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Dear IEEE Members, Students, Ladies and Gentlemen,

It gives me immense pleasure to announce that the IEEE Computer Society, CT, with the help of IEEE CT Section and the University of Bridgeport, is organizing its second annual, day long Spring Colloquium on the 18th of April 2009 at the University of Bridgeport, CT. This year's theme is "Greentech and the role of Computing, Communications and inter/multidisciplinary Engineering in Greentech Innovation". The Colloquium will start with a breakfast and networking session with our distinguished speakers and will proceed through exciting talk sessions and a distinguished Panel discussion, through the day. The presentations will provide insights into diverse domains in Greentech including Green Buildings, Pollution control, Smarter Buildings/Grids, Sustainable Green design and manufacturing and the role of interdisciplinary/multidisciplinary Engineering in Greentech Innovation. A distinguished Panel will discuss "the Geentech Innovation Eco-system and the roles that Industry, Academia and Students can play in furthering the Greentech revolution". Please glance below at the Agenda for the Day, location, driving directions and RSVP requirements.

I look forward to welcoming you at our Spring Colloquium and meeting you in person.

Best regards,
Sanjiv Rai
Chair – IEEE-CT Chapter of Computer Society

Agenda: IEEE-CT-CS Spring Colloquium - 18th April 2009

Breakfast and Networking with Guest Speakers

08:00 - 09:00 am:

Host: Prof. Tarek Sobh- Vice-President and Dean of Graduate Studies and Research, School of Engineering, University of Bridgeport

Welcome Speech/Opening remarks

09:00 - 09:15 am:

Sanjiv Rai, Principal Investigator of the CHANDRA project for NASA at uniRF Technologies Inc., and Chair – IEEE-CT Chapter of Computer Society
and

Prof. Tarek Sobh- Vice-President and Dean of Graduate Studies and Research, School of Engineering, University of Bridgeport

Keynote address:

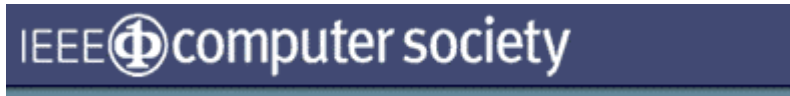
09:15 - 09:45 am:

Prof. Elif Kongar, Assistant Professor, Technology Management, School of Engineering, University of Bridgeport

Topic of the talk: Green Engineering: Challenges in the 21st Century.

Speaker Bio:

Dr. Elif Kongar is an Assistant Professor at Bridgeport University and a Visiting Researcher in the Center for Industrial Ecology at Yale University. Her research interests are in sustainability, energy and environment, environmentally conscious manufacturing, product recovery, disassembly systems, and multiple criteria



decision making. Dr. Kongar is the author of numerous journal and conference papers, and has presented her work at various national and international conferences. She is a member of the ASEE, SWE, Scientific Research Society, Sigma Xi, the Industrial Engineering Honor Society, Alpha Pi Mu, the Phi Beta Delta Honor Society and the Phi Kappa Phi Honor Society.

Dr. Kongar received her BS and MS degrees in industrial engineering from Yildiz Technical University, and PhD degree in industrial engineering from Northeastern University. Before joining Bridgeport University, Dr. Kongar was an Assistant Professor of Industrial Engineering at Yildiz Technical University where she was also the Coordinator and Lecturer of the Logistics certificate program.

Session 1:

09:45 - 09:55 am:

Speaker Introduction

Session Chair – Prof. Khaled Elleithy, Assoc. Dean and Professor, Computer Science and Engineering, University of Bridgeport

Talk 1:

09:55 - 10:55 am:

Speaker:

Dagnachew Birru, PhD

Topic of the Talk:

Green Buildings

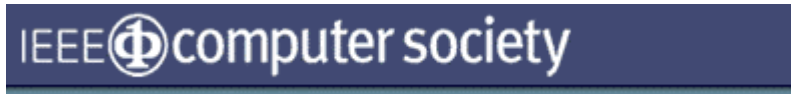
Abstract:

"Green Building" is a growing area of importance worldwide. About 40% of the total energy in the US is consumed in buildings, a portion that will likely increase if appropriate measures are not taken. Fortunately, public and government awareness and actions to reduce the energy consumption of buildings is increasing. For example, in the US, alternative energy generation and energy efficiency is a new focus of state, federal R&D and VC funding. Investment in these areas is expected to increase significantly. The US Federal R&D agenda envisions net-zero energy buildings by 2030. A combination of building envelope optimization, use of energy efficient devices, use of renewable energy sources, and energy control and management solutions is needed to achieve this goal.

In North America, about 60% of the energy in buildings is consumed by lighting, heating, cooling and ventilation (HVAC). However, there is ample opportunity to reduce the energy consumption of these units and contribute to net-zero energy buildings. For example optimal control of natural light (daylight) and electric light can not only reduce the electric energy used for lights significantly but also improve user comfort and productivity. This presentation will highlight some of the motivations, challenges, opportunities and approaches of control solutions to reduce energy consumption and balance user comfort in buildings. Some simulation results and experimental data will also be presented.

Speaker Bio:

Dagnachew Birru is a principal member research staff and project leader at Philips Research North America, has been with Philips Research since 1992. Since 1998, he has been with the Wireless Communications and Networking Department of Philips Research Laboratories, Briarcliff Manor, NY, leading various teams working on several research topics. Currently, he is leading a research project on



integrated energy management for buildings to reduce the energy consumption of HVAC and lighting through innovative use of integrated control algorithms, and wireless sensor and actuator networks. Prior to this, he worked on high-data rate WPAN (60GHz, UWB), cognitive radios, multi-standard channel decoder architectures and algorithms for digital TV reception. He contributed to wireless standardization bodies such as 802.15.3c/3a, Ecma, 802.22, WiMedia and ATSC. From 1992 to 1998, he was a Research Scientist at Philips Research Laboratories, Eindhoven, The Netherlands working on DSP core architectures and new sigma-delta modulation techniques and algorithms. He is the author and coauthor of several papers and patents.

Talk 2

11:00 - 12:00 noon:

Speaker:

Prof. Paul G. Ranky – Professor, New Jersey Institute of Technology

Topic of the Talk:

Sustainable Green Design & Manufacturing Engineering: A Computer Science / Communications Perspective

Abstract:

Green Engineering Methods, Tools and Technologies Teach Us How to Simultaneously Increase Quality, Reduce Cost, Stay Sustainably Green Compliant, and Reduce Environmental Impact.

My goal is to help you to improve your sustainable, quantifiable lean and green design and manufacturing activities in terms of engineering a product, a process and/or a service system in various industries and countries around the world.

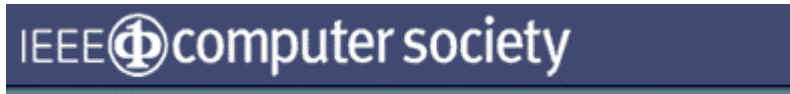
The fundamental purpose of the greening effort is to help to increase quality of life. Furthermore, it is to improve the quality of green compliant products and processes, and simultaneously reduce cost, pollution, the carbon and the environmental footprint of all product design, manufacturing and related activities. This includes raw material processing, warehousing, transportation, logistics, remanufacturing, recycling, and even reuse.

My hope is that we can all stay compliant with USA, European, and other valuable international 'green' principles and laws that govern global trade and supply chains, whilst maintaining crucially important IP (Intellectual Property) rights.

What makes green design and manufacturing (in other words green engineering) very exciting, is that it is an interdisciplinary subject. It should attract a flexible person with an open mind, who is ready to think laterally, structure, reason and integrate quality information, and then turn it into new knowledge to help mankind and all living entities on our planet.

Consider the fact that factory pollution created in one continent can now be measured in another... therefore it is not a local issue anymore... pollution and toxicity changes everybody's life on Earth... not just those who are polluted, but also those who are polluting!

Maybe it is time for mankind to wake up and realize that we are all in the same boat and it is our common interest to change our polluting, toxic products, processes, factories and systems for sustainable, energy efficient green solutions... and as we'll see later in this presentation, greening makes excellent business sense too.



The other very important driving force towards green, is that governments enforce compliance and IP, and consumers in the USA, as well as in Europe, and increasingly in Asia (China, Hong Kong, Taiwan and Japan) demand green products, made in non-polluting sustainable green factories...

Consider this interesting fact: over 92% of young graduates in the USA want to work for a 'green' enterprise... also, 9 out of 10 new venture capital applications in California relate to some kind of greening invention... and this is just the beginning.

Greening will become a bigger revolution than what the Internet has created for all of us!

In a free society consumers have a lot of power, and can change entire industries by purchasing only environmentally friendly, green products... designed and made in green, sustainable factories... Shouldn't we all be ready to drive this major transition?

Welcome to my green engineering world (above and below the ocean) As a PADI certified Rescue Diver, I do care about green products, processes, factories and schools, as well as eco-tourism and the condition of the reefs.

Speaker Bio:

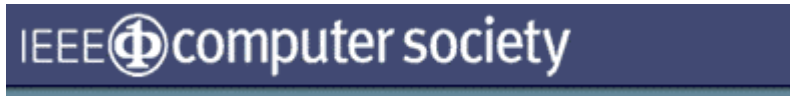
Paul G. Ranky, BS / MS (Hons) Eng., MS (Eng. Edu.), PhD (Eng. with IT), a Full Tenured Professor of Engineering Design, Manufacturing, Industrial and Management Systems at the Department of Mechanical and Industrial Engineering (MIE) at NJIT (New Jersey Institute of Technology), with an additional faculty appointment with NJIT's IT (Information Technology Program), as Professor of IS & IT. NJIT is the Public Research University of New Jersey, Newark, NJ, USA. Member, or former member of SAE(USA), IEE(UK), IET (UK), IEEE(USA), PMI(USA), SME(USA), ASME(USA), ISPE (USA), International Soc. of Pharmaceutical Engineers, ASQ(USA), the Lean Manufacturing and the Quality Auditing Divisions, educated by ASQ (USA) in lean six-sigma, quality leadership, and others.

He is a Registered and Chartered Professional Engineer, specializing in integrated product and process design, sustainable green PLM (Product Lifecycle Management), using digital product, process, manufacturing, and factory design methods and tools, concurrent / simultaneous engineering, in design for manufacturing / assembly / disassembly / quality, in quality system design and auditing, advanced lean and flexible cellular manufacturing systems and industrial engineering, in assembly automation and robotics with advanced sensors, in GMP (Good Manufacturing & Laboratory Practice), in sustainable green manufacturing, in humanoid robotics, in hi-tech project management, in requirements analysis, in process risk analysis, in total quality management, in designing and operating lean systems, in designing electronic user and maintenance manuals with 3D web content, in information systems & information technology, and in underwater device test engineering (including corrosion and MEMS / nanotech. device testing), with nationally and internationally recognized academic, industrial and engineering management experiences.

Breakout for Lunch

12:00 noon - 2:00 pm

You are invited to visit a restaurant of your choice in the Bridgeport area. Please see the lists for local restaurants which will be available to participants/attendees.



Session 2:

Session Chair – Prof. Tarek Sobh- Vice-President and Dean of Graduate Studies and Research, School of Engineering, University of Bridgeport

2:00 - 2:05 pm:

Speaker Introductions

Talk 3

2:05 - 3:00 pm:

Speaker:

Joseph Riley

Topic of the Talk:

Advances and Innovations in Pollution Control Systems and Automation and the role of Interdisciplinary engineering

Abstract:

Traditionally, advances in environmental sciences have come from a better understanding of chemistry and physics. In the last twenty years or so, however, the state-of-the-art of environmental technologies has been advanced chiefly from innovations in process control, electronics, communications and computing.

Advances in programmable logic controllers (PLCs), distributed control architecture, proportional-integral-derivative (PID) algorithms, remote I/O and bus communications (such as Ethernet, profibus or modbus) and the internet itself.

We will present various ways in which electronics, computing and communications technologies allow for reduced emissions and pollution by improving manufacturing and power generation processes as well as improving the efficiency of pollution control equipment. Ideas on possible innovations and opportunities for technical advances will be covered.

Speaker Bio:

Joseph Riley is the president of BoldEco Environment, a worldwide air pollution systems company with offices in the US, Switzerland and Italy, has been in the air pollution control industry since 1988. He has been responsible for converting from mechanical and pneumatic control systems to fully electronic controls and has witnessed first hand the transformation from discrete, single-loop controllers to fully programmable, centralized logic controllers to fully distributed, bus-based control architecture. He is deeply involved in product development and integration of proprietary equipment into plant automation and control systems. In the past twenty years, he has authored numerous articles, presented papers at major environmental conferences around the world and has been issued several patents on pollution abatement and advanced control systems.



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Talk 4

3:00 to 4:00 pm

Speaker:

Clinton J. Andrews, PhD PE AICP LEED AP

Director, Urban planning program at Rutgers University's Edward J. Bloustein School of Planning and Public Policy

Topic of the Talk: Are smarter buildings better buildings?

Abstract:

We spend 90% of our time indoors, in buildings that ought to be safe, healthy, functional, and efficient. Many existing buildings perform poorly along those dimensions. The current push for greener buildings seeks to reduce their environmental footprint without reducing the occupants' quality of life, by balancing, for example, energy efficiency and indoor air quality objectives during design. Smarter building design is an integrated process that brings architects, engineers, and contractors into much closer coordination, and allows more "what if" analysis of design alternatives. During operation, buildings designed to be smarter can respond to fluctuating environmental conditions, energy prices, occupant needs, and building system conditions, thereby enhancing their performance. When connected to a smart electricity grid, smart buildings add adaptability to the network and improve the feasibility of renewable energy production. This talk identifies emerging opportunities in software, control systems, sensors, communications, and system integration for those interested in smarter buildings. Like buildings themselves, these opportunities are all around us. However, this talk also raises critical questions about the resiliency, robustness, and usability of smart building systems in the context of actual use by real people. Avoiding over-engineered systems is part of the challenge that accompanies these opportunities.

Speaker Bio:

Clinton J. Andrews directs the urban planning program at Rutgers University's Edward J. Bloustein School of Planning and Public Policy where he is an associate professor. His research focuses on improving the process and substance of energy and environmental planning and policymaking. Much of his recent work addresses energy infrastructure challenges. He teaches courses in environmental planning, energy policy, green building, industrial ecology, and quantitative methods. Dr. Andrews was educated at Brown and MIT as an engineer and planner, and holds professional certifications in engineering, planning, and green building. Previous experience includes working in the private sector as a design engineer and energy technology assessor, helping to launch an energy policy project at MIT, and helping to found a science policy program at Princeton. At Rutgers, he has launched initiatives in energy policy, green building, and innovation studies. Andrews is a long-time IEEE volunteer, serving on the IEEE Board of Directors in 2005-6 and currently serving on the IEEE President's Sustainability Initiative and as program chair for the IEEE International Symposium on Technology and Society. He has published over 90 scholarly and popular articles, and his books include *Humble Analysis: The Practice of Joint fact-Finding*, *Regulating Regional Power Systems*, and *Industrial Ecology and Global Change*.

To learn more about this noted speaker, please visit:

<http://policy.rutgers.edu/faculty/andrews/>



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Panel Discussion

4:00 – 4:45 pm

Topic of the Discussion:

The Greentech Innovation Eco-system and the roles that Industry, Academia and Students can play in furthering the Greentech revolution

Panel Chairs/Moderators

1. Alex Wissner-Gross, Ph.D.
Environmental Fellow, Harvard University
CTO, CO2Stats
www.alexwg.org

2. Prof. Tarek Sobh- Vice-President and Dean of Graduate Studies and Research, School of Engineering, University of Bridgeport

Other Panelists:

Dr. Dagnachew Birru, Prof. Paul Ranky, Joseph Riley, Prof. Clinton J. Andrews, Sanjiv Rai,
Prof. Tarek Sobh

Closing Remarks/Vote of Thanks:

4:45 – 5:00 pm

Sanjiv Rai, Principal Investigator of the CHANDRA project for NASA at uniRF Technologies Inc., and Chair – IEEE-CT Chapter of Computer Society
and

Prof. Tarek Sobh- Vice-President and Dean of Graduate Studies and Research, School of Engineering, University of Bridgeport

Location:

Room 100, Chiropractic Building, University of Bridgeport

Address:

[University of Bridgeport](http://www.bridgeport.edu)
[126 Park Avenue](http://www.bridgeport.edu)
[Bridgeport, CT 06604](http://www.bridgeport.edu)

Map and Driving Directions:

The event is in the Chiropractic Building, Room 100, University of Bridgeport campus
<http://www.bridgeport.edu/pages/3235.asp>

When you reach the campus, please pull into the parking lot beside the Campus Security Office on Linden Avenue. Entrance to the Chiropractic building is on Linden Avenue, across the street (south) from the new soccer field, east of the parking lot. Look for the building with the yellow front, and follow the IEEE signs.
For assistance on the day of the event, call Neal Lewis, 860-552-9757.



RSVP and Organizer Contacts:

There are NO RSVP requirements, however if you could please RSVP before the event, it would help organizers plan the event better, especially the Free Breakfast head count.

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Neal A. Lewis, Associate Professor, University of Bridgeport
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Thomas Freund – Chief Events Coordinator – IEEE-CT Chapter of Computer Society
digysol@gmail.com

Linfeng Zhang, Assistant Professor, University of Bridgeport
lzhang@bridgeport.edu

In case you miss to RSVP before the deadline, please do not hesitate to write to us. However, for head-counting purposes, your RSVP is highly recommended.

For more information on the Sponsors and Organizers, please visit:

<http://ewh.ieee.org/r1/ct/>

<http://www.bridgeport.edu>