Overview of NY Chapter of IEEE SMC Society and its Recent Activities

- By **Ping-Tsai Chung**, IEEE Senior member
- NY Chapter of IEEE SMCS Chair, Associate Professor of Computer Science,
- Long Island University – Brooklyn Campus, New York.
Chapter Website - http://ny-ieee-smc.weebly.com/   contact info: ptchung@ieee.org

The Systems, Man, and Cybernetics Society (SMCS) is one of the oldest technical societies of the IEEE. The SMCS was established in 1970, it focuses on the interaction of multiple systems, processes, and humans with emphasis on their understanding, modeling, design, and formalization. The integration of artificial and biological intelligence. As well as the interfacing of complex systems with humans, are fundamental challenges that address a wide array of topics in current and emerging research and applications [1].

In [2], it states that **the scope of the SMCS** includes:
- (A) Integration of the theories of communication, control, cybernetics, stochastics, optimization and system structure towards the formation of a general theory of systems;
- (B) Development of systems engineering technology including problem definition methods, modeling, and simulation, methods of system experimentation, human factors engineering data and methods, systems design techniques and test and evaluation methods;
- (C) Application of the above at both hardware and software levels to the analysis and design of biological, ecological, socio-economic, social service, computer information, and operational man-machine systems.

The objectives of the SMCS [2] shall be scientific, literary, and educational in character. It shall maintain a high professional standing among its members and give special attention to such aims within the SMCS scope. The SMCS shall promote close cooperation and exchange of technical information among its members and to this end shall hold meetings for the presentation and discussion of technical papers; shall publish technical journals; and through its committees, shall study and contribute to the technical and professional needs of its members.

References:
[1] SMC Society Brochure. http://www.ieeesmc.org/.
[2] Constitution IEEE Systems, Man, and Cybernetics Society, (Latest revision effective November 1, 2013).

The New York Chapter of IEEE SMCS was established in September of 2012 by the Founding Chair, Ping-Tsai Chung, IEEE Senior member. Since then, the NY of SMCS has been developing over twenty technical seminar activities. These seminars were covered various topics in the scope of the SMCS. Recent seminars were:

*(1) **M2M Communications**, (May 16, 2014), Dr. Ming-Yee Lai, Co-Founder, Connectlife.*
*(2) **IBM InfoSphere Streams Computing**, (May 6, 2014), Dr. Kun-Lung Wu, IEEE Fellow, Research Manager, IBM T. J. Watson Research Center.*
*(3) **RFID Technology and the Internet of Things**, (April 4, 2014), Associate Prof. Xinzhou Wei, CUNY.*
*(4) The Multi-modality in **Human-Robot Interactio**n, Robot Learning and Humanized Intelligence, (March 20, 2014), Assistant Professor, Chung Hyuk Park, NYIT.*

*(5) **An Overview of Privacy Preservation for Social Networks**, (January 28, 2014), Dr. Leon S.L. Wang, Vice President, National University of Kaohsiung, Taiwan.*
*(6) On-road Localization and Data Dissemination in **Vehicular Ad Hoc Networks**, (December 9, 2013) - Prof. Guiling Wang, Associate Professor, Computer Science Department, NJIT.*
*(7) **NetFPGA, The Flexible Open-Source Networking Platform** – (November 25, 2013) –*
Ms. Georgina Kalogeridou, Research Assistant, University of Cambridge Computer Laboratory, UK.
*(8) **Authentication on Emerging Interface** - Exploring alternatives to text based passwords, (November 8, 2013) - Prof. Nasir Memon, IEEE Fellow, Head of Computer Science & Engineering Dept, NYU-Poly (NYU-Polytechnic School of Engineering).*
*(9) **Data Mining Techniques and Applications,** (July 18, 2013)- Prof. Shusaku Tsumoto (Department of Medical Informatics, Shimane University, Japan) and Prof. Katsutoshi Yada (Faculty of Commerce Department of Commerce Department of Management, Kansai, Japan.*

(Left) **Seminar - An Overview of Privacy Preservation for Social Networks**, (January 28, 2014), Dr. Leon S.L. Wang, Vice President, NUK, Taiwan.

(Right) Prof. Xinzhou Wei, CUNY. showed RFID videos in the **RFID Technology and the Internet of Things, (April 4, 2014).**

(Left) **IBM InfoSphere Streams Computing**, (May 6, 2014), Dr. Kun-Lung Wu, IBM Research Manager.

(Right) **M2M and Devices, Networks, and Applications**, (May 16, 2014), Dr. Ming-Yee Lee.

IEEE

New York Chapter of IEEE Systems, Man, Cybernetics (SMC) Society
Present

Machine-to-Machine Communications (M2M) Devices, Networks, and Applications (DNA)

Dr. Ming-Yee Lai
Co-Founder, Connectilife

May 16, 2014, Friday, Time: 6:00 to 8:00 PM
at Long Island University, Brooklyn Campus, New York (Seminar Room: HS 119)

Abstract

Currently there are more than five billion devices (phones, laptops, tablets, etc.) connecting people through the network. It is projected by 2020 there will be over fifty billion connected devices deployed to serve people. The technology foundation for connected devices is Machine to Machine communication (M2M). Many M2M devices are equipped with wireless radios (wide area, local area, or personal area) to enable mobile applications (e.g. transportation, m-health, asset tracking) and integration with fixed applications (e.g. smart grid, smart home, environment monitoring). In this talk, we will present an overview of M2M Devices, Networks, and Applications (DNA), M2M business and technical challenges, M2M ecosystem, M2M application store, M2M service and management case study (with telematics vertical and integration with other verticals), and M2M DNA related standardization efforts. We will conclude with future M2M trend and R&D topics.

Keynote Speaker Bio:

Dr. Ming-Yee (Ming) Lai received the M.S. and Ph.D. degrees in computer science from Harvard University and B.S. degree from National Taiwan University. He is a co-founder of Connectilife, which focuses on management, integration, and interoperability of M2M devices, networks, applications, and data. Ming was the head for M2M and Broadband Wireless Program, Applied Communication Sciences (ACS), responsible for developing new technologies and business with focus on M2M, broadband wireless services, and mobile data analytics. Ming is also the ACS representative to OneM2M, ATIS M2M Committee, Open Mobile Alliance, NPSTC 700MHz Broadband Group, and WiMAX Forum. Ming has over 30 year experience in information and telecom technologies through his work in ACS, Telcordia, Bellcore, Bell Labs, and Rand Corporation. Ming initiated, directed, and contributed to a wide spectrum of projects and products in M2M, broadband wireless, network management, architecture design, software tools, database systems, system reliability and performance and has worked with key telecom service providers, equipment vendors, government agencies, and research organizations. In recent years, his R&D focus centers on M2M service platform, device management, portable gateway, and vertical application integration. Ming has over 50 paper publications, book, and patents. .

Location:
Long Island University, Brooklyn Campus, New York, Seminar Room **HS 119**
1 University Plaza, Brooklyn, NY 11201-5372
Directions: http://www.liu.edu/Brooklyn/About/Visit/Directions.aspx

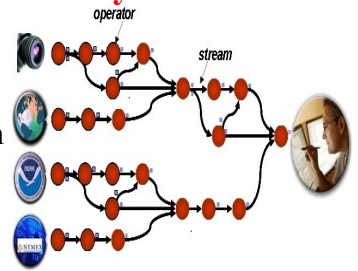**ALL ARE INVITED**   **ALL ARE INVITED**   **ALL ARE INVITED**

IEEE

New York Chapter of IEEE Systems, Man, Cybernetics (SMC) Society
Present

IBM InfoSphere Streams: A Big Data platform for Data-in-Motion Analytics

Dr. Kun-Lung Wu
Research Manager, Data-Intensive Systems and Analytics
Development Manager, InfoSphere Streams Language & Research
IBM T. J. Watson Research Center

May 6, 2014, Tuesday, Time: 6:00 to 8:00 PM
at Long Island University, Brooklyn Campus, New York (Seminar Room: HS 119)

Abstract

Big data is becoming an important resource for our economy. Companies in different industries, such as tele-communication, transportation, health care, finance and others, are employing big data analytics to better serve their customers and to gain competitive advantages. Big data generally has two flavors: data at rest and data in motion. Processing data in motion is stream processing. Stream processing for big data analytics often requires scale that can only be delivered by a distributed system, exploiting parallelism on many hosts and many cores within a host. To address this need, IBM built InfoSphere Streams, a distributed stream processing platform. In this talk, I will present an overview of IBM InfoSphere Streams, including its major features and use cases.

Distinguished Lecture Speaker Bio: :

Dr. Kun-Lung Wu is the Manager of the Data-Intensive Systems and Analytics Group at the IBM T. J. Watson Research Center. He is also the Development Manager of the InfoSphere Streams SPL Language, Compiler, Programming Model and Research Team, Information Management, IBM Software Group (SWG). The combined Research and SWG team currently engages in the product development of IBM InfoSphere Streams product. Dr. Wu received his Ph.D. in Computer Science, University of Illinois at Urbana-Champaign. Dr. Wu is an IBM Master Inventor, he has received several IBM awards, including an IBM Corporate Environmental Affair Excellence Award, an Outstanding Technical Achievement Award, a Research Division Award, and many Invention Achievement Awards. He has published extensively in various journals and refereed conferences, and received several best paper awards. He also hold or has applied for over 70 patents. He is a Fellow of the IEEE

Location:
Long Island University, Brooklyn Campus, New York, Seminar Room **HS 119**
1 University Plaza, Brooklyn, NY 11201-5372
Directions: http://www.liu.edu/Brooklyn/About/Visit/Directions.aspx

ALL ARE INVITED   **ALL ARE INVITED**   **ALL ARE INVITED**

New York Chapter of IEEE Systems, Man, Cybernetics (SMC) Society
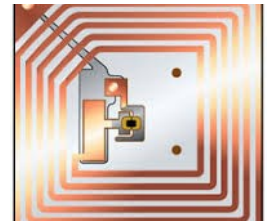## Present

RFID and The Internet of Things

Xinzhou Wei

Department of Electrical & Telecommunications
Engineering Technology
New York City College of Technology of CUNY

April 4, 2014, Friday, Time: 6:00 to 8:00 PM
at Long Island University, Brooklyn Campus, New York (Seminar Room: HS 118)

Abstract

InRadio frequency identification (RFID) is a promising technology that transmits the information of an object to be saved on the RFID tag wirelessly using radio waves. RFID technology will serve as the next-generation of Universal Product Code (UPC) system. It has been used widely in industries, such as identifying objects. The most popular applications for the RFID tag are listed below: *Baggage tagging, Biometric Passports, Animal Tracking, Rental sectors, Parcel and post, Garment tags, Automobile plates, and Supply chain management.*

The Internet of Things refers to uniquely identifiable objects and their virtual representations in an Internet-like structure. RFID was seen as a prerequisite for the Internet of Things in the early days. If all objects and people in daily life were equipped with identifiers, they could be managed and inventoried by computers. In this seminar, Dr. Xinzhou Wei will introduce the latest development and applications of RFID and existing problems when using RFID in the Internet of Things.

Keynote Speaker Bio:

Prof. Joe (Xin-zhou) Wei is an Associate Professor with Department of Electrical & Telecommunications Engineering Technology, New York City College of Technology of CUNY. He received PhD, MPhil from CUNY Graduate Center and MS, BS, from Xi'an Jiao Tong University, China. His expertises are Computer network and communication security.

Location:
Long Island University, Brooklyn Campus, New York, Seminar Room **HS 118**
1 University Plaza, Brooklyn, NY 11201-5372
Directions: http://www.liu.edu/Brooklyn/About/Visit/Directions.aspx

ALL ARE INVITED **ALL ARE INVITED** **ALL ARE INVITED**

New York Chapter of IEEE Systems, Man, Cybernetics (SMC) Society

The Multi-modality in Human-Robot Interaction, Assistive Robotics, and Robot Learning and Humanized Intelligence

Chung Hyuk Park, Ph.D.
Assistant Professor, Electrical and Computer Engineering
New York Institute of Technology

March 20 2014, Thursday, Time: 6:00 to 8:00 PM
at Long Island University, Brooklyn Campus, New York, (Seminar Room: HS 118)

Abstract

In this presentation I will share my research interests that cross over robotics, computer vision, haptics, machine learning, and biomedical engineering. My current research focuses on the investigation of two main areas: (1) the multi-modality in human-robot interaction and assistive robotics, and (2) robot learning and humanized intelligence. In the first area, I study the impact of multi-modal feedback on the aspects of human-robot interaction and its application in assistive scenarios for individuals with visual impairments. In the second area, I focus on methodologies of machine learning in the applications of robotic learning of human behaviors and intelligence, with applicable areas in telepresence and medical training. The traces of my research endeavors and underlying motivations, along with future directions will be discussed in detail.

Keynote Speaker Bio: Dr. **Chung Hyuk Park** received his B.S. and M.S. degrees in Electrical Engineering and Computer Science from the Seoul National University, Korea in 2000, and 2002 respectively, and his Ph.D. degree in Electrical and Computer Engineering from Georgia Institute of Technology in 2012. Currently, he is an Assistant Professor of Electrical and Computer Engineering at NYIT-Manhattan. Dr. Park is interested in the coexistence and collaborative innovation between human intelligence and robotic technology. His research spans robotics, computer vision, haptics, and telepresence technologies. He has worked in both higher education and business fields, including positions at Seoul National University, Georgia Institute of Technology, and LG Electronics. He has been granted several patents, including a Patent of Korea for "Personal Wireless Hand-Held Terminal Using ZigBee Protocol" (2005), "Traffic Light Control System using DSRC" (2004), and a "Method of a System Bus Controller in a Reconfigurable Embedded System" (2003).

Location:
Long Island University, Brooklyn Campus, New York, Room HS 118
1 University Plaza, Brooklyn, NY 11201-5372

ALL ARE INVITED   ALL ARE INVITED   ALL ARE INVITED