation & Services and Tyco Retail Solutions
Tyco International

IOT: HYPE OR REALITY?

OUTLOOK FOR SCHOOLS, HOSPITALS, STORES, OFFICES AND BEYOND

Harry L. Leider, MD, MBA, FACP

Chief Medical Officer & Group Vice President

Walgreen Company

DIGITAL HEALTH – WHERE IS VALUE CREATED AND WHO WILL PAY?

BIG DATA AND DATA SCIENCE TUTORIALS

Two, 3-hour, for-pay, workshops on Python Data Analytics and R Data Mining, instructed by experts from the NYC Data Science Academy Team and certified by The Center for Corporate Education at Stony Brook University. For registered conference attendees.

SESSION I • PYTHON DATA ANALYTICS WORKSHOP

NUMPY, PANDAS, MATPLOTLIB, SCIPY

SESSION II • R DATA MINING WORKSHOP

CARET, RPART, RANDOMFOREST, GBM, BOOSTING



NYC DATA SCIENCE
ACADEMY

BUSINESS TRACK

ENTREPRENEUR'S TOOLKIT I • FUNDING 101 • SESSION I • Focuses on burnishing your company for a venture capital investment. It includes value creation through Intellectual Property, specific recommendations for attracting and managing funds placement, and culminates in a Pitch Clinic in which early phase companies present their funding pitches interactively to CEWIT's expert Panel.

TRENDS IN VENTURE CAPITAL AND IS THERE ANOTHER WAY? • SESSION II • Kicks off with CEWIT's 3rd Annual Venture Capital Panel, a traditionally rousing moderated discussion of current trends in equity investing. Following, presentations delivered by entrepreneurs who found their way to the success of an ongoing business without venture capital funding. Culminating this Session is a discussion of an entrepreneur's considerations when negotiating an out-license of technology, another potentially venture capital-free means of achieving commercial success.

ENTREPRENEUR'S TOOLKIT II • HOW INVESTORS THINK AND FUNDING 201 • SESSION III • Covering a number of important yet novel subject areas such as the results of a formal study about how Crowdfunding investors make their decisions, and the importance of being able to communicate science to business people, as presented by a representative of the Alan Alda Center at Stony Brook University. The Session transitions to information regarding government sponsored programs focused on helping entrepreneurs address funding and other issues, including an address by the Director of the SBU Technology Licensing.

NEWS

BIAMONTE, CEWIT: BRINGING BNL DATA TECH TO MARKET

The CEO of Green Sulcrete, an environmentally friendly concrete alternative, is looking to cement himself in the big-data industry.

Through Startup America – a White House initiative to celebrate, inspire and accelerate high-growth entrepreneurship throughout the nation – Green Sulcrete CEO William Biamonte has paid “a couple grand” for the option to license a proprietary Brookhaven National Laboratory technology developed to move massive amounts of data pouring out of the lab’s ion accelerator/collider.

Biamonte’s plan: To develop a commercially scalable version of the technology suited for large corporations, medical systems, universities and others who have lots of data to move, but can’t always get enough bandwidth to move it.

The TeraPaths technology was designed by BNL scientists Dimitrios Karamatos and Dantong Yu, with funding provided by the Department of Energy. The TeraPaths project investigates the use of various technologies in “data-intensive distributed computing environments,” according to the BNL website, with the goal of managing networks as a critical resource in the same way CPU resources are managed in multi-user environments.

TeraPaths has been used to share the incredible amount of data coming out of the collider/accelerator and its ancillary projects with other laboratory offices. Biamonte envisions a commercialized version that can not only move large amount of data, but can reserve the bandwidth necessary to haul those loads.

“It’s like the Long Island Expressway,” he said. “On the LIE at 10 a.m., you’re flying. At 4:45 p.m., you’ve got a big problem.”

Many networks work that way, Biamonte added. “This technology can allow users to reserve the bandwidth they’ll need on the network they want at the time they want. Nothing else like this exists.”

After reserving the commercialization rights, Biamonte brought the technology to the Center for Excellence in Wireless and Information Technology at Stony Brook University, with whom the entrepreneur has collaborated on his Sulcrete projects. While BNL has used the TeraPaths system “like 10,000 times” to move data internally, creating a commercialized product that can move data along outside networks – or the cloud or even the Internet – is “a whole different animal,” he noted. So CEWIT, in conjunction with BNL scientists, will build a working prototype of a commercial application.

Biamonte said CEWIT quoted a price of \$105,000 to develop the prototype and that he and his partners should have the funding in place by fall. Once the cash is in hand, it should take CEWIT about six months to do their thing, according to Biamonte.

Lawrence Weber, entrepreneur-in-residence and business development manager at CEWIT, said that six-month window is “Bill’s timetable,” though he’s “not in a position to dispute it.” However long it takes, Weber added, CEWIT will be able to “organize a demonstration that will show

definitively the data-transfer advantages of the (TeraPaths) system.”

“CEWIT will be one of the nodes, and for the demonstration the second node could be Stony Brook’s medical campus or BNL,” Weber noted. “The idea is we will have the big-data capability and massively fast transfer capabilities, and we will be able to compare them side-by-side against standard (data transfer) methods.”

Weber – who doubles as business-development manager at the New York State Center for Advanced Technology in Diagnostic Tools and Sensor Systems, also located on the SBU campus – said the demonstration will prove to be a “meaningful test.”

“I have to reserve my opinion until the testing is done, but this certainly has a right to be tested,” he told Innovate LI. “CEWIT is very selective in the things we support. We only support things we think have a chance to succeed.”

Success, in this case, could prove to be a global game-changer in the high-stakes data-transfer realm. Biamonte cited three potential levels of commercialization, each more lucrative than the next.

“First you build it for a big corporation or a hospital to transfer their data – an internal network,” he said. “Then you put it on the cloud. The third level is to put it on the Internet, and once you get to that level, you’re talking about a really, really valuable property.”

The endgame, he added, is yet to be determined. Once CEWIT’s work is done and the commercialization potential is better understood, Biamonte and his partners will have some decisions to make.

“If we successfully commercialize this, we’ll have the ability to market it all over the world,” the investor said. “Most likely, we’ll have an interest in either selling it to someone or working with an existing software company.” -Gregory Zeller, InnovateLI, June 2015

FLIGHTPARTNER: INTEGRATION WITH ROCKWELL COLLINS ARINC DIRECT FLIGHT SCHEDULING SOFTWARE

FlightPartner has completed software integration with Rockwell Collins ArincDirect Flight Scheduling Software (FOS). FOS is the world’s leading software scheduling system for air charter operations. Completing this integration provides FlightPartner with real-time aircraft availability from the world’s largest charter aircraft operators. We are proud to be the first vendor to integrate with the Rockwell Collins’ new software release. The ability to access real-time aircraft schedules gives the FlightPartner Reservation System accurate information and allows our customers to be confident in meeting their clients’ travel needs.

Completion of the Rockwell Collins FOS integration, along with Seagil BART and Airplane Manager, gives FlightPartner the ability to access the three most popular charter aircraft scheduling systems. Having real-time access to global aircraft availability allows FlightPartner to be a Global Distribution System to the air charter marketplace. FlightPartner is a member of the CEWIT Incubator, bringing private jet travel to the masses. -July 2015



NEWS & EVENTS

STONY BROOK UNIVERSITY: OPENS \$40.8 MILLION COMPUTER SCIENCE BUILDING



The new 70,000 square-foot Computer Science building sets the stage for computer technology at Stony Brook University and for the entire downstate region of New York. The building, whose construction was made possible through \$40.8 million in state funding secured by Senator Kenneth LaValle, demonstrates the state's commitment to the Department of Computer Sciences' exponential growth in faculty, staff, students and its collaborative high-tech research.

Designed to achieve LEED Silver certification, the highly

efficient building contains a mix of research and teaching labs, a sound booth, a light dome and motion-capture labs, as well as space for digital media, graphics and computing practice, including:

- 37% of space assigned to research labs and centers
- 18 computer science research labs and two teaching labs
- 63 offices for faculty and postdoctoral researchers
- 4,000-square-foot atrium lobby and meeting space

The new CS building also includes five innovative centers for research: National Security Institute (NSI), Center for Mobile Computing, Center for Dynamic Data Analytics (CDDA), Center for Smart Energy, and the Center for Visual Computing (CVC). -*Stony Brook University, Newsday, July 2015*

BUNCÉE: DIGITAL CANVAS EMERGES AS AWARD-WINNING EDUCATION RESOURCE

Educators across the country are embracing the Calverton-based company's "digital canvas," which was originally designed as an e-greeting-type multimedia communications tool but has emerged as an award-winning educational resource. The app was selected as one of the American Association of School Librarians "Best Apps for Teaching and Learning" of 2015 and was also deemed "App of the Week" by Haiku Learning. Read the full interview with Buncée's Founder and CEO Marie Arturi at InnovateLL. -*July 2015*

SAVE THE DATE: CS TECH DAY • CS FRONTIERS: MULTIMEDIA, VR, AND GAMING IN 2015

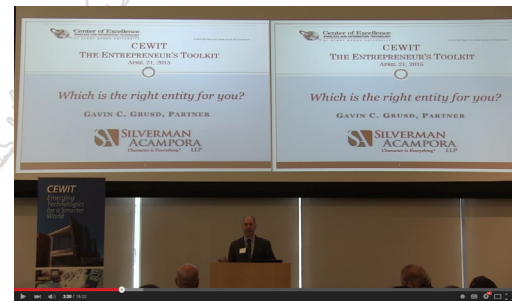
Join the Department of Computer Science at Stony Brook University on September 18, 2015 as we celebrate the 20th anniversary of our multimedia lab and showcase student/faculty research. For panelist and corporate sponsorship information: Christine Cesaria, christine@cs.stonybrook.edu.

CEBIP: PEER-TO-PEER/EXECUTIVE-TO-EXECUTIVE NETWORKING

Seminar & Mixer hosted by the Clean Energy Business Incubator Program (CEBIP) on Thursday, September 10, 2015 at the Long Island High Tech Incubator. Maria Frey, President & Founder of Executive Consultants of New York, Corp., will present on the value of communication in differentiating your company from the status quo and the skills to create dialogue, develop rapport, and cultivate relationships. For more information and to RSVP: Dave Hamilton, david.hamilton@stonybrook.edu.

CEWIT2015: CALL FOR COMPANY PITCHES

Open call for early-phase companies to participate in a Pitch Clinic as part of the Entrepreneur's Toolkit session which will be hosted at the CEWIT2015 Conference. Companies gain real-time experience in perfecting your funding pitch interactively with CEWIT's expert Panel. For more information and to join: Lawrence Weber, lawrence.weber@stonybrook.edu. Check out the previous Spring 2015 Entrepreneur's Toolkit Series at CEWIT!



IT'S #PLUTOTIME AT CEWIT



CEWIT uses the new NASA web tool to find our #PlutoTime here at the Center. This is what midday Plutonian rays would look like at Research & Development Park on Tuesday, July 14th. Follow Us @CEWITConference

NEED A REASON TO ATTEND CEWIT2015?

Here's a few...



Center of Excellence
WIRELESS AND INFORMATION TECHNOLOGY
AT STONY BROOK UNIVERSITY

SHARE

CEWIT2015 brings together over 65 presenters sharing their research on a wealth of developments in the areas of Big Data Analytics & Visualization, Cybersecurity, Health Technologies & Medical Devices, Internet of Things, Smart Urban Systems, Smart Energy, and Information Technology & Society

Sessions have attracted industry and academic leaders across the country to present on cutting edge solutions, findings, and who look to share their research with colleagues, key audiences, and companies with goals to advance their work and to help build a **smarter global environment**

Share your knowledge: Submit your Contribution through August 1, 2015 to New York's Premier IT Conference

CEWIT2015's Program exemplifies the sharing of new developments and solutions across multiple disciplines to shape connecting themes in IT and wireless technologies addressing the challenges in **healthcare, energy, and infrastructure**

While exploring research, take on the opportunity to learn new skills. Experts from the NYC Data Science Academy will be leading half-day **Big Data and Data Science Tutorials on programming languages R and Python**. Reserve your seat in a workshop!

LEARN

ADVANCE

Talk about multidisciplinary: CEWIT2015 incorporates a strong emphasis on both regional and international **Economic Development through extensive Business to Business Programs** that provide participating companies optimal visibility, allow for opportunities of accessing international and local markets, and offer a rich environment for technology exchange and product portfolio incorporation

Advance your business by networking with a 40 company delegation from Israel and Korea, 30+ regional database of participating organizations, representatives from START-UP NY and Empire State Development Corporation, and key business and financial leaders from Long Island and New York State

Entrepreneurs: Learn more about the tools to better your business. CEWIT2015's Business Track offers sessions on Venture Capital Investment, value creation through Intellectual Property, Crowdfunding, Communicating Science, trends in Equity Investing, and Out-Licensing. Or **learn the ropes: participate in a pitch clinic**

JOIN

Big Business, Small Business? Join CEWIT2015 as a Conference Sponsor! In addition to supporting this premier event, sponsorship includes a number of outlets for prime exposure and invaluable networking opportunities with 130 national and international companies and universities and 500+ attendees

Over 30 Exhibitors on the show floor including distinguished IP law firms, innovative tech start-ups, and renowned IT companies. Access industry connections and target audiences

ATTEND

REGISTER NOW with **REDUCED RATES** through **AUGUST 7, 2015**. Discounts for **LIFT, LISTnet, and IEEE Members**



Call for Papers: The 12th International Conference & Expo on Emerging Technologies for a Smarter World (CEWIT2015)

Melville Marriott Long Island | Melville, New York | October 19 & 20, 2015

Scope of the Conference

We cordially invite you to submit your contribution to the 12th International Conference & Expo on Emerging Technologies for a Smarter World (CEWIT2015). Originally known as the International Conference on Cutting-Edge Wireless & Information Technologies, this conference is organized by the New York State Center of Excellence in Wireless and Information Technology (CEWIT) located at Stony Brook University in New York.

CEWIT2015 is the premier international forum on the applications of emerging technologies in infrastructure, healthcare, and energy, which are three of the most critical components of a smarter global environment. Specific topics of interest include, but are not limited to, the following:

Area 1 – The Internet of Things (IoT)

- Wireless Sensor Networks
- Intelligent Sensors/Devices
- Collaborative Signal/Image Processing
- IoT Applications and Services
- Device and Circuit Design for IoT
- Architecture and Systems Design for IoT
- Interface and Control Systems for IoT
- IoT Data Analytics
- Mobile IoT
- IoT Testbed and Standards

Area 2 – Cybersecurity

- Mobile Security
- Internet of Things (IoT) Security
- Defenses against Zero-day and Targeted Attacks
- Defenses against Insider Threats
- Online Privacy and Anonymity
- Vulnerability Analysis and Software Protections
- Digital Forensics
- Privacy Enhancing Technologies
- Anonymity Domain Abuse and Trademark Dilution

Area 3 – Health Technologies and Medical Devices

- Advanced Medical Imaging
- Mobile Health
- Computer-Aided Diagnostics
- Wireless Telemedicine
- Noninvasive Health Monitoring
- Teleradiology
- Personal Medical Devices
- Implantable Sensors
- Medication Adherence
- Asset Tracking and Monitoring
- Implantable Prosthetics

Area 4 – Big Data Analytics and Visualization

- Model Driven Data Analysis
- Data Mining in Business Intelligence
- Text Mining & Sentiment Analysis
- Visual Analytics
- Biomedical and Healthcare Informatics
- Distributed Robotics and Real-Time Data Analytics
- Virtual and Augmented Reality
- Immersive Interface
- Tiled Displays
- Human Computer Interaction
- GPU Clustering

Area 5 – Smart Urban Systems

- Securing the Transportation Infrastructure
- Transportation Infrastructure Sensing
- Traffic Simulation & Visualization
- Interaction between Vehicles and the Environment
- Integrated Management Technology for Ubiquitous City
- Sensor Network for Water and Electric Utilities
- Urban Pollution

Area 6 – Smart Energy

- Distributed Sensor Networks for Smart Grid
- Advanced Metering Infrastructure
- Energy Efficient Computing
- Advanced Sensor and RFID Technologies
- Smart Grid Interoperability
- Simulation and Modeling

Area 7 – Information Technology and Society

- Worldwide Economic Impact of IT
- IT in Education
- IT as the Job Creation Engine
- Social Media
- Information Dissemination
- Global Impact



Submission Guidelines

CEWIT2015 is primarily interested in serving as a venue for the discussion of technical contributions highlighting end-to-end technical solutions, applications and systems, even if available only in prototype form. Therefore, we strongly encourage authors to submit abstracts describing their contributions in an application-oriented context.

Abstracts will be evaluated by conference program committee members and external reviewers. Submissions will be judged on validity, originality, technical strength, practical significance, quality of presentation, and relevance to the conference topics. We encourage submissions from a variety of fields where in-depth application-centric ideas addressing important challenges related to the conference theme are discussed. Authors of accepted oral presentations may submit a full paper to be included in the conference proceedings.

In addition to the oral presentations, we encourage participation in the poster session to present on-going research and innovative application projects. A judging panel of industry and academic experts will evaluate the posters and determine the winners of Best Poster and Best Student Poster Awards.

Please submit your abstract electronically at www.cewit.org/conference2015. Submission guidelines and other information will be provided on the conference website.

Important Dates

Abstract Submission Deadline: **August 1, 2015**

Notification of Acceptance: **August 15, 2015**

Camera-Ready Paper & Presentation Materials: **September 1, 2015**

Contact Information

For more information about CEWIT2015, please visit www.cewit.org/conference2015 or contact the conference general chair Dr. Shmuel Einav or the program committee chair Dr. Rong Zhao at +1 631-216-7000 or email conference@cewit.org.

Venue

CEWIT2015 will be held at the Melville Marriott Long Island, the largest full-service hotel in Suffolk County with a 5,000-square-foot atrium-enclosed lobby and 369 spacious guest rooms. In addition, this breathtaking Melville hotel's amenities include a Concierge Level, 24-hour fitness facility, sparkling indoor pool, and a full-service restaurant and lounge. Guests at the hotel can also enjoy 21,000 square feet of state-of-the-art meeting space, dedicated event professionals and impeccable catering services for business meetings and social celebrations. The Melville Marriott is conveniently situated just 20 miles from Islip Airport, 30 miles from JFK Airport and 30 miles from LaGuardia Airport. For more information please visit <http://www.marriott.com/hotels/travel/nycml-melville-marriott-long-island/>.



CEWIT2015 is technically co-sponsorship by IEEE Region 1 and its Long Island section. Peer reviewed conference papers will be submitted for inclusion in the IEEE Xplore online database and EI.